New Challenges of Economic
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May 8 - 10, 2014, Riga, University of Latvia

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New Challenges of Economic and Business Development – 2014

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TENDENCIES OF ELECTRICITY PRODUCTION AND CONSUMPTION IN THE BALTIC SEA REGION

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Abstract

Although in many cases is assumed that the Baltic Sea Region (BSR) comprises 11 nations, in this paper is being analyzed so-called EU BSR that counts 85 million inhabitants (17 percent of EU population) and eight countries – Sweden, Denmark, Estonia, Finland, Germany, Latvia, Lithuania and Poland (EU Strategy for the BSR, 2009).

Energy consumption including consumption of electricity is growing in the World as well as in the BSR and in such situation increasingly important is cooperation between countries to ensure continuous and sufficient energy deliveries especially for countries which are unable to secure most part of energy demand. The aim of the paper is to explore the tendencies of electricity production and consumption in the BSR countries, as well as to find out what sources of electricity generation are being used in these countries and how the situation has changed in recent years. To achieve the objective of the study descriptive statistics data from statistical office of the EU – Eurostat and International Energy Agency were used.

In a result of the research, the main tendencies and development of electricity production and consumption and production structure of each BSR country have been identified as well as presented the most important forms of cooperation in energy sector among BSR countries.

Key words: *electricity production, consumption, statistical analysis*

JEL codes: O13, Q41, Q42, Q48

Introduction

The number of studies in field of energy in Europe has increased recently since energy, particularly electricity is important for each country and for each national economy especially now when energy consumption in general increases. Several research in monitoring the energy supply in the BSR has been performed and conclusions drawn for future activities (Streimikiene D., 2007). Co-existence of electricity, TEP and TGC markets in the BSR is on regular research agenda likewise (Hindsberger M., *et al,* 2003). There are several tries and evaluation of those tries to make electricity production greener (Raadal H.L., *et al,* 2012). Wind energy is used in many countries, efficiency of it's use and challenges are assessed by many researchers in many countries, especially a lot of investigations have been performed in Lithuania (Katinas V., *et al,* 2009). Renewable generation and electricity prices are compared in several counties (Würzburg K., *et al,* 2013) but only few of researches are focused on importance of cooperation in energy sector in the BSR (Streimikiene D., 2007). In this paper current situation, tendencies and future prospects of electricity production and consumption are reviewed.

BSR differs significantly by climatic, economic and social factors but continuous electricity supply is one of the key factors to further development of any country. As electricity cannot be stored, it needs to

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be delivered in the moment it is being demanded and in situation when demand of electricity is continuously increasing while fossil resources are becoming less, electricity supply becomes an important national issue for each country. Taking into account these aspects, the cooperation between countries are extremely important particularly in situations when state is unable to ensure sufficient power supply and cross-border cooperation is often the only opportunity to ensure sufficient energy supply. In such a sensitive area as energy security, countries should be able to develop different models of cooperation in order to reduce the risks for security of supply. As concluded in the study, cooperation between BSR states is very strong – there are created many different forms of cooperation starting from strategies and plans to political forums, programmes and power market. Author believes that this kind of cooperation is absolutely necessary for the stability and development of the country and further studies should be developed to determine the clear impact of cross-border cooperation and whether cooperation forms which are applied in BSR are most effective.

While stocks of fossil fuels are rapidly declining, electricity consumption in the world, including Latvia and BSR states, increases, resulting in a growing usage of resources required for electricity generation, and although in the world renewable energy resources are becoming increasingly important, however renewable energy cannot completely replace fossil energy resources and by far the world's electricity production are generally based on fossil fuels – coal, peat, natural gas and oil and author believes that this is a huge problem on which are paying too little attention in a long-term.

Research results and discussion

1. Electricity consumption tendencies in the world and BSR

To understand the changes in the electricity production and consumption trends in the BSR, first the electricity consumption in world is analyzed.
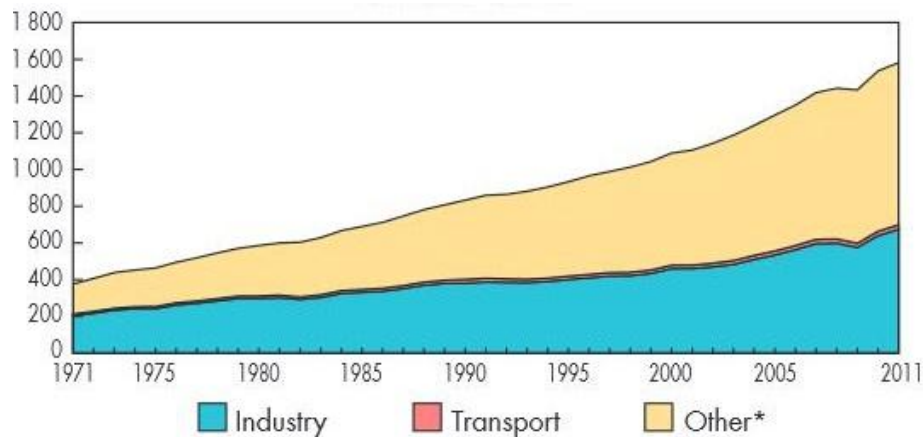
* Includes agriculture, commercial and public services, residential, and non-specified other.

Source: International Energy Agency Key World Energy Statistics 2013 [Accessed 23 February 2014].

Fig. 1. **World's total final electricity consumption from 1971 to 2011 by sector (Mtoe)**

Electricity consumption as seen in Figure 1 has increased fourfold over the past forty years. The increase of consumption in these years is caused by population, industrial and economic growth as well as

unlimited human needs and wants. In 2009 electricity consumption has declined for first time over a long period though in 2010 it has increased again and in 2011 set a new record. Household, industry and service sectors are main consumers and in transport sector electricity is consumed highly low although in recent years the popularity of electricity consumption in transport sector has grown.

Analyzing electricity consumption in BSR countries is seen that it varies significantly across countries. As seen in Figure 2 the consumption can be divided into three groups – countries with high electricity consumption like Sweden and Finland where consumption exceeds 3000 MWh per 1000 people, countries with middle consumption amount like Denmark, Germany and Estonia where consumption varies from 1000 to 2000 MWh per 1000 people and countries with low electricity consumption like Lithuania, Latvia and Poland where consumption doesn't exceeds 1000 MWh per 1000 people.
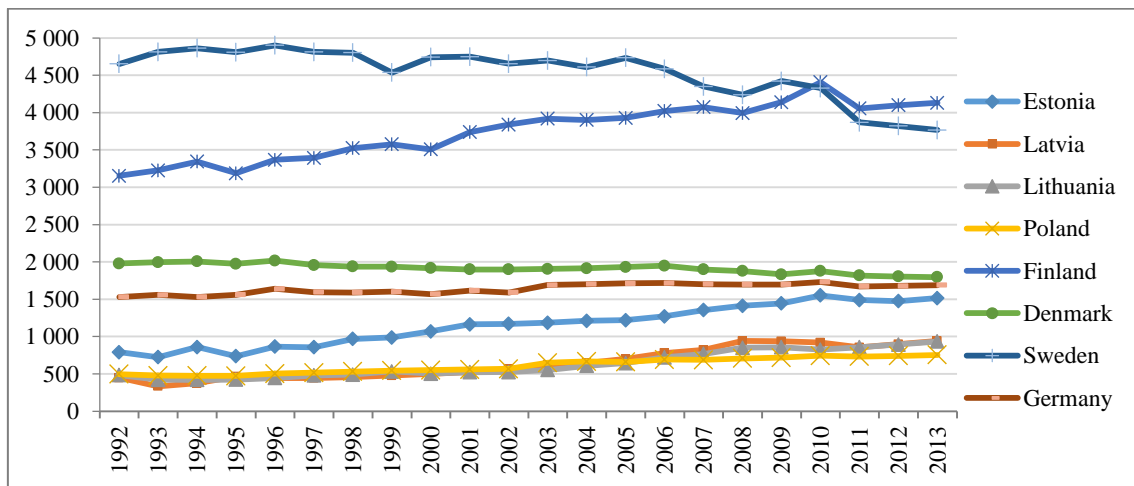
Source: author's calculations based on Euromonitor International from International Energy Association (IEA) [Accessed 23 February 2014]

Fig. 2. **Electricity consumption in BSR from 1992 to 2013 (MWh Per '000 People)**

The largest consumption is seen in Scandinavian countries – Sweden and Finland but the difference is seen in tendencies – in Sweden the consumption is decreasing but in Finland increasing. The consumption in these Scandinavian countries is from 3000 to 5000 MWh which is approximately four times less than in Latvia, Lithuania and Poland where consumption per 1000 people is increasing since 1992 but still the consumption is only around 1000 MWh per 1000 people. Relatively stable consumption seen in Denmark and Germany where all the period since 1992 to 2013 the amount of electricity consumption has been around 1700 MWh per 1000 people.

2. Electricity production tendencies in the world and BSR

As seen in Figure 3 fossil thermal usage in electricity production has always been the most used producer in the world. In 2011 as well as in the 70s the most part of electricity is being generated exactly in fossil thermal plants as seen in Figure 3. The second most used fuel is hydro which all the period has been significant provision of electricity but it should be noted that not all sites are able to use hydro as electricity generator that is why often thermal power plants and nuclear plants are being used to produce

electricity. In last thirty years nuclear power plants has significantly grown but after Fukushima Daiichi nuclear disaster in 2011 the share in generation in some countries has decreased.
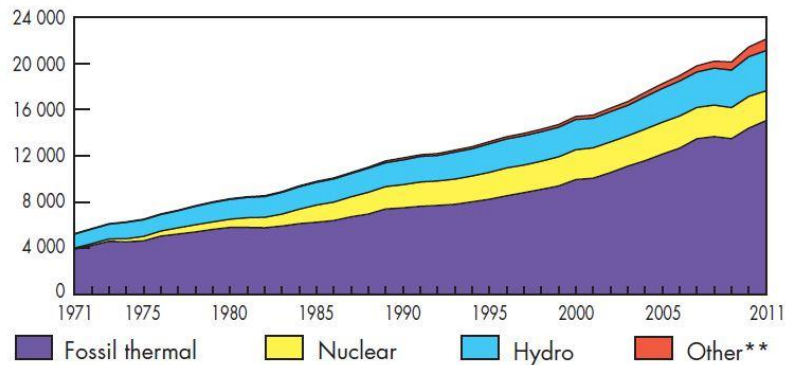
*** Includes geothermal, solar, wind, biofuels and waste, and heat.*

Source: International Energy Agency Key World Energy Statistics 2013 [Accessed 23 February 2014].

Fig. 3. **World's electricity generation from 1971 to 2011 by fuel (TWh)**

A positive development has appeared in recent years in geothermal, solar, wind, biofuels and waste usage in electricity production as seen in Figure 4 but amount of share is still small – only 4.5% of electricity in 2011 is generated used these renewable fuels. Comparing 1973 and 2011 is seen that cool and peat is still the most significant fuel used for electricity generation – in 1973 it provided 38.3% of total electricity consumption which was 6155 TWh in total and in 2011 it provided even more – 41.3% of total electricity consumption which was 22 126 TWh in total. The share of natural gas has significantly increased from 12.2% in 1973 to 21.9% in 2011 while oil has decreased from 24.6% in 1973 to only 4.8% in 2011.
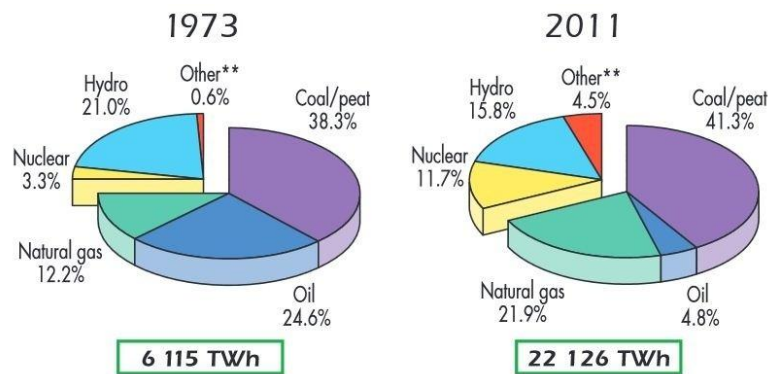
*** Includes geothermal, solar, wind, biofuels and waste, and heat.*

Source: International Energy Agency Key World Energy Statistics 2013. [Accessed 23 February 2014]

Fig. 4. **World's fuel shares of electricity generation in 1973 and 2011**

The share of nuclear power in energy generation has increased from 3.3% in 1973 to 11.7% in 2011, hydro power has been significant resource and in 1973 it provided 21% of total electricity generation but

in 2011 the share decreased to 15.8%, share of other fuels like geothermal, solar, wind, biofuels and waste has significantly increased from only 0.6% in 1973 to 4.5% in 2011 but still the share of these renewable resources in electricity generation is very low.

Also production volumes in BSR differs in each country as seen in Figure 5. Countries in production can also be divided into three groups – with high amount of production like Finland and Sweden, with middle production like Germany, Estonia, and Denmark and with low amount like Poland, Latvia and Lithuania.
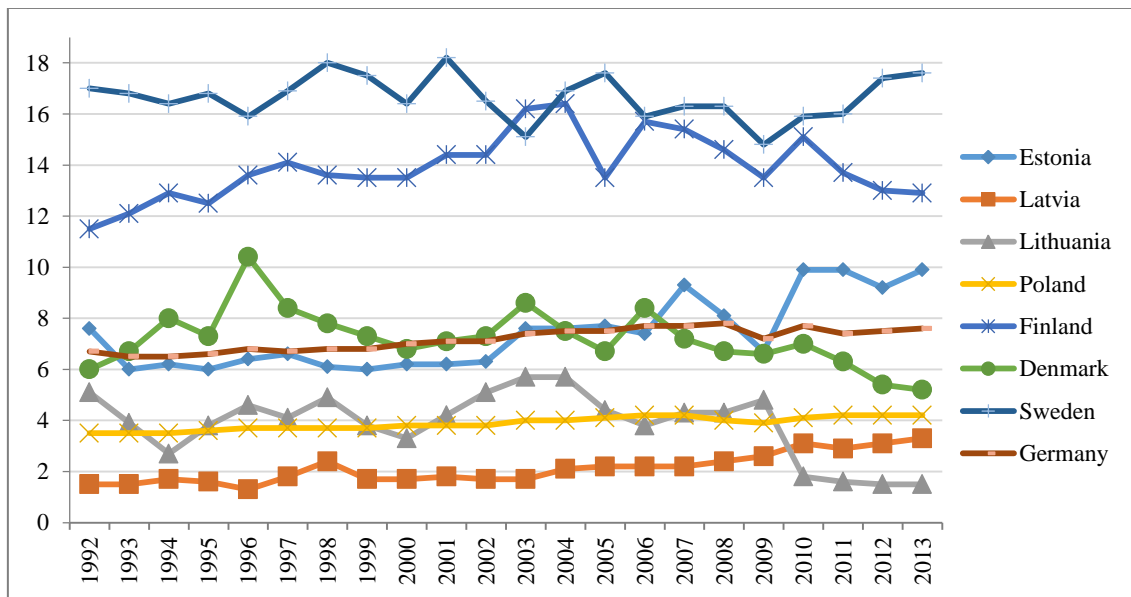
Source: author's calculations based on Euromonitor International from International Energy Association (IEA) [Accessed 23 February 2014].

Fig. 5. **Electricity production in BSR from 1992 to 2013 (GWh Per '000 People)**

The highest production per 1000 people are in Finland and Sweden where production varies from 12 to 18 GWh per 1000 people. In Germany, Denmark and Estonia production varies approximately from 6 to 10 GWh but in Poland and Latvia it varies from approximately from 2 to 4 GWh per 1000 people. It is seen that in Lithuania the production were around 4 GWh per 1000 people but after Ignalina nuclear power plant disclosure in 2010 the amount of electricity production has decreased significantly and from 2010 the amount is the lowest in BSR.

In further research fuel shares of electricity production in BSR has been analyzed. As seen in Table 1 also the fuel shares used to generate electricity are different in each county. In Estonia the most part is generated using fossil fuels as well as in Lithuania and Poland, in Latvia the biggest part is generated used also fossil and hydro power, in Denmark are used fossil and wind power the most and in Finland are used fossil, hydro and nuclear power but in Sweden the main part is generated using hydro and nuclear power. Solar power significantly is used only in Germany where in 2013 this renewable resource was used to produce 5% from total electricity production and in any of the BSR countries geothermal power is not used significantly.

The share of combustible renewables and waste as seen in Table 1 has grown in all BSR countries – the largest increase is seen in Estonia and Lithuania where in 2003 of combustible renewables and waste

were almost not used but in 2013 the shares of these fuels have grown to 9% in Estonia and to 4% in Lithuania. Countries where combustible renewables and waste are used the most in total electricity generation are Denmark where these fuels provided 17% of total electricity in 2013 and Finland where these fuels provided 16% of total electricity in 2013. Also the share of wind power has increased in all countries – the largest increase is seen in Estonia and Poland where in 2003 wind power was almost not used and in 2013 the shares increased to 4% in Estonia and 3% in Poland. The total leader of wind power usage is Denmark where wind power reached 36% in total electricity generation.

Table 1

Fuel shares of electricity production in BSR in 2003 and 2013

	Estonia		Latvia		Lithuania		Poland		Denmark		Finland		Germany		Sweden	
	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013	2003	2013
Electricity Production	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Combustible Renewables and Waste	0%	9%	1%	2%	0%	4%	0%	7%	7%	17%	12%	16%	2%	8%	4%	7%
Fossil Fuels	100%	86%	41%	52%	15%	58%	97%	88%	81%	47%	49%	26%	63%	59%	7%	3%
Hydroelectric	0%	0%	57%	45%	5%	26%	2%	1%	0%	0%	11%	24%	4%	5%	40%	48%
Nuclear	N/A	N/A	N/A	N/A	79%	–	N/A	N/A	N/A	N/A	27%	33%	27%	15%	50%	38%
Solar	N/A	N/A	N/A	N/A	N/A	N/A	–	0%	0%	0%	0%	0%	0%	5%	–	0%
Wind-Powered	0%	4%	1%	1%	–	12%	0%	3%	12%	36%	0%	1%	3%	8%	1%	5%

Source: author's calculations based on Euromonitor International from International Energy Association (IEA) [Accessed 23 February 2014].

Positive development of fossil fuels shares is seen in Estonia, Poland, Denmark, Finland, Germany and Sweden where shares of fossil fuel usage have decreased. The biggest decrease is seen in Sweden where the share of fossil fuels were 7% in 2003 and only 3% in 2013. In Latvia is seen little increase of share of fossil fuels increase but in Lithuania due to Ignalina nuclear power plant closure in 2010 increase of fossil fuels share is extremely high – from 15% in 2003 to 58% in 2013. Still the biggest shares of fossil fuels are in Estonia where the share was 86% in 2013 and Poland where the share was 88% in 2013.

The shares of hydro usage in electricity generation have significantly increased in Lithuania where in 2003 it was 5% but in 2013 – 26% and in Finland where in 2003 it was 11% and in 2013 the share increased to 24%

Finland is only country in BSR where the share of nuclear power has increased from 27% in 2003 to 33% in 2013. In others where the nuclear power has been used the share of it has decreased, e.g. Germany, Sweden and Lithuania. The most significant decrease is seen in Lithuania where the share of nuclear power was 79% in 2003 and there were no usage of nuclear power in 2013 because of Ignalina nuclear power plant disclosure in 2010.

3. Cooperation in electricity sector among BSR countries

Amounts of imports and exports in BSR are high which means that cooperation between countries are very important especially for countries which are unstable to ensure sufficient power supply. Cooperation in electricity trading is realized through Nord Pool Spot which is leading power market in Europe and offers day-ahead and intraday markets to its customers – 370 companies from 20 countries. BSR

countries are Nord Pool Spot members and Latvia was the last who joined the Nord Pool Spot in 2013 (Nord Pool Spot home page).
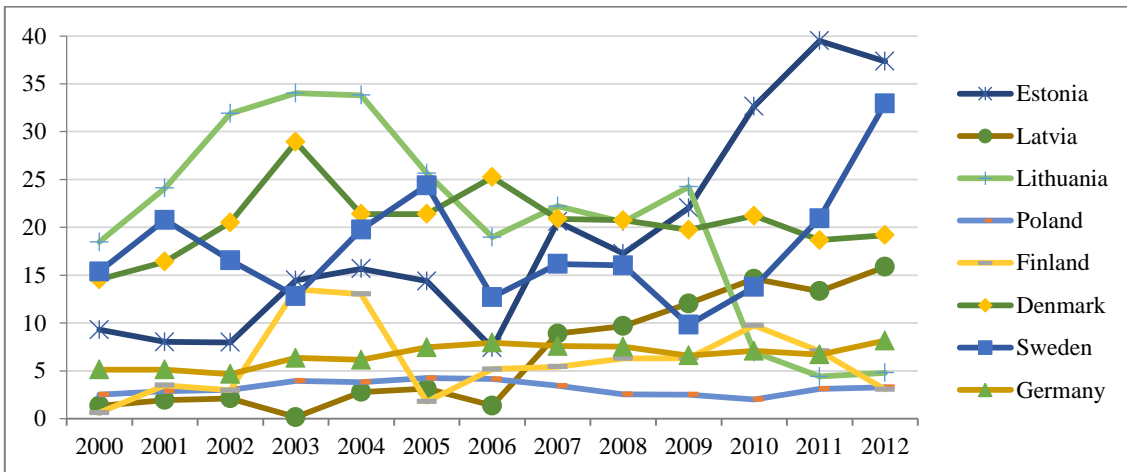
Source: author's calculations based on European Commission Eurostat data [Accessed 23 February 2014].

Fig. 6. **Electricity export in BSR from 2000 to 2012 (GWh Per '0 000 People)**

Amount of export highly varies per years. From 2000 till 2005 the leader in export amount per 10 000 people was Lithuania but since disclosure of Ignalina nuclear power plant the amount of exports significantly decreased from 2010. In recent years the leading place is taken by Estonia highly due to the same reason – Lithuania has becoming from electricity export country to import country. In recent years also Sweden has increased export amount and also Latvia has little increase in export amounts but since in those countries big share is took by hydropower export amounts varies each year due to the reason that amount produced in hydropower plants is depending on season and weather which is hard to predict.
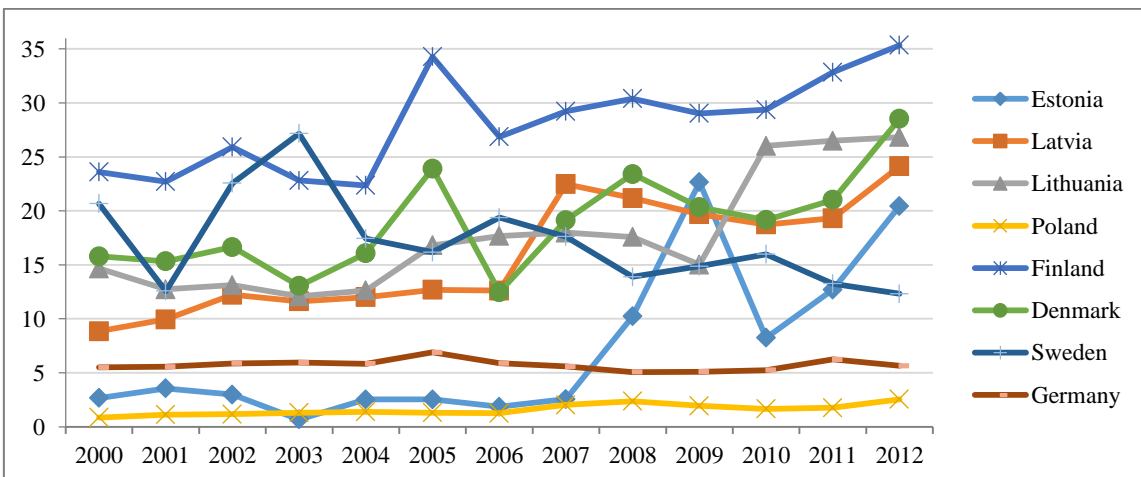
Source: author's calculations based on European Commission Eurostat data [Accessed 23 February 2014].

Fig. 7. **Electricity import in BSR from 2000 to 2012 (GWh Per '0 000 People)**

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Import amount in BSR countries varies year to year except Germany and Poland where import amounts are relatively stable and low. The highest amount of import per 10 000 people is in Finland where in recent years amount has even increase and reached 35 GWh import per 10 000 in 2012. Since disclosure of Ignalina nuclear power plant the amount of import in Lithuania has doubled from approximately 15 GWh in 2009 to 30 GWh in 2012 per 10 000 people. Denmark, Latvia and Sweden have relatively unstable import because large share of electricity production takes renewables like wind and hydro power and production in these power plants depends on season and weather.

There is also set up a EU strategy for BSR – (EUSBSR) which is the first macro-regional strategy in Europe. It was approved by the European Council in 2009 and it reinforces the integration within the area and contributes to major EU policies (EU Strategy for the BSR, Council of the EU). Under this strategy there are opportunities to get funding to start new collaborations and to develop cooperation also in field of energy.

In order to finance the cooperation in the BSR is established The BSR Programme 2007-2013 and at the moment the new Programme for the 2014-2020 is being prepared. Under Programme there are set up four clusters within cooperation is made, there is also energy cluster which combines expertise in renewable energies, sustainable technologies, resource saving in buildings and energy efficiency in urban context (BSR Programme).

To promote the completion and functioning of the internal market in electricity and cross-border trade and to ensure the optimal management and coordinated operation of the European electricity transmission network The European Network of Transmission System Operators for Electricity (ENTSO-E) was established and now represents all electric Transmission System Operators in the EU and others connected to their networks. (The European Network of Transmission System Operators for Electricity).

To serve as a forum for guidance and overall coordination among the BSR states it was established The Council of the Baltic Sea States which is an overall political forum for regional inter-governmental cooperation. In order to create political stability, security of energy supply, economic growth and sustainable development in the region the Council is promoting a secure, efficient and renewable energy market cooperation. Energy and climate related issues are one of the five priorities set up in Council and the main objective is to promote sustainable growth, security and prosperity in the region the Council supports the creation of competitive, efficient and well-functioning energy markets (The Council of the Baltic Sea States).

As seen in above mentioned cooperation between BSR states are very important especially in such a sensitive issue as energy provision. There are created many different forms of cooperation starting from strategies and plans to political forums, programmes and power market. Author believes that this kind of cooperation is absolutely necessary for the stability and future development of the country and further studies should be developed to determine the clear impact of cross-border cooperation.

Nowadays a large incident in a power supply are rare but author believes that it is necessary to increase electricity production and investments in new, green electricity generation forms or investments to expanding existing ones should be done in order to reduce dependence on energy import and therefore additional studies to assess the best solutions for investment in each of BSR countries have to be done.

Conclusions, proposals, recommendations

1. Electricity consumption in the world, including the BSR has increased significantly, especially in recent years therefore increasingly important issue for each county in the BSR is to decide how to provide sufficient electricity flow for growing electricity demand and although renewable energy sources in the world and the whole BSR countries are used more in recent years, however fossil fuels – natural gas, oil and coal so far are most used fuels for electricity generation.

2. BSR countries can be divided into three groups depending on electricity consumption and production per 1000 People – first group with high amount of production and consumption including Finland and Sweden, second group with medium production and consumption including Germany, Estonia, and Denmark and third group of countries with low production and consumption including Poland, Latvia and Lithuania.

3. There are significant differences in the BSR countries in shares of fuels used for electricity production – combustible renewables and waste most for electricity production are used in Denmark with the share of 17% in 2013 and in Finland with the share of 16% in 2013, the total leader of wind energy usage is Denmark where wind power reached 36% in total electricity generation in 2013 but the biggest shares of fossil fuels used for electricity production are in Estonia where the share was 86% in 2013 and Poland where the share was 88% in 2013.

4. BSR states have strong cooperation in energy sector starting from strategies and plans to political forums and programmes and Ignalina nuclear power plant disclosure in 2010 in Lithuania which decreased energy security throughout the BSR and Lithuania became from electricity exporter country to importer even more confirmed the importance of cooperation in energy sector.

5. Largest share of electricity generation in each BSR country constitutes a national resource with its natural advantage – such as wind in Denmark, hydro in Sweden and Latvia or fossil resource like oil shale in Estonia but in the worst cases countries are unable to secure even half of the electricity demand with own resources so continuous power supply depends on the on other countries.

6. In order to promote the use of renewable energy e.g. assessing geothermal park construction possibilities, the responsible ministries of the BSR countries, to invite experts from various sectors to develop a progressive renewable energy resources development programme in electricity generation.

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YOUTH UNEMPLOYMENT PROBLEMS IN EUROPEAN UNION AND LATVIA

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Abstract

The purpose of this paper is to investigate youth unemployment indicators as well as policy tools to reduce youth unemployment rate, compare situation in Latvia and the European Union (EU), and to provide conclusions. The integration of young people into the labour market is an important objective and it is a key policy issue of the European Employment Strategy and in particular in the context of the Youth Guarantee, politically agreed by the European Council on 28 February 2013. However, there are large country differences among the EU member states in the labour market situation for youth and thus policy responses must be tailored to each country's circumstances.

Key words: *unemployment, youth unemployment, employment*

JEL codes: J21, J64, E064

Introduction

Youth unemployment rate is higher than overall unemployment rate in both in the EU average and in Latvia. If we did not develop policy tools, young people could not integrate the labour market. A question that arises is whether the youth unemployment rate reflects the economic situation or peculiar negative movement among young people. The next question is what is the best labour market policy tools suiting individual. Particular attention should be addressed on so-called NEET group (NEET – not in employment, education or training).

The research aim is analyse youth unemployment in Latvia and the EU and policy to reduce unemployment. Tasks of the research are find out main youth unemployment trends, analyse the reasons of youth unemployment in Latvia and new policy tools in the EU and Latvia.

Methods and results

Analysis of youth unemployment is based on the International Labour Organization definition of employment and unemployment of youth. The main indicator of youth unemployment is the youth unemployment rate for the age group 15-24. The youth unemployment rate is the number of people aged 15 to 24 unemployed as a percentage of the labour force of the same age. Another indicator of youth unemployment is youth unemployment ratio. Research period of statistical indicators which have been used in the paper is from 2008 till now. In order to achieve the research aim quantitative methods are used. Analysis has been done on basis of materials from the European Commission, the Ministry of Economics of Latvia, the Central Statistical Bureau of Latvia, the Eurostat and the State Employment Agency of Latvia.

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Youth unemployment rate and NEET rate

The unemployment rate is an important indicator with both economic and social dimensions. Table 1 show that youth unemployment rate in Latvia was lower than the EU average rate in 2008, but from 2009 till 2013 exceed the EU average level. Analysing reasons for high rate in Latvia and EU, part of them could be explained by economic crisis with some gap resulting from GDP changes and part – resulting from other factors, such as, luck of skills, luck of vacancies, luck of experience, luck of motivation etc.

Table 1

Youth Unemployment (15 – 24 age group) rate in Latvia and the EU in 2008 – 2013, in per cent

	2008	**2009**	**2010**	**2011**	**2012**	**2013***
Latvia	13	34	35	31	28	25
EU-27	16	20	21	21	21	23

* EU 2013December, Latvia 3quater 2013

Source: Eurostat, 2014. Unemployment statistics

The euro area overall unemployment rate was 12.0% in December 2013 and EU-28 was 10.7% in December 2013 (Eurostat, 2014). Youth unemployment rates are generally much higher than unemployment rates for all ages. The EU youth unemployment rate stood at 23.6% in January 2013, more than twice as high as the adult rate, and no signs of improvement are in sight. 7.5 million Europeans aged 15-24 are neither in employment nor in education or training. High youth unemployment rates do reflect the difficulties faced by young people in finding jobs. The different concept is youth unemployment ratio. The unemployment ratio is calculated as the share of unemployed for the whole population. The Eurostat dates shows that youth unemployment ratios are much lower than youth unemployment rates. The main reason for the general worse labour market performance with respect to adults is related to the lower level of human capital and productivity, and preferences of employers.

Table 2

Youth neither in employment nor education or training (NEET) among youth in 2011, percentage of population aged 15-24

	Unemployed	**Inactive**	**NEET rate**
Netherland	1.5	2.7	4.1
Denmark	2.5	3.2	5.7
Euro area	6.8	6.4	13.2
European Union	6.6	6.6	13.2
OECD	6.5	12.1	18.6
Ireland	9.3	8.3	17.6
Spain	12.6	5.0	17.6
Italy	7.3	12.1	19.5
Greece	10.4	7.8	18.2
Slovakia	9.8	5.9	15.6

Source: OECD, 2012 Employment Outlook. NEET rates among OECD countries

The OECD Employment Outlook record NEET data for 15-24 year olds (Table 2). Of the OECD countries where data is provided and presented in Table 2 Italy had the greatest proportion of 15-24 year olds NEET. In this case the majority of NEET young people were inactive not unemployed. Spain, Greece and Slovakia had the greatest proportion of NEET 15-24 year olds who were unemployed. In each of these cases unemployed young people who were NEET counted for over half the total.

Table 3

Youth unemployment rate (2013) and the lowest NEET rates (2012) in EU countries, in per cent

Country	Unemployment rate	NEET rate
Austria	8.7 (September)	6.5
Czech Republic	18.8 (September)	8.9
Germany	7.7 (September)	7.7
Denmark	13.5 (September)	6.6
Finland	20.2 (August)	8.6
Luxembourg	18.8 (September)	5.9
The Netherlands	11.7 (September)	4.3
Sweden	22.8 (September)	7.8
Slovenia	23.7 (September)	9.3

Source: author's formation based on European Commission, 2013. *Employment*

The author divided EU countries in three groups according to NEET rate. Table 3 presents countries with medium NEET rates in 2012. All countries in this group have youth unemployment rate of less than 25%.

Table 4

Youth unemployment rate (2013) and medium NEET rates (2012) in EU countries, in per cent

Country	Unemployment rate	NEET rate
Latvia	20.1 (June)	**14.9**
Belgium	24.0 (September)	12.3
Estonia	14.9 (August)	12.5
France	26.1 (September)	12.2
Hungary	26.9 (August)	14.7
Lithuania	21.0 (September)	11.1
Malta	13.2 (September)	11.1
Poland	26.3 (September)	11.8
Portugal	36.9 (September)	14.1
Slovakia	23.7(September)	13.8
United Kingdom	20.9 (July)	14.0

Source: author's formation based on European Commission, 2013. *Employment*

Table 4 presents countries with medium NEET rates in 2012. At the same time France, Hungary, Poland and Slovakia have youth unemployment rate of more than 25%. The highest NEET rate in the second group has Latvia.

Table 5

Youth unemployment rate (2013) and the highest NEET rates (2012) in EU countries, in per cent

Country	Unemployment rate	NEET rate
Bulgaria	24.0 (September)	21.5
Greece	57.3 (July)	20.3
Spain	56.5 (September)	18.8
Croatia	52.8 (September)	16.7
Cyprus	43.9 (September)	16.0
Ireland	28.0 (September)	18.7
Italy	40.4 (September)	21.1
Romania	23.2 (June)	16.8

Source: author's formation based on European Commission, 2013. *Employment*

Table 5 presents countries with the highest NEET rates in 2012. Greece, Spain, Croatia, Cyprus, Ireland and Italy have youth unemployment rate of more than 25%.
Key characteristics of people who are NEET (Mirza-Davies, J., 2014):
- Those who have been excluded or suspended from school are more likely to be NEET than those who have not;
- Those with their own child are more likely to be NEET than those without;
- Those who have a disability are more likely to be NEET than those who do not.

It is important that high youth NEET rates may be generated also by choices (for example, travel, leisure), or by non-economic constraints (for example, military conscription).

Youth and labour market policy in EU

This poses a serious threat to social cohesion in the EU and risks having a long-term negative impact on economic potential and competitiveness. Young people are a priority EU social policy to sustain the young human capital. EU adopted the EU Youth Strategy for 2010 – 2018. There are two overall objectives:
- To provide more and equal opportunities for young people in education and in the labour market;
- To promote the active citizenship, social inclusion for all young people.

The Europe 2020 strategy put initiatives " An agenda for new skills and jobs" and "Youth on the move", youth unemployment rates will be targeted via by a range of policies, including proposals aimed at education and training institutions, or measures for the creation of a work environment conducive to higher activity rates and higher labour productivity. There are also initiatives' aimed at improving the entry rates of young people into the labour market. (Eurostat, 2014.Unemployment statistics)
A new initiative to improve employability of young people is through a Youth Guarantee and implementation reforms in education system.

Youth Guarantee

The European Commission considers that setting up the Youth Guarantee schemes is a forward looking and fundamental structural reform in the mid-term and long term. The Youth Guarantee aims to ensure that all young people aged 15-24 not in employment, education or training (so-called NEETs) receive a good-quality offer of employment, continued education, an apprenticeship or traineeship within a period of four months of becoming unemployed or leaving formal education (European Commission, 2014):

1. The Youth Guaranty scheme represents a new approach to policy design and implementation.
2. The Youth Guarantee scheme requires a clear and integrated strategy first and foremost.
3 The Youth Guarantee scheme cannot be realised without substantial baking, coordination and investment from within Member State governments.
4. The Youth Guarantee scheme requires national budgetary commitments in order to ensure sustainability and return on investment in medium to longer time.
5. An inclusive partnership approach, involving youth and non-governmental organizations, social partners and business, is fundamental to successful design and implementation of the Youth Guarantee scheme.
6. The Youth Guarantee is founded on the principles of providing a good-quality offer of employment, continued education, apprenticeship or traineeship
7. Ensuring a good-quality offer entails organizing the support around the journey of the individual young person, rather than the interest of service providers.
8. In the design of Youth Guarantee schemes, it is fundamental to work on basis that prevention is better than cure.
9. The value of monitoring and evaluating all aspects of the Youth Guarantee scheme should not be under-estimated.
10. Given that the Youth Guarantee is foreseen as a high-quality, long-term strategy, covering diversity of partners and complex issues.

The Youth Guarantee does not a jobs guarantee, but seeks to activate young people at the shortest possible delay, thus keeping them in touch with the labour market, or ensuring further education. The ESF can fund, in the context of the Youth Guarantee, activities linked to the delivery of the direct interventions on young persons and more broadly, structural reforms in systems. Examples of structural reforms include, access to information and services, building-up partnerships, outreach strategies, anticipation of future skills and labour market needs, individual action planning, developing second-chance opportunities, developing guidance on entrepreneurship and self-employment, supporting mobility, and investing in monitoring and evaluation.

The Youth Guarantee schemes that have addressing acute levels of youth unemployment and inactivity and offering young people better prospects in life, represents a new approach to policy design and implementation. (ICF GHK, European Commission, 2013).

Labour market development In Latvia

Changes in economic activities have a positive impact on the labour market in Latvia (Fig.1). The situation in the labour market has been improved within a year along with increasing economic activities. At the same time employment is likely to increase slower than the growth, as the output will be mainly based on the increase in productivity.

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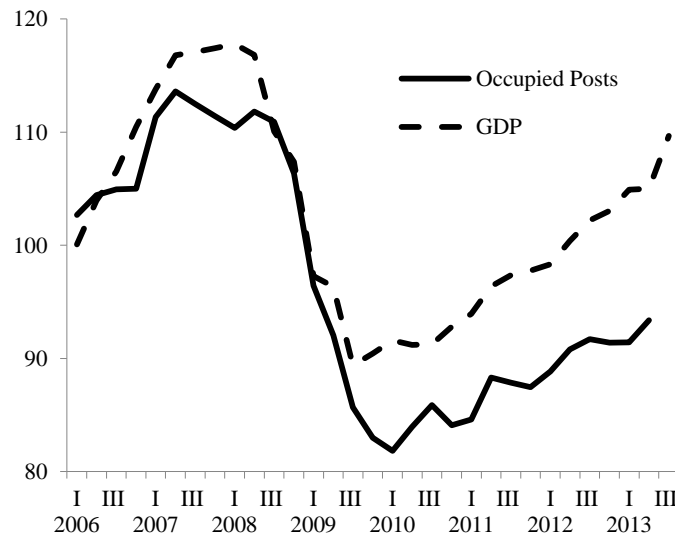
Source: Ministry of Economics, 2012

Fig. 1. **GDP and Occupied Posts in Latvia, 2005 Q4 =100**

As a result, the employment rate is growing high unemployment rate is decreasing. At the same time, some groups, especially people with a low level of education and qualification and young people barely feel improvement.

At the same time, the balance between the labour force demand and labour force supply is influenced not only by labour force education and skills but also by wages; therefore vacancies stay open even under high unemployment conditions.
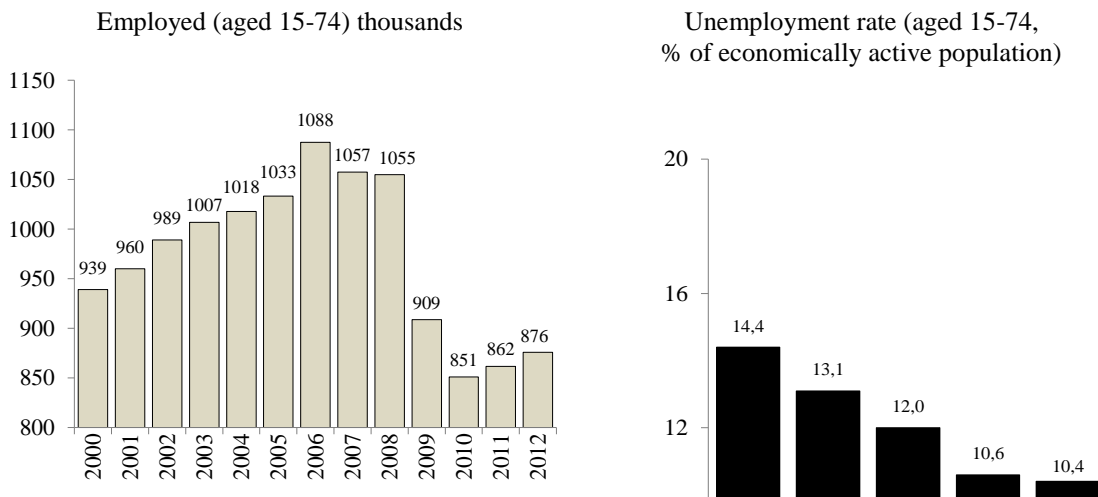
Source: Ministry of Economics, 2012

Fig. 2. **Employment and unemployment in Latvia from 2000 till 2012**

The number of employment increased by 1.3% in 2011 compared to 2010 (Figure 2). The unemployment rate decreased by 3.3 percentage points compared to 2010. Similar trends remain in 2012.

Labour market in Latvia has disproportions. Main disproportions are:
- High surplus in professionals in humanities and social sciences;
- High share of low-skilled;
- Young people enter labour market without any specialization and skills (~1/3);
- Discrepancies among formal education supply and labour market demand.

Causes of problems in the labour market are also due to education:
- Poor knowledge in hard sciences, and poor student interest of these subjects on secondary education level;
- Poor insight of career possibilities on secondary education level;
- Many young people prefer general secondary education;
- Low prestige and capacity of secondary vocational education;
- Low popularity interdisciplinary education programmes.

Youth Guarantee implementation in Latvia

The relatively high proportion of young people leaving school without a basic education and qualification, education are not always well adapted to labour market requirements, as well as general labour market conditions and problems in the functioning of labour market. Attractiveness of vocational education is very low to historical reasons, outdated infrastructure and weak links with enterprises. As a result skills mismatches and shortages in certain sectors. A challenge is to improve the quality of vocational education and training and make it respond better to the labour market needs. National reforms aim at improving the quality of vocational education and training and making it respond better labour market needs. The aim is that by 2020 50% of age group would follow vocational education and training routes.

Vocational education of programmes (unemployed 15-24 and YG clients 17-29 ages)	**Motivation programmes** (NEET's and young people 13-24 who are not registered as unemployed)
Short-term training programmes (unemployed with vocational or higher education 15-24 ages)	**Career guidance** (NEET's 15 – 29 ages)
First work experience (18-24 ages without work experience)	**Work place with subsidy** (disadvantaged 18-29 ages)
Support of starting business (unemployed 18-29 with skills in entrepreneurship)	

Source: author's construction based on State Employment Agency data. Conference, 2013..

Fig. 3. **Youth Guarantee activities in Latvia**

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Some of labour market problems in Latvia, according to international experience, could be solved by "dual system". "Dual system" – system where class – based and work – based training are provided in parallel. In "dual system" framework (for example, Austria, Denmark, Germany, Switzerland) – youth spend some time in educational institutions and the remainder at the workplace. Apprenticeships are then part of formal education structure and usually after completion of compulsory education. Main advantages are: early contact with the working world, easy transition from training to employment and attractive for those who are practically oriented.

Figure 3 presents Youth Guarantee (YG) activities and young people group to whom activities are addressed in Latvia.

The implementation of Youth Guarantee (YG) in Latvia includes necessity to improve access to information and services, building-up partnerships, outreach strategies, anticipation of future skills and labour market needs, individual action planning, developing second-chance opportunities, developing guidance on entrepreneurship and self-employment, supporting mobility, and investing in monitoring and evaluation. In particular to the young people who are NEETs, it is necessary returning them back to the education system, as well as increase attractiveness and quality of vocational education.

Conclusions

1. High rate of youth unemployment rate could be explained by economic crisis with some gap resulting from GDP changes and partly – resulting from other factors, such as, luck of skills, luck of vacancies, luck of experience, luck of motivation etc.
2. The Youth Guarantee is important policy tool to reduce youth unemployment. However, thus policy responses must be tailored to each country's circumstances.
3. Latvia should pay more attention to the youth who are neither studying nor working, aimed at returning young people back to education system, as well as increase attractiveness and quality of vocational education.

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MANAGERIAL OWNERSHIP AND SUPERVISORY BOARD ACTIVITY: EVIDENCE FROM POLISH LISTED COMPANIES

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Abstract

Building on and extending prior research, I propose to investigate how managerial ownership affects supervisory board activity in the Polish two-tier board model. To examine this, I employ a panel of companies over a three-year period from 2010 to 2012 and apply panel data analysis (fixed-effects model). My results reveal that managerial ownership has a negative influence on supervisory board meeting frequency and in this way it diminishes supervisory board activity. Moreover, managerial ownership has also a negative influence on the number of supervisory board committees. The negative relationship between managerial ownership and board activity is consistent with previous research conducted in the one-tier board model, but I argue that in the two-tier board model this can augment the shortcomings of the supervisory board.

Key words: *corporate governance, managerial hegemony theory, ownership structure*, *two-tier board model, Poland*

JEL codes: G32, G34

Introduction

The role of corporate boards has been one of the most debated by scholars and practitioners issues in corporate governance. They acknowledged the importance of the boards' monitoring function (Zahra and Pearce, 1989; Baysinger and Hoskisson, 1990), their contribution to strategy formulation (Pugliese et al., 2009, Tricker, 2009) and the boards' involvement in providing resources (Hillman et al., 2000; Pfeffer and Salancik, 1978) long ago. But the previous findings of studies on the role of boards, seems to be ambiguities. While some authors mention that boards of directors are a powerful internal governance mechanism which tends to align the interests of shareholders and managers (Oviatt, 1988), are able to support management in strategy formulation (Stiles, 2001; Bezemer et al., 2007) and have ultimate control over management through their capacity to hire or fire the chief executive officers (Mizruchi 1983), other studies also underline that corporate boards are passive, reactive, ineffective, not involved in strategic decision making process and in addition dominated by executives (Kosnik, 1987; Lorsch and MacIver, 1989). This ambiguity may result from the reliance on an explicitly single theoretical framework, which needs not be universal.

However, to date the discussion on the activity of corporate boards has been mostly stimulated by agency theory perspective (Jensen and Meckling, 1976; Eisenhardt, 1989). Accordingly, most studies have examined the relationships between board structure, tasks and processes and company performance (Kiel and Nicholson, 2003; De Andres and Lopez, 2005). But there are also other theoretical perspectives which may be appropriate in describing board roles in different institutional conditions. The present study is fueled by managerial hegemony theory (Mace, 1971; Lorsch and MacIver, 1989), which seems to be

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useful for depicting the relationship between managers and supervisory board members in companies with significant managerial ownership. Hence, the present understanding of role of the corporate boards is full of gaps. Firstly, most studies have focused on one-tier boards, while little is known about two-tier boards. This especially applies to the efficiency and activity of upper boards i.e. supervisory boards. The studies conducted so far have generally found these boards to be passive, but have not explored the underlying causes of this state of affairs (Rudolf et. al., 2002; Aluchna, 2007; Jeżak, 2010). In contrast, the present study is intended to provide in-depth insights and show how often board members meet and how they fulfill their functions. Second, as has been mentioned, most previous studies were based on the agency perspective. This study draws on managerial hegemony theory and shows how managerial ownership reduces the role of corporate boards. Anyway, this paper seeks sources of this phenomenon in the problems described by managerial hegemony theory. Generally, the purpose of this paper is to investigate how managerial ownership affects supervisory board activity.

The paper is organized as follows. Firstly, managerial hegemony theory is described. It sheds some light on the role of supervisory boards. Secondly, the specificity of the Polish two-tier board model is discussed, including its main features, the functions of the supervisory and management boards, and the advantages and disadvantages of two-tier boards. Thirdly, hypotheses are developed on the relationship between managerial ownership and supervisory board activity. These sections are followed by the research methodology section and findings from the study. Finally, a summary and conclusions, including research limitations, is presented.

Literature review

1. Managerial hegemony theory

Managerial hegemony theory perceives the role of board members instrumental and recognizes corporate boards as a tool for supporting managerial decisions (Hung, 1998). This theory refers to a situation where strategic decisions are directed by professional managers who are in a superior position within companies. Kosnik (1987) mentioned that managerial hegemony describes the board as "a co-opted appendage institution that, despite its formal governing power over management, is in fact dominated by corporate managements, hence, ineffective in alleviating conflicts of interests between management and stockholders". This indicates that perhaps in literature, the role of the corporate boards is overemphasized. Thus, Mace (1971) noted a gap between the myths of business literature and practice – a discrepancy between what directors should do and what they do in reality. He called board members "ornaments on a corporate Christmas tree" and boards of directors "old boys clubs" and "rubber stamps". Also Drucker (1974) described boards of directors as "an impotent ceremonial and legal fiction".

This theory identifies deficiencies of corporate boards in management control, amongst others, over the selection of external directors. Top managers can co-opt compliant external directors, who do not have the desire or strength to oppose the proposals of top managers and substantially rubber stamp management's policies (Kosnik, 1987). Lorsch and MacIver (1989) pointed out that external board members face some constraints in fulfilling their duties, such as their available time and knowledge, a lack of consensus about their goals and the superior power of management. Also Kosnik (1987) listed reasons for passive behaviour of corporate boards, which are: relative lack of knowledge about the company's affairs, dependence on information and insights that are provided by the company's top managers and the directors' interests in the benefits that ensue from board membership e.g. compensation and prestige.

Corporate governance has been dominated by agency theory. Particular attention was paid to board independence (Rosenstain and Wyatt, 1990; Westphal and Zajac, 1997). During this time, managerial hegemony theory remained on the sidelines. However, this theory indicates some problems within corporate boards, which in some countries and companies can be of great importance. This is the same for the two-tier board model and companies in which a significant share of ownership lies with the managers. Here the role of supervisory boards may be limited to being "rubber stamps" and "ornaments on a corporate Christmas tree".

2. Polish two-tier board model

In Poland companies are required to have a two-tier board structure with a supervisory board and a management board. The supervisory board consists solely of external directors and is comprised of a minimum of three members in private companies and of minimum of five members in listed companies. These are convened by the annual general meeting. The management board is entirely composed of internal directors and consists of one or more members. Management board members are called by the supervisory board. Articles of association can allow for other ways of their appointment i.e. by general meeting. Two-tier boards in Europe can also be found for example in Germany, Austria, the Czech Republic and Slovakia, but unlike these countries in Poland workers are not entitled do delegate their representatives to supervisory boards (The European Commission, 2009).

In accordance with Polish company law, the management board is responsible for managing the company. It is the real decision-making body, which is responsible for the formulation of strategy and for operations. The supervisory board exercises day-to-day supervision in all areas of the company's activity. Its duties also include the granting of contracts to members of the management board, approving the most important strategic and financial decisions, reviewing the firm's performance with the management board, approving annual reports, and selecting auditors (Kojima, 1997). In Poland, the responsibilities of the supervisory board can be broadened by shareholders through provisions contained in the articles of association. It is commonly found that their duties also include entering into contracts with top managers, approving long-term plans and annual budgets, selecting external auditors, representing companies in disputes with their management, approving issue prices, accepting unified texts of the articles of association, granting approval for the purchase or sale of real estate, giving investment guarantees, assuming financial obligations, raising equity capital, purchasing shares of significant value, purchasing or selling movables, establishing or liquidating company divisions, setting up new subsidiaries, granting procuration, and sale of preferred shares or their exchange for ordinary shares (Bohdanowicz, 2009; Jeżak, 2010).

The positive and negative features of the two-tier board model have been specified by Cadbury (2002), Spisto (2005) and Jungmann (2006). Under the two-tier model, the supervisory and management functions are strictly separate and both boards consist of different members. As a result, members of the supervisory board are theoretically independent from managers. Moreover, members of the supervisory board are appointed by shareholders. They in turn appoint members of the management board. The link between the owners, supervisors and managers is obvious. Thanks to this, members of both boards avoid conflicts of loyalty. On the other hand, the division of supervisory and management functions seems to be the cause of weaknesses of the two-tier board model. Supervisory boards always behave in a reactive way and are seen as passive organs. They do not boost the company's status, but are rather restricted to making comments on the adopted solutions and, if necessary, they can dismiss members of the management board. Moreover, there is strong information asymmetry between the management board and the supervisory board as all information considered during supervisory board meetings is delivered by the management board, which can jeopardize the process of deficiency discovery by the supervisory board due to a lack of adequate information.

3. Managerial ownership and board activity

In literature board activity was used to examine corporate boards' ability to fulfill its control function and subsequent impact on the company's strategy. Control function is perceived as the most important board function, especially in two-tier board model (Tricker, 2009). Accordingly, Menon and Williams (1994) stated that board audit committees, which do not meet or do not meet often, are dubious as effective monitoring bodies. Zona et al. (2013) concluded that boards, which meet episodically, seldom explore the in depth aspects of strategic decisions, including innovation strategy. Though, previous research supported the view that board activity is a significant dimension of board operations, has a positive impact on company value, and is driven by merger and acquisition activity and by accounting restatements (Vafeas, 1999; Brick and Chidambaran, 2010). Moreover, it prevents omissions which may take place in the financial reporting process (Carcello et al., 2002) and contributes to greater transparency of the executive remuneration (Laksaman, 2008).

Generally as a proxy for the level of boards' monitoring activity, their meeting frequency was used. For example Vafeas (1999) utilized board meeting frequency as a proxy for board activity and found that the lower the number of meetings the higher the book value displayed. Moreover, he also supported the view that managerial ownership had a negative relationship with the frequency of board meetings. This is consistent with Shleifer and Vishny (1997) conclusion based on agency theory that insider shareholders exercise direct supervision on management or are managers themselves. Moreover, when owner-managers are dominant shareholder, this can lead to further consequences, because dominant shareholders may attempt to maximize their own utility and expropriate wealth from minority shareholders (Shleifer and Vishny, 1997; Holderness, 2003). Their superior position is possible, when corporate boards as controlling bodies are undermined.

However, Greco (2010) found that insider ownership negatively impacts boards of directors and audit committee meeting frequency. In addition he found that audit committees are more active in large companies and there is a positive relationship between the proportion of independent directors and board activity, but in contrast to Vafeas (1999) he did not find evidence that boards are more active in consequences to problems within companies or in decreasing their performance. Similar results were obtained by Mendez and Garcia (2007) who found a negative relationship between insider shareholdings and the audit committee frequency.

Hence, this research is concentrated on supervisory board activity in the two-tier board model. Due to this the hypothesis can be put forth simply as follows: managerial ownership diminishes supervisory board activity and makes it passive. More specifically, managerial ownership negatively affects supervisory board meeting frequency and the number of supervisory board committees, which is used as the second proxy for the intensity of supervisory board activity.

Research results and discussion

1. Research sample and variables

The sample consists of Polish companies listed on the Warsaw Stock Exchange between 2010 and 2012. The adoption of this period depended on the availability of data. Data was hand-collected and derived from annual reports. The sample involves only non-financial companies. Financial institutions are excluded due to their unique financial structure and special accounting rules which apply to the financial sector. Observations with missing data are also excluded. This gives an unbalanced initial panel sample of 207 companies and 463 firm-year observations.

The following model has been used for testing the hypothesis:

$$Y_{it} = \alpha_i + \beta X_{it} + \gamma Z_{it} + \varepsilon_{it} \tag{1}$$

where: the Y_{it} vector contains dependent variables, i.e., proxies for supervisory board activity (supervisory board meeting frequency and number of supervisory board committees); X_{it} represents the independent variable, i.e., a proxy for managerial hegemony (managerial ownership); Z_{it} consists of control variables, that is, supervisory board diversity, supervisory board size, management board size, firm size, debt ratio, and firm performance (i.e., return on assets), and ε_{it} describes random disturbance.

Since the data span covers three years, this is analyzed using panel data analysis (a fixed-effects model). This method takes into account individual effects and allows for controlling changes in the behaviour of units over time (Gujarati, 2003). Moreover, using the panel increases the number of degrees of freedom and reduces collinearity between independent variables, which leads to a higher estimation efficiency and to a determination of their real impact on the dependent variables (Hsiao, 2003; Maddala, 2008). Analysis carried out in this way also enables the elimination of heterogeneity resulting from the occurrence of unobservable factors (or those not included in the model) which might differentiate individual units (e.g. unquantifiable factors). This is important because heterogeneity leads to biased estimators (Green, 2003).

Three main variables of interest are the number of meetings held by the supervisory board annually as disclosed in annual reports from the supervisory boards and number of supervisory board committees, which are dependent variables and managerial ownership, which is an independent variable. The number of meetings held by the supervisory board was used as a proxy for the intensity of board activity by Vafeas (1999) and Brick and Chidambaran (2010). Similarly this study excludes actions by written consent, telephonic meetings and video teleconferences because it is more challenging to fulfil board functions from distance (Vafeas, 1999). As a second proxy for board activity the number of committees is used. In prior research the frequency of committee meetings was rather used as this proxy, but in Poland this is not often disclosed. Generally, board committee establishment helps to improve corporate governance by delegating particular tasks from the whole board to the smaller group of boards' members (Spira and Bender, 2004; Kołodkiewicz, 2011). This way, even the establishment of a committee helps to increase the intensity of supervisory board activity. Managerial ownership is the percentage of shares owned by all management board members. This variable is calculated as direct and indirect voting rights at the general meeting and counted as a decimal number.

The choice of control variables is motivated by their potential relevance. Board size is commonly defined as the total number of directors (Florackis and Ozkan, 2009), but since a two-tier board model is being studied, it has to be measured using two variables, i.e., the total number of directors on supervisory boards and the total number of directors on management boards. Moreover, while we are witnessing a growing body of research on board diversity and its influence on company performance and various board processes (Nielsen and Huse, 2010; Terjesen et al., 2009), board diversity is employed to control its impact on board activity. As a proxy for board diversity, I used the percentage of women on the supervisory board (Campbell and Minguez-Vera, 2008). This variable is also calculated as a decimal number. In view of the fact that company size is associated with board activity, we may use total assets at the end of the firm's prior fiscal year as a control variable and a proxy for the scale of the company. As is commonly done, this is transformed with a natural logarithm (Brick and Chidambaran, 2010; Kang et al., 2003; Kochhar and David, 1996). To control company leverage, debt ratio is used. This is calculated as the ratio of total liabilities to total assets. Moreover, this is included in the Return on Assets (ROA) as a measure of company performance.

2. Descriptive statistics

Table 1 shows descriptive statistics for the variables considered. They are given as averaged for all three years. Supervisory board meeting frequency across the entire sample is 6.4276 with standard deviation 3.43. The average numbers of meetings of the Polish supervisory boards is lower than the

average number of meetings of boards of directors in a similar studies by Vafeas (1999), where this was 7.45 meetings, and Greco (2010), where this was 9.27 meetings. These differences arise from the difference in functions of boards of directors in a one-tier board model and supervisory board in a two-tier board model. Tricker (2009) indicated that boards of directors perform four functions i.e. accountability, strategy formulation, policy making and supervising executive activities, while supervisory boards mainly concentrate on supervising executive activities. The average number of supervisory board committee's amounts 0.7451. Moreover, more than half of the companies in the sample have no board committee. By contrast, Vafeas (1999) reported that the average number of standing board committees was 4.29 in his research. Managerial ownership in the sample is relatively high. The mean is 0.1944, which is higher than reported by Vafeas (1999), but lower than reported by Greco (2010) for Italian companies. It can be concluded that managerial ownership is significant in Poland, but not as dominant as for example in Italy.

On average there are approximately 6 directors that serve on the supervisory board and 3 on the management board. Precisely, the mean of supervisory board size is amounted 5.7343 with standard deviation 1.2045 and the mean of management board size is 3 with standard deviation 1.3691. Moreover, it is worth underlining that the lowest number of supervisory and management board members in Poland are limited by company law. Polish supervisory boards of listed companies should consist of five or more members and management boards of one or more members. This shows that in particular supervisory boards of many companies consist only of a minimum number of members. Moreover, the mean of supervisory board diversity is 0.1427. Thus, women denominate slightly more than 14% of the supervisory board members, which is consistent with the results of other similar studies carried out in Poland (Bohdanowicz, 2012). The average debt ratio is 0.4944 and the mean natural logarithm of total assets (company size) is 19.4359. Furthermore, the mean of return on assets is 0.0148.

Table 1

Descriptive statistics

Variable	Mean	Standard deviation	10th percentile	90th percentile
Supervisory board meeting frequency	6.4276	3.43	3.0	11.0
Number of supervisory board committees	0.7451	0.8948	0.0	2.0
Managerial ownership	0.1944	0.2714	0.0	0.6794
Supervisory board size	5.7343	1.2045	5.0	7.0
Supervisory board diversity	0.1427	0.1699	0.0	0.4
Management board size	3.0	1.3691	2.0	5.0
Company performance	0.0148	0.1408	-0.0805	0.1106
Debt ratio	0.4944	0.4338	0.2163	0.7137
Company size	19.4359	1.6936	7.4766	21.6666

Source: author's calculations based on data extracted from annual reports

3. Multivariate test

Table 2 illustrates the results of panel data estimation for the sample. The results reveal that the interaction between managerial ownership and supervisory board meeting frequency is negative and significant (β = -3.2767, p < 0.1) and the relationship between managerial ownership and the number of

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supervisory board committees is also negative and significant (β = -0.5977, p < 0.01). These findings support the hypothesis that managerial ownership diminishes supervisory board activity and specifically that managerial ownership negatively affects supervisory board meeting frequency and the number of supervisory board committee. These results are also consistent with Vafeas's (1992), Mendez and Garcia's (2007) and Greco's (2010) findings. They show that managerial ownership reduces the activity of supervisory boards and their ability to fulfil their control function.

Table 2

Panel data estimation

Independent and control variables	Dependent variables	
	Supervisory board meeting frequency	**Number of supervisory board committees**
Managerial ownership	-3.2767† (1.9479)	-0.5977** (0.2435)
Supervisory board meeting frequency	–	0.0056 (0.00801)
Number of supervisory board committees	0.3516 (0.5095)	–
Supervisory board size	0.1209 (0.3146)	0.1303*** (0.0387)
Management board size	-0.2388 (0.2343)	0.0307 (0.0295)
Supervisory board diversity	0.9494 (1.6867)	0.2523 (0.2117)
Company performance (ROA)	-2.0368 (1.2578)	-0.2197 (0.1585)
Debt ratio	0.0381 (1.4503)	-0.3411* (0.1811)
Company size	-1.6378** (0.7883)	0.0030 (0.1000)
Constant	38.5523** (15.0779)	0.0491 (1.9221)
Adjusted R-squared	0.7075***	0.9319***

*Note: † p < 0.1; * p < 0.05; ** p < 0.01; ***p < 0.001. Standard error is given in brackets.*

Source: author's calculations based on data extracted from annual reports

The analyses identifies three relationships between some of dependent and control variables. They include a negative relationship between supervisory board meeting frequency and company size (β = -1.6378, p < 0.01). This relationship is the opposite direction than the relationship noticed in Brick and Chidambaran's (2010) study where it was statistically significant. But at the same time in Vafeas's (1999) and Greco's (2011) research this relationship was not statistically significant. Sign found in my study may result from the structure of the sample. Large Polish companies have concentrated ownership, and the dominant shareholders can directly control the companies without increasing the activity of corporate boards (Mendez and Garcia, 2007). Moreover, there is a positive relationship between the number of supervisory board committees and supervisory board size (β = 0.1303, p < 0.001). This is due to the fact

that to be more effective, large boards appoint various sub-committees and entrust them with some activities, although the supervisory boards as a whole are responsible for the functions performed by these sub-committees (Colley et al., 2005; Mallin, 2009; Koładkiewicz, 2011). Furthermore, it shows that there is a negative relationship between the number of supervisory board committees and debt ratio ($\beta = -0.3411$, $p < 0.05$).

Conclusions and discussion

Due to the fact that corporate boards are recognized by managerial hegemony theory as rather passive, it is essential to examine what leads to their inactivity. This study investigates how managerial ownership influences the activity of supervisory boards of Polish listed companies. The results reveal negative interactions between managerial ownership, the frequency of supervisory board meetings, and the number of board committees. The results also demonstrate that owner-managers can reduce supervisory board activity in listed companies. Vafeas (1999) explained this relationship on the basis of agency theory and suggested that board activity is a substitute for the high level of inside ownership in disciplining management. This does not have to be, and this mechanism may act as a double-edged sword. Many studies show that the concentration of ownership also in hands of managers may not necessarily lead to maximization of wealth for all shareholders, but rather towards a danger of abuses against minority shareholders (Shleifer and Vishny, 1997; Holderness, 2003). Moreover, the relationship between managerial ownership and firm performance is ambiguous. Some studies found the nonlinear and negative at high concentration of ownership relationship (Morck et al., 1988; Hermalin and Weisbach, 1991).

Managerial ownership reinforces the problem noted by Jensen (1993). According to him, the CEO almost always set the agenda for board meetings. This applies to the one-tier model, where the CEO is a member of the board of directors and often controls it. This problem occurs also in the two-tier board model. This is noticed by Jeżak (2010), who states that the agenda for the meeting and the information for the supervisory boards are prepared by the management boards, which often leads to the presentation of incomplete information. In view of this, the negative relationship between managerial ownership and supervisory board activity support managerial hegemony theory and the conclusions formulated by Mace (1971) and Lorsch and MacIver (1989). Increase in managerial ownership makes the supervisory board become rubber stamps and "ornaments on a corporate Christmas tree". They mainly meet to approve decisions submitted by manager-owners. There are two reasons for this i.e. legally defined functions and responsibilities of the supervisory boards and the desire to dominate the supervisory boards by managers. Especially since the law in Poland does not give the strong position of supervisory boards leaving a lot of discretion for companies bylaws (Aluchna, 2009)

In view of this, this study may be used as a starting point for a discussion on institutional changes in the Polish two-tier board model and other countries with implications for the public authorities that are currently carrying out corporate governance reforms. Firstly, one should consider the introduction of an optional board model (a choice between one-tier and two-tier board models). An optional model allows for flexible adaptation of corporate board structure and model to the ownership structure, the type of sector, as well as the size and scope of activities. Secondly, it would be advisable to impose similar liability on internal and external directors. In this case, external directors would be less willing to tolerate a decrease of the supervisory board activity. In addition, if the activity of the supervisory boards would be less, it could be an incentive for their members to be removed or denied seats on the supervisory board. The result would be a signal to investors who would be at a greater risk of Investment in shares of the company.The results of this study are also subject to limitations associated with the measurement of variables and the method used. The first limitation concerns missing data. Many Polish companies did not disclose the number of meetings of the supervisory board. This could also affect the lower level of statistical significance when testing the relationship between managerial ownership and

the meeting frequency of the supervisory boards than in similar studies carried out in the one-tier board model (Vafeas, 1999; Greco, 2010). The second limitation relates to the proxy used i.e. number of supervisory board committees. It would be better to use the number of committee meetings, as did Greco (2010). Unfortunately, companies in Poland, most frequently give only the number of committees and their type, but unfortunately very rarely the number of meetings of these committees.

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COMPARATIVE ANALYSIS OF INNOVATION PROCESS APPROACHES

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Abstract

Innovation has become one of economic growth engines, where highly important role is played by science and well educated human resources. In previous economic periods innovations represented economic development background, but nowadays it has become one of the main factors of economic growth. The most recent works of scientists introduces the term „innovative economy", thus representing the most developed countries of the world, the current development phase. Despite innovations' high importance for economic growth, high attention to innovations impacting macro environments factors, less investigated are innovation value chain issues in microenvironments. Logistic chains and systems development has helped companies to reduce their expenses rapidly. Innovation systems, components and influencing factors has been researched and analysed to conclude that innovation consists of innovation sources, idea processing and concept advancement. Despite popularity of theme, majority of companies the most used innovation sources are brainstorm and intuition as only source of information for innovation idea identification. Scientific literature approach to innovation sources is reserved, leaving a lot of obscure components to hands of "creative marketing". Authors of Paper analyses sources of innovation within innovation development value chain. The main objectives of Paper are to provide a theoretical overview of recently used innovation value chain process, propose improved innovation process scheme and determinate and classify innovation ideas identification sources. The methodology employed in the work is relational content analysis, logical analyses and synthesis of related literature, comparison and generalization, deduction and conceptualization, empirical research.

Key words: *innovation sources, marketing, innovation value chain*

JEL code: M31

Introduction

In the information century economic is based on knowledge, access to information and productive work. Economic growth significantly affected by the ability to develop and apply new knowledge that is based on discoveries. Innovations have become as the cornerstone of economic growth. Here the major role is played by science and educated people. Innovations that previously was somewhere in background of economic development, now has become as major development factor. In traditional economic where the main resource was land, and in industrial society where the main resource was capital, economic relations and firms competitive advantages formed on this base, and the potential of use of human resource capital was not emphasized. Scientists in their newest researches presents term *Innovative economics*, which describes developed countries current development stage. Contemporary

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global business environment is considered to be too competitive, and the process of implementing innovations is usually time consuming and unsuccessful. However, innovations are the key of economic recovery. This was discovered during evaluation of recent economic cycles. During the process of analysing sales results this was also concluded among the thousands of marketing and brand managers. The increment of employment level in notably faster in companies that are involved in innovative development, in comparison with the companies that do not deal with innovations (LU, 2011). It is emphasized that company's performance and growth cannot be successful in 21st century unless the company deals with innovations. Innovations are not just about science and technology development anymore. It is emerging to be social-economic category. (LU, 2011) By emphasizing vision of Latvia nation's economy to be among the most developed countries, and to be aware that macroeconomics is directly affected by many micro-processes that happen in local companies, the aim of the paper is to identify the innovations development process in companies, and systematize its first part – innovation idea identification sources of information. Contemporary scientific literature increasingly evaluates factors that affect innovations, especially emphasizing functions that support microsystems. Scientific OECD innovation process describes 3 general stages – invention, innovation and development of new product. However there is lack of literature that investigates concrete empirically usable methods that could potentially be applied in micro-environments for innovation creation. **Paper aim** – Identify and analyse academically offered and practically used information sources for innovation idea identification, and, based on findings, provide synthesis of available sources. **Paper tasks:** 1) Clarify content of innovation term, 2) Identify academically offered and practically used methodologies for innovation process; 3) Identify and classify innovation idea identification sources of information. **Paper Research Object** – innovation idea identification. **Paper Research Subject** – innovation process and innovation idea identity information sources. During the paper development the following conventional social science and research quantitative and qualitative **methods** are used: 1) Monological documentation analysis that provides detailed study of research object. It is based on comprehensive review of existing scientific literature; 2) Grouping method – development process of homogeneous groups that is based on splitting statistical set into several groups according to common characteristics; 3) Graphical analysis method. Recognizes existence of coherence among objects and characteristics of these coherences that allows constructing graphics; 4) Content analysis- systematic evaluation, grouping and interpretation of sources of information form and content. **Paper Information sources.** Theoretical and methodological core is specialized economics literature about innovations, marketing, research and development; local and international scientists' published works, materials of scientific conferences and seminars, Republic of Latvia legislation, OECD economics and other international institution provided methodological documents. **Delimitations of Research subjects.** Research concentrates on innovation process, and on one specific stage of innovation development process – identification of innovation ideas focused on information sources which could allow the company to gain ideas for potential innovations. In the research only micro-environment factors are being evaluated. The paper is focused on product innovation, but it does not eliminate process, marketing or organizational innovation. In accordance with OECD redaction, product innovation involves new or essentially improved goods or services. Product innovation means significant improvements in products technical specifications, various components and materials, existing programmes, or in other functional attributes. (OECD, 2005)

　　Novelty of Paper. Different innovation development processes with various approaches are provided. By taking into account conclusions provided by theoretical sources, and authors' practical and academic experience, the improved innovation process model is provided. Summarized and systematized innovation idea identification sources of information that allow companies to systematically create innovation ideas, hugely enlarging field of information sources, avoiding from single-sided brainstorm method appliance.

1. Innovation definition and process

Within the last decade the word "innovation" has become as one of the most over-used words in the industry. There are hundreds of innovation term definitions. OECD (Organisation for Economic Cooperation and Development) defines innovation as new or significantly improved product, service, process, marketing or organizational methodology implementation. Various methodologies exist for describing innovative process. These methodologies vary among the different industries. Innovation process includes innovation creation, analysing and controlling functions. Innovation process' systems role is to ensure efficiency, communication, coordination, collection of experience, and coordination of inter-activities. (Davila, *et. al.,* 2013) OECF innovation process distinguishes 3 main stages – invention, innovation and development of new product or service. Factors that affect invention are: education system, Research and Development (R&D), organization supportive structures and technological transfer. Factors that affect the development of new product or service are: organization's management, marketing, and available investments. (OECD, 2005)

OECD emphasizes the innovation phenomena measurement and identification of collaboration opportunities, innovation process research and potential, paying no attention to studies of specifics of different industries. Therefore more concrete innovation process analyse schemes are provided by specific industries.

Among many models of innovation process two of the most approbated procesual approaches in new product development are emphasized: B. A. Hamilton (1982) and G. Cooper (1993). Even though idea is similar, some dissimilarity between these approaches can be clearly identified. Booz Allen and Hamilton model (BAH Model – provided in Figure 1) was improved during the applied usage, and it was later been known as Stage/ Gate Model. (Figure 2)
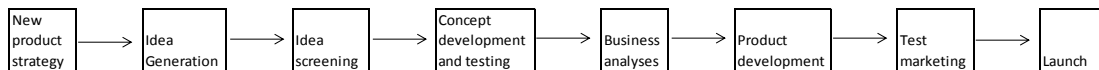
Source: Michael J. Baker, Susan Hart, 2008, Sixth Edition, The Marketing Book, Elsevier, Great Britain, 261 p.

Fig. 1. **BAH innovation process model**
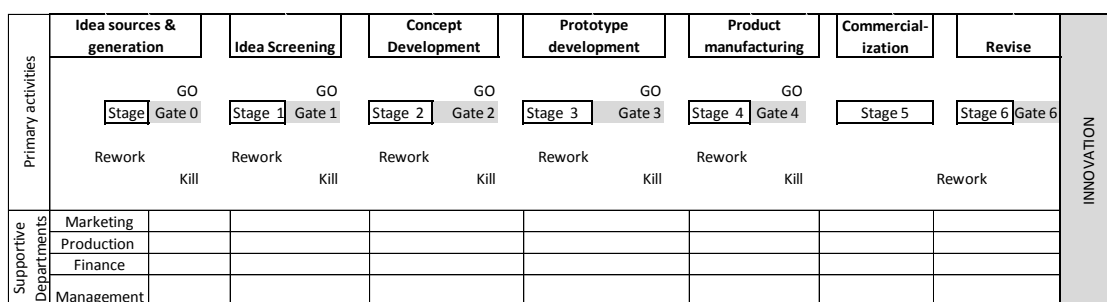
Source: Michael J. Baker, Susan Hart, 2008. Sixth Edition, The Marketing Book, Elsevier, Great Britain; 261 p.

Fig. 2. **Stage/Gate innovation process model**

The main difference between these models lies in the management approach. BAH model emphasizes content-conceptual aspect, while Cooper's model concentrates more on New Project Development (NPD) project management, dividing each step into project management stages. In the beginning of innovation development process BAH emphasizes the importance of new product strategy.

In scientific literature there are duo-versal assessments at the beginning of new product strategy importance in innovation process. Some scientists believe that it is crucial factor for company to achieve its objectives. Other scientists however perceive it as limitation that may even delay development of radical innovations. P. Drucker points to significance of company's management fallacies and inappropriateness in identifying innovation ideas. By periodically analysing companies' management assumptions, the notable innovation for company and industry can be revealed. The ones who stands for new product strategy development argues with researches that identifies successful innovation adaption and commercialization results in companies in which innovations have been implemented. The NPD strategies strengths are clearly defined NPD goals, long-term development plan, investment plan, proper resource allocation, and appropriate portfolio management, that allows to avoid work overload of R&D department's human resource, and ignorance of time schedule. Creation of NPD strategy also allows to determine investment priorities, and to create list of criteria for innovation ideas. In US Study "The Best Practice Study" in year 1997 it was found that 60% of US companies are using one of "Stage/Gate innovation process" modifications. Despite the fact that the model was created a few decades ago, in 2004 BAH found out that innovation's success is directly based on innovation process and its performance in company. (Baker, Hart, 2008)

Gopalakrishnan, S. and Damnpour, F. offers 5 step model for innovation process: 1) Generation of idea; 2) Project definition; 3) Problem solution process; 4) Design and improvement, 4) Marketing and commercialization. (Gopalakrishnan, Damnpour, 1997)

M. Assink provides conceptual model for disruptive innovations development. The model consists of 4 procesual stages: 1) Problem identification; 2) Innovation creation; 3) Planning; 4) Implementation. (Figure 3) (Assink, 2006)
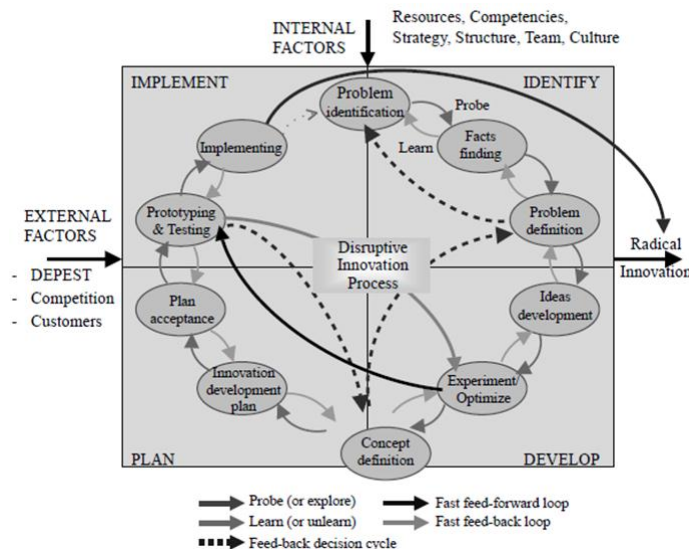
Source: European Journal of Innovation Management, Emerald Group Publishing Limited, Vol. 9, No. 2, 2006, pp. 215-233.

Fig. 3. **Dynamic disruptive innovation process**

Bernstein, B., considers innovation process as 4 step process: 1) Idea generation; 2) Innovation support; 3) Innovation development; 4) Innovation implementation. (Bernstein, Singh, 2006)

In context of entrepreneurship P. Drucker offers the following scheme for innovation process. (Figure 4) (Swaim, 2010)

1	Analyze potential innovation idea identification sources
2	Determinate consumer needs, desires and expectations
3	Reduce ideas, by selecting the most simple and concentrated
4	Start small
5	Guide innovation as leader in particular segment

Source: Swaim R., 2010. The Strategic Drucker, Singapore; Ltd. A Wiley Imprint on behalf of Jossey –Bass, page 86.

Fig. 4. **P. Drucker's scheme for innovation process**

In marketing one of most common schemes is P. Kotler's innovation process model which is based on BAH model. (Kotler, 1999) With his model P. Kotler Claims that new product development starts with company's vision. Then the following stages follows: New product's strategy, idea generation, idea testing, concept creation and testing, marketing strategy choice, business analysis, product development, test marketing, and commercialization. (Figure 5)

New product strategy → Idea generation → Idea Screening → Concept development and testing → Marketing strategy → Business analyses → Product development → Test marketing → Commercialization

Source: Kotler P., 1999. Principles of Marketing, Prentice Hall Europe, New Jersey, USA, 607 p.

Fig. 5. **New product development process (P. Kotler)**

Latvian researcher A. Abeltina distinguishes four stages for innovative operation as process – new idea searching and evaluation, development of business plan, resource allocation, and established company's management (Figure 6) (Abeltina, 2008).

| Development process of innovation idea |
| Most perspective idea casting |
| Detailed idea description and expert evaluation |
| Extended business plan development |
| Expert evaluation of Business plan |
| Product experimental development and testing in the market |
| Production and commercialization process corrections |
| Product industrial producing and commercialization |

Source: Abeltina, A. (2008). Inovacija – XXI gadsimta fenomens. Riga: SIA "Biznesa augstskola Turiba", 61. lpp.

Fig. 6. **A. Abeltina's Innovation process**

Defence Advanced Research Projects Agency (DARPA) is one of the most innovative companies in the USA. Thanks to its findings the internet, GPS, RISC cardiac, soundless aviation and cloud computing is available to and used by mankind. The DARPA's previous managers Dugan, E. R. and Gabriel, K. J. states that DARPA practices slightly different aspects of innovation process in comparison with OECD or ones which management and marketing academic literature offers. There is unbeneficial gap between fundamental science researches and new product implementation. Authors of DARPA model insists that DARPA model is the only model that decreases this gap. In DARPA model there are 3 prerequisites determined and 4 functions that exists in Paster's quadrant. The terminology of Paster's quadrant was first

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introduced by Stock, D. E. It determines the sequence according to which scientific public findings helps to solve actual and clearly formulated customer need. In Stock matrix in addition to Paster quadrant there are also Bora, Edison and unnamed quadrant (Figure 7) (Dugan, Gabriel, 2013).

Known practical usage In initial stage?

		No	Yes
Need for fundamental understanding?	Yes	Bora quadrant. Fundamental reasearches without concrete linkage with particular problem	Pastor quadrant. Fundamental researches with target to solve concrete public need.
	No	Unnamed.	Edison quadrant. Practical innovation to solve concrete problem.

Source: Donald E. Stokes, Pasteur's Quadrant: Basic Science and technology innovation, BROOKINGS INSTITUTIONAL PRESS, 1997.

Fig. 7. **Extended scientific research and consumer needs interaction matrix**

Only a few organizations operate in Paster quadrant. Quite rarely the innovation development process can be observed in this quadrant. It explains the low number of radical innovations coming from companies. Sometimes R&D department researches are performed in Bora quadrant, and in case of failure, their drop to unnamed quadrant where no interest in science and no opportunities in commercialization are. In most cases companies innovation investigation budgets are aimed to maintain company's competitive advantage. This is the reason why BAH innovation process (Figure 8) starts with new product strategy which clarifies and provides guidelines the further NPD process. Disadvantage of Paster's quadrant is lack of guidelines. Results can decrease business performance even ruin it. Companies innovation departments are not expected to perform researches that could potentially ruin the business. Therefore Dugana, E. R. and Gabriel, K. J. recommends companies to form small and independent organizational structures that focus on innovation process within the Paster quadrant based on DARPA model. Three prerequisites of DARPA model are – ambitious objectives, short term project teams and independence from institutions control. DARPA model includes 3 functions: identification of innovation idea, definition of project, and project development monitoring.

Preconditions	Ambitious targets		
	Short term temporary team		
	Independence from the supervising institutions		
	Pastor Quadrant (TM) approach		
Primary functions	Identification of innovation idea	Defining the Project	Monitoring of project development

Source: Regina E. Dugan, Kaigham J. Gabriel, Harvard Business Review, October 2013.

Fig. 8. **DARPA innovation method**

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In DAPRA method project control is different from classical project management models that monitor certain border poles of project. In Paster quadrant projects requires different project management approaches and set of instruments requiring fast iteration and easy, flowing planning process. Progress can be observed by monitoring iterations and its oncoming towards the goals, identifying project failure, revealing new opportunities or identifying the need for completely new technologies. Considering this it becomes understandable that obeying strict deadlines is not effective. Dugana, E. R. and Gabriel, K. J. points out that sometimes failure of project could be the most effective tool for revealing new innovation. This aspect is also emphasized by P. Drucker and manager of P&G company, who prove that failure can be the greatest gain. If the team fails during innovation process then something has surprised them unprepared, and then it is the greatest finding. It should be anticipated in high risk innovation processes. DARPA method requires that if it happens, it is very important to allow team to solve the issue further even though further investigation leads away from defined project deadlines. During the innovation process in Paster quadrant, it has to be remembered that the solution can also be unfound. Elastic and temporary teams are one of the most important components of DARPA project. Implementing short term projects, project leaders concentrates on results and not worries about career growth which is important in innovation projects of Paster quadrant. In addition to elasticity DAPRA method requires project team's autonomy and independence from management of the company. There can be many reasons why project control institutions do not accept innovative ideas. Authors of the paper illustrates this with following situation from their practical experiences with "Latvijas Balzams" innovation – unique amber vodka filtration, which development took more than 2 years and 50% of the time was spent on idea's coordination with new product's development control commission. Dugana, E. R. and Gabriel, K. J. points out those radical innovations usually are not consensus projects. DARPA method intends that along several indicated projects teams chooses those projects which they want to spend time on and work with them independently. Time reduction in DARPA method is possible by making permanent cooperation contacts with the industry experts – universities, and research institutes, start-up enterprises, and freelancers. By using DARPA method "Motorola" has implemented 8 new innovation projects in 14 months, by involving more than 120 companies and institutions from 11 different countries. This aspect in DARPA method is linked with innovation theoretical ecosystems practical usage in applied environment.

The newest tendencies in innovation processes are to adapt quality management methods in innovation process. So far quality management methods have been methodically studied, developed and approbated more and longer than in innovation process. With the increased importance of innovations, the significant problem clarifies – inability to ensure innovation management in right time and quality in early stage of innovation process. One go the newest researches Radeka, K. looks to innovation process from lean management perspective. Lean management in NPD creates right products in right time and place for the right markets and for the right costs. Lean management implementation in NPD has following strengths: more appropriate schedule planning, shorter development time, increased R&D capacity, lower product costs, better NPD process management and control, opportunity to develop product that better fulfils clients' needs by maximizing received value and minimizing costs. Lean management is dispersed into 4 value flows: Client value flow (concept development), knowledge added value flow (analysis of opportunities), product design and testing value flow and manufacturing value flow. Lean management process is divided into following stages: its provided opportunities, product design, design process, design testing and manufacturing (Figure 11) that are connected with product development for business decisions. (Radeka, 2013)
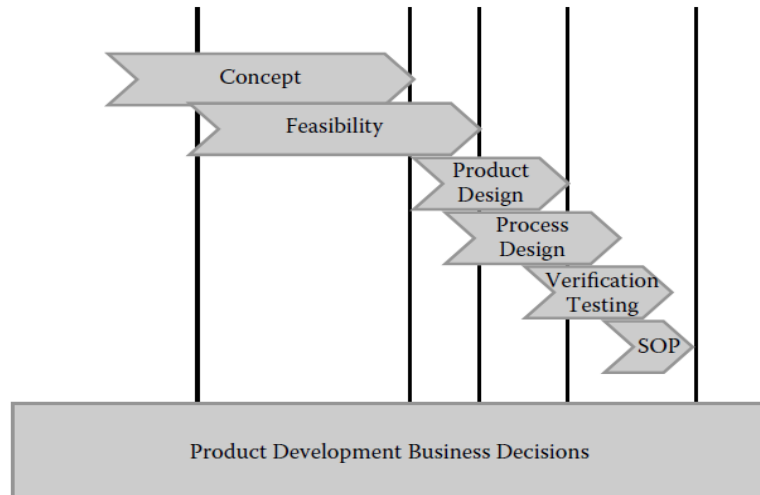
Source: K. Radeka, 2013. Mastery of Innovation, A Field Guide to Lean Product Development, CRC Press, Taylor & Francis Group, New York, 24 p.

Fig. 9. **A Lean Product development process**

K. Radeka considers lean management model to be much better than Stage/ Gate model because of level of elasticity. Even though this model is interesting, it has not approbated and proven in practice. In addition, it does not explain how to come down to concept and what the concept involves in itself, how the communication process is organized. Perhaps it is possible to successfully implement lean management into Stage/ Gate model. Remark – new innovation process searches indicate that there is room for improvement this process. By consolidating literature, interdisciplinary practice and empirical experience, Authors of Paper have provided their model for more complete innovation process determination. The authors' model is based on value chain model, and fundamentals of G. Cooper Stage/ Gate scheme (Figure 10).
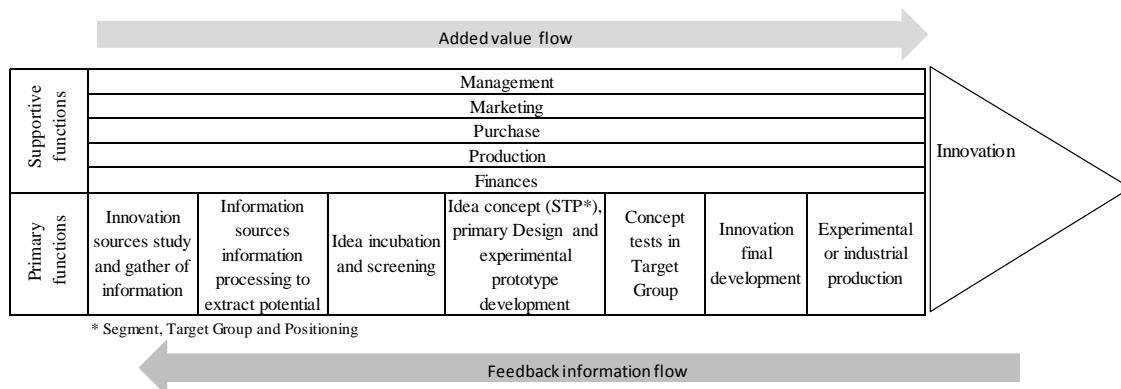
Source: Authors' construction based on research findings.

Fig. 10. **Innovation value chain process**

Authors provided model is focused on gradual added value increment during the innovation development process that is supported with important enterprise functions that are critical in innovation development. Each step involves an opportunity to suspend innovation process or return it to repetitive recycling. The greatest difference between authors provided model and other models lies in the approaches of prioritizing the innovation sources, unlimited with new product development or company's strategy development by following conclusions from DARPA model, linking the process of generating ideas with innovation information sources as logical second step and emphasizes on company's supportive functions in innovation development early stages. Authors of Paper conclude that despite existing discourses between approaches, all Authors are in concord of need of determination of information sources, which will guide company forward potential innovation. Authors of Paper will consolidate, analyse and systemize information sources, which inclusive potential innovation idea for the company.

2. Innovation idea identification information sources

Innovation idea identification commonly fallaciously are considered as ideas generation, therefore associated with complicated, hardly controlled and manageable creative process, which doesn't conforms with known research methods. In its extended meaning innovation idea identification means observing concrete, determinate information sources, concrete methods how to extract ideas out of them and screen for suitability to particular company needs. Innovation potential realization is strongly linked with research and consequent conclusions, and there is no place for mysterious creativity hardly to be impacted. Sometimes companies mistakenly equalize term R&D (Research and Development) with complete innovation process. R&D is related with research methodologies and be conducted in any of innovation processes. R&D includes 3 activities, related with researches- based research, practical research and experimental development, conversely innovation is much more extended term, which includes recognition of potential innovation, its screening, analyse, control, management, commercialization and revise functions. In scientific literature, innovation idea identification stage in innovation development process is less analysed versus other stages. Persists term SIM (Structured Idea Management), which has been explored to determinate structured ideas management. 7 tasks has been marked out in that: 1) nominate criteria's, 2) to prepare for method "brain storm" 3) conduct "brain storm", 4) idea screening, 5) secondary revise of ideas in working group and ideas ordering after priorities 6) work task revise, 7) final ordering. Authors of Paper evaluates it as generic scheme, which draws use of "brainstorm" and idea management after that, but is its only one part of other opportunities to approach systematically to innovation ideas identification. Authors of Paper innovation idea process apportions in 2 sections: information ideas identification and information processing methods to extract innovation idea out of them (Picture 13). Further in the Paper first step of the process will be inspected. Authors of Paper allot information sources within external, internal environment and hybrids, which raises out of new innovation ecosystems. (Baker, Hart, 2008)

Potential innovation ideas

Information sources processing methods with target to extract potential innovation idea	
Quantitative methods	Qualitative methods

Information sources of potential innovation idea identification		
Company internal environment information sources	Company external environment information sources	Hybridize sources
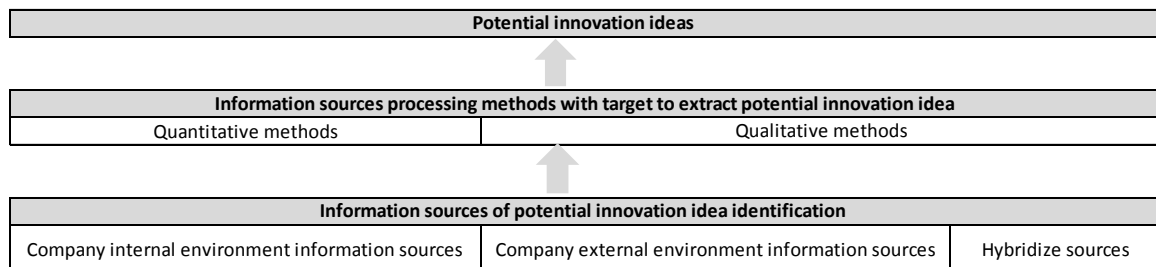
Source: Authors' construction based on research findings.

Fig. 11. **Innovation ideas identification process scheme**

Innovation ideas identification stage main aim is to develop enough ideas company could screen and select the most suitable to reach its targets. Innovation identification sources are situated in the company internal, external and combined (hybrids) environments.

2.1. Companies internal information resources

P. Kotler highlights that many new innovation ideas should be gathered within the company, by exploring formal and informal conducts (Kotler, 2006). Engineers, scientists, designers, production staff in the company, the ones who manages company operation area, are delighted to provide their ideas substantially their regular contribution to company. As well, management can participate in the innovation development, by providing their ideas. P. Kotler remarks, that company "Toyota" from internal environment information sources gather more than 2 million potential innovation ideas.

P. Drucker has singled out importance of internal analyses of existing sales data. Meanwhile he highlights that innovation ideas starts from 7 sources' analyse, from which 4 are related with opportunities in recent industry or entrepreneurship. (Figure 14). (Swaim, 2010) Authors of Paper oppose that highlighted sources are only 4, the rest are expert methods how to extract information out of those information sources. Four P. Drucker mentioned sources of potential innovation idea identification are: 1) companies internal data quantitative research; 2) company internal processes analyse by any of quality management methods, 3) demographic data dynamics quantitative research and 4) latest scientific discoveries and Patents content analyse. Others, P. Drucker mentioned, are expert methods.

Opportunities in recent industry		Opportunities outside recent industry	
1	Unexpected success or failure	1	Changes in Demographics
2	Incongruity	2	Changes in social economics perceptions
3	Needs of Process	3	New knowledge
4	Changes in Industry or market structures		

Source: Swaim R., 2010. The Strategic Drucker, Singapore; Ltd. A Wiley Imprint on behalf of Jossey -Bass. pp. 86-98.

Fig. 12. **Innovation idea identification sources**

The same imprecision is found in other Authors, which indicates and approves the low level scientific investigation done behind innovation idea identification sources exploration.

Employees of company. Main source of potential innovations ideas is employees of company, highlighted by majority of topic investigators. Employs of the company have the best knowledge of company operative area, because are involved in the company processes the most. Employs have the ideas what should be done better, and how it could be improved, and what could be resigned at all. Authors of Paper have observed that very often employees' initiate innovative ideas, as far someone from managers are ready to listen. Repeatedly employees has outstanding ideas, how to solve company problems, and employees themselves points out needed innovations. By inspiring company employees to submit ideas, after that support their development, company can significantly increase successful innovations amount in their entrepreneurship activities. Authors of Paper are marking out following 3 categories of employees, importantly for innovation idea identification, – management of company, leading experts and sales force.

Company business partners, suppliers or distribution partner are rich environment of potential innovation ideas. Suppliers can inform about latest technologies, concepts, technics or materials, which

can be embraced by developing new product or service. Useful information can be gathered from industry professional editions, exhibitions, government agencies, new product consultancy companies, seminars, advertising agencies, marketing research companies, universities, Science Parks and scientists. **Existing product portfolio analyse** is important resource, especially unexpected success or failure in it. Often slight changes in any of them, can guide to new radical innovation with new products and brands. For example, company "Unilever", 1930-ties for regular soap added detergent ingredients, therefore innovating forward powder as new category. (Trot, 2012)

2.2. Companies external information sources

Companies' competitors, their production or services are significant abundant potential innovation ideas information source. Through extended analyses of competitor's products, by focusing not only on copy, imitation or successful adaption strategies, but also on potential improvement, there is high opportunity to gather important information. Through competitor's analyses it is important to analyse and factors and components, which makes them so successful, diving deep in true consumers and customer needs and desires. By implementing desired improvements, companies could gain particular and measurable competitive advantage over their most successful competitors. P. Kotler mentions, that around 30% new products of companies are developed after competitors production new products analyse. **Customers and Consumers researches are** one of the most explored innovation potential sources companies explore. Besides well conducted by traditional marketing research methods, one important source is companies Customers Clients articulated desires. Instead of listening to Clients, companies conduct expensive consumer researches. Usually Clients are ready to express their needs and desires free of charge and delightful that somebody Supplier Company listens to them. Clients of Company almost always know what they want, and commonly they have innovative ideas, how their needs could be served the best with new products or services. After researches P. Kotler concludes (Kotler, 2006) that 28% of new products are Client inspired, by careful listening and observing. There is recommendation for the Company to conduct Researched between Clients to gather information about Clients needs and desires. Through analyse of them there is possibility to identify potential innovation ideas directly serving Clients and contributing to Company almost immediately. Besides gathering information of Clients desires and needs, as much important is to understand complains and questions. By studying Clients complains and problems, P. Kotler suggests initiate working group of company production department, and motivate them to solve Clients problems in extraordinary way. P. Kotler marks, that companies "GE", "Sony", "Toyota" and other innovative companies are organizing engineer meetings with Clients, for innovation inspiration. As much ideas can be sourced through Clients observation. Despite marketing departments research major and constant focus on consumer researches, consumers ability to articulate their desires is limited, claimed by „Sony" recent innovation leader Akio Morita (Morita, A.), and that was believe of „Apple" previous leader Steve Jobs. (Trott, 2012). Morita A. this finding funded with public uncertainty of what is available, and company must guide consumer, and have to reach behind to consumer present desires and need states. Companies, which will discover needs and desires of future consumer, will be sustainably successful in the future. Morita suppose, that companies must constantly challenge recent markets, consumers and their recent needs. Companies "IBM" and "Xerox" have learned that lesson in practice, that today's consumer might not be future's consumer. Scientists S. Hamel and C.K. Prahalad have visually demonstrated area of unarticulated consumer needs, and highlighted high risk probability, if company doesn't take it in account. (Figure 13) (Trott, 2012).
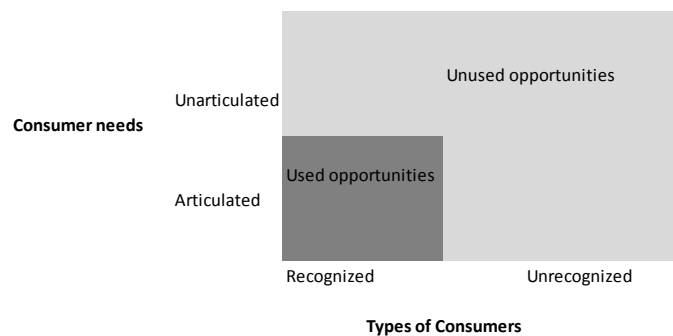
Source: S. Hamel, C.K. Prahalad, 1994. Competing for the future, Harvard Business Review, Vol. 72, No. 4, pp. 122-8.

Fig. 13. **New consumers gathering in the future**

Trends. Micro and macro trends plays significant role in potential innovation idea identification. Trends are more significant and permanent determinates of consumer's future needs, versus seasonal up-downs. Trends reveal curtain of future by providing a lot of opportunities. P. Kotler as sample highlights movement of fitness trend, which slowly but permanently changed a lot of industries surrounded- cosmetics, food, house hold, leisure time activities, food beverages, farming, clothing and other industries. As "Impact", leading market research professional magazine un USA market, reported, one of fastest growing alcoholic beverages brands in 2012 were "Skinny Girls", low calorie alcoholic cocktails. According P. Kotler, macro trends are large social, political and technological process, which are embodied in 7-10 years period, and they do worth investigation during studies of information gathering of potential innovation ideas. Innovation program is much more successful, when aligned with micro and macro trends, not only concentrated on new needs and market developments, according to P. Kotler. (Kotler, Keller, 2006)

Changes in demographics– age structure changes, variations dynamics in education, income, geographic and other demographic indicators, brightly and concretely guides to upcoming future need of consumers. **Exploring new knowledge in technologies and non- technologies** is the most time taking route to the innovation development, but might most probably to guide to radical innovation. P. Drucker and P. Safo, have estimated averagely 20- 30 years approbation period from new technology indication till its approbation into commercial environment. **Changes in industry and structures in the market**, which are linked with consumer needs, choices, expectations, desires and values changes, is abundant information source of potential innovation ideas. Such changes indicates any industry rapid growth, lifestyle magazines reports, which are keen to gather the freshest and latest trends. (Swaim, 2010)

2.3. Hybridize information resources for innovation determination

Open innovation methods- usage of crowd power. In scientific literature more appears information of open innovations. Till millennium innovation process in the companies were closed and confidential, but now more and more companies initiates open innovation process, asking outside input in challenges company faces. There is several crowd involvement dimensions – a) broad involvement open innovation competition, which is large scale available to any interest, named crowd contests; b) innovation competition, which is meant for particular cluster groups, named collaborative communities. Kevin J. Boudreau and Karim R. Lakhani (Boudreau, Lakhani, 2013) without previously mentioned two, identifies another 2 dimensions for open innovations- complementors and labour market (Table 1). Crowd

complementary function is to find innovative application to existing product or brand by developing platforms to other innovative solutions. For example, application to smartphones or other solutions for Google is considered as crowd complimentary innovation. Crowd labour market dimension involves potential employee market by challenging existing labour market system, when employees are contracted on long-term bases. Several on-line companies have opened data bases of concrete human resources services. Those can be explored and hired temporary or permanently by any company or project office. That type crowd innovations rapidly impacts and facilitates "start-up" company entrepreneurship, any innovation projects in the settled companies, without enough resources for innovation departments.

Table 1

Open innovation dimensions by using power of crowd

	Purpose	**Challenges**	**Best Use**
Contests	Generating high-value solutions to complex or novel problems through large-scale and diverse independent experimentation	The problem must be generalized and stripped of company-specific details	Highly challenging technical, analytical, and scientific problems; design problems; creative or aesthetic projects
Collaborative communities	Aggregating a large number of diverse contributions into a value-creating whole	The crowd lacks the shared culture and cohesiveness of a company, making it harder to control; intellectual property can't be protected	Customer support communities; wikiw; open-collaboration projects for information and software products with complementary assets inside the firm; FAQs
Complementors	Encouraging innovative solutions to users' many different problems with your core product	It can be technologically daunting to provide access to the functions and information in the core product while protecting your assets	Open operational, product, or marketing data initiatives; content mashups; apps
Labor Markets	Efficiently and flexibility matching talent to discrete tasks	Identifying which problems to farm out and who in the organization will manage the labor pool may be difficult	Well-established categories of work that can be clearly described and evaluated; human computation; repeated tasks

Source: Kevin J. Boudreau and Karim R. Lakhani, Using the Crowd as an Innovation Partner, Harvard Business Review, reprint R1304C, April 2013.

In Figure 14 Authors of Paper offer illustration of main conclusions of paper.

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Innovation idea identification sources in the company					
Internal Sources		**External Sources**		**Hybridize sources**	
1	Employees (management, sales force, experts)	1	Consumers and Customers	1	Crowd Energy
2	Business Partners	2	Competitors		
3	Existing products or services portfolio	3	Trends		
		4	Changes in Demographics		
		5	New Knowledge in Technology and non- Technology		
		6	Changes in Industry and market structures		
		7	Patent data bases		

Source: Authors of Paper developed graph based on research findings.

Fig. 14. **Innovation idea identification sources in the company**

Authors of Paper by consolidating scientific literature and different approaches, combined with empirical practice, concludes, that there are 10 sources of information, internal, external and hybridized, company can use to analyse to identify potential innovation idea.

Conclusions, proposals, recommendations

Innovation is key driver of contemporary economics. Developed and effective innovation process is key important to company to ensure sustainable competitiveness. There is significant focus in scientific research to innovation influencing factors in macro environments vs. direct influencing activities in micro environment- company which actually develops particular innovation. A lot of various approaches to innovation process are available both in scientific and practical environment. Variations in processes are both - substantial and gradient. Process details are highlighted as extremely important to deliver most valuable innovation process. There is reserved approach from scientist's perspective to very start of innovation process- determination of innovation idea. Concepts and researches of this innovation process part are blurred and uncertain, majority of it deducted to method "brain storm", creativity and abstract ideas generation. Authors of Paper by consolidating theoretical conduction and empirical experience, propose new, gradually improved innovation process, based on most approbated Coopers' Stage/ Gate model, enriched with newest discoveries of quality and logistics management and clear and highlighted focus on innovation idea identification through deliberated information sources. Authors of Paper have gathered and systemized information of 13 concrete sources of potential inclusion of innovation idea, based on various scientists' essays about the theme, including the newest approaches both on scientific literature and practical environment. Gathered and systemized information of potential innovation sources are half process to determinate innovation idea. Specific information processing methods should be used, to extract potential innovation idea out of those information sources, which is Authors recommendation for further Researches. Authors of Paper recommends to start to approbate proposed improved innovation process scheme, by highlighting scientifically innovation idea identification through scientific and determinate approach, avoiding of mysterious and uncontrolled creativity approach.

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THE IMPACT OF THE NEW ACCOUNTING DIRECTIVE (2013/34/EU) ON THE NORMATIVE REGULATIONS OF THE REPUBLIC OF LATVIA

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Abstract

The Directive 2013/34/EU on the annual financial statements, consolidated financial statements and related reports adopted by the European Parliament and the European Council in 2013 provides that by the 20th of July, 2015, the Member States shall bring into force the normative and administrative enactments, which are necessary to observe the requirements of this Directive. The evaluation of the requirements of new accounting Directive is a topical issue, therefore the authors of the article have set the research aim to perform the comparative analysis of the conditions of the Directive 2013/34/EU adopted by the European Parliament and the European Council and the present requirements of "Annual Accounts Law" of the Republic of Latvia, in order to evaluate the most appropriate alternative variants admissible in the Directive for the situation of Latvia.

For the purpose of the achievement of aim, the authors apply generally accepted economic research methods.

Having analysed in detail the laws and regulations of the EU and Latvia regulating accounting, as well as the points of view of scientists and accounting specialists from the EU Member States in relation to the expected changes and their influence, the authors have developed recommendations to the legislator regarding the preferable the structure if financial reports according to different enterprise categories, as well as the recommendations concerning the evaluation methods of the most important items of assets.

Key words: *accounting, financial reporting, legislation, EU directive*

JEL codes: M41, M21, K20

Introduction

On the 26th of June, 2013, the European Parliament and the European Council adopted the Directive 2013/34/EU on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC. It is stipulated by the article 53 of the Directive 2013/34/EU that by the 20th of July, 2015, the Member States shall bring into force the normative and administrative enactments, which are necessary to observe the requirements of this Directive (European Parliament and of the Council, 2013). After 35 years (previously, the Fourth Council Directive of the 25th of July, 1978 – 78/660/EEC was applied), the European Parliament and the Council have adopted this new directive, which aims at elaborating the higher-quality regulations, and to provide a proportional administrative burden. It obliges not only the legislator to analyse in

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detail the novelties, which have been included into the mentioned document, but also for the practitioners and researchers to understand the expected changes, in order to evaluate their impact on the entrepreneurial environment and on the economic development in general. The theme of the article is very topical, because as regards the Republic of Latvia, which is a member state of the European Union, the application of the new normative regulation in the sphere of the business economics will influence any company, which shall comply with the requirements of the drawing up and submission of the financial statements, the consolidated financial statements and the related reports. The exact effects of any Directive on a particular country will depend upon the laws passed by national legislatures (Nobes Ch., Parker R., 2012). Since in Latvia, in accordance with the criteria, stipulated by the Commission (EC) Regulation No. 800/2008, 99.5% of the Latvian companies are small and medium-sized enterprises – SMEs (The Ministry of Economics, 2012) and in accordance with the principle "think small first", laid down in the statement, issued by the European Commission, as well as in accordance with the objective of the strategy "Europe 2020" regarding the reducing of the administrative burden for SMEs (European Parliament and of the Council, 2013), the authors look into the question and research the impact of the application of the requirements of the Directive 2013/34/ES on the SMEs of the Republic of Latvia. Therefore, the authors propose and set forward **the objective** of the research: to investigate the regulations of the Directive 2013/34/ES of the European Parliament and of the European Council, to compare them with the normative regulations, which are currently in force in the Republic of Latvia, and to make and submit the proposals for the changes in the normative enactments of the accounting regulations of the SMEs in the Republic of Latvia. According the research aim, the authors study the requirements of the Directive 2013/34/EU and the regulation of accounting only in relation to SMEs, mostly evaluating the requirement of "Annual Accounts Law" of the Republic of Latvia, but in this article they do not analyse the requirements set regarding the preparation of a consolidated financial statement and related reports. In order to achieve the target of the above mentioned work, **the following tasks** shall be carried out:

- to identify and to single out the categories of the companies, which correspond to the criteria of the Directive 2013/34/ES, and to identify the importance of the number of these companies in Latvia;
- to analyse the requirements, which have been included into the Directive (2013/34/ES), regarding the preparation and drawing-up of the financial statements pertaining to the SMEs, and to compare these requirements with the normative regulations of the Republic of Latvia;
- to identify and to single out the major essential changes, which are necessary for the accounting regulations within the SMEs in the Republic of Latvia;
- to evaluate the major essential consequences regarding the implementing of the changes, and to elaborate the proposals for the amendments to the normative enactments and regulations of the Republic of Latvia.

In the research there are applied the methods of general scientific research in economics: of economic analysis and synthesis, logically – constructive, qualitative methods including the methods of the analysis of normative acts. The theoretical and methodological grounds of the paper are the normative acts regulating accounting, works produced as by Latvian so foreign scientists and Internet sources.

The article has its theoretical and practical significance as regards the research of the problematic issues pertaining to the accounting regulations, which shall be observed while preparing and drawing-up the financial statements and reports, but the proposals, in their turn, have their practical application, by making the changes in the normative regulations of the Republic of Latvia.

The structure of the article has been formed and created according to the contents and sequence of the tasks, which have to be carried out.

Research results and discussion

1. Categories of Enterprises complying with the Criteria of the Directive 2013/34/EU, the Number of Such Enterprises and the Evaluation of the Influence of the Application of These Criteria in the Republic of Latvia

In order to evaluate the significance of the influence of the Directive 2013/34/EU conditions on the enterprises of different sizes, it is important to establish, how many enterprises there are in each group and what the proportion of it is. The SMEs in Latvia, like in all the European Union, are very important. It is explicitly shown by the information included into Tables 1 and 2.

Table 1

Number of Enterprises and Persons Employed by Enterprise Size-Class in the EU

Indicator	Micro	Small-sized	Medium-sized	Large	Total
Number of enterprises	19 279 555	1 450 008	228 209	45 184	21 002 956
% of enterprises	**91.80**	**6.90**	**1.09**	**0.22**	**100**
Number of person employed	39 971 506	27 182 991	22 701 131	44 186 670	134 042 298
Share of employment	**29.60**	**20.80**	**16.80**	**31.80**	**100**
Employees per enterprise	2.1	19.3	99.5	930.0	-

Source: Study on Accounting Guide for SMEs, 2014. Ernst & Young

Table 2

Division of the Enterprises of the Republic of Latvia by the Size and Employment, 2012

	Enterprises		Employment	
	Number of enterprises (thousand)	% of enterprises	Number of person employed (thousand)	Share of employment (%)
Micro Enterprises	61.788	87.8	143.463	26.8
Small Enterprises	6.900	9.8	140.963	26.4
Medium-sized Enterprises	1.485	2.1	135.579	25.4
SMEs	**70.172**	**99.7**	**420.005**	**78.6**
Large Enterprises	184	0.3	114.590	21.4
Total	**70.356**	**100**	**534.595**	**100**

Source: *SBA factsheet 2013 – Latvia, 2013.*

According to the date of Table 1, where the criteria concerning the enterprise size categories are based on the indicators valid in the EU, which have been specified in the Commission Regulation (EC) No 800/2008 of 6 August 2008 declaring certain categories of aid compatible with the common market in application of Articles 87 and 88 of the Treaty, the proportion of SMEs in the EU is 99.79%, but regarding to the number of persons employed it constitutes 67.2%. In the Latvia the situation is similar and the proportion of SMEs in 2012 was 99.7%; however the proportion of the number of persons employed at the SMEs was comparatively higher and in 2012 it constituted 78.6% out of all industrial, construction, trade and services enterprises included into the survey (see Table 2).

The authors of research have compared the enterprise criteria set in the EC Regulation No. 800/2008 and the criteria included into the Directive 2013/34/EU. The comparative analysis has been presented in Table 3.

Table 3

Comparative Analysis of the Criteria for the Classification of the EU Enterprises

The Category of Enterprises	Employ		Annual Balance Sheet (thousand EUR)		Annual Turnover (thousand EUR)	
	2008. (1)	**2013.** (2)	**2008.** (1)	**2013.** (2)	**2008.** (1)	**2013.** (2)
Micro Enterprises	< 10	< 10	< 2 000	< 350	< 2 000	< 700
Small Enterprises	< 50	< 50	< 10 000	< 4 000	< 10 000	< 8 000
Medium-sized Enterprises	< 250	< 250	< 43 000	< 20 000	< 50 000	< 40 000
Large Enterprises	≥ 250	≥ 250	≥ 43 000	≥ 20 000	≥ 50 000	≥ 40 000

Sources: (1) Commission of the European Communities, 2008. Commission Regulation (EC) No 800/2008.
(2) *European Parliament and of the Council, 2013. Directive 2013/34/EU.*

The comparative analysis of the criteria of the EU enterprises showed in Table 3 enables to draw a conclusion that the rest of the criteria in the Directive 2013/34/EU, except for the number of employed persons, namely, the total amount of the annual balance sheet and the annual turnover are lower than in the Commission Regulation (EC) No. 800/2008 of the year 2008.

Having compared the criteria of the Directive 2013/34/EU and the criteria provided by "Annual Accounts Law" of the Republic of Latvia, for example, the criteria set in Section 54.[1] of the law (the total amount of the balance sheet – 50,000 *euro*, the net turnover – 100,000 *euro* and the average number of employees in the accounting year – 5) and considering them to be the criteria for the micro enterprises, although such a term is not used in the section, the authors draw a conclusion that the criteria set in the Directive 2013/34/EU considerably exceed the criteria set in the law of the Republic of Latvia: the number of employees – twice, the total amount of the balance sheet – seven times, but the net turnover – 10 times. It means that, for example, in 2012 there were 58 thousands or about 73% of all subjects under "Annual Accounts Law" that complied with the criteria provided by Section 54.[1] of "Annual Account Law" (Ministry of Finance, 2012), although the criteria set in Section 54.[1] until the year 2014 were even lower (the total amount of the balance sheet – 49,700 *euro* (35,000 LVL) and the net turnover – 99,400 *euro* (70,000 LVL), when the criteria of the Directive 2013/34/EU would be applied there will increase considerably the number of micro enterprises, because, according to the unofficial calculations of the State Revenue Service, in 2012 more than ninety per cent of those submitting the annual reports complied with the criteria of the Directive 2013/34/EU set for the micro enterprises. "Annual Accounts Law" provides that the micro enterprises may include an abridged balance sheet and a profit or loss account into

the annual account, as well as these enterprises have other exemptions as well. The authors point out that, if the micro enterprises will have the existing exemptions provided by "Annual Accounts Law", provided also by the Directive 2013/34/EU, then 90% of the subjects to the law will have an opportunity to exercise them and to submit only an abridged balance sheet and profit or loss account. The authors find that, when preparing the amendments to the "Annual Accounts Law", this fact shall be taken into consideration, because the structure of the financial report and the conditions for the disclosure of information are important factors for the development of the information basis for the national economy, including also determining of macro-economic relations and future forecast. Taking into consideration the common tendency for diminish of administrative burden, on the basis of the principle "think small first" it is important not to demand from the enterprises waste information or information which overlaps in different reports and accounts (for example, in the statistical accounts), but, in each country, it is important to gather all necessary information that is needed in general and to perform integrated evaluation, what information and which categories of enterprises need to present in the annual account in order it would be useful for all users of the annual account – investors, customers, public institutions and others. The authors suggest that, when developing the amendments to "Annual Accounts Law", it is necessary to perform integrated evaluation regarding the necessity to provide information.

By a particular category of enterprises in conformity with both the directive 2013/34/EU, as well as taking into consideration the needs of the national economy of the Republic of Latvia and to determine the minimum necessary information to be disclosed in the accounts.

There were no separate criteria set for small enterprises in the Republic of Latvia before, but Section 54 of "Annual Accounts Law" provides for exemptions to the enterprises that do not exceed two criteria set in this section: (the total amount of the balance sheet – 400,000 *euro*, the net turnover – 800,000 *euro* and the average number of employees in the accounting year – 25). The enterprises that comply with two of the above mentioned criteria do not need the verification of the annual account. In the year 2012 the above mentioned enterprises constituted 93% out of all subject to the law (Ministry of Finance, 2012). If there would be included into the normative regulation of the Republic of Latvia the following, which is provided by Article 34 of the Directive 2013/34/EU that "Member States shall ensure that the financial statements of public-interest entities, medium-sized and large undertakings are audited by one or more statutory auditors" (European Parliament and of the Council, 2013), and the small enterprises, as well as, of course, micro enterprises would not need the report of certified auditors on their annual accounts, thus, according to the unofficial calculations of the State Revenue Service, less than 1% of subjects to "Annual Accounts Law" of the Republic of Latvia would need the obligatory verification of the annual account. The authors find that it might considerably endanger the quality of provided information and therefore, when setting the requirements regarding auditing of annual accounts of the enterprises of the Republic of Latvia, the obligatory verification of annual accounts shall be envisaged not only for the public-interest entities, medium-sized and large enterprises, but also for the small enterprises.

After the adoption of the Directive 2013/34/EU, the scientists and accounting specialists from other countries expressed their views on the expected changes and their consequences. For example, according to Žarova M., researcher from the University of Prague, the supplementing of the content of the Directives 78/660/EEC and 83/349/EEC not always has had a positive result. "Mentioned studies confirm that amendments have tended to ignore the comparability and usefulness of the financial statements, increased reporting requirements and the number of Member State options. All these facts have ultimately, in the long run, led to increased complexity and regulatory burden for all companies. As confirm other EC Communication from 2008, shortly described as „Think Small First", this increased burden bears down primarily on smaller companies" (Žarova M., 2013). In his turn, Steve Collings, researcher from the United Kingdom, points out that "The new directive has largely been welcomed, but not without some reservations. Certain critics have alleged that if the UK does adopt the new directive in its entirely, it will result in financial statements that misleading, watered-down and fail to give a true and fair view – something that has been enshrined in the Companies Act for many years." (Collings S., 2013).

Similar cautious approach has also Grant Thornton Rimess managing partner Mati Nõmmiste, according to whom "lower-volume and less comprehensive reporting might not satisfy the needs of all data consumer, and may condition the need to request additional information." (Nõmmiste M., 2013).

The authors of the article emphasize that, if the administrative burden is diminished, it, on the one hand, influences the business environment positively, on the other hand – there might develop the unfavourable situation for the decision-makers in relation to the volume, content, detailed level and quality of available information. If there would be only the minimum of the requirements set in the Directive 2013/34/EU integrated into the national laws and regulations for the regulation of accounting, the above indicated consequences might be observed not only in Latvia, but also in the EU Member States with small economy.

2. Comparative Analysis of the Most Significant Requirements Set in the Directive 2013/34/EU of the European Parliament and of the Council and in the Council Directive 78/660/EEC, and the Normative Regulation of the Republic of Latvia

In order to evaluate the provisions of the Directive 2013/34/EU in relation to SMEs, the authors compared the requirements set in the Directives 2013/34/EU, 78/660/EEC and "Annual Accounts Law" of the Republic of Latvia. Having compared the above mentioned normative regulations, the authors established that:
- the Directive 2013/34/EU comprises many new requirements that were not before included into the Directive 78/660/EEC, as well as in the normative regulation of the Republic of Latvia;
- the Directive 2013/34/EU does not comprise separate requirements anymore that were earlier included into the Directive 78/660/EEC and into "Annual Accounts Law" of the Republic of Latvia;
- in the Directive 2013/34/EU, in comparison to the Directive 78/660/EEC, there have been changed the particular requirements.

In Annex VII to the Directive 2013/34/EU there has been included the table on the compliance of the Directive 2013/34/EU and the Directive 78/660/EEC. Within the framework of this article, the authors do not study in detail the compliance of each paragraph, but identify the most significant differences by performing the comparative analysis of each of the above mentioned groups.

As the most important new provisions that are included into the Directive 2013/34/EU and were not included into the Directive 78/660/EEC, as well as into the normative regulation of the Republic of Latvia before, the authors point out the categories and groups of enterprises determined in Article 3 of the Directive 2013/34/EU, thus classifying enterprises into micro enterprises, small enterprises, medium-sized enterprises and large enterprises. This division and its evaluation in detail the authors of the article studied in Part 1. The authors point out that there have been new concepts included into the Directive 2013/34/EU – for example, public-interest entities – undertakings whose securities are admitted to trading on a regulated market, credit institutions, insurance undertakings, as well as designated by Member States undertakings that are of significant public relevance because of the nature of their business, their size or the number of their employees (Paragraph 1 of Article 2 of the Directive 2013/34/EU).

According to the authors' point of view, the most significant requirements, which were included into the Directive 78/660/EEC and into "Annual Accounts Law" of the Republic of Latvia before, but the requirements, which are not included into the Directive 2013/34/EU anymore, are the following:
- in the text of the Directive 2013/34/EU there are no profit or loss account forms included anymore, but they are included into the annexes to the Directive. The most significant is the fact that the profit or loss account (in the Directives – profit and loss statement) forms in account format that were included into Articles 24 and 26 of the Directive 78/660/EEC and, respectively, in "Annual Accounts Law", Section 13 – profit or loss account form in account format (classified according to period costs method), and Section 14 – profit or loss account form in account format (classified according to turnover costs method), are not envisaged in the new Directive 2013/34/EU at all;

- the Directive 2013/34/EU does not comprise requirements regarding "Extraordinary income" and "Extraordinary expenses" that were included into Sections 29 and 30 of the Directive 78/660/EEC. The definition of these items are included into Section 23 of "Annual Accounts Law", as well as such items are in the profit or loss account forms in Sections 11 – 14 of "Annual Accounts Law".

While comparing the requirements set in the Directives 2013/34/EU, 78/660/EEC and in "Annual Accounts Law" of the Republic of Latvia in relation to the components of annual account, the authors prepared Table 4.

As we can see in Table 4, it was pointed out in the Directive 78/660/EEC that the annual accounts comprise a balance sheet, a profit or loss account and an annex, but separately in Part 9 it was explained what shall be included into the annual report. In the Directive 78/660/EEC it was not pointed out that annual account comprises also a cash flow statement and a statement on the changes in equity capital. In its turn, the Directive 2013/34/EU provides that the annual financial reports shall comprise at least a balance sheet, profit or loss account and the notes of financial statements, as well as in Chapter 5 there are requirements set for the management report. In Paragraph 1 of Article 4 of the Directive 2013/34/EU it is also pointed out that "Member States may require undertakings other than small undertakings to include other statements in the annual financial statements in addition to ...." (European Parliament and of the Council, 2013) In its turn, "Annual Accounts Law" of the Republic of Latvia provides for all subjects to the law that the financial statement includes also a cash flow statement and a statement on the changes in equity capital – "the LR "Annual Accounts Law" in addition to the set by the Directive 78/660/EEK since 1996 has included the cash flow statement and since 2000 – the statement of the changes in equity capital, which greatly increased the administrative burden" (Millere I., 2013).

In order to diminish the administrative burden, the authors propose to determine that the micro enterprises shall include an abridged balance sheet and a profit or loss account into the annual account (in compliance with Part 2 of Article 36 of the Directive 2013/34/EU), small enterprises – a balance sheet, profit or loss account and an annex to the financial statement; to determine that the financial statement of medium-sized enterprises, large enterprises and the enterprises the transferrable securities of which may be sold in any regulated market in any Member State, comprises a balance sheet, a profit or loss account, a cash flow account, an account on the changes of equity capital and the annex to the financial statement, as well as there shall be submitted the management report.

The comparative analysis of the requirements set in the Directives 78/660/EEC and 2013/34/EU enables to draw a conclusion that the layouts of the balance sheet included into both Article 9 of the Directive 78/660/EEC and Annex III to the Directive 2013/34/EU, and which in the Directive 2013/34/EU is named as the horizontal layout of the balance sheet, are basically identical. As the most significant differences could be pointed out the fact that in the Directive 2013/34/EU it is not envisaged to disclose "costs of research" as "intangible assets"; "long-term financial assets" do not comprise the item of "own shares" anymore, but "loss for the accounting year" is not included into the balance sheet assets (as it was in the Directive 78/660/EEC), but in the liabilities of the balance sheet there shall be disclosed "profit or loss for the financial year". The comparative analysis of Article 10 of the Directive 78/660/EEC and Annex IV to the Directive 2013/34/EU concerning the second – vertical layout of the balance sheet, which envisages to include short-term creditors following the items of assets, but then – to disclose "net current assets/liabilities" and "total assets less current liabilities", then – "creditors: amounts becoming due and payable after more than one year", "provisions" and "capital and reserves", shows that, like in the case of the comparison of the horizontal layout of the balance sheet, in the Directive 2013/34/EU it is not envisaged to disclose "costs of research" as "intangible assets"; "long-term financial assets" do not comprise the item of "own shares" anymore. It should be pointed out that both the Directive 78/660/EEK and the Directive 2013/34/ES envisage the alternative layout of the balance sheet – the separation of short-term items from the long-term items, which, in fact, has been taken into account in the normative regulation of the Republic of Latvia, because the layout of the balance sheet included into Section 10 of

"Annual Accounts Law" basically complies with the horizontal layout of the balance sheet, but the short-term items have been separated from the long-term items.

Table 4

The Most Significant Requirements set in the Directives 2013/34/EU, 78/660/EEC of the European Parliament and of the Council and in "Annual Accounts Law" of the Republic of Latvia regarding the Components of Annual Account

No.	**Directive 2013/34/EU** (European Parliament and of the Council, 2013)	**Directive 78/660/EEC** (Council of the European Communities, 1978)	**"Annual Accounts Law" of the Republic of Latvia** (Supreme Council, 1992)
1.	The annual financial statements shall constitute a composite whole and shall for all undertakings comprise, as a minimum, the balance sheet, the profit and loss account and the notes to the financial statements. (Article 4) The management report shall include a fair review of the development and performance of the undertaking's business and of its position, together with a description of the principal risks and uncertainties that it faces. (Article 19)	The annual accounts shall comprise the balance sheet, the profit and loss account and the notes on the accounts. These documents shall constitute a composite whole. (Article 2) The annual report shall include at least a fair review of the development and performance of the company's business and of its position, together with a description of the principal risks and uncertainties that it faces. (Article 46)	The annual accounts, as a unified whole, shall consist of a financial report and the report of the company management regarding the development of the company during the accounting year. (Section 4) The financial report is a unified whole, which consists of a balance sheet, a profit or loss account, a cash flow statement, a statement of changes in equity and an annex. (Terminology Used in this Law)
2.	For the presentation of the balance sheet, Member States shall prescribe one or both of the layouts set out in Annexes III and IV. (Article 10) Member States may permit or require undertakings, or certain classes of undertaking, to present items on the basis of a distinction between current and non-current items in a different layout from that set out in Annexes III and IV. (Article 11)	For the presentation of the balance sheet, the Member States shall prescribe one or both of the layouts prescribed by Articles 9 and 10. (Article 8) Member States may permit or require companies, or certain classes of company, to present those items on the basis of a distinction between current and non-current items provided that the information given is at least equivalent to that otherwise required by Articles 9 and 10. (Article 10a)	The balance sheet shall be prepared in accordance with the form provided in Section 10 of this Law. (Section 5)
3.	For the presentation of the profit and loss account, Member States shall prescribe one or both of the layouts set out in Annexes V and VI. (Article 13)	For the presentation of the profit and loss account, the Member States shall prescribe one or more of the layouts provided for in Articles 23 to 26 (Article 22)	The profit or loss shall be calculated in accordance with the forms provided in Sections 11-14 of this Law. (Section 5)

Having evaluated the application of the layouts of the balance sheet, the authors draw a conclusion that in future there shall be only one layout of the balance sheet – the horizontal layout of the balance sheet – in the normative regulation of the Republic of Latvia, and the alternative variant shall be applied without envisaging the second variant included into Annex IV to the Directive 2013/34/EU – the vertical layout of the balance sheet – for the enterprises of the Republic of Latvia. The proposal the authors justify as follows: since in the Republic of Latvia the accounting, in fact, complies with the European accounting model, as it was pointed out by Millere I. (Millere I., 2013), and the countries attributed to this model (Germany, France, Italy etc.) apply the horizontal layout of the balance sheet, where the assets are disclosed according to the increasing sequence of liquidity, although there is also allowed the vertical layout of the balance sheet – according to the financial standing by determining net current assets/liabilities. As it was pointed out by Nobes Ch., Parker R. in the book "Comparative International Accounting", the layout of the balance sheet according to the financial standing is more often applied in the countries of Anglo-Saxon accounting model, for example, in the United Kingdom, Australia (Nobes Ch., Parker R., 2012). As one more factor the authors point out the fact that since the day, when "Annual Accounts Law" came into force on 1 January 1993 (from 1 January 1993 till 22 November 2006 the title of the law was "On the Annual Accounts of Enterprises"), there was only one layout of the balance sheet envisaged for the enterprises of the Republic of Latvia, which was also applied by the enterprises of the Republic of Latvia. It means that the enterprises, during two last decades, have applied this layout of the balance sheet and have understood it. The authors also find that, when one layout of the balance sheet is applied, it makes it easy to compare the data of the balance sheet of different enterprises.

For the preparation of profit or loss account both the Directive 78/660/EEC and "Annual Accounts Law" of the Republic of Latvia provided for four forms. The comparative analysis of the formats presented in the respective Sections of "Annual Accounts Law" of the Republic of Latvia and the Articles of the Directive 78/660/EEC (Section 11 and Article 23; Section 13 and Article 24; Section 12 and Article 25; Section 14 and Article 26) shows that there are no disparities. As it was mentioned above, the new Directive 2013/34/EU provides only for two profit or loss account forms in vertical format by nature of expense (Annex V to the Directive 2013/34/EU) and by function of expense (Annex VI to the Directive 2013/34/EU) the items of which, in comparison to the provisions of Section 11 (Profit or loss account form in vertical format (classified according to period costs method)) and Section 12 (Profit or loss account in vertical format (classified according to turnover costs method)) of "Annual Account Law" of the Republic of Latvia, are basically equal, except for the extraordinary items, which are not anymore provided for in the Directive 2013/34/EU. The authors point out that until now there were incomprehensible titles attributed to the layouts of profit or loss account (classified according to period costs method or classified according to turnover costs method), because profit or loss in any case is calculated for the period, but the classification of costs differs (according to their nature or functions). Taking into consideration the requirements set in the Directive 2013/34/EU, the authors' point of view is that there should be two layouts of profit or loss account envisaged in "Annual Accounts Law", and they should be correctly named as profit or loss account according to the nature of costs or profit or loss account according to the functions of costs, and there shall be no extraordinary items included into these layouts.

In Table 5 the authors have shown separate requirements set for the evaluation of the items of annual account, which differ in the Directives 2013/34/EU, 78/660/EEC and in "Annual Accounts Law" of the Republic of Latvia.

Inta Brūna, Inta Millere

Table 5

Requirements set in the Directives 2013/34/EU, 78/660/EEC of the European Parliament and of the Council and in "Annual Accounts Law" of the Republic of Latvia regarding the Evaluation of the Items of Annual Account

No.	Directive 2013/34/EU (European Parliament and of the Council, 2013)	Directive 78/660/EEC (Council of the European Communities, 1978)	"Annual Accounts Law" of the Republic of Latvia (Supreme Council, 1992)
1.	Member States may permit the purchase price or production cost of stocks of goods of the same category and all fungible items including investments to be calculated either on the basis of weighted average prices, on the basis of the "first in, first out" (FIFO) method, the "last in, first out" (LIFO) method, or a method reflecting generally accepted best practice. (Article 12)	The Member States may permit the purchase price or production cost of stocks of goods of the same category and all fungible items including investments to be calculated either on the basis of weighted average prices or by the 'first in, first out' (FIFO) method, the 'last in, first out' (LIFO) method, or some similar method. (Article 40)	The actual cost of acquisition or production of inventory may be determined as the weighted average price or by using the "First in – first out" method (FIFO). (Section 31)
2.	The revaluation reserve may be capitalised in whole or in part at any time. (Article 7)	The revaluation reserve may be capitalized in whole or in part at any time. (Article 33)	The revaluation reserve for long-term investments shall not be allocated to dividends, used to cover losses, transferred to capital or other reserves, or used in for social purposes, for charity or for other purposes. (Section 29)

As we can see in Table 5, in order to evaluate the inventories both the Directive 78/660/EEC and the Directive 2013/34/EU provide also for the application of LIFO method ("last in – first out"), but "Annual Accounts Law" of the Republic of Latvia provides for the application either weighted average price or FIFO method ("first in — first out"). The authors point out that the International Accounting Standards Board excluded the application of LIFO method for the evaluation of inventories already more than a decade ago – the former option to use LIFO was removed in 2003 with effect from 2005 (Nobes Ch., Parker R., 2012). Authors find that, like before, there should be only two methods envisaged in "Annual Accounts Law" for the evaluation of inventories – weighted average price or FIFO method, but, since many companies shall apply inventories items for the accounting, the authors' point of view is that there should be the requirements set for the accounting and evaluation of inventories in the normative regulation of the Republic of Latvia, because in no other normative regulation of the Republic of Latvia there are no such requirements set for the subjects to "Annual Accounts Law", who are not allowed to apply the international accounting standards. We can find similar situation regarding also other items, for example, intangible assets, therefore the authors find that, when the amendments are made to "Annual Accounts Law", it is necessary to include also the requirements for the evaluation of items, which are not in detail included in this law or in the related Regulations of the Cabinet of Ministers, because for the enterprises for which it is not provided by the EU Regulation No.1606/2002 or other laws and regulations

in compliance with which such enterprises shall apply the international accounting standards, the requirements regarding the preparation of an annual account are provided only by this law and related Regulations of the Cabinet of Ministers.

As we can see in Table 5, there is also difference between the requirements set in the Directives (78/660/EEC and 2013/34/EU) and in "Annual Accounts Law" of the Republic of Latvia in relation to the revaluation of the capitalization of reserves. The normative regulation of the Republic of Latvia does not provide for the capitalization or utilization of revaluation reserve for other purposes. The authors find that it is necessary to apply this requirement also in future in relation to the revaluation reserve of long-term investments.

Conclusions, Proposals, Recommendations

The conclusions, which have been drawn as a result of the carried out analysis, coincide with the opinions and views of the professionals and scientists of other countries (Žarova M., 2013; Nõmmiste M., 2012) regarding the fact that the impact of the Directive 2013/34/ES has a varied and diverse nature, not only in relation to the companies coming from different categories, but also on the entrepreneurial environment in general in the economic systems of different sizes.

As a result of performed research, having compared enterprises according to their qualification requirements in conformity with the Commission Regulation (EC) No 800/2008 of 6 August 2008 declaring certain categories of aid compatible with the common market in application of Articles 87 and 88 of the Treaty, the authors established that the proportion of SMEs in the EU is 99.79%, but the proportion of employed persons constitutes 67.2%. In Latvia the situation is similar and the proportion of SMEs in 2012 was 99.7%. The comparative analysis of the enterprise criteria of the Directive 2013/34/EU and the criteria provided by the Commission Regulation (EC) No.800/2008 of the year 2008, except for the number of employed persons, namely, the total amount of the annual balance sheet and the annual turnover are lower than in the above mentioned Regulation.

According the research aim, the authors have studied the terms of the European Parliament and the European Council Directive 2013/34/EU, compared them to the normative regulation in force in the Republic of Latvia and, in order to ensure that the requirements of the Directive 2013/34/EU would be included into the normative regulation of the Republic of Latvia, as well as in order to diminish the administrative burden – particularly for the SMEs, the authors propose the following amendments to the normative regulation of the Republic of Latvia:

1) to determine that the annual account of micro enterprises comprises an abridged balance sheet and a profit or loss account (in compliance with Part 2 of Article 36 of the Directive 2013/34/EU), the annual account of small enterprises – a balance sheet, a profit or loss account and an annex to the financial statement, the financial statement of medium-sized enterprises, large enterprises and the enterprises the transferrable securities of which may be sold in any regulated market in any Member State, comprises a balance sheet, a profit or loss account, a cash flow account, an account on the changes of equity capital and the annex to the financial statement, as well as there shall be submitted the management report;

2) to perform integrated evaluation regarding the necessity to provide information by a particular category of enterprises in conformity with both the Directive 2013/34/EU, as well as taking into consideration the needs of the national economy of the Republic of Latvia and to determine the minimum necessary information to be disclosed in the accounts;

3) when setting the requirements regarding auditing of annual accounts of the enterprises of the Republic of Latvia, the obligatory verification of annual accounts shall be envisaged not only for the public-interest entities, medium-sized and large enterprises, but also for the small enterprises;

4) in future it shall be determined that there only one layout of the balance sheet – horizontal layout of the balance sheet, and the alternative variant shall be applied;

5) there should be two layouts of profit or loss account envisaged in "Annual Accounts Law", and they should be correctly named as profit or loss account according to the nature of costs or profit or loss account according to the functions of costs, and there shall be no extraordinary items included into these layouts;

6) like before, there should be only two methods envisaged for the evaluation of inventories – weighted average price or FIFO method, and there should be the requirements set for the accounting and evaluation of inventories in the normative regulation of the Republic of Latvia;

7) it is necessary to include the requirements for the evaluation of items, which are not in detail included in this law or in the related Regulations of the Cabinet of Ministers.

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PURPOSES OF FINANCIAL STATEMENTS AND AUDITING: METHODOLOGICAL PROBLEMS OF CRITERIA DEFINITION AND CLASSIFICATION OF FINANCIAL STATEMENTS DISTORTIONS JUSTIFICATION

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Abstract

Problems of methodological discrepancy of financial statement preparation and presentation criteria to the concept of financial information usefulness, to financial statements doctrines and to uncertainty of financial statements' auditing criteria are presented. A justification of necessity to the criteria of financial statements audit on the basis of the modern concept of the financial information usefulness determined by the Conceptual Framework for Financial Reporting (2010) is given in a context of the settled accounting doctrines. Criteria of fairness and trustworthiness of financial information are defined, and also justification of distortions' misstatement classification of the financial statements on the basis of the established criteria of audit are presented.

Key words: *fairness, faithful representation, relevance presentation, usefulness, reliability, trustworthiness, normative and descriptive truth*

JEL code: M42

Introduction

The subject of this research is the methodological compliance of financial statements and auditing systems regarding the purposes, namely compliances of preparation and presentation of financial statements preparation criteria to financial statements auditing criteria. The purposes of preparation and presentation of financial statements and the audit of financial statements have to be correctly correlated. It means that criteria of preparation and presentation the information in financial statements have to correspond to criteria of verification of audited financial statements. From the methodological point of view this compliance is an important requirement of effective auditing of financial statements.

Research results and discussion

The analysis of international standards of financial statements and auditing allows to draw a conclusion that starting since 2001 were designated, at least, two various methodological situations concerning correspondence of financial statements and auditing objects in a context of the concept of financial information usefulness development.

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Situation 1. *Discrepancy of financial statements' preparation and presentation criteria to the concept of financial information' usefulness and uncertainty of financial statements auditing.*

Till September, 2010 the concept of IFRS was defined by the Framework for the Preparation and Presentation of Financial Statements (Framework). Basing the formulation of the financial statements purpose given by the Framework (item 12) and Framework (item 9) it is possible to say that the main criterion of preparation and presentation of information in financial statements is its usefulness from the point of view of the interested users. Such purpose of the financial statement and ways for its achievement created actually the concept of financial information usefulness. Its basic ideas proclaimed that financial information can be useful for the interested users only if its content is relevant and reliable, and representation – comparable and understandable. These requirements are qualitative characteristics of financial information and, therefore represent the main criteria of its usefulness. The requirement to follow additional criteria of usefulness is established in the relation to relevance.

Despite unity of approaches to define the purpose of financial statement the Framework and IAS1 contain methodological distinctions regarding requirements to financial statements. These distinctions are caused by that the concept of usefulness of financial information is cornerstone of the Framework; and IAS 1 is based on provisions of two concepts – usefulness of financial information and fair presentation of financial statements.

From the interconnected provisions of IAS 1 (item 15 and item 17) follows that fair presentation of information in financial statements is provided due to observance of those qualitative characteristics that ensure usefulness of financial information. The Framework also point that the financial statement can be prepared according to one of doctrines "true and fair view" or "fair presentation". Though the Framework do not have a direct bearing on these doctrines, observance of qualitative characteristics along with application of the corresponding standards of the account allows to achieve fair presentation or a true and fair view of financial statements. Thus, concepts of fairness and usefulness are the parallel concepts, not subordinated one another with the general criteria of compliance, and in this sense not contradicted each other.

On the other hand, contradictions do exist and its source is positioning of IAS 1 faithful representation as main criterion of financial statement fair presentation. But approach "fairness of representation as faithful representation" is limited owing to the following circumstances:

1) faithful representation is not basic criterion of financial information usefulness, and represents only one requirement to provide one of basic qualitative characteristics – reliability of financial information (Figures 1 and 2);

2) from the point of view of the interested users the fair representation of information in financial statements has to mean not only faithful representation, but also relevance presentation.

3) from the point of information contents' quality in the financial statement, fair representation can not be estimated only by one criterion – faithful representation.

Audit has to carry out an assessment of financial statements' quality and degree of financial information usefulness and fairness of its representation. According to IAS 200 "Overall objectives of the independent auditor and the conduct of an audit in accordance with international standards on auditing "the purpose of audit is to enhance the degree of confidence of intended users to financial statements; it can be reached by expression the audit opinion whether the financial statement is prepared in all material aspects according to the applicable financial reporting framework (item 3, edition 2009, 2010, 2012 of)".

Depending on applicable financial reporting framework the opinion of the auditor expresses either the financial statements "presented fairly in all material aspects" or "gives a true and fair view".

Uncoordinated at the level of the concept and standards criteria of preparation and presentation of financial statements generate an uncertainty of audit criteria (Figure 1).

In Figure 3 the situation 1 which is characterized by the following ratios is presented:
1) IAS 1 ≠ the Framework (2001) as fair representation according to the Framework and IAS 1 is provided due to compliance to qualitative characteristics of relevance, reliability, comparability and understandability. But it is defined nevertheless, as faithful representation, criterion of usefulness, secondary to its basic characteristics;
2) IAS 1 ≠ ISA 200 as fair presentation of information in financial statements determines only one main criterion by IFRS 1 – faithful of representation that disperses from essence of doctrines of "fair representation" and "true and fair view" in a context of audit of financial statements and doesn't allow to establish criteria of their confirmation;
3) The Framework ≠ ISA 200 as it impossible to allocate the main criteria of audit in a context of doctrines "fair presentation" and "true and fair view" owing to inconsistency of criteria of usefulness and fairness.

Fig. 1. **Situation 1. Discrepancy of financial statements preparation' and presentation' criteria to the concept of financial information usefulness and uncertainty of financial statements' auditing criteria**

Nevertheless, as the requirement of "faithful representation" is not the main criterion according to which usefulness (quality) of information provided in financial statements is estimated, it can not act as

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the only criterion of audit of financial statements (irrespective of its concepts – "fair presentation" or "a true and fair view"). Therefore, there is an objective need to identify the criteria of an assessment of financial statements, as for increase the degree of provided information usefulness, and for increase the degree of confidence from the interested users to financial statements.

Situation 2. *Discrepancy of preparation and presentation of financial statements' criteria to the concept of usefulness and to criteria of financial statements auditing.*

Emergence of this methodological situation is caused by innovations in the concept of IFRS regarding the purpose and qualitative characteristics of financial information. In order to increase the usefulness of the financial information for interested users, it has to represent faithfully information on those economic events which it has the purpose to represent (that is to be complete, neutral and free from error), and to be relevant (that is to correspond to users needs for obtaining information suitable for an assessment of the presents and forecasting of future cash flows). Usefulness of financial information increases if it is comparable, verifiable, timely and understandable (Figure 2).
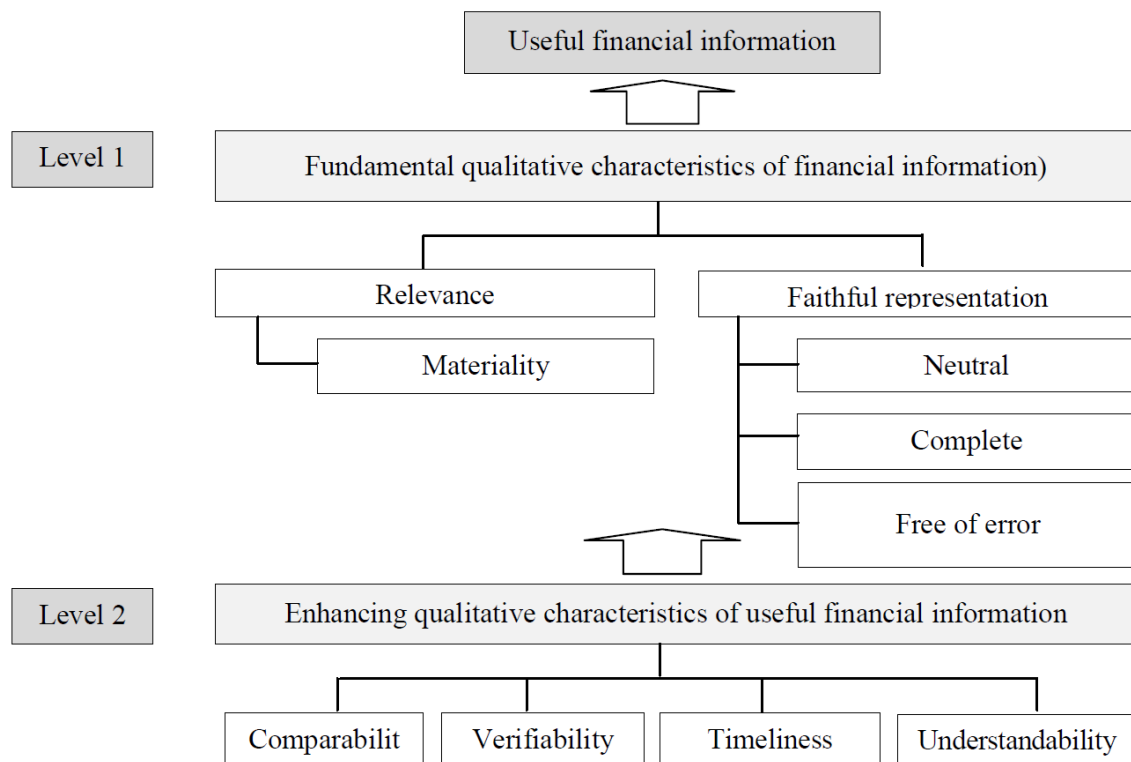
Fig. 2. **The concept of usefulness of financial information for users of financial statements according to the Framework for Financial Reporting (2010)**

Determination of faithful *representation* and relevance of representation as the main criteria of usefulness of financial information allows to allocate a necessary level of quality of financial information as compliance to standards and norms (faithful representation) , and sufficient level of its quality at compliance of information provided in financial statements to needs of the interested users (relevance of representation).

The Framework of 2001 defined reliability along with relevance of financial information as the priority qualitative characteristic. However, the Conceptual Framework for Financial Reporting of 2010 abolishing the requirement of reliability of financial information thereby eliminated uncertainty of its interpretation.

In a general sense, reliability of financial information is its qualitative characteristic which means that users can rely on it at adoption of economic decisions, being confident in lack of mistakes in it. However, in a context of the concept of the financial information usefulness reliability can be treated differently, depending on what sense bears in itself the category of usefulness. Usefulness is characterized by possibility to use information, its necessity, suitability and need for financial statements users. Usefulness is defined by a representation format and also by contents of provided information. Depending on perception of financial information usefulness it is possible to consider it in two forms:

1) usefulness a priori, expressed by the thesis "financial the reporting is useful as it is the main source of information for the analysis and an assessment of future cash flows of the enterprise". In this case reliability should be regarded as independent criterion of quality of financial information along with usefulness of this information;

2) usefulness a posteriori, being expressed the thesis "financial statements is useful to users as in it doesn't contain material distortions". In this case reliability should be perceived as criterion of usefulness.

In either case, reliability of financial information provides quality made by users of financial statements of economic decisions while usefulness in the first case (a priori) can't provide quality made by users on the basis of financial information of decisions, and in the second case (a posteriori), usefulness, when ensuring reliability of financial information, provides such quality.

The basic qualitative characteristics of financial information established by the Conceptual Framework allow to identify criteria of an assessment of quality of financial statements and to estimate usefulness of provided information in a context of doctrines: "true and fair view" and "fair presentation". In our opinion, regardless of financial statements doctrines the auditor has to express opinion on faithful presentation of information in financial statements (Figure 3).

Situation 2 is presented on Figure 5. It characterize by the following ratios:

1) IAS 1 ≠ the Conceptual Framework as criteria of fair presentation of financial information and criterion of its usefulness being at the same time criteria of preparation and presentation of financial statements as a whole are not coordinate with each other.

2) IAS 1 ≠ ISA 200 as fair presentation of information in financial statements determines only one main criterion by IFRS 1 – faithful representation that disperses with essence of doctrines of "fair representation" and "a true and fair view" in a context of audit of financial statements and doesn't allow establishing criteria of its confirmation.

3) The Conceptual Framework = ISA 200 if to take the main qualitative characteristics for criteria of financial statements audit that provide its usefulness according to the Conceptual Framework – faithful representation and relevance of financial information.

Revision of the concept of usefulness allowed looking in a new way at criteria of audit of financial statements in a context of the settled doctrines. However, still, inconsistency of criteria of preparation and submission of financial statements by the Conceptual Framework and IAS 1 as result of limited treatment of the concept of "fair representation" is observed that, in turn, generates discrepancy of criterion of fairness on IFRS 1, criteria of an assessment of fair presentation of financial statements in all material aspects on IAS 200.
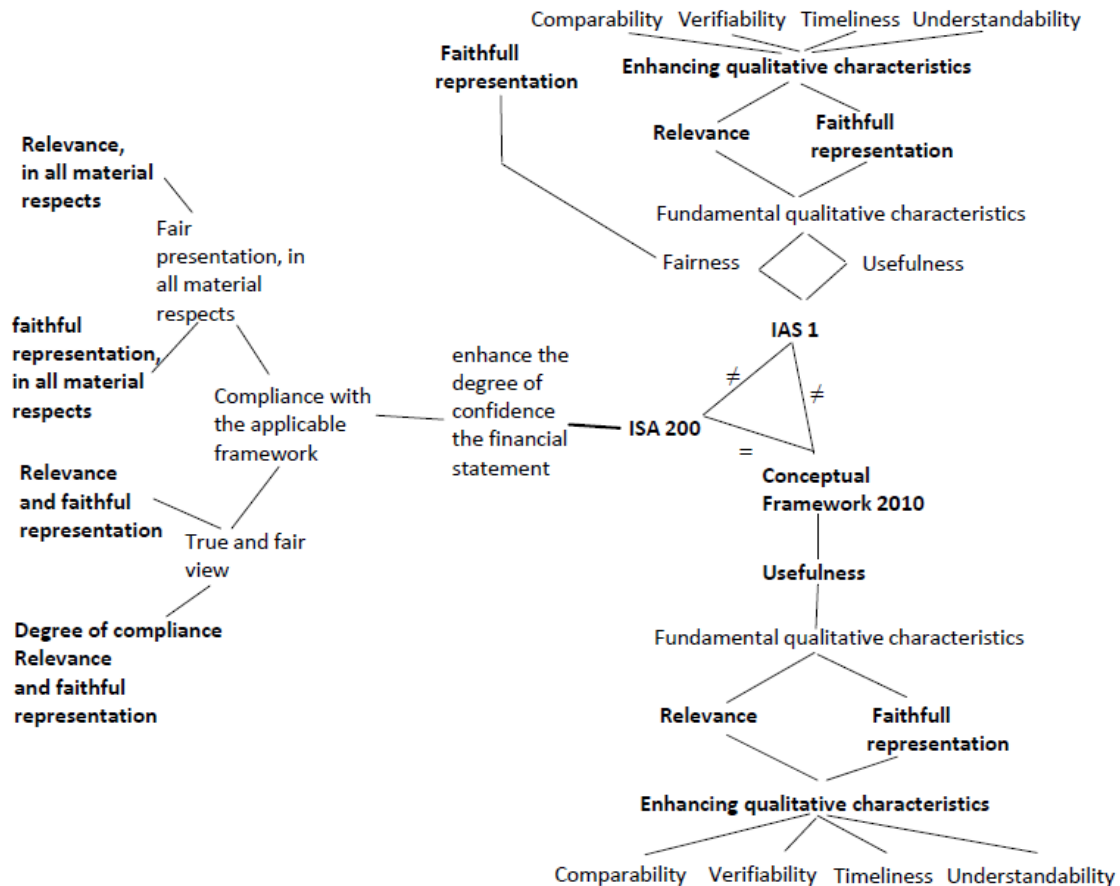
Fig. 3. **Situation 2. Discrepancy of criteria of preparation and presentation of financial statements to the concept of usefulness and to criteria of audit of financial statements**

Situation 3. *Compliance of criteria of preparation and presentation of financial statements of the concept of usefulness of financial information and their compliance to criteria of audit of financial statements (hypothetical).*

Proceeding from the above, it is necessary to develop other than two considered before situations, namely, a situation at which there are no methodological contradictions in criteria of financial statements and audit (Figure 4):

1) IAS 1 = the Conceptual Framework under a condition of limited approach elimination to treatment of the term "fair representation".

2) IAS 1 = ISA 200 under a condition if fair presentation of information in financial statements on IFRS 1 demands not only true, but also pertinent representation.

3) The Conceptual Framework = ISA under a condition if to take the main qualitative characteristics providing its usefulness according to the Conceptual Framework for criteria of audit of financial statements.
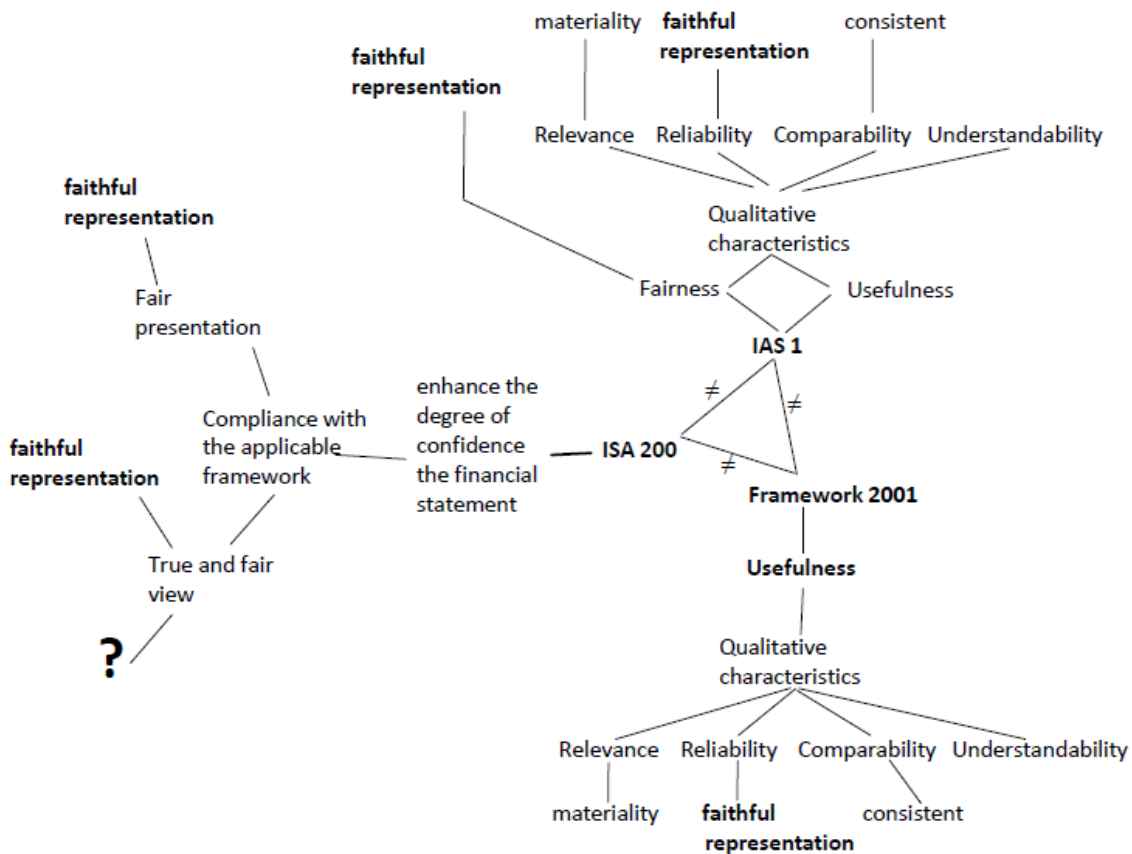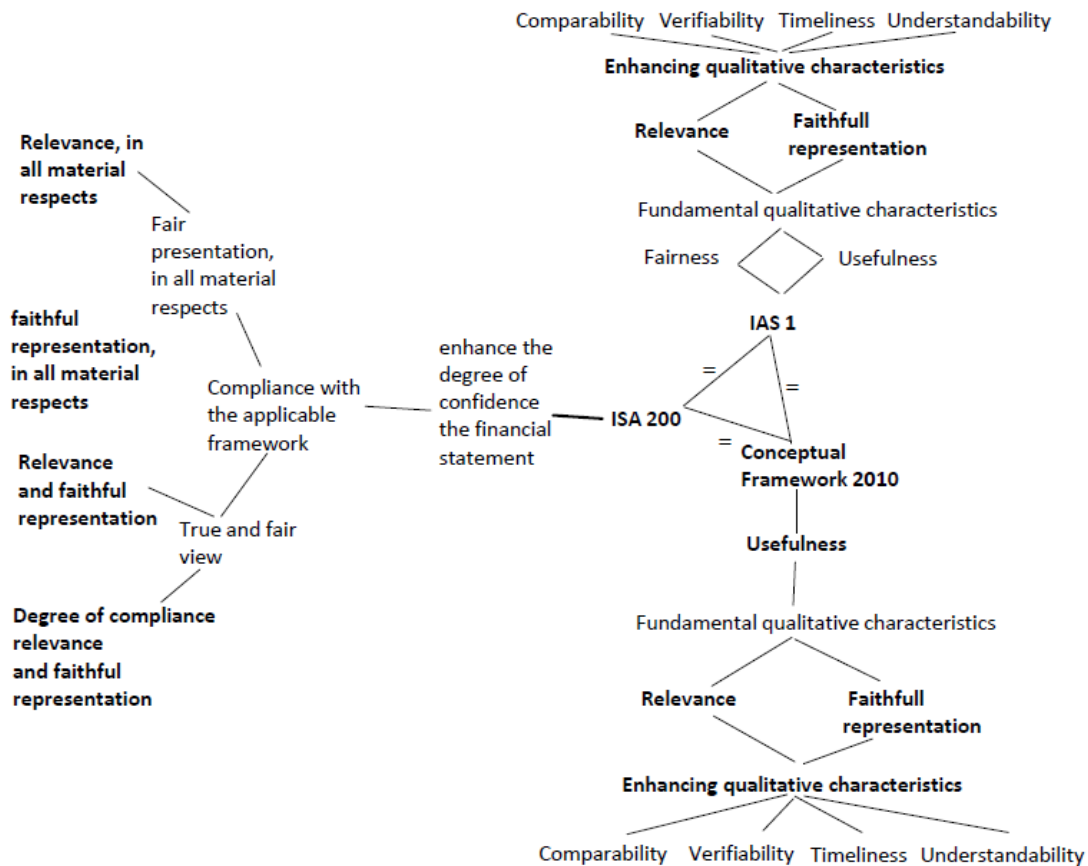
Fig. 4. **Situation 3. Compliance of financial statements' preparation and presentation criteria to the concept of financial information usefulness and its compliance to criteria of audit of financial statements (hypothetical)**

Conclusions

As a result of the above research two criteria of financial statements auditing – faithful representation and relevance of the financial information – in application both to a doctrine "fair representation" and doctrine of "a true and fair view" were established. However, other question is how is possible to estimate performance of these criteria during the audit of financial statements and to get audit evidence, and also whether these criteria in principle are checked within applied doctrines of financial statements.

First of all, it is necessary to determine the concepts "fairness" and "reliability" and how they are used in relation to financial statements. In accounting and auditing monographs these doctrines carry different titles, for example, an expression "fair representation" use as "reliable representation" or "conscientious representation", and expression "a true and fair view" as "a reliable and objective view", "a reliable and conscientious view". Also in some monographs the translation of the term "faithful representation" as "representative fairly" or "truthful representation" differs. Such divergences can be connected with translation peculiarities and the content of scientific articles but application of uniform approach is preferable.

Proposals

1. Definition of criteria of fairness and trustworthiness of financial information

Proceeding from the aforesaid, it is possible to consider as criterion of fairness the true, and criterion of trustworthiness – truth. The true has normative character, and truth the descriptive: "The True and Truth bear in itself typologically different types of knowledge. The True characterizes knowledge of the standard plan in which a certain model of action is set. The Truth characterizes knowledge in which a certain model having a position of affairs, a certain model of the real is depicted. That is, it is possible to tell that the True indicates on due, those rules which it is necessary to adhere, and Truth that is, a certain ideal order to which it is necessary to aspire and to which it is possible to come through performance of the corresponding obligations, through the True" [9]. And from this point of view, fairness really has standard character, expressing compliance due, and reliability descriptive, reality characterizing certain compliance.

However, according to our opinion, from the point of view of fairness and trustworthiness of representation of information on the reporting entity, however, as the criterion of fairness can be also presented in financial statements as a special case of standard truth that doesn't contradict neither to its interpretation, nor an origin. The fairness and trustworthiness ratio in relation to real, due and reflected is presented in Figure 5.
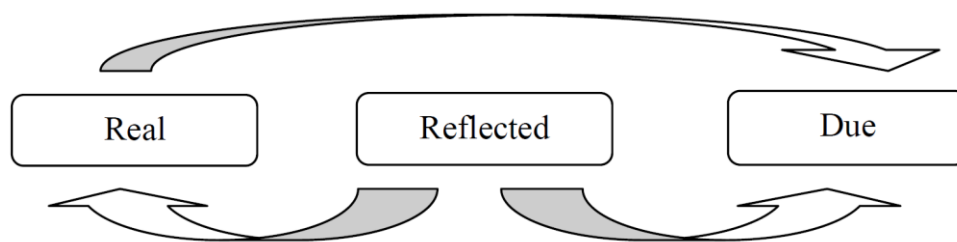
Fig. 5. **Fairness and trustworthiness ratio**

where,
real (actual situation on the enterprise);
reflected (in financial statement);
due (principles and standards of financial statements, information needs of users of financial statements).

Then, hypothetically the auditor has to establish truth not only descriptive, but also standard character, namely:
1) compliance reflected to real (trustworthiness);
2) compliance reflected to due (fairness);
3) compliance actual to due (fairness).

In audit the truth gains standard and descriptive character. The proof order to such standard and descriptive truth assumes getting evidence on fair representation, that is establishment of compliance of provided in financial statements information and a real situation of the enterprise to criteria of truth (faithful representation, relevance presentation). The theory of audit deals with probabilistic estimates. And on this basis trustworthiness that is degree of correspondence of compliance has to be established to truth of descriptive character, namely compliance of a real situation of the enterprise of information provided in financial statements (Figure 6). Trustworthiness has a material element of uncertainty caused by impossibility of ensuring all completeness of information.
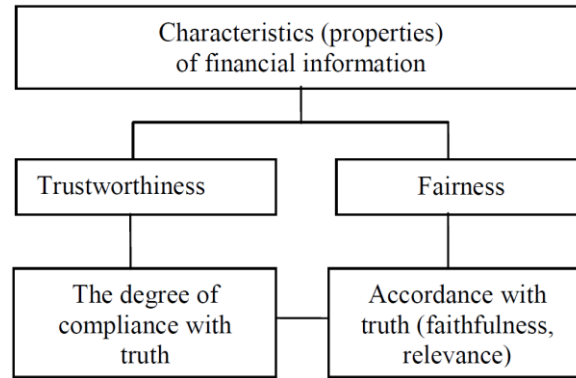
Fig. 6. **Criteria and order of proof process of trustworthiness and fairness of financial statements**

2. Justification and application of criteria of audit within doctrines of financial statements

The order of proof of trustworthiness considered above and fairness of financial statements is logically built in system of doctrines of financial statements, and allow to express normative and descriptive truth in audit to express in the form of concrete criteria irrespective of, whether the auditor has to express opinion on compliance of financial statements to the applicable principles of its preparation and representation in a doctrine context "fair representation in all material aspects", or "a true and fair view" (Figures 4, 6 and 7).
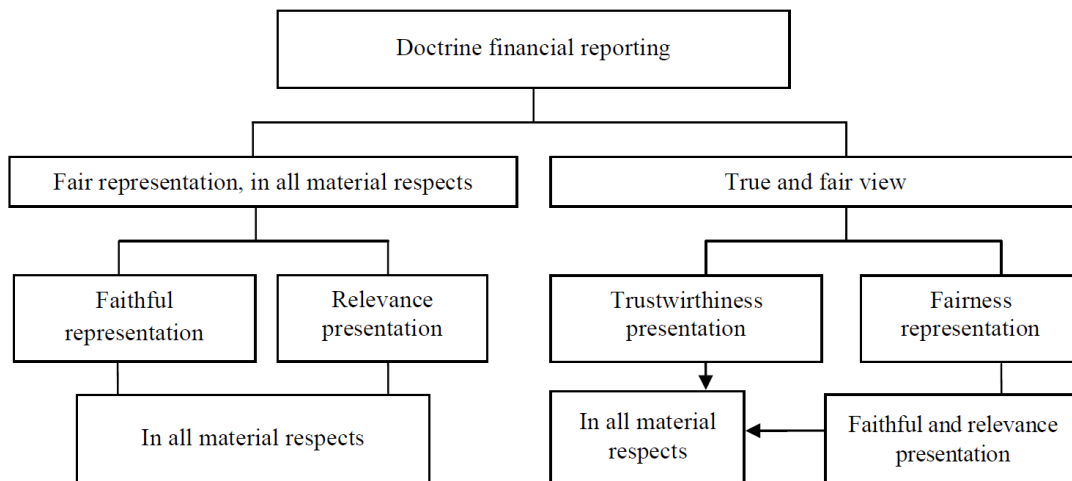
Fig. 7. **Description of concepts of submission of financial statements**

Recommendations

One more argument in confirmation need of reduction in methodological compliance of the concept of usefulness, criteria of preparation and submission of financial statements and criteria of audit of financial statements is necessity of misstatement of the financial statement' classification on fidelity and relevance of representation in it information on a financial position, financial results and cash flow (Figure 8).

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┌─────────────────────────────────────────────────────┐
│          Misstatement of the financial statements     │
└─────────────────────────────────────────────────────┘

┌──────────────────────────┐   ┌──────────────────────────┐
│  By faithfulness          │   │  Presentation by relevance│
│  presentation information │   │  information              │
└──────────────────────────┘   └──────────────────────────┘

┌──────────────────────────┐   ┌──────────────────────────┐
│  Information about the    │   │  Information subject to be │
│  assets, liabilities,     │   │  disclosed in the financial│
│  capital, income and      │   │  statements disclosed      │
│  expenses does not meet   │   │  incorrect or undisclosed  │
│  the definitions,         │   │                            │
│  recognition criteria and │   │                            │
│  the principles of        │   │                            │
│  assessment               │   │                            │
└──────────────────────────┘   └──────────────────────────┘

┌──────────────────────────┐   ┌──────────────────────────┐
│ Quantitative and          │   │ Material and non-material  │
│ qualitative               │   │                            │
└──────────────────────────┘   └──────────────────────────┘
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Fig. 8. **Criteria of audit of financial statements as justification of classification of its distortions**

The auditor expressing opinion on compliance of financial statements to the applicable principles of financial statements has to estimate probability of distortion of financial statements by two main criteria: faithful representation and relevance of representation of information in financial statements. Such distortions can carry both qualitative and quantitative character, and in that, and other case, can be estimated from the point of view of importance.

As a result of research the following aims were solved: problems of methodological discrepancy of preparation and presentation of financial statements' criteria to the concept of financial information usefulness and to doctrines of financial statements and, correspondently, to uncertainty of financial statements auditing criteria. There is presented justification of requirement to definey the criteria of financial statements audit on the basis of the modern concept of usefulness of the financial information determined by the Conceptual Framework for Financial Reporting (2010,). It is given in a context of the settled doctrines of accounting. Criteria of fairness and trustworthiness of financial information are defined, and also justification of classification of distortions of financial statements on the basis of the established criteria of audit is presented.

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INTERNATIONAL JOINT VENTURE PERFORMANCE MEASUREMENT IN CHINA: AN EXPLORATORY STUDY OF SINO-NORDIC JOINT VENTURES

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Abstract

This paper studies the performance measurement of international joint ventures (IJVs) in China. Firstly, relative concepts and theories of performance measurements in IJVs will be shown. Then dynamic capacities theory will be introduced to explain its effects on performance of IJVs. After that, a newly integrated framework performance measurement for Sino-foreign IJVs will be presented in the resource-based view (the RBV) and dynamic capabilities perspective. Finally, case study on Nokia through the concept of dynamic capacities will be showed. It is found that apply dynamic capabilities can be a new criteria of performance measurement for IJVs in China. Both stability and flexibility do matter for IJVs. Conclusion will be made at the end of this paper.

Key words: *IJV, performance measurement, dynamic capabilities, China*

JEL code: M16, F44

Introduction

International joint ventures (IJVs) which are widely used in global markets and competition consist of legal organizational firms and their parent companies from different countries (Shenkar & Zeira, 1987). With the implementation of reform and opening up policy and China's entry to World Trade Organization, IJVs take the advantages of tax-free policy, resource sharing and low cost of labour in China, which results in dramatically rapid growth of IJV in China since the mid-1980s. According to the data from State Administration for Industry & Commerce of the People's Republic of China, numbers of projects for contracted foreign direct investment in China adds up to 24925 units in 2012.

Many researches on IJVs performance have been made since Franko (1971) issued the article named "Joint venture survival in multinational corporations". Several organizational theories have been applied to evaluate corporations performance such as transaction costs economics (e.g., Hennart, 1988), agency theory (e.g., Reuer & Miller, 1997), resource-based view (e.g., Eisenbardt & Schoonhoven, 1996).

This article will present a newly integrated framework performance measurement for Sino-foreign IJVs in the resource-based view (the RBV) and dynamic capabilities perspective. Influencing factors are classified into internal and external factors to discuss the elements influencing IJV performance. Dynamic capabilities which contain adaptive capabilities, absorptive capability and innovative capability will be used to formulate the performance measurement approaches. A specific case study on Nokia using the

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theory will be given to see its application in the really world, followed by conclusion and suggestions in the last part.

Literature review

Researchers from all over the world have done large quantities of studies about IVJs which provide enormous empirical statistics for almost three decades (e.g., Li et al., 2001). However, there are limits and drawbacks with regard to some measurements. For example, financial measures (Zhang et al., 2007) for the IJV tend to be rolled into consolidated company data which has been criticized because data are hard to separate and unavailable to get. As another commonly uses performance measurement for IJVs, overall satisfaction (Boateng & Glaister, 2002) may frequently raise validity threats due to sample error because different respondent may perceive different satisfaction. Additionally, some researchers fail to present a systematic and complete framework. For instance, Larimo (2003) lacks essential conceptual framework despite his good work on summarizing pervious researchers on Asia IJVs. When it comes the article of Ren et al. (2009), it is innovative that they study the IJVs performance in a multi-dimension view, but the validity of new mode is still questioned with less organized analysis of drivers of IJV performance.

Fierce competition has driven firms to constantly adapt, renew and reconfigure their capabilities and resources more effectively, which is in dynamic capabilities perspective (Teece et al., 1997; Eisenhardt & Martion 2000). The concept of the resource-based view (RBV) puts emphasis on resources and capabilities for companies to achieve competitive advantage: resources are heterogeneously distributed across competing firms (Barney, 1991). Dynamic capabilities emerged to increase the RBV by encapsulating the evolutionary nature of resources and capabilities (Teece et al., 1992, 1997; Eisenhardt & Martin, 2000; Zahra & George, 2002). Dynamic capabilities can be defined as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments (Teece et al., 1997, p. 516). There are increasing evidences from empirical studies that firm's dynamic capacities influence firm performance significantly. For example, Henderson and Cockburn (1994) suggested that a firm's ability to integrate knowledge from external sources was positively correlated with the ability company, its research productivity, measured by the number of patents. Consequently, previous research result will be established and a theory-based and comprehensive framework will be proposed. In this paper, dynamic capabilities theory in the resource-based view is used as performance measurement for Sino-foreign IJV. As Wang and Ahmed (2007) mentioned, dynamic capabilities have three main component factors, namely adaptive capability, absorptive capability and innovative capability. The author will use these three capabilities as key criteria to measure IJV performance.

Factors influencing IJV performance

The integrated framework (figure 1) contains four factors influencing IJV performance and three briefly classified methods of performance measurement.

It is acceptable to separate factors into internal and external factors generally when considering particularly political and economic environment in China. Moreover, applying dynamic capabilities theory in the resource-based view to the IJV performance measurement approaches provides a new perspective for IJV evaluation. Some studies merely use financial assessment such as return on investment (ROI) and market share to measure IJV performance (Hofer, 1983), while some studies put emphasis on multi-dimensional assessment which involves objective and subjective indictors, which makes classification too extensive to concentrate (e.g., Luo & Park, 2004). In resource-based view, firms are heterogeneous in their resources (Teece et al., 1997). Dynamic capabilities, as one of resources enable the company to establish competitive advantage to promote its efficiency and effectiveness (Barney,

1991). Therefore, it is reasonable to use dynamic capabilities in resource-based view as IJV performance measurement approaches especially in recent market with high-velocity. Furthermore, there are three main component factors of dynamic capabilities including adaptive capability, absorptive capability and innovative capability.

1. IJV-Parent Characteristics

According to previous researches, it is for sure that the parent company has a significant impact on IJV performance. However, the influence of a parent firm's size on IJV performance remains controversial. Isobeet al. (2000) discovered that the size of a parent firm has negative effects on IJV performance, while Barkema and Vermeulen (1997) argued that there is no relationship between the size of a parent firm and IJV performance. Additionally, the impact of the time to entry the Chinese market on IJV performance is also discussed. Isobe et al. (2000) found that a first mover to the Chinese market is able to earn entry advantages to obtain customers' loyalty and strong brand name. On the other hand, Li et al. (2001) revealed that it is more preferred for IJVs entering the Chinese market later.

2. Culture

Hofstede (1984) defined culture as the collective program of the mind that differs the members of one group from another. Culture is one of the most crucial drivers of IJV performance (Lu, 2006). On one hand, Brouthers and Bamossy (2006) claimed that culture understanding will increase IJV performance by enhancing trust between partners. Li et al (2001) suggested that high cultural distance would lead to creative ideas and cross-cultural distance, which results in high Sino-foreign IJV performance. On the other hand, some studies indicated that cultural differences could give rise to conflicting expectations, communication problems and misunderstanding which have a negative effect on IJV performance (Pothukuchi et al., 2002). Trust reduction (Luo, 2001) and increase of IJV instability (Makino et al., 2007) will also caused by culture distance. Except these opinions, some researches even suggested that there is no relationship between culture differences and IJV performance (Luo, 2002b).
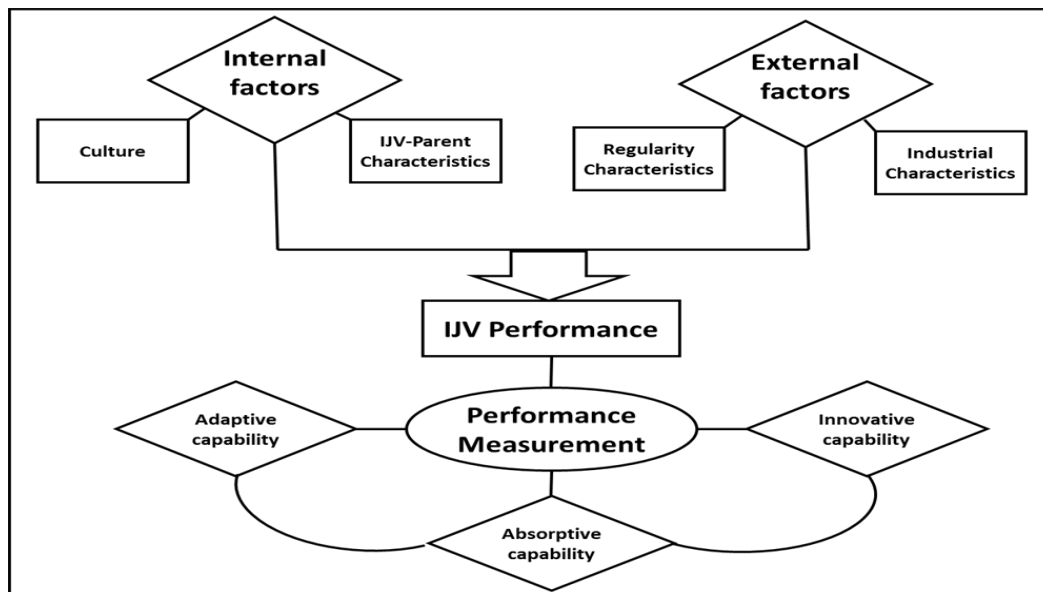
Fig. 1. **The integrated framework for IJV performance evaluation**

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3. Regularity Characteristics

Considering the unique political environment in China, regularity characteristics involving institutional restrictions and local government policies have great impact on Sino-foreign IJV performance (Osland & Cavusgil, 1996; Nippa et al., 2007). Boddewyn and Brewer (1994) argued that unpredictable changes in local government policies such as rules changes about foreign investment may lead to instability which affects IJV performance. Such regularity changes a lot in the past decades (Yan & Gray, 1994). In terms of institutional restrictions, Nippa et al. (2007) illustrated that institutional deterrence has negative influence on Sino-foreign IJV performance that largely rely on nationally key resources. Local ownership restrictions negatively influence IJV performance (Makino & Delios, 1996). Blodget (1992) and Osland and Cavusgil (1996) discovered a positive influence on IJV performance in terms of local ownership restrictions.

4. Industrial Characteristics

Attention has been devoted to industrial characteristics of IJV performance. Isobe et al. (2000) and Luo (1997) argued that industry growth and industry opportunities play a significant role to Sino-foreign IJV performance. Inkpen and Currall (1997) signified a positive relationship and were not sure of the existence of negative influence on IJV performance. Some researchers suggested that companies in specific industry that experience frequent consolidation and changeable environment are more instable and more difficult to perform well (Kogut, 1989; Hennart & Zeng, 1997). When it comes to the impact on industry concentration on IJV performance, findings of various studies remains indeterminate. Kogut (1988b) revealed a negative influence, but some researchers claimed a positive relationship (Kogut, 1989) and Good (1972) concluded no relationship at all.

Performance Measurement Approaches

1. Adaptive capability

Adaptive capability is defined as a company's capability of identifying and capitalising on appearing marketing opportunities (Hooley et al., 1992). Rindova and Kotha (2001) illustrated that dynamic capabilities are reflected through a company's adaptive capability with regard to strategic flexibility of resources and classification between its resources, organizational form and continuously changing strategic needs. Other empirical researches also suggested that the capability of aligning internal resources with external demand and adapting to situation changes is of great importance of IJV survival and evaluation (Alvarez & Merino, 2003). Therefore, Sino-foreign IJV with high levels of adaptive capability show dynamic capabilities (Teece et al., 1997). When it comes the measurement of adaptive capability, Oktemgil and Gordon (1997) suggested a multi-dimensional view, involving a company's ability to scan the market; to adapt product-market scope to give responds to external opportunities; to observe customers and competitors and arrange resources to marketing activities; and to respond to changeable market environment in a speedy manner.

2. Absorptive capability

According to Cohen and Levinthal (1990), absorptive capacity can be referred to the ability to realize the value of new, external information and then assimilate it to commercial ends and to evaluate and use outside knowledge as a function of the level of prior knowledge. IJV with high absorptive capability shows stronger ability to learn from parent company, combine outsider information which can be

transformed into its knowledge. Woiceshyn and Daellenbach (2005) revealed that absorptive capability has a positive influence on IJV performance in the face of external technological change. Other empirical studies (George, 2005) also suggested that IJV's ability to acquire knowledge from parent company, assimilate it with its internal knowledge and create new knowledge is a crucial element of dynamic capabilities. Consequently, Sino-foreign IJV with high levels of absorptive capability show dynamic capabilities. With regard to measurement of absorptive capability, Tsai (2001) suggested applying research and development (R&D) as a proxy to absorptive capability. Additionally, Zahra and George (2002) considered absorptive capability as a multi-dimensional construct and divided it into four parts: knowledge acquisition, transformation, assimilation, and exploitation.

3. Innovative capability

Innovative capability refers to a company's ability to improve new products or markets by aligning strategic innovative orientation with innovative processes and behaviours (Wang & Ahmed, 2004). It can be indicated from definition that innovative capability has several dimensions. Miller and Friesen (1983) divided it into four dimensions: new product or service innovation, approaches of production or rendering of services, risk taking by important executives and searching for unusual and novel conditions. Other researchers found three dimensions of organisational innovativeness: market innovativeness, strategic trend to pioneer and technological complexity (Capon et al., 1992). Other studies (Lazonick & Prencipe, 2005) also suggested that IJV's innovative capability plays a important role for its survival and evaluation on the basis of external competition and change. As a result, the more innovative Sino-foreign IJV is, the more it possesses dynamic capabilities. In the aspect of measurement of innovative capability, Wang and Ahmed (2004) developed several dimensions to measure innovative capability such as behavioural, process, product and market innovativeness and strategic innovative orientation.

Case study on Nokia in dynamic capabilities perspective

1. Company introduction

Nokia is a Finnish communications and information technology multinational company which is founded in 1865. It is the world's 274th-largest company measured by 2013 revenues according to the Fortune Global 500. Nokia has the largest market share for 14 years since 1996. However, the company's market share has declined since 2007 as a result of the growing use of touch-screen smart phones from mainly Apple and Samsung. As the information form Nokia annual report presented, it is obvious that Nokia's net income decreased dramatically from 2008 to 2011. In order to recover, Nokia announced a strategic partnership with Microsoft in February 2011 to replace initial operating system Symbian into Microsoft's Windows Phone operating system. Nokia unveiled Nokia X family which run a modified version of the Android operating system on 24 February 2014.

2. Nokia in China

Nokia started business with China in 1950s and established the first office in Beijing in 1985. Nokia gradually developed in China by setting Sino-foreign IJV and realize localization production so that make China as main manufacturing location globally in 1990s. Nokia enhanced the cooperation in Chinese mobile industry and put emphasis on production research in China in 21st century.

3. Adaptive capability

Nokia possesses quite lots of resources including more than 10 manufacturing bases and 50 strategic partners in the worldwide. Nokia did good jobs in the terms of observing customers in China. Various types of cell phone are produced to meet each part of target customers' needs. For example, Nokia E family mainly used by business people while Nokia N family focuses on young people who pursue fashion and independence. However, the need of customers has changed since IPhone was issued in 2006. Customers not only want telecommunication function but also pursue entertainment and online services. Nokia fail to make speedy response in environmental change. At that time, touch-screen smart phone is the most popular cell phone in Chinese market. Nokia did not realize the market trend so that Nokia continues using Symbian operating system which has poor user experience in smart phones. Not until 2011 did Nokia decided to replace Symbian into Microsoft's Windows Phone operating system. That period (2007-2011) witnesses Nokia losing the place of largest market share in Chinese phone market.

4. Absorptive capability

Apart from adaptive capability that focuses on aligning internal organisational factors with external environment factors, absorptive capability concentrates on combining external knowledge with internal knowledge and absorbing it for internal utilization. Nokia was good at obtaining market knowledge from Chinese customers and applying it to product innovation so that various types of cell phone are produced. Additionally, Nokia also tries to explore knowledge from competitors. For example, Nokia realized the drawbacks of Symbian system and tried to learn from other operating system such as Window system by forming a strategic partnership with Microsoft in 2011 and Android system by producing Nokia X family. However, Nokia's absorptive capability remains to be discussed due to lack of empirical researches that validated a multi-dimensional structure of it.

5. Innovative capability

A firm's inherent innovativeness to marketplace-based advantage is linked effectively by innovative capability with regard to new products and markets. Recent studies focus on new product development only as an internal driver for firm change and renewal. Nokia has no shortage of capacity for innovation. There are market researchers who specifically analysis the future trend and various team which responds to modelling, interface, colour and even camera devices. Detailed design such as browser has the specific team to in charge. Nokia has established a complete designing order which involving forward-look research, new technology applications and user segmentation. However, these innovative designs only focus on product itself instead of customer needs and market demand. Instead, Apple explored customers need on mixed function in one cell phone by combing telecommunication, online service and entertainment together in one smart phone with excellent user experience, which makes huge success.

To sum up, Nokia owns the capability in mobile phone industry but lack of dynamic capabilities. Nokia fail to constantly pursue the renewal and reconfiguration of core capabilities to form competitive advantages in the environmental change, which results in huge loss after 2007 in market share.

Conclusions and recommendations

The primary aim of this paper is to evaluate factors which influence Sino-foreign IJV performance by providing suitable measurement approaches. Both internal factors (culture, IJV-Parent characteristics) and external factors (regularity characteristics, industrial characteristics) have significant effects on Sino-foreign IJV performance. Though studies about IJV performance have been made for decades, papers

based on China-specific environments are still limited. Besides, lots of studies mainly adopted research material from official data provided by governmentally controlled institutions. The usefulness and appropriateness of chosen elements need to be evaluated further.

Sino-foreign IJV rely more on dynamic capabilities to survive in the Chinese market which owns high-velocity environment. Based on existing qualitative insights, three component factors of dynamic capabilities are identified, namely adaptive capability, absorptive capability and innovative capability. The writer applies these capabilities as new criteria to measure Sino-foreign IJV performance. However, it remains unclear to identify them as the component elements of dynamic capabilities due to lack of sufficient researchers.

It can be indicated from Nokia case study that in spite of sufficient resources and capabilities, Nokia lacks dynamic capabilities to renew, reconfigure and re-creation of resources and capabilities to respond timely to market dynamism. However, there are drawbacks and limits to measure Sino-foreign IJV performance using adaptive capability, absorptive capability and innovative capability as key criteria due to lack of sufficient researchers. Further analytical studies on dynamic capabilities and Sino-foreign IJV performance measurement will enrich those findings.

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MEASURING THE IMPACT OF SPATIAL FACTORS IN REGIONAL DEMOGRAPHIC DEVELOPMENT OF LATVIA

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Abstract

Over the last few decades, one may observe a growing interest in research concerning the spatial aspects of complex socio-economic and demographic processes. On the regional level, Latvia, as well as many other Eastern European countries, faces significant challenges of spatial heterogeneity and divergence in terms of both socio-economic and demographic development. Econometric analysis of these processes, utilising specialised methods and models, facilitates deeper understanding of the spatial distribution of the indicators under study, and often allows discovering new, previously unseen dimensions of regional demographic and socio-economic development problems and opportunities. This paper gives a review of some of the different econometric approaches to the analysis of spatial inter-dependencies suggested in the empirical literature, and later, describes and tests one of the possible methodologies for measuring levels of spatial spillover of the selected types of potential socio-economic impact factors in Latvian municipalities.

Key words: *spatial econometric analysis*, *spatial demography, spatial regression models, spatial autocorrelation*

JEL codes: C21, J11, R12

Introduction

Most previous sociological and demographic studies concerning Latvia's regional development treat individual geographical units, such as parishes, local municipalities (*Novadi*), cities or whole statistical regions as independent isolated entities rather than as a system of interconnected geographic units which may and do interact (e.g., through everyday commuting, cross-border family settlement, provision of services etc.). However, in the international scientific literature, and particularly in studies of population dynamics, such spatial effects have long been theorized and applied via several disciplines of social sciences such as geography and regional science, including, but not limited to: spatial diffusion theory, growth pole theory, central place theory and new economic geography theory (e.g. see Chi G. & Zhu J., 2008).

From the basic exploratory and statistical analysis of the local municipality-level data (SRDA, 2012), an interesting observation can be made, namely that the actual returns of public investments, regional and social policy instruments, or aid measures, in most local municipalities, are not perfectly proportional to the inputs. For instance, in some territories, positive demographic effects of social policy spending or improvement of economic situation do not result in a proportional improvement of migration flows or fertility indicators and vice versa.

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Apparently, geographical disaggregation of data may result in different (usually lower) results of policy instruments or positive economic stimuli. Similar finding has been attributed in the literature to the existence of spatial spillovers from one region into neighbouring territories. These spatial spillovers are explained as the result of the network effects, that is, since most basic elements of demographic development have network characteristics (e.g., everyday commuting, cross-border family settlement etc.) the application of specific policy measures or improvement of socio-economic situation in one region are expected to positively affect demographic development in other regions.

On the other hand, it has also been argued that a form of negative spillovers may also exist between territories. The argument is that stimulating policy or general improvement of social and economic conditions in one location can draw resources (e.g. population) away from other locations as «it enhances the comparative advantage of that location relative to other places» (Boarnet, 1998).

The general issue of spatial spillovers has also been widely approached in other areas of social and economic research. In the literature devoted to economic growth, for instance, it is theorised that fast-growing countries/regions tend to cluster together, implying that both location and neighbourhood structure is important for economic growth (e.g. Moreno and Trehan, 1997). Usually, in economics, researchers are trying to evaluate the degree to which government spending of some countries is influenced by the similar spending of neighbouring states (e.g. Case et al., 1993). Some other scientific papers try to test the Core-Periphery hypothesis and/or Growth Pole theory which both imply that the development of some regions may have a positive influence on nearby regions. Finally, in regional development studies, many spatial studies conclude that regional convergence capabilities are highly related with the spatial factors of the given territory (e.g. Vaya et al., 2004).

With that in mind, this study aims to analyse the spatial inter-dependency aspects of several key demographic indicators of Latvia's local municipalities covered by the most recent population census of 2011, while attempting to identify the associated socio-economic factors and estimate their impact. By the later comparison of the results of the traditional analysis methods with the results derived from the corresponding spatially adjusted models, author attempts to measure the levels of spatial spillover of the particular types of socio-economic factors, distinguishing those having the direct local application, and those, which may later demonstrate a spatial dispersal effect.

Research results and discussion

First, before going any further with the econometric analysis, it is necessary to identify the available demographic and socio-economic indicators of Latvian municipalities, selecting the most relevant data for further analysis in light of the current demographic problems.

Specialised literature, as well as policy documents (e.g. see Zvidrins, 2012 and Eglite, 2008) point out that the key problems of current demographic development in Latvia are:
- emigration (both long and short-term);
- low fertility;
- population ageing.

Furthermore, closer review of the available statistical data and recent reports (SRDA, 2012) shows, that the abovementioned issues are particularly dramatic in the rural areas and/or borderland local municipalities.

With this in mind, in this study author primarily focuses on the available migration (domestic and foreign), fertility and population age structure indicators, which are obtained from the most recent (2011) population and housing census results, as well as publications and reports developed by State Regional Development Agency and Office of Citizenship and Migration Affairs. On the other hand, population ethnic composition, marital status, net average wages, municipal spending on social support per capita,

unemployment rates, and other social and economic indicators have been selected to play the role of explanatory variables.

Unfortunately, there is a limited amount of data generally available for the municipal level, which significantly limits the available choice of indicators and factors for the study. Particular problems are posed by the short-term unregistered migration and fertility measures. First one is addressed by comparing the census population data of 2011 census (CP) with the number of registered population in the municipality (RP). The resulting ratio of missing registered population (MRP) may be accepted as a crude estimation of number of short and mid-term migrants currently located in different regions or other countries.

$$MRP = \frac{RP - CP}{RP} \qquad (1)$$

For the fertility, the issue is solved by calculating an estimated general fertility rates from the available population data and information on live births provided by the Central Statistics Bureau of Latvia. The ratio of live new-borns (year 2012 data) per woman in the 15-49 age group (year 2011 data) in each municipality is multiplied by 1000, thus producing sufficiently effective general fertility rate (GFR) indicator.

Other indicators under study, e.g. share of population below working age (0-14 years) or registered net migration are either obtained from the available datasets or recalculated to make them comparable between municipalities (i.e. share of total, share per capita etc).

1. Limitations of classical regression models for policy impact assessment

A conventional approach to examine the impact of the particular policy instrument or socio-economic factor is to estimate the simple econometric model, like one demonstrated below:

$$Y = \alpha + \beta X + \gamma Z + \varepsilon \qquad (2)$$

where vector Y denotes an indicator under study; vector X stands for the instrument/investment/factor being assessed and matrix Z – other factors and characteristics instrumental in explaining the variance of Y. The significance of estimated coefficient β is then assumed to be the impact of the factor under study.

This approach can be easily exposed to criticism from both logical and spatial perspective for not considering the effect arising from the interactions with the neighbouring territorial units and the spilled over effects of the factor X from/to them. Even the spatial distribution of the indicator Y itself is capable of creating additional positive or negative effect through agglomeration of resources as well the unexpected externalities caused by other forms of interaction (Parr, 2002).

Figure 1 below has been developed in order to illustrate the shortcomings of a classical regression model in the context of measuring effects of some particular factor/investment in a real-world regions.

Figure 1 shows some form of public investments (vector X) into three regions, where Region one is getting the biggest share, Region 2 – the smallest and Region 3 – medium amount. First of all, a classical model (2) would ignore the neighbourhood structure of the regions, as well geographical/economic distances between them. The proximity of the units under study should be captured in a model as these are not fully-independent and isolated territories, but rather just parts of a single social and economic system/network.

Second, the classical regression approach only estimates the direct impact of the investment (1st column of the Figure 1), ignoring the effects of later interactions (dashed lines). For example, on the firs level (2nd column), the received investment itself will have some rate of dispersion into the neighbouring regions through everyday economic interactions like wages, procurements etc. and, therefore, besides the local impact parameter (β) should have some associated spatial dependency parameter (p_{inv}) often also

denoted as theta (θ). On the second level (3rd column), the returns from the local investment and its spatial spillovers, as well as other production factors will not necessarily remain only in their respective regions, but rather tend to agglomerate around the strongest region, as suggested by contemporary theories of economic development like Growth Pole theory or the New Economic Geography theory.
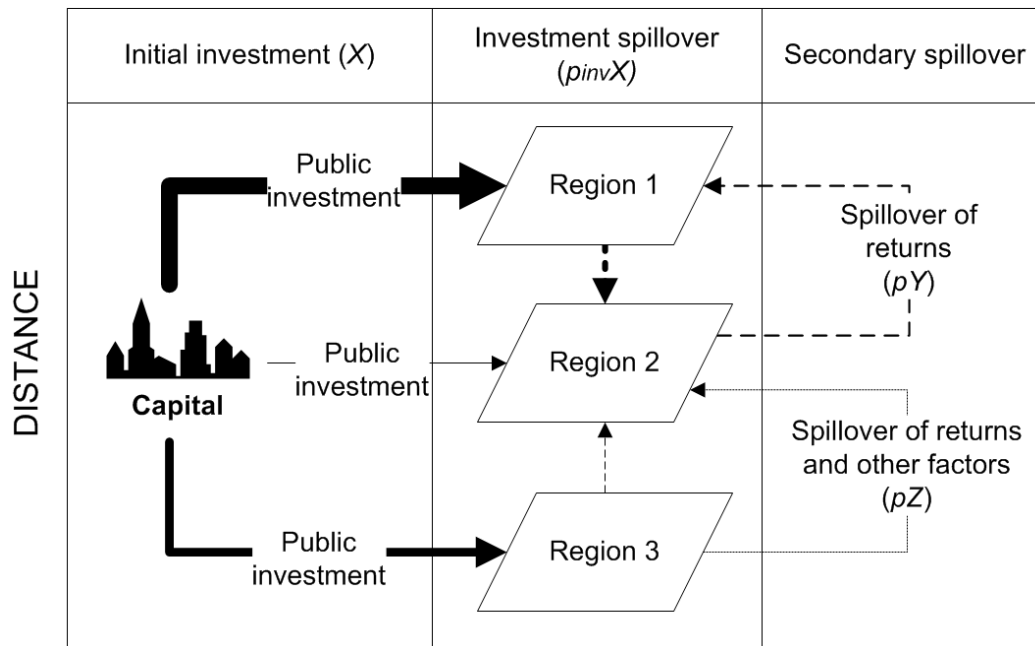
Source: author's elaboration.

Fig. 1. **Schematic representation of the spatial spillover effects of public investment between regions**

This secondary spillover (commonly known in the literature as the spatial lag (Ward M. D. & Gleditsch K. S., 2008)) can be captured as the regression parameter (ρ) of the spatially weighted mean of the same endogenous parameter in the surrounding regions (ρWY), and, if needed – of all other factors (ρWZ). In both cases, W denotes a spatial weights matrix capturing the geographical / geometrical / economical neighbourhood structures of the units under study.

In other terms, in the abovementioned example, each of the three regions receives a noticeable positive or negative additional effect on the indicator under study through the spatial interactions with other two regions. The resulting improvement of the local indicator Y_i in the particular region has the further effects on the returns of the investments X in the other two. Ignoring such secondary effects, classical methods, obviously, omit an important impact determinant.

2. Exploratory analysis – testing key indicators for spatial autocorrelation

Before proceeding with the modelling of spatial spillovers, it is both necessary and useful to conduct a simple, but effective exploratory analysis of the available regional data using the global and local spatial autocorrelation testing tools, which will allow to either accept of discard the hypothesis that municipalities with similar indicator values are more spatially clustered than would normally be expected.

Here, the analogy may be drawn with the temporal autocorrelation in the time-series analysis. Similar previous studies suggest, that typically, when most social and/or demographic phenomena are mapped, locational proximity usually results in some level of value similarity. High values tend to be located near other high values, while low values tend to be located near other low values, thus exhibiting positive spatial autocorrelation (e.g. see Voss P. R., *et al*, 2006).

The most commonly used statistical test for estimating the levels of global spatial autocorrelation is the Moran's I test.

The Global Moran's I test in its generalised form can be defined as:

$$I = \frac{n}{S} \frac{\sum_i \sum_j w_{ij}(x_i - \mu)(x_j - \mu)}{\sum_i(x_i - \mu)^2} \tag{3}$$

where n is the number of observations (in our case n=119 municipalities and cities) indexed in the matrix notations by rows i and columns j, while x stands for any variable of interest (with mean μ), and w_{ij} is a corresponding element of a matrix of spatial weights W. S is a scaling constant produced by the sum of all weights:

$$S = \sum_i \sum_j w_{ij} \tag{4}$$

For testing the hypothesis on present spatial autocorrelation of the particular indicator, the test statistic is compared with its theoretical (expected) mean, which would appear under conditions of fully random spatial pattern of values.

In order to capture the general spatial relations of the observed territorial units, a simple square ($n=119$) spatial weights matrix (W) capturing the spatial structure was created, containing the inverse values of geometric distances between the geographical coordinates of the centres of the 119 Latvia's local municipalities and Republican cities. Similar matrices representing other forms of geographical or economic distances (e.g. driving times or flows of trade intensity etc.), or the connectivity matrixes representing the neighbourhood structure of the units with common borders may also be created in order to better represent the relations between territories under study (Matthews S. A. & Parker D. M., 2013).

Using the available spatial weights matrix it is now possible to perform a series of Global Moran's I spatial autocorrelation tests for any of the observed indicators. For the purpose of this study this test is applied to several demographic indicators of Latvian municipalities described in the previous sections (see Table 1 below).

Table 1

Results of the Global Moran's I test for selected demographic indicators of Latvian municipalities in 2011

Variable	I statistic	Expectation
Missing registered population (*MRP_2011*)	0.26194	
Share of economically active population (15-64) (*empl_active_pop_2011*)	0.22045	
Share of females in reproductive age (*pop_2011_fem_15-49*)	0.20557	-0.00847
Share of population below working age (*pop_2011_0-14*)	0.19703	
General fertility rate (*GFR_2011*)	0.06890	
Registered net migration as % of population (*migration_2011_total_reg*)	-0.01136	

Source: author's calculations based on the Central Statistics Bureau data.

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From the test results it is possible to see, that the Moran's I values are positive for all of the observed indicators except the registered net migration. Significance of the values, however is a different issue. It is obvious that Moran's I values are significant for the first four indicators: missing registered population, share of population below working age, share of females in reproductive age and share of economically active population. While General fertility rate and registered net migration both show very insignificant differences from the expected mean.

This suggests, that the last two indicators can be analysed using classical models, with no risk of missing the spatial spillover component. From the practical point of view, this also means that the uneven distribution of natural population increase in the entire country, so often mentioned in the literature and official publications (SRDA 2013), is not caused by spatial variance in the fertility rates, but rather by the significant difference in the current female population structure in the regions (i.e. share of females in their reproductive age). Parallel conclusion may be drawn for the migration numbers, where registered migration shows zero spatial autocorrelation, while the unregistered migration (in our case – share of missing registered population) shows an evident spatial clustering.

When looking for the more precise and less generalised spatial autocorrelation analysis tools, the local Moran's I testing, and particularly – Moran Plots are the first things that come to mind. Luc Anselin (1999) explains, that Moran's I statistic for spatial autocorrelation can be defined as a regression coefficient in a bivariate spatial lag scatter plot. That is – in a scatter plot with the spatial lag on the vertical axis and the value at each location on the horizontal axis. In this case Global Moran's I calculated value corresponds to the slope of the regression line through the points. The further evaluation of these local associations is done by the decomposition of scatter area into four quadrants, each representing different type of spatial association.

With the help of Moran Scatterplots that show the individual Moran's I values for each municipality included in the global Moran's I test, it is possible to continue spatial analysis in search of local spatial dependencies and anomalies (Anselin L., 1995). Figure 2 below combines Moran Scatterplots for four of the previously mentioned indicators, which have shown a significant positive spatial autocorrelation, highlighting outlying observations, hot/cold spots and trend-setters in the local spatial structure.
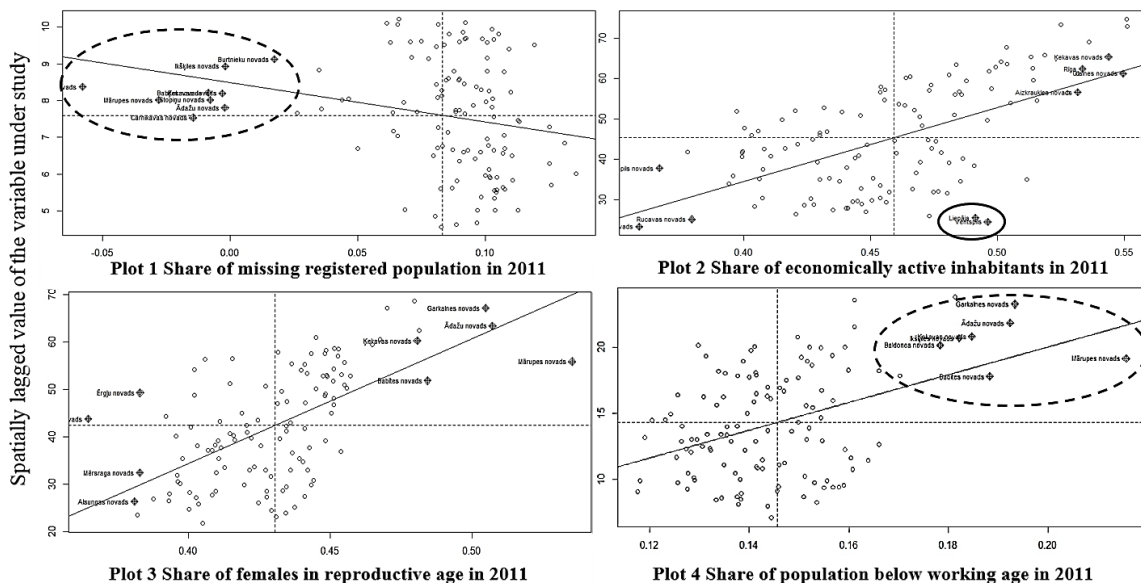
Source: author's elaboration based on the Central Statistics Bureau data.

Fig. 2. **Moran's scatter plots of the selected indicators in Latvian municipalities**

Local Moran's I evaluation for these indicators reveal, that for two of them (Share of missing registered population and Share of population below working age – Plots 1 and 4) spatial autocorrelation pattern is not as strong as expected from the global test results. In both these cases the slope of the trend line (global Moran's I) is mostly defined by the uncharacteristic values shown by the municipalities located in the direct area of influence of the Riga city (dashed circles), while all other observations are distributed quite randomly through all four quadrants of the plot. It is needed to note, that the Moran Scatterplot for the Share of missing registered population appears inversed (negative trend slope) due to the nature of the indicator (i.e. less missing population – better result).

The other two indicators (Share of economically active inhabitants and Share of females in reproductive age – plots 2 and 3 respectively), demonstrate a classic case of agglomerative spatial structure (see Krisjane, 2005) with extremely high values tending closer to each other (and generally concentrate around Riga) and extremely low values being pushed to periphery. All other observations are distributed more or less gradually along the trend lines. The similarity of these two indicators is not surprising as they both are partially dependant on the overall population age structure. Two interesting irregular points with high indicator values and extremely low spatial dependency can be found in Plot 2 (solid circle). These represent the cities of Ventspils and Liepāja, which unlike Riga city, apparently have very little spatial population spillover effect on the surrounding municipality. In other terms, unlike in case of Riga, active population of these coastal cities prefer to settle within the city limits and do not tend to reside in the suburban areas at all.

To conclude the findings so far, the global tests indicate spatial autocorrelation of the parameters associated with the population age structure and economic activity, while such indicators as Long term registered migration and General fertility rate appear to be distributed evenly throughout the country. Local tests show that the spatial clustering of indicators representing share of population below working age and short-term emigration is not as common in the whole country as first expected, and is largely caused by the socio economic impact of Riga city. Some hot and cold spots were found for all indicators with significant spatial autocorrelation. The municipalities in comparatively worse situation are mostly located on the periphery – close to the borderland as expected, while high values tend to concentrate within close proximity to Riga. Surprisingly, other big and economically developed cities have shown little to none spatial autocorrelation of some key indicators with their neighbouring municipalities. This all hints, at the possibility that different forms of socio-economic factors, policy instruments and/or aid measures in Latvian municipalities may indeed have different tendencies towards spatial spillover.

3. Capturing spatial spillovers

The spatially-adjusted empirical model may be constructed on the basis of the classical model in combination with the framework of spatial econometrics concepts as discussed in the previous sections. In addition for the construction of the model it is useful to review the available studies applying the spatial econometric models for the analysis of social or economic processes. Considering the multi-level structure of the expected spatial interactions (Figure 1), the Spatial Durbin Model (SDM) has been chosen. Good examples of the potential applications for such type of spatial models may be found in various fields of study, for example, Tran and Pham (2013) use the SDM method to estimate the spatial spillovers of foreign direct investment, while Autant-Bernard and LeSage (2009) discuss the potential spatial knowledge spillovers model from a non-spatial model, arriving at a conclusion that SDM is the most relevant model for examining spatial spillovers.

In general, SDM incorporates the properties of both Spatial Lag and Spatial Error Models (SLM and SEM), which are widely discussed in the literature (Ward M. D. & Gleditsch K. S., 2008), and therefore, captures spatial lag parameter of the dependent and independent variables alike in the right hand side of the equation.

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The simple linear SDM model elaborated from the classical model (2) can be described as follows:

$$Y = \rho WY + \beta X + \theta WX + \varepsilon \qquad (5)$$

where *Y* is the vector denoting the indicator under study in the regions, *W* is weighting matrix (discussed above) and *ρ* is a spatial lag parameter capturing the secondary spillover of the outcome variable (*Y*) from/to the neighboring regions. Further, *X* is a matrix of explanatory variables, *β* stands for a regression parameter measuring primary effects of the explanatory variables within the target region and ε stands for error.

These are all the standard notations found in a basic SLM model. The *θ* component, however, is introduced in the SDM in order to expand the equation and accommodate the spatially lagged explanatory variables. It is the spatial lag parameter describing the effect of the explanatory variables of the surrounding regions on the indicator in the observed region (e.g. primary spillover).

Table 2 below shows examples of the SDM modelling results for such indicators as share of economically active inhabitants (*empl_active_pop_2011*), share of population below working age *(pop_2011_0-15)* and GFR in 2011. For the purpose of this study, socio-economic factors like ethnic composition of population (share of ethnic Latvians per other nationalities), rate of registered marriages per total number of families, unemployment levels, average net wages, as well as municipal budgetary spending on social protection per capita are used as the explanatory variables. In addition, in order to demonstrate the advantages of the spatial modelling approach, results produced by the classical linear model (LM) for the same variables are shown in the table and compared with the SDM outputs using the Logarithmic Likelihood values as suggested in the literature (e.g. Ward M. D. & Gleditsch K. S., 2008).

Table 2

Example of the SDM and classical Linear Model fitting results for the selected indicators of Latvian municipalities in 2011

Parameter	Spatial Durbin Model (SDM)			Linear Model (LM)		
	empl_active _pop_2011	*pop_2011 _0-15*	*GFR_ 2011*	*empl_active _pop_2011*	*pop_2011 _0-15*	*GFR_ 2011*
Rho (*ρ*)	-0.00486	-0.00890	-0.01303	-	-	-
Intercept	0.39405	0.13328	29.88052 `	0.44290	0.10520	31.13836
Spat. lagged intercept	-0.01431	0.00156	1.85715	-	-	-
Share of Latvians (*β₁*)	-0.06866**	0.01486	2.99226	-0.07065**	0.00621	5.21212
Spat. lagged share of Latvians (*θ₁*)	0.00574**	-0.00110	-0.11982	-	-	-
Rate of registered marriages (*β₂*)	0.07072	0.01798	10.23354	0.01510	0.04753	3.24496
Spat. lagged share of registered marriages (*θ₂*)	0.00585	-0.00063	-2.02353	-	-	-
Unemployment (*β₃*)	-0.11229	-0.05141	-1.83002	-0.18350*	-0.08762**	-26.55611
Spat. lagged unemployment (*θ₃*)	0.01532*	-0.00248	-0.96088	-	-	-
Net wages (*β₄*)	0.00025***	0.00006 `	0.02139	0.00039***	0.00012***	0.03432
Spat. lagged net wages (*θ₄*)	0.00002***	0.00001 `	0.00101	-	-	-
Social prot. (*β₅*)	-0.00011 `	0.00004*	-0.02037	-0.00011	-0.00006*	-0.01626*
Spat. lagged social prot. (*θ₅*)	-0.00000	0.00000	-0.00284	-	-	-
Logarithmic likelihood	**264.9**	**355.9**	**-395.4**	**249.9**	**345.4**	**-400.4**

*Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '`' 0.1 ' ' 1.*

Source: author's calculations based on the Central Statistics Bureau data.

The results presented in the table above, only confirm the previous assumption on the random distribution and equally low levels of the GFR throughout the entire territory of Latvia – SDM did not show any significant impact factors for this indicator, while linear model only marginally highlighted the municipal social protection expenditure.

For the Share of active population, SDM model has highlighted average net wages (both local and spatially lagged from the neighbouring regions) as the key explanatory variable, while spatially lagged unemployment has demonstrated a small, but rather significant inverse spatial spillover effect. This can be explained by the fact that unemployment in neighbouring regions is driving economically active population towards the local development centres or simply the regions, where there are more available jobs. The ethnic composition in this case should not be taken into account as it is just a representation of the differences in the age structure of the ethnic groups.

Regarding to the most important hypothesis on the spillover effects, comparing the impact of the net wages variable estimated by the SDM and LM models, one may observe, that the $\beta_4 = 0.00039$ is actually spatially decomposed into a local effect of $\beta_4 = 0.00025$ and the average spillover effect of the neighbouring municipalities of $\theta_4 = 0.00002$.

For the population below working age, the results are similar with the average net wages of parents having the decisive effect on the indicator. Spatial spillover of the net wages is also present, which is not surprising, especially when analysing these results in the cross-section with the data on population employed outside of their respective municipalities. Social protection expenditure, as expected, shows zero spatial spillovers, as most social support measures are provided only to the population registered in the particular municipality, therefore preventing the network effects.

The difference in the log-likelihood values of the model pairs is proportional to the previously determined levels of spatial autocorrelation of the indicators under study; however, it may not be considered particularly significant in all three cases, as it is small enough to be caused by a difference in the number of the degrees of freedom for each given pair of models. This, in turn, means, that in the given cases, SDM models do not necessarily provide a better model fit, but rather should be used as means to analyse spatial spillovers of the explanatory factors.

Conclusions

Spatial econometric approach, can be very useful in the exploratory socio-economic and demographic data analysis, as well as the empirical studies devoted to regional development and regional policy issues. With the help of the empirical example employing limited set of the demographic indicators and their potential explanatory variables, Spatial Durbin Model has been proven as a feasible and reliable tool for measuring spatial spillovers of the exogenous factors in the basic regional demographic processes.

Several noticeable empirical conclusions may also be drawn from the analysis results.

First, a positive global spatial autocorrelation was found for all of the observed indicators of Latvian municipalities except the registered net migration. Moran's I values were determined as significant for such indicators as missing registered population, share of population below working age, share of females in reproductive age and share of economically active population. General fertility rate and registered net migration, however, have shown very little deviation from the expected mean values. Therefore, the observed uneven distribution of natural population increase in the entire country is not caused by spatial variance in the fertility rates, but rather can be attributed to the significant differences in the current female population structure of the regions (i.e. share of females in their reproductive age). Analogous results have been obtained for the migration numbers – the registered migration shows zero spatial autocorrelation, while the presumed unregistered migration indicator demonstrates an evident spatial clustering.

Second, local spatial autocorrelation analysis, employing graphical tools, has indicated that for some of the measured indicators (e.g. share of missing registered population) spatial autocorrelation pattern is not as strong as expected from the global test results. In such cases the slope of the trend line (global Moran's I) has been primarily influenced by the anomalous values shown by the municipalities located in the direct area of influence of the Riga city. Other indicators (e.g. share of economically active inhabitants) have demonstrated a classic case of agglomerative spatial structure with high values tending closer to each other and extremely low values being located separate from each other on the periphery.

Third, from the modelling results, the overall influence of spatial dependences does not seem to be high with the exception of the economic explanatory factors like average net wages and unemployment levels. For example, the share of active population is significantly influenced by the average net wages (both local and spatially lagged from the neighbouring regions). Spatially lagged unemployment has demonstrated a small, but rather significant inverse spatial spillover effect, explained by the fact that unemployment is driving economically active population to the regions with more employment opportunities.

Finally, comparison of the impact levels of some explanatory variables of the economic nature (e.g. net wages), modelled by both SDM and LM models, allows to observe that the high regression parameter values (β) in the LM model may actually consist from both local (B) and spilled-over (θ) effects arising from the interactions with neighbouring municipalities.

In addition it is necessary to conclude that from the methodological perspective, it would be highly useful to test the spatial autocorrelation of the indicators under study using several different types of the spatial weights matrixes, including row-standardised neighbourhood and actual travel time matrixes. Such approach would allow to determine not only the global/local autocorrelation levels, but also identify the spatial factors instrumental in the propagation of inter-regional spillover effects (e.g. geographical proximity versus economic interconnectivity etc.).

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L'HYPOTHESE DU MENSONGE MACROECONOMIQUE

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Abstract

La problématique de recherche regroupe des questions comme: les acteurs économiques mentent-ils ? Peut-on détecter ce mensonge ? L'auteur de cette recherche propose et vérifie l'hypothèse de l'existence de communication mensongère au *niveau macro-économique*: il discute sur la possibilité que les firmes industrielles (ou des personnes les représentant) puissent intentionnellement propager une information fausse sur la situation de leur activité et surtout que cette "fausse" information puisse être détectée au niveau sectorielle (et même macroéconomique). La recherche effectuée sur les données statistiques clustérisées d'Allemagne, utilisant les méthodes de régression linéaire et l'analyse corrélationnelle, montre qu'un certain comportement mensonger est probable. La probabilité de l'existence du « mensonge » en Allemagne manifeste la possibilité de l'existence de ce phénomène au niveau globale. La révélation de la possibilité de mensonge macroéconomique ouvre espace aux discutions scientifiques très larges, commençant par la vérification de la fiabilité des enquêtes (méthodes qualitatives) et terminant par l'utilisation de « moment de mensonge » pour la prédiction de cycle économique.

Mots-clés: *macroéconomie, asymétrie informationnelle, identification du mensonge, attentes, Allemagne*
JEL code: C12, D82, D84, D22

Introduction

Dans cet article le terme « mensonge » est utilisé pour décrire un comportement des acteurs économiques qui diffère de ce qu'ils ont exprimé dans les discours publics. On peut trouver beaucoup de recherches théoriques ou empiriques, qui traitent le problème de détection de mensonge, mais ces travaux sont menés dans le niveau soi-disant microéconomique ou même personnel/individuel à cause de la complexité du phénomène analysé: le mensonge est déterminé par des facteurs divers, très spécifiques à la situation, par ex., les conséquences de mensonge pour un individu, le caractère des individus impliqués, la réaction possible de l'entourage (société, communauté) ou également la culture générale de l'environnement. C'est pourquoi le terme « mensonge » est employé dans les discussions théoriques ou des exposés de problèmes appliqués qui sont menés par les criminalistes, psychologues, même philosophes mais ces discussions portent sur le comportement, le « fonctionnement physiologique, psychologique » d'un individu concerné (par ex., Crawford, 2003; Fischbacher, Utikal, 2011; Gurdal, Ozdogan, 2013; Holm, 2010; Hurkens, Kartik, 2008).

L'auteur de cette étude tente de répondre à la question: peut-on détecter le mensonge au niveau plutôt macroéconomique ? La réponse possible s'appuie sur l'analyse de comportements microéconomiques mais la question est plus compliquée parce que les motivations des acteurs pour mentir diffèrent lorsqu'on passe du niveau microéconomique au niveau macroéconomique. Selon la vision de l'auteur, le risque de « mensonge » macroéconomique survient aux mouvements cycliques de l'économie: il fait l'hypothèse que le « mensonge » puisse avoir lieu aux moments de changement de tendance économique (dans les points hauts et bas des courbes de cycle économique).

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L'investigation des sources scientifiques sur les différents moteurs de recherche et les bases de données a été menée utilisant les mots-clés anglais « lie detection », « macroeconmomy ». Les autres recherches sur le plan macroéconomique de détection de mensonge n'ont été pas trouvées, et l'auteur ici développe ces idées, premièrement présentées dans la publication lithuanienne (Dapkus, Maksvytienė, 2012). Faut de manque des sources sur le « mensonge *macroéconomique* », l'auteur de cette article développe une idée sans l'analyse profonde de littérature économique concernée.

La possibilité d'identifier le mensonge au niveau microéconomique et individuel est utile pour détecter et prévenir la délinquance, et aussi pour développer des relations interpersonnelles dans la vie quotidienne. La réponse à la question du mensonge macroéconomique peut être utile par exemple pour prévoir le développement de marché et chercher à détecter le moment de retournement du cycle économique.

Donc, en généralisant, **le but de cette recherche** est de vérifier l'hypothèse que les organisations commerciales puissent essayer de dissimuler leur situation économique réelle par diffusion d'informations mensongères au niveau macroéconomique qui puissent être détectées. Donc, pour arriver à ce but nous devons répondre aux ces questions: qu'est que c'est le « mensonge macroéconomique » ? Quel est le mécanisme de la détection du mensonge macroéconomique? Est-ce que le comportement des acteurs économiques diffère dans les groupes de données statistiques nommées ici comme « mensongères » et « véritables » ?

Pour arriver à ce but dans la première section de cet article une méthode de détection de mensonge sera développée ; la vérification de l'hypothèse sur les données de l'industrie allemande sera effectuée dans la deuxième section.

La méthode utilisée – c'est l'évaluation, par simple régression, de la corrélation entre le changement de la production et les attentes exprimées des entreprises. L'hypothèse est vérifiée dans le cadre de l'estimation de comportement des firmes dans quatre groupes de données statistiques clustérisés où le critère de l'attribution au groupe est la coïncidence (en cas de statistiques traitées comme « Véritables ») ou l'écart (en cas de statistiques traitées comme « Mensongères ») de direction des changements entre les attentes exprimées dans les enquêtes de conjoncture (indicateur de confiance de l'industrie) et les nouvelles commandes industrielles.

Méthodologie de la détection du mensonge macroéconomique

Pour vérifier l'hypothèse de mensonge intentionnel macroéconomique, la méthodologie de l'examen de celle-ci a été proposée. L'idée de cette méthodologie repose sur la définition du « mensonge » qui, d'après l'auteur, est l'écart simultané entre ce « qui est dit » et ce « qui est fait ». Cela signifie, que nous devons distinguer les données statistiques, qui représentent « le dit » (l'information diffusée) et « le fait » (la réaction réelle des acteurs économiques) et évaluer la divergence possible entre eux. Autrement dire, nous devons comparer les soi-disant "données douces" (le « dit », données subjectif) avec les "données dures" (le « fait », données objectifs).

Dans cette recherche, les données « dures », reflétant la réaction réelle, sont prises dans les statistiques des *nouvelles commandes industrielles* et de la *production industrielle* ; ce sont les données, qui sont prises dans des états financiers et donc reflètent la situation objective de l'unité économique. Les données « douces », reflétant les informations « douces », les « dits », sont décrites par les statistiques regroupées des enquêtes de conjoncture économique (ici dans l'indice de confiance industrielle), donc reflètent plutôt les opinions que la situation réelle et c'est pourquoi cette information est subjective. L'enquête, comme la méthode de l'acquisition de l'information, ici est traitée comme le point faible informationnel qui permet aux entreprises de délivrer une information subjective, douteuse sans aucun risque de perte morale ou matérielle.

Le processus de vérification de l'hypothèse du « mensonge macroéconomique » est développé dans 2 étapes:

- Séparation des données statistiques en groupes (clusters) à partir du type de coïncidence entre le « dit » et le « fait »: la clustérisation est faite à partir de la coïncidence de mouvements des attentes industrielles- c.à.d. de l'indice de confiance industrielle (expression statistique du « dit ») et ceux de la réaction réelle des nouvelles commandes industrielles (expression statistique du « fait »). Ici on a distingué quatre groups des données (clusters), décrites comme:
  - L'"Optimisme véritable" (OV), il est caractérisé par les propos des industriels exprimant des attentes positives (les changements positifs de l'indice de confiance industrielle) accompagnés par la croissance des nouvelles commandes industrielles (pour les deux indices les changements positifs doivent être constatés – le « dit » ne contredit pas le « fait » – c'est pourquoi ces données reflètent vraisemblablement le véritable comportement des industriels),
  - Le "Pessimisme véritable" (PV): le cluster regroupe des données statistiques corrélant les changements négatifs des attentes et les changements négatifs des nouvelles commandes: la coïncidence des directions de changements démontre la « vérité », mais le caractère négatif de changements reflète l'existence de « pessimisme » dans le comportement et les discours,
  - L' "Optimisme mensonger" (OM): le cluster regroupe des données statistiques reliant des attentes croissantes (changements positifs des indices de confiance industrielle) et des nouvelles commandes en diminution (les changements négatifs de nouvelle commandes) – donc l'écart entre le « dit » et le « fait » est apparent, et donc possiblement « mensonger »;
  - Le "Pessimisme mensonger" (PM) – regroupe de données où des changements négatifs des attentes sont exprimées alors que croissent les nouvelles commandes industrielles; ici les entreprises se plaignent, n'ayant pas de confiance à l'environnement économique (pessimisme exprimé) alors même qu'augmentent les nouvelles commandes (probable préparation à la récupération de marchés).

Afin augmenter la fiabilité de recherche, la clusterisation des données a été faite après et à partir le groupement des données moyennes de deux périodes successives (utilisant la technique du calcul de moyenne mouvante de deux périodes t et t-1).

- Seconde étape. Evaluation des relations entre les changements des attentes (changement des indices de confiance industrielle) et de production industrielle *dans les quatre clusters distingués (OV, PV, OM et PM)*. Par cette procédure, l'adéquation ou inadéquation de comportement réel dans les clusters est vérifiée ; donc- nous vérifierons si les suspicions se confirme dans les actions futures (la production réelle à suivre dans un à trois mois). Par régression statistique, les 4 sous-hypothèses sont vérifiées:

  - la régression entre des changements de production et des attentes doit être positive dans les clusters « véritables optimisme et pessimisme » (OV et PV): quand la communication des firmes est ouverte et franche, leur expression des attentes doit être directement liée à leur vision réel de la production d'avenir (à leur réaction dans l'avenir, pour lequel elles se sont préparées par les « nouvelles commandes »).

  - Mais, selon l'hypothèse, aux moments de l'« optimisme ou pessimisme mensonger » (OM et PM) la relation doit changer: dans les clusters OM et PM, on s'attend à trouver une relation négative entre des changements des attentes et celles de la production – plus les firmes expriment des attentes positives, moins celles-ci ne se manifestent dans le niveau de changement productif.

Afin vérifier la profondeur et fiabilité des relations *dans les quatre groupes clustérisées*, les 3 relations ont été vérifié entre les changements des indices de confiances industrielles (clusterisation sur la base de moyenne mouvante de 2 périodes t et t-1) **et**:

- les changements des moyennes mouvantes de production de deux périodes à suivre t+1 et t+2 (le code P2);
- les changements des moyennes mouvantes de production de trois périodes à suivre t+1, t+2, t+3 (le code P3);
- et finalement les changements des moyennes mouvantes de production de quatre périodes à suivre t+1, t+2, t+3 et t+4 (le code P4).

Résultats de cette étude

La recherche présentée ici, a été faite à partir des données mensuelles statistiques d'Allemagne de la période 1995-2011: le groupement des périodes, suivant le principe de clustérisation décrit dans la section précédente, a été réalisé utilisant les données de changement d'Indices de Confiance Industrielle et ceux de changement des Nouvelles Commandes Industrielles ; l'évaluation de relation entre les changements de l'Indice de Confiance Industrielle et les changements de l'Indice de Production Industrielle des Biens de Consommation durables est réalisée, utilisant les données statistiques suivant l'EUROSTAT NACE rev.2. Le recherche a été limitée par le fait, que la collecte des informations concernant l'Indicateur de Nouvelles Commandes Industrielles (données « dures ») est arrêtée administrativement depuis 2012. La sélection de l'Allemagne pour cette recherche a été déterminée par la présence de données statistiques plus importantes. Afin d'éviter l'influence des fluctuations saisonnières dans cette recherche les données statistiques désaisonnalisées sont utilisées. La sélection de L'Allemagne pour cette recherche a été déterminée par la présence le plus vaste de données statistiques.

La première étape de l'investigation a révélé 93 groupes de données, attribuables au cluster de données dites « Optimisme Véritable», 55 groupes de données – au cluster « Pessimisme Véritable» et 17 groupes de données attribuables à l'« Optimisme Mensonger » ainsi que 36 groupes- au cluster « Pessimisme Mensonger ». En totale il a été analysée 201 groupes de données.

La deuxième étape de recherche a été conduite pour mettre en évidence la relation entre les attentes industrielles et leurs effets en terme de la production réelle dans un futur proche, à partir des groupes de données clustérisées. Tous les résultats sont présentés dans la table 1. Certaines particularités de comportement macroéconomique révélées dans cette étape peuvent être accentuées

a) une relation positive entre le changement des attentes et celui de la production, dans les données dites « véritables », est constatée: l'index de régression est positive dans les clusters de « Pessimisme Véritable» et d'« Optimisme Véritable», mais la plus importante fiabilité de cette relation est dans le cluster de PV, et surtout avec les données de production P2/P4 (index de détermination est 0,2521 et 0,2714). Ceci peut être interprété ainsi: les représentants des firmes disent la vérité avec plus de fiabilité quand ils sont plutôt sûrs que la conjoncture est négative (quand ils n'ont pas confiance dans l'avenir),

b) une régression négative est confirmée dans le groupe de données dites « Optimisme Mensonger »- quand les firmes prévoient des problèmes dans la production, elles tentent de dissimuler ceci par de la « propagande » positive. Dans ce groupe de données où nous avons trouvé la régression négative, la plus grande fiabilité des résultats est constatée dans les relations entre attentes et changements de production P3 (l'index de détermination est 0,2669): le comportement mensonger peut être dissimulée jusque 3 mois, après ce laps de temps les informations au niveau public deviennent trop évidentes pour qu'il soit possible de tromper le marché ;

Table 1

**Relations entre les changements des indicateurs de confiance industrielle et ceux
de la production dans les quatre groupes de données clustérisées**

Relation avec des changements de production …	Equation de régression*	Indice de détermination	Remarques
Cluster de „Optimisme Véritable"			
...P2	y = 0.3482x – 0.4455	$R^2 = 0.079$	
...P3	y = 0.2774x – 0.2381	$R^2 = 0.1134$	
...P4	y = 0.194x – 0.1123	$R^2 = 0.07$	
Cluster de „Optimisme Mensonger"			
...P2	y = **-0.6983**x + 1.841	$R^2 = 0.0358$	La régression négative
...P3	y = **-0.9761**x + 1.7775	$R^2 = \mathbf{0.2669}$	La régression négative et la corrélation importante
...P4	y = **-0.452**x + 1.2198	$R^2 = 0.0738$	La régression négative
Cluster de „Pessimisme Véritable "			
...P2	y = 0.4089x + 0.4116	$R^2 = \mathbf{0.2521}$	La régression positive et corrélation importante
...P3	y = 0.2806x + 0.0204	$R^2 = 0.2228$	
...P4	y = 0.246x + 0.0114	$R^2 = \mathbf{0.2714}$	La régression positive et corrélation importante
Cluster de „Pessimisme Mensonger"			
...P2	y = 0.3463x + 0.3987	$R^2 = 0.0444$	
...P3	y = 0.3618x + 0.5407	$R^2 = 0.0964$	
...P4	y = 0.3055x + 0.3	$R^2 = 0.0852$	

* *y – changements de production (de l'indicateur de production de Biens de consommation durables),
x – changements des attentes (de l'indicateur de confiance) (calculs faits par l'auteur sur la base des
données statistiques d'EUROSTAT)*

c) la relation négative dans le groupe de données statistiques dite « pessimisme mensonger » n'est
pas confirmée: l'indice de régression est positif, bien que la confiance en cette relation soit très
faible (coefficient de régression est entre +0,3055 et +0,3618 et le coefficient de détermination
inférieur à 0,25). Ceci contredit partiellement l'hypothèse de cette recherche. A l'opinion de
l'auteur, la tentation de tromper l'environnement par l'information fausse doit exister, mais le
processus de la restitution de marché est plus prolongée dans le temps et plus dispersée parmi des
entreprises de diffèrent secteurs. Ceci implique qu'on doit chercher des autres méthodes- plus
subtiles- pour essayer détecter le mensonge au niveau bas de cycle économique.

On peut constater, d'après notre recherche, que les résultats paraissent les plus fiables dans les clusters
« pessimisme véritable» et « optimisme mensonger » ce qui signifie, d'une part, que nous pouvons avoir

plus de confiance aux données statistiques reçues par les enquêtes aux moments de frustration, de détérioration constatées du marché, et d'autre part, qu'un hypothétique mensonge est mieux détectable aux moments de changement de conjoncture d'un point haut de cycle économique. En plus, l'indice de régression dans le groupe OM démontre l'intensité le plus grande de la réaction de production au changement de l'indicateur de confiance industrielle (allant jusque -0,9761 en cas avec de P3), mais au sens contraire que l'idée de cette relation prévois être (soit 1% de croissance de « confidence » des industriels exprimée en réalité doit signifier 1% de diminution de production dans le période jusque 3 mois à suivre).

Résumé

Le but de cette recherche a été de vérifier l'hypothèse que les organisations commerciales puissent essayer de dissimuler leur situation économique réelle par diffusion d'informations mensongères au niveau macroéconomique. L'idée de la vérification de l'hypothèse se couche sur la clustérisassions des données statistiques à partir de critère de coïncidence de l'information douce- « le dit » (reçue utilisant les questionnaires sur les attentes industrielles) et l'information dure- « le fait » (obtenu des états financières) ; ces informations sont liées à travers le cycle de production. Donc, la divergence possible entre « le dit » et « le fait » peut signaliser sur la « mensonge » potentielle ; cette possibilité dans quatre clusters de données (dites- optimisme mensonger, optimisme véritable, pessimisme mensonger et pessimisme véritable) a été vérifiée utilisant la méthode de régression linéaire et de l'analyse corrélationnelle.

Les résultats de cette recherche ont confirmé certain probabilité de mensonge intentionnel dans le cluster de données dit « optimisme mensonger »: si les entreprises proclament apprécier favorablement la situation du marché, mais diminuent en fait leur nouvelles commandes, ce signifie probablement un risque de diminution de la production dans 2-3 mois. Ceci est confirmé par la mise en évidence d'une régression négative entre les changements de l'indicateur de confiance et changements de production dans le groupe de données mentionnées. Cette relation contredit au comportement général des individus, ce que nous permet de discuter sur la possibilité d'utilisation de terme « mensonge ». D'autre coté, la fiabilité des résultats de ce recherche puisse être discutée à cause de la quantité pas vraiment suffisante de donnes, nécessaires pour l'évaluation des relations de régression: une hypothèse de « optimisme mensongère » a été vérifié juste avec 17 paires de données statistiques.

Au-delà du résultat principal, la recherche révèle d'autres questions pour des discutions scientifiques, qui doivent être étudiées afin approfondir la connaissance du sujet et celle de son influence sur le fonctionnement de marché

- quels autres facteurs peuvent avoir un impact sur le possible écart entre les données « dures »- objectives et « douces »- subjectives ?
- est-ce que la méthode actuelle du calcul de l'indicateur de confiance industrielle reflète correctement les attentes du marché ?
- comment les méthodes prédictives du marché (cycle économique) doivent-elles être changées afin de refléter le phénomène du possible mensonge macroéconomique ?
- comment les entreprises peuvent-elles changer leur façon de répondre aux enquêtes (surtout sur les « prévisions de nouvelles commandes »), sachant que la collecte des données « dures », servant au contrôle de données « douces », est supprimée de façon administrative par l'EUROSTAT ?

La probabilité de l'existence du « mensonge » en Allemagne, trouvée dans cette recherche, manifeste la possibilité de l'existence de ce phénomène au niveau globale. Donc, ainsi on peut soulever encore une question pour les futures recherches: quelles sont les caractéristiques de différents pays envers le sujet traité dans cette recherche ?

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En guise des recommandations l'auteur invite les scientistes de développer l'idée proposée dans cet article. L'idée décrite ici est juste au début de son chemin et ouvre large espace pour les nouvelles révélations.

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THE NATURE OF TRADE RELATIONS BETWEEN LITHUANIA AND RUSSIA: INVESTIGATION ON APPLICATION OF TRADE BARRIERS IN PERIOD OF 2007 – 2012

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Abstract

Lithuania being the member of European Union reveals very close international trade relations (based on bilateral agreements) with its' closest neighbour – Russia. The repetitive trade tensions between Lithuania and Russia inspired theoretical as well as empirical investigation of a very actual economic - political problem. Considering that the paper analyses the research problem: what tariff and non-tariff barriers usually are applied for Lithuanian export to Russia? The aim of the paper is to investigate the nature of international trade development between Lithuania and Russia from the standpoint of trade barriers which were applied starting 1998.The object of the research is tariff and non-tariff trade barriers which are applied for Lithuania's export to Russia. It is a key to stress that Russia's trade protectionist policy concerning Lithuanian products has more prohibition and power demonstration but not the internal market protection nature. The investigation is based on theoretical analysis of economic theory in order to provide arguments for economic benefit of removing trade barriers as well as to systemize the structure of existing tariff and non-tariff trade barriers. This structure could be used for further analyses of recognition of trade restrictions application in other countries. The European Commission's TARIC Consultation methodology of application of trade barriers for EU's export to Russia as well as methodology of World Trade Organization for trade profiles were applied for systemization of different trade restrictions. The empirical findings reflect international trade tendencies between Lithuania and Russia in the period of 2007 – 2012 and tariff and non-tariff barriers which were practically applied on export from Lithuania to Russia. The results of the comparative empirical analysis could be used for organization of future actions concerning Lithuania – Russia international trade relations.

Introduction

International trade is very important activity for such small European Union (EU) country as Lithuania. The growth of GDP directly correlates with amount of export. EU is the biggest trade partner however Russia is the second most important economic partner for Lithuanian producers. The export to Russia composes 19 percent of total export. Lithuania exports to Russia mostly mineral products (mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes), foodstuffs, alcohol and tobacco products, furniture and chemicals. The specificity of Lithuania's international trade depends on Common trade policy of EU as well as participation in World trade organization (WTO). Despite this fact, international trade relations are

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based and on bilateral relations. Precisely such are developed between Lithuania and Russia. It is a key to stress that these trade relations have very complicated economic – political nature. Despite that, the paper addresses just economic nature of trade relations between Russia and Lithuania. Considering that the paper analyses the *research problems*: what is the scope of Lithuania's and Russia's trade relations? What restrictions usually are applied for Lithuanian export to Russia? This represents the *novelty of the research.* Study is focused on trade barriers (tariff and non-tariff) applied by Russia for the export from Lithuania. Detailed facts stimulate to investigate the real nature of international trade between Lithuania and Russia. *The aim* of the paper is to investigate the nature of international trade development between Lithuania and Russia from the standpoint of trade barriers which were applied starting 1998.

The efficiency of international trade depends on many conditions and features. One of the most important is different trade barriers (tariff and non-tariff). Bilateral trade relations between Lithuania and Russia indisputably are interrelated with various trade barriers, especially in the sphere of food products export. This presupposes *the first task* of this paper, e. g. to systemize theoretical arguments for a benefit of removing trade barriers and to highlight gross economic benefits from reducing trade barriers. Theoretical analysis is based on (Anderson K. and Martin W. 2012; Anderson K. and Nelgen S. 2012; Anderson, K. and Strutt A. 2012; Anderson K. 2004; Anderson K. 2012; Baldwin R. E. 2004; Baldwin R. E.2009; Francois J., van Meijl H., and van Tongeren F. 2005; Frankel 1999; Freeman R. B. 2003; Grossman G. M., Helpman E. 1991; Hitiris Th. 1998; Lee J. W. 1995; Lejour A. M., deMooj R. A. 2001; Li Y. and Beghin J. C. 2012; Molle W. 2006; Panagariya A. 2004; Philippidis G., Resano-Ezcaray H., Sanjuan-Lopez A. I.,2013; Sanjuan A. I., Philippidis G. 2007; Rivera-Batiz L., Romer P. 1991; Sachs J. D. and Warner A. 1995; Sanjuán A. I., Philippidis, G. and Resano; Taylor M. S. 1999; Tamini L.D., Gervais J.P. 2010; Wacziarg R. 2001; Wacziarg R. and Welch K. H., 2008; Winchester N. 2009) scientific works.

Investigation of nature of Lithuania's and Russia's trade relations binds to systemize and classify trade barriers which usually are applied in order to protect domestic producers from the foreign competitors. The overview of economic literature as well as working papers showed that classification of possible trade barriers is missing. Theoretically constructed classification could be applied for further researches which will be oriented to the investigation of trade barriers application in any bilateral trade relations. This is the *second task* of this paper. The *third task* is to present the main features of evolution of Lithuania's – Russia's international trade relations in the period of 2007 – 2012. *The fourth task* is to systemize tariff and non-tariff barriers practically applied on export from Lithuania to Russia.

Methods and results. The investigation is based on theoretical analysis of economic theory in order to provide arguments for economic benefit of removing trade barriers as well as to systemize the structure of existing tariff and non-tariff trade barriers. This structure (constructed by author) could be used for further analyses of recognition of trade restrictions application in other countries. The European Commission's TARIC Consultation methodology of application of trade barriers for EU's export to Russia as well as methodology of World Trade Organization for trade profiles (WTO) were applied for systemization of different trade restrictions. The empirical findings reflect international trade tendencies between Lithuania and Russia in the period of 2007 – 2012 and tariff and non-tariff barriers which were practically applied on export from Lithuania to Russia. The results of comparative empirical analysis could be used for organization of future actions concerning Lithuania – Russia international trade relations.

The paper is organized as follows. The first part (theoretical discussion) briefly surveys the arguments for economic benefit of removing trade barriers. Analysing scientific literature as well as working papers the structure of tariff and non-tariff trade barriers was systemized in research results first sub-part. The second sub-part is dedicated for the investigation of international trade tendencies of Lithuania and Russia in the period of 2007 – 2012. And finally, tariff and non-tariff barriers which were practically applied on export from Lithuania to Russia were systemized in the last sub-part.

Theoretical discussion: the arguments for economic
benefit of reducing trade barriers

Almost all empirical studies provide an affirmative answer to the question – does reduction or elimination of trade barriers (tariff and non-tariff) stimulate the growth of international trade? There are many scientific works (Panagariya A. 2004; Philippidis G., Resano-Ezcaray H., Sanjuán-López A.I. 2013; Philippidis G., Sanjuán A.I. 2007; Rivera-Batiz L. and Romer P. 1991; Sachs J. D., Warner A. 1995; Sanjuán A. I., Philippidis G., Resano H. 2008; Taylor M. S. 1999; Tamini L.D. and Gervais J.P. 2010; Wacziarg R. 2001; Wacziarg R. and Welch K. H. 2008; Winchester N. 2009) which are focused on welfare implications for the removal of non-tariff barriers. Baldwin R. E. (2009) discussed about WTO success in reducing non-tariff barriers. He made the conclusions, that "the average U. S. tariff rate on dutiable import was 25.3% in 1946. With the tariff cuts proposed in the Doha Round the average tariff peaks was below 7 – 9%. For the developing countries applying the proposed tariff-cutting formula the majority of tariff rates was between 12% or14% and only limited number of countries had average bound rates above 15%. Taking account of non-tariff barriers, particularly quantitative import restrictions, yields an even more impressive picture of the decline in protectionism." Anderson K. (2004) stressed that usage of various trade – liberalizing opportunities in principle is beneficial economically. Summarizing, it could be stated *static* and *dynamic economic gains* from own-country reform.

The *static effects* reflect in a short term period. According to comparative advantage theory, all countries receive economic benefits from production specialization and exchange. The abolition of most of tariffs directly correlates with size of benefit, as changes of goods or resources rises the competitiveness and reduces costs of production. The static gains from trade tend to be greater as a share of national output the smaller the economy, particularly where economies of scale in production have not been fully exploited and where consumers value variety so that intra- as well as inter-industry trade can flourish. The *dynamic effects* manifest in long term period. For example, importation of intermediate and capital goods promotes investments that increase growth (Wazciarg R. 2001). The higher the ration of imported to domestically produced capital goods for developing country, the faster economy of it grow (Lee J. W. 1995; Mazumdar J. 2001). Despite that the dates of trade liberalization characterize the breaks in investment (negative aspect of trade barriers abolition), it depicts and GDP growth rates. Economies that commit no less market intervention tend to attract more investment funds, which raise their stocks of capital. More – open economies also tend to be more innovative, because of greater trade in intellectual capital. Trade liberalization cans higher rates of capital accumulation and productivity growth in the reforming economy because of the way reform energizes entrepreneurs. In order to keep those higher growth rates sustained the government need to have in place effective institutions to efficiency allocate and protect property rights; to allow domestic factor and product markets to function freely; maintain macroeconomic and political stability (Rodrik D. 2003; Wacziarg R. 2008; Baldwin R. E. 2004).

Despite the arguments for a benefit of removing trade barriers, most developed countries protect at least some of their industries from foreign competition. Different reasons why countries impose trade barriers are suggested. For example, infant industry assistance, balance of payments maintenance, unemployment prevention, tax revenue raising, protection of environmental or labour standards, specific political actions, etc. It is a key to stress that most of imposed trade barriers usually are the consequence of political economic relations. This especially reflects when we are analysing bilateral trade relations between Lithuania and Russia. Restrictions which come from the Russia side not necessarily have just the nature of protection of domestic market.

Molle W. (2006) distilled seven arguments why many countries protect their domestic producers from foreign competition by introducing obstacles to free trade (most by import restrictions) (see Table 1).

Table 1

Arguments for import and export restrictions

Arguments for import restrictions	
Strategic independence	In times of war and supply shortages, a country should not depend on unreliable sources in other countries as far as strategic goods are concerned.
Nurturing so-called "infant industries"	Young companies and sectors which are not yet competitive should be sheltered in infancy in order for them to develop into adult companies holding their own in international competition.
Defence against dumping	The health of an industry may be spoiled when foreign goods are dumped on the market. Even if the action is temporary, the industry may be weakened beyond its capacity to recover.
Defence against social dumping	If wages in the exporting country do not match productivity, the labour factor is said to be exploited; importation from such a country is held by some to uphold such practices and is therefore not permissible.
Boosting employment	If the production factors in the union are not fully occupied, protection can turn local demand towards domestic goods, so that more labour is put to work and social costs are avoided.
Easing balance-of-payment problems	Import restrictions reduce the amount to be paid abroad, which helps to avoid adjustments of the industrial structure and accompanying social costs and societal friction.
Diversification of the economic structure	Countries specializing in one or a few products tend to be very vulnerable; problems of marketing such products lead to instant loss of virtually all income from abroad.
Arguments for export restrictions	
Strategically important goods must not fall into the hands of other nations. This is true for military goods (weapons) but also for incorporated knowledge (computers) or systems.	
Export of raw materials means the consolidation of a colonial situation. It is hoped that a levy on exports will increase the domestic entrepreneurs' inclination to process the materials themselves. If not, then any rate the revenues can be used to stimulate other productions.	
If imported goods disrupt foreign markets, the importing country may be induced to take protective measures against the product and a series of other products. Rather thank risk that, a nation may accept a "voluntary" restriction of the exports of that one product.	

Source: author's construction based on Molle (2006)

The economic scientists state that reductions in trade barriers can induce better information dissemination, technological change, unilateral opening of markets abroad as well as opportunities to join international trade agreements.

1. Research results: the structure of tariff and non-tariff trade barriers

Countries more transparent in reporting their regulations appear to be more restrictive (Chen N. and Novy Y., 2012). Theory shows that there are many classifications of trade barriers (Rodrik D. 2003;

Wacziarg R. 2008; Baldwin R. E. 2004; European Commission, 2014; Hitiris Th. 1998; Molle W. 2006; Pukeliene V. 2008; WTO, 2014.; Daugeliene R. 2011). Classic classification of trade barriers are tariff and non-tariff measures or barriers. Figure 1 represents possible tariff and non-tariff barriers induced by developed countries in order to protect domestic market from foreign competition.

The first group is tariff barriers (customs and import duties) – import or export tariffs which are divided considering their application (ad-valorem; specific or mixed import tariffs) or by intentions of their application (e. g. income, protection or prohibiting).

- Ad-valorem tariff barriers – the application is very often. The phrase "*ad valorem*" is Latin for "according to value", and this type of tariff is levied on a good based on a percentage of that good's value. E. g. ad valorem tariff would be a 15% tariff levied by Japan on U.S. automobiles. The 15% is a price increase on the value of the automobile, so a 10.000 dollars vehicle now costs 11.500 dollars to Japanese consumers. This price increase protects domestic producers from being undercut, but also keeps prices artificially high for Japanese car shoppers.
- Specific tariff barriers – a fixed fee levied on one unit of an imported good is referred to as a specific tariff. This tariff can vary according to the type of good imported. E. g., a country could levy a 15 dollars tariff on each pair of shoes imported, but levy a 300 dollars tariff on each computer imported.
- Mixed tariff barriers – combined ad-valorem and specific trade barriers.
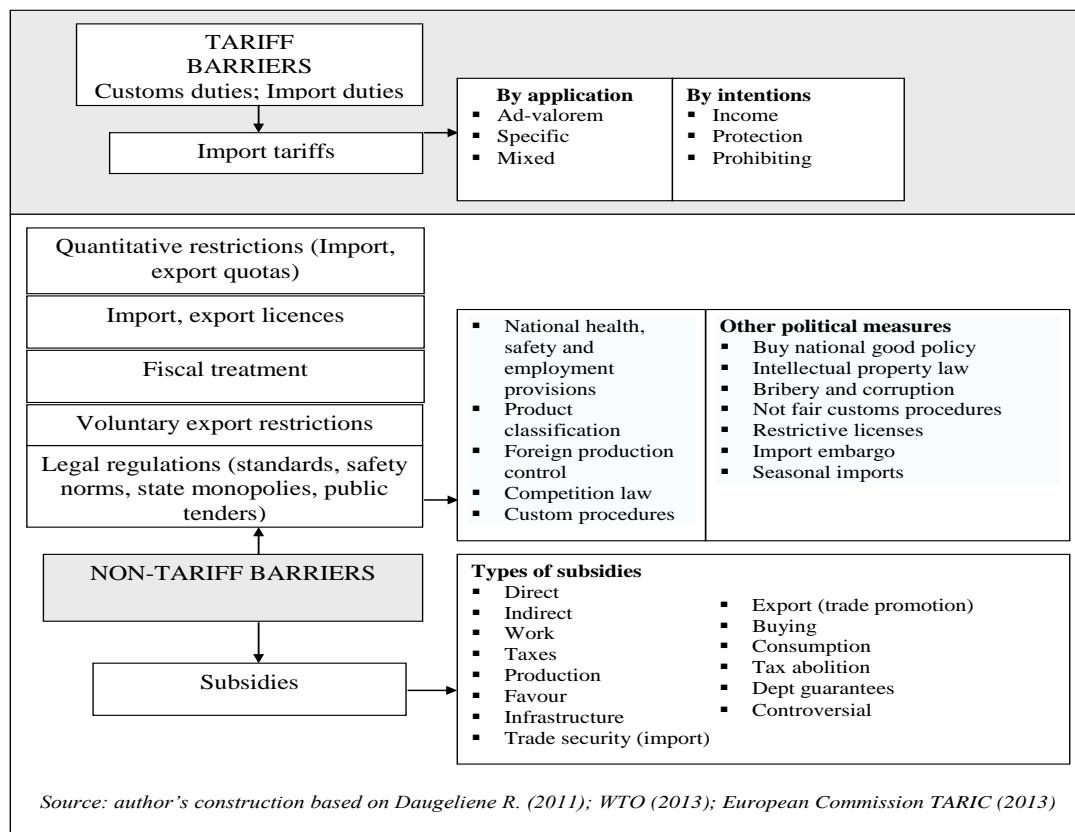
Fig. 1. **Structure of tariff and non-tariff trade barriers**

Tariff barriers can be applied considering by intentions of their application. This means, that governments has different purposes when imposes the import tariffs. One of them could be to enhance the incomes from the international trade. The second, in order to protect domestic infant producers from the foreigners, they use different quotas as well as big tariffs for the export goods. Prohibiting import tariffs usually are so high that any import is unprofitable.

The second group is non-tariff barriers. Since most world developed countries (members of WTO as well as European Union implementing free movement of goods) dramatically reduced tariffs, more attention has been paid to non-tariff barriers. Due to their intrinsic heterogeneity non-tariff barriers are categorized into several relatively more homogeneous subgroups (Li Y., Beghin J. C. 2012). Health and safety measures and technical standards, comprising sanitary and phyto-sanitary measures, technical barriers to trade, competition laws, customs clearness procedures (Winchester N. 2009) and other standard – as policies are often distinguished from other non-tariff measures. They controversial affect the scope of trade. Standards and technical regulations have both the trade-impeding effects by raising the costs of exporters and similar demand-enhancing effects by certifying quality and safety to consumers. Li Y. and Beghin J. C. (2012) after their investigation concluded that agriculture and food industries tend to be more impeded or less enhanced by technical tariffs than other sectors.

Concluding, the non-tariff barriers could be divided into seven big groups. For example, quantitative restrictions (import, export quotas); import, export licenses; fiscal treatment; voluntary export restrictions; legal regulations (standards, safety norms, state monopolies, public tenders); subsidies; other political measures (as 'buy national good policy'; intellectual property law; bribery and corruption; not fair customs procedures; restrictive licenses; import embargo; seasonal imports).

2. International trade tendencies between Lithuania and Russia in the period of 2007 – 2012

As it was stressed in the recent research papers (Anderson K. 2012; Anderson K. and Martin W. 2012), for an individual small exporting country, the effect of the increase in its export tax it is to reduce the domestic price relative to the newly-raised world price. Trade policy changes – and particularly export restrictions (in this case – embargo) – are frequently discussed as contributing factors to food price surges. Precisely such effect occurred when Russia applied embargo for the Lithuanian milk and diary products in 2013 September. Not exported milk production (with labels in Russian language) was sold in Lithuania with a discount. Russia is the second biggest import partner after the EU and the fourth export partner. Lithuania's export value to this country was 15 billion Litas (4.34 mlrd. Euro) (19% of total export).
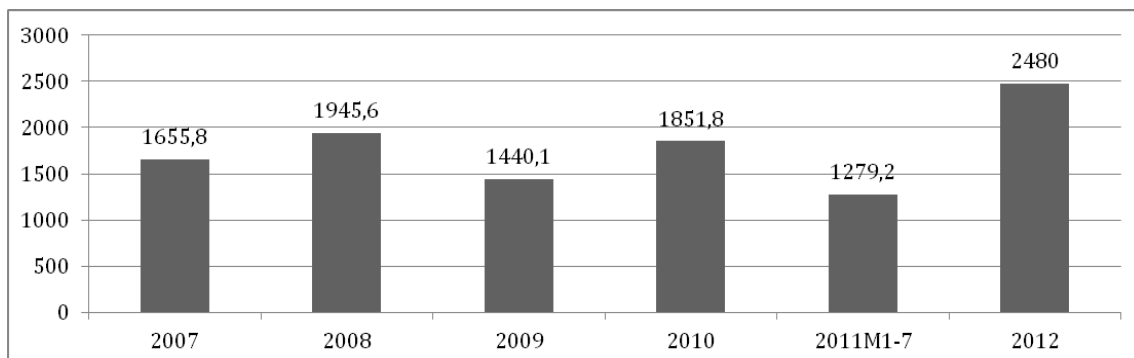
Source: author's construction based on statistics of Lithuania

Fig. 2. **Export of goods of Lithuanian origin in 2007 - 2012 (million LTL)**

In analysing trade relations between Russia and Lithuania in 2007 – 2012, the year 2008 should be emphasized. In 2008, commodity circulation between these countries had reached the highest level and was 30.7 billion LTL. Export made up 8.9 billion LTL (29%), while import –21.8 billion LTL (71%). In 2008, Russia was the first in the list of Lithuania's largest export markets and first in the list of the largest import markets. However, even 77% of all the export to Russia consists of re-export and based on the export of products of Lithuanian origin, in 2007 – 2010, Russia is only in the 8th position within the list of the largest markets. Nevertheless, Russia is the largest market for dairy products, meat and its products, live animals, paper and cardboard industry, and some other items from Lithuania.

Lithuania's balance of trade (see Table 2) with Russia is negative because energy related and other raw materials that are necessary for Lithuanian industry and other needs to dominate in Russia's import structure. The import of only crude oil and natural gas exceed Lithuania's export to Russia twice. Thus, a positive balance of trade with Russia could be expected only if Lithuania's energy-related dependence on Russia was considerably reduced.

Table 2

International trade between Lithuania and Russia in 2007 – 2012 (million LTL)

	2007	**2008**	**2009**	**2010**	**2011**	**2012**
Balance	-4610.2	-12938.2	-8142.6	-1121.4	-13727.1	-12880.0
Export	6473.0	8916.5	5394.4	8458.7	11532.7	15037.2
Import	11083.2	21854.8	13537.0	19880.2	25259.8	27917.2

Source: author's construction based on statistics of Lithuania

Lithuanian Export to Russia. Export of goods of Lithuanian origin to Russia during the period of 2007-2012 made up around 23% of all the export (for values, see Table 3). Re-export was 77%. That is why while analyzing it is necessary to distinguish export of goods of Lithuanian origin from re-export.

Table 3

Changes in export of goods of Lithuanian origin to Russia

Period \\ Variables	2007 in comparison with 2006		2008 in comparison with 2007		2009 in comparison with 2008		2010 in comparison with 2009		2012 in comparison with 2011	
	change	2007 value, mln. Lt	change	2008 value, mln. Lt	change	2009 value, mln. Lt	change	2010 value, mln. Lt	change	2012 value, mln. Lt
Export	30.6%	6473.0	37.7%	8916.5	-39.5%	5394.4	56.8%	8458.7	30.4%	15037.2
Import	-14.6%	11083.2	97.2%	21854.8	-38.1%	13537.0	46.9%	19880.2	10.5%	27917.2

Source: author's construction based on statistics of Lithuania

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In 2007 – 2012 the major part of goods of Lithuanian origin exported to Russia was milk and other dairy products -1.55 billion LTL which is 22% out of all the export of the goods of Lithuanian origin during the analysed period. Out of dairy products mainly cheese and curds were exported, which made up 93% of all the milk and dairy products export to Russia. 3.4% were dry dairy products made in the form of powder or granular. Russia is the largest market for Lithuanian dairy products. Every year it receives around 30% of all exported Lithuanian dairy products. Comparing 2007 to 2012 exports of milk and other dairy products to Russia increased by 34.7% or, in other words, by 65 million LTL.

In the second place according to the exports of goods of Lithuanian origin to Russia in 2007-2012 were machines and mechanical equipment that made up 7.5% of total export of goods of Lithuanian origin or, in other words, LTL 519 million. 27% out of all mechanical equipment exports were air pumps, air or gas compressors and fans; 15.1% were centrifuges and liquid or gas filtration or cleaning equipment, 12% – taps and valves. During the analysed period, Russia was also the largest market for the machines and mechanical equipment of Lithuanian origin. Russia had 15.2% of all these products. It is important to mention that during the year of crisis (2009) Germany claimed the largest market's position from Russia; however, in 2010 Russia again regained its leading role. Comparing 2011 to 2012 export of machines and other mechanical equipment to Russia grew by 21.9% or, in other words, LTL 14.5 million.

In the third place, according to the exports of goods of Lithuanian origin to Russia during the period of 2007-2012, was an export of live animals, which made up 7.3% of all the exports of Lithuanian origin to Russia. 99.8% of all the exported animals were the export of pigs. Apparently, Russia has the largest market for Lithuanian pigs as well. It accounts almost half of all the exports of live animals. Comparing 2011 to 2012, the exports of live animals to Russia declined by 27.4%. Such decline was influenced by the swine fever prevailing at that time. Because of it, Russia banned the import of pigs to Russia from certain regions of Lithuania. Russia is also the largest market for Lithuanian meat and meat products, 25% of these products are exported to Russia every year. Comparing 2011 to 2012, transport re-export to Russia increased by 68.5% or 241.5 million LTL. Out of mechanical equipment, the biggest parts of re-exported items are machines, laboratory and industrial equipment. They make up 7.5% of all the re-export of machines and mechanical equipment; and re-export of printing machines make up 7.3%. Comparing 2011 to 2012, the exports of machines and mechanical equipment to Russia increased by 56.3% or 322.4 million LTL. Russia is also the largest market for Lithuanian paper and cardboard. 20% of all the paper and cardboard products exported annually are exported to Russia.

In 2007-2012, the major part of the re-exported items was transport that made up 14.7% of all the re-export. However, from the year 2009 re-export of machines and other mechanical equipment had the first position among all the goods re-exported to Russia and in 2007-2012 re-export of machines and mechanical equipment made up 14.6% of all the re-export. In the case of re-export of transport, the major part of re-exported items was used vehicles. They make up around 63.3% of all the re-exported transport. 15.4% were re-exports of trailers and semi-trailers. Russia is the largest market for re-export of machines and mechanical equipment and the second-largest market (after Belarus) for transport re-export. A quarter of transport and 43.1% of machines and other mechanical equipment are re-exported to Russia. Besides the above mentioned goods, many electric machines (11.3% of all the re-export), fruits (10.4%) and vegetables (7.1%) are also re-exported to Russia.

Lithuanian import from Russia. The biggest part of Lithuanian import from Russia makes up energy-related and other raw materials. In 2007-2012 crude oil imports dominated. During the analysed period, it made up even 67.4% of all the import while gas was 14.4% of all the import. Therefore, almost 82% of all the import from Russia was crude oil and gas. An import of electric energy made up 1.42% while petrol and diesel – 3.9% of all the import.

The second largest group of imported goods in 2007-2012 were sulphur, phosphates and other minerals that made up 2.7% of all the import from Russia. 83.7% out of them were imported natural

phosphates and 9.8% – sulphur. The major part of these minerals is consumed in Lithuanian chemical industry. In 2012, comparing to 2007, the import of natural phosphates increased the most - by 56 million LTL (32.5%). However, the major part of phosphates was imported (raw amber, etc.) for 730 million LTL in 2008. It was 3.2 times more than in 2012. In 2011 compared to 2010 import of other minerals increased the most – by 3 times, which is 19.7 million LTL and also import of sulphur – by 63.3%, – 9.5 million LTL.

The third largest group of imported goods in 2007-2010 was fertilizers that made up 1.3% of all the imports from Russia in 2007-2010. 48.9% of all the import of fertilizers was fertilizers which contained 3 elements in their chemical structure: nitrogen, potassium, phosphorus. 27.9% were nitrogen fertilizers and 12.7% were potassium fertilizers. Comparing 2010 to 2007, fertilizers that have 3 elements in their structure: nitrogen, potassium, and phosphorus increased the most (LTL 89 million or 2.4 times). In 2011 compared to 2010, the import of nitrogen, potassium and phosphorus fertilizers increased 2.5 times, which is 29.2 million LTL and the import of nitrogen fertilizers almost doubled (18.7 million LTL). Inorganic chemicals make up 1.22% of all the imports from Russia and 90% of all the imports of inorganic chemicals is anhydrous ammonia.

In 2012, commodity circulation between Russia and Lithuania was 42.95 billion LTL and, comparing it to the year 2011, increased by 15.5%. Lithuania's trade balance with Russia was again negative. It was – 12.88 billion LTL. In 2011 compared to 2010, import from Russia increased by 33.6% or 3.6 billion LTL. Such growth was mostly influenced by the increase of mineral fuel exports (3.4 billion LTL) and export of fertilizers. The most promising sectors for Lithuanian products and services for export to Russia are transport and logistics, food products, furniture and tourism.

Analysing the data of Lithuanian export to Russia, it is seen that export from Lithuania to Russia made up 15.04 billion LTL. It increased by 30.4% from the year 2011. Lithuanian export to Russia made up almost 19% of all Lithuanian export. The main groups of products exported to Russia were: transport (around 1.3 billion LTL), dairy products (around 0.5 billion LTL), vegetables (0.4 billion LTL), also wine, furniture and fruits. Out of all the exports to Russia, the goods of Lithuanian origin made up 16.5%, which was 2.48 billion LTL.

In 2012, Lithuanian import from Russia reached 27.92 billion LTL. Comparing it to the year 2011, it increased by 8.84%. Lithuanian import from Russia made up 32.32% of all the Lithuanian import. The main groups of products imported from Russia in 2012 were oil products, electric energy, mineral or chemical fertilizers, natural phosphates, ammonia and other products. Around 99.8% of crude oil, 97.42% of natural gas and 60.61% of electric energy out of all the amount of these products brought in Lithuania in 2012, were imported from Russia.

In 2012, Russia was first in the list of Lithuania's largest export markets and first in the list of the largest import markets. Export to Russia made up almost 19% of all the exports from Lithuania while import from Russia made up around 32% of all the import to Lithuania.

3. Tariff and non-tariff barriers applied on export from Lithuania to Russia

In the first decade of XXI century economic and political relations between Russia and Lithuania were quite complicated. Energetic dependence, problems in trade and customs influenced the nature of international trade. According to all factors, Russia, being one of the biggest worlds' economies, is normal market economy country. However, certain actions of government considering export restrictions form certain EU countries (especially Lithuania) distort the market. It is obvious that Russia applies different protectionist measures for export in order to show its dominant position (economic and political) in the world. Protectionist measures will be applied and in the future not only for the political reasons but in order to protect internal economy.

During the last decade almost a half of EU member states had trade conflicts or various economic consequences with Russia: 1999-2000 – steal conflict; 2006-2007 – Russia-Poland "meat war"; export

tariffs on wood raw materials from Sweden and Finland; Russia-Estonia "bronze soldier" conflict, which consequence was blockade of transportation of Russia's oil and coal via Estonian railways; application of taxes for the flights over the territory of Russia; customs for the export of production of machinery industry, agricultural equipment, steal production, television and radio engineering from EU were increased; prohibition of pork import to Russia was applied as well.

Russia's membership in the World trade organization (WTO) does not impose any better conditions for the export. It is a key to stress that after the join to WTO in August of 2012, Russia applied more protectionist measures. One of the most salient discriminating examples is the tax for the utilization of cars and heavy machinery (350 Euro for each imported car and 15000 Euro for apiece heave machinery). Other restrictions (very painful for Lithuanian producers) – prohibition of import of beef cattle and diary products, did not reduce import tariffs for hundreds of products, including the wood.

Table 4

The most famous trade restrictions applied by Russia for Lithuanian export

Date	Description of trade restrictions
1998	Russia's market actually was closed for the Lithuanian goods (especially for food products, textile and other consumption goods). Export for Lithuania meaningfully decreased. Payments were disarrayed as well. Many of exporters from Western countries were forced to retreat from Russian market.
2009	Restrictions for the export of diary products. The reason – the "law quality" (too high quantity of yeasts and molds).
2011	Russia's Customs Service instructed to suspend imports of Lithuanian pork.
2013	Russia's Customs Service instructed to suspend imports of Lithuanian milk and diary products *(Russia accounted for 33.7 percent of Lithuanian dairy exports in January through July. This fact confirms that export of diary products is very important for Lithuania's economy).*
	Custom checks on Lithuanian trucks. *(Tightened customs checks of Lithuanian haulers had been lifted on the Lithuanian-Russian border and in internal customs checkpoints of Russia).*

Source: author's construction based on statistics of Lithuania

The most famous of tariff and non-tariff barriers which where and are applied by Russia for Lithuanian export are summarized in Table 4. It is very important to stress that approximately for the 83% of Russia's export production is tax-free. Moreover, EU applies generalized preference system for many types of goods from Russia.

The reality shows that Lithuania still do not have effective mechanisms, which would allow operatively and adequate react to the actions concerned with Russia's trade restrictions applied to Lithuanian export. The lack of prognostic abilities – is one of the important problems of Lithuania's experts. Russia applies different protectionist measures instead of structural reforms of its economy, opening the market for foreign direct investment as well as liberating the trade.

Tariff barriers	Non-tariff barriers
• Import duties • Import taxes • Export embargo • Quotas • Discriminatory railway fees *Example: Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included.* • Milk and cream, not concentrated nor containing added sugar or other sweetening matter – export tariff is from 5% or 15%. • Buttermilk, curdled milk and cream, yogurt, kephir and other fermented or acidified milk and cream, whether or not concentrated or containing added sugar or other sweetening matter or flavoured or containing added fruit, nuts or cocoa – mix tariff – 15%, but not less than 0.18 EUR/kg. • Whey, whether or not concentrated or containing added sugar or other sweetening matter; products consisting of natural milk constituents, whether or not containing added sugar or other sweetening matter, not elsewhere specified or included – 10%; 13.3%; 15%. • Butter and other fats and oils derived from milk; dairy spreads – 17.5%, but not less than 0.19 EUR/kg; 18.3%, but not less than 0.27 EUR/kg. • Cheese and curd – 18.3%, but not less than 0.23 EUR/kg; 18.3%, but not less than 0.37 EUR/kg; 20%, but not less than 0.4 EUR/kg; 15%, but not less than 0.3 EUR/kg; 20.3%, but not less than 0.41 EUR/kg; 22.5%, but not less than 0.45 EUR/kg. • Birds' eggs, in shell, fresh, preserved or cooked – 0%; 13.3%; 15%. • Birds' eggs, not in shell, and egg yolks, fresh, dried, cooked by steaming or by boiling in water, moulded, frozen or otherwise preserved, whether or not containing added sugar or other sweetening matter – 13.3%; 14%; 15%, but not less than 0.6 EUR/kg; 16.5%; 17%; 21.3%; 21.7%. • Natural honey – 15%. • Edible products of animal origin, not elsewhere specified or included – 15%.	• Veterinary Import Permit • State Sanitary Registration of Goods • Veterinary Health Certificate for Animal Products • Quality standards • Specific technical requirements for trucks • Antidumping measures • Customs valuation • Requirement to produce export declaration • Road taxes • Customs clearance procedures • Border congestion • Certification and conformity assessment • Government procurement "buy Russian" • Lower domestic energy prices, notably gas • Control, inspection and approval procedures • Stringent requirements on pesticide and antibiotic residues • Sanitary requirements for milk and dairy products

Source: author's construction based on European Commission TARIC Consultation (2013)

Fig. 3. **Trade barriers for Lithuanian (as well as EU) export to Russia**

Conclusions

1. Theoretical analysis showed that there are no doubts that reduction of trade barriers (tariff and non-tariff) stimulate the growth of international trade and are beneficial economically. It enhances better information disseminations and technological change between countries. These are probably the main arguments why international trade restrictions should be controlled in the intergovernmental level. However the research results are consistent with political-economy theories of the determinants of trade protection. It could be stressed that even after evaluation of industry and country specific factors, states tend to protect markets (industries) that are weak or in decline, politically important or threatened by import competition.

2. Economic benefit from trade-liberalizing opportunities can reflect in short or long period. Respectively, static and dynamic effects could manifest. In order to achieve these effects governments of countries should accept appropriate political – economic actions. It is a key to stress that trade liberalization is not a precondition for governmental actions eliminations.

3. According to theoretical analysis, despite the positive arguments of free trade most developed countries protect their industries from foreign competition. The most important arguments for import restrictions are strategic independence; nurturing infant industries, defence against dumping, boosting employment, diversification of the economic structure. And, the most important arguments for import restrictions are defence of strategically important goods from foreign competition; defence raw material market.

4. Theoretically all trade restrictions could be divided into to groups: tariff and non-tariff barriers. Respectively import tariffs (customs and import duties); and, quantitative restrictions; import, export licenses; fiscal treatment; voluntary export restrictions; specific legal regulations; subsidies.

5. The analysis of international trade tendencies between Lithuania and Russia in the period of 2007 – 2012 showed that Russia was second biggest import partner of Lithuania (after the EU) and fourth export partner. In the latest period Lithuania's export to Russia consisted of 19% of total export. Export of goods of Lithuanian origin (despite different tariff and non-tariff barriers application for food goods) had tendency to increase. Lithuania's balance of trade with Russia was negative because energy related and other raw materials that were necessary for Lithuanian industry and other needs dominated in Russia's import structure.

6. Statistical analysis allowed to sum up that the main Lithuanian origin goods to Russia (in the period of 2007 – 2012) were: milk and other dairy products; machines and mechanical equipment; live animals (especially pigs); paper and cardboard. The biggest part of Lithuanian import from Russia consisted of energy related and other raw materials. This fact confirms Lithuanians inevitable dependence on Russia's energetic sector (this depicts complicated nature of trade policy). It was forecasted, that the most promising sectors for Lithuania products and services for export to Russia will be transport and logistics, food products, furniture and tourism.

7. After the analysis of EU and WTO working papers as well as EC TARIC system the conclusion considering trade barriers application could be done that during the last decade almost a half of all EU member states had trade conflicts or different trade – economic sanctions from Russia. Lithuania – no exceptions. It is a key to stress, that Russia, even being a member of WTO did not refused application of many of trade barriers. Starting the 1998's, the main trade restrictions (tariff and non-tariff) were applied by Russia to Lithuanian export of food products. Export duties, standards and other specific requirements, export suspensions and even embargo were applied for milk and diary products, pork. Specific custom checks on Lithuanian trucks had negative economic consequences for Lithuanian producers. Listed restrictions had obvious political – economic nature.

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THE ROLE OF INCENTIVES IN ATTRACTING FDI TO THE REGION OF LODZ

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Abstract

Incentives for attracting foreign capital in order to modernize production may be used at various levels of government: central, regional or local. Analyses of the role of incentives and their economic rationale have been usually carried out for the first two groups, and most often for the central government. Local government efforts have been rather omitted by researchers.

Yet local authorities, due to their legal and political obligations to their communities, should be very interested in the positive long-term outcomes of FDI entry. The attitudes and professionalism of local authorities can be decisive in fostering a good economic/business climate, which has been identified by foreign entrepreneurs as an important factor in choosing a location for their investments. So two questions could be asked: (1) whether local governments are sufficiently aware of these opportunities and of the instruments which could help make them happen; and (2) whether foreign investors are sensitive to incentives offered by local authorities in selecting the location for an investment project in a host country.

This paper aims to study the role of the local government in attracting foreign capital to the Province of Lodz as of the end of 2011. Conclusions are drawn based mainly on the results of a questionnaire study. The results confirm that investment incentives were of little importance for the inflow of FDI to the communities and counties of the Province of Lodz.

Key words: *FDI, Incentives, Lodz Province*

JEL codes: F21, R11

1. Introduction

The role which Foreign Direct Investment (FDI) play in the process of economic modernization is still a hotly debated issue, especially in transition countries trying to catch-up with the developed world. The entry of a foreign enterprise with a fixed investment can influence the host economy through various channels, like the inflow of financial and physical capital, availability of know-how, diffusion of technology, and access to international production and sales networks. However, with these new resources FDI can bring both advantages (e.g. technical upgrading) and disadvantages (e.g. crowding out of local businesses) to a domestic economy. Their net balance for growth and development is not always positive, because according to numerous theoretical and empirical researches (e.g. Moran, Graham, Blomström eds. 2005; Tytel, Yudaeva, 2006; Herzer, 2012; Temiz, Gökman, 2014), it is dependent on many specific factors, both from the side of an investor (form of market entry, level of technology transferred) and from the side of the host country (business climate, openness of the economy, market

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size and its growth potential). For these reasons, empirical studies provide no grounds for drawing general conclusions on the impact of FDI on the economic growth and development of individual regions in the host country, nor on their influence on the level of income of the local population (e.g. Bajo-Rubio et al. 2010; Mullen, Williams, 2005; Mullen, Williams, 2007; Tondl, Vuksic, 2008).

The above academic misgivings concerning the effects of expansion are surely not shared by investors, whose aim is exclusively to achieve a satisfactory rate of return abroad, mostly disregarding increases in the well-being of the host economy. According to the OLI paradigm (Dunning, 1978), the achievement of the above goal depends on where the production is located. External factors, which impact the selection of concrete sites in concrete countries or regions, have been widely described in the economic literature (for an overview, see e.g. Blonigen, 2005), but the researchers have failed to explain many issues and the matter will probably remain open still for a long time (Blonigen, 2005). On one hand, in a uniform general equilibrium-based model of location selection only aggregated FDI flows can be considered, and then the inflow depends on the size of the market, trade costs and abundance of production factors. These are very general incentives, referred to as fundamental and long-term (Azémar, Desbordes, 2010), i.e. not very useful for recommendations vis-à-vis current economic policy. On the other hand, the analysis of detailed factors that together make up the size of the market, trade costs and abundance of resources makes the researchers use partial equilibrium models and focus on concrete cases, which allow them to draw conclusions on what attracts investors, always with the reservation "it depends".

There is a long list of external factors which impact FDI inflow. Independent variables used by researchers include: economic and social stability (Asiedu, 2001), foreign exchange rate, taxes, institutions, barriers to trade, trade with FDI home country (Blonigen, 2005), size of the host market and the ease of entry into neighbouring markets, cost of labour, employees' skills, availability and quality of infrastructure, agglomerations benefits (Cheng, Kwan, 2000), subsidies (James, 2009), a liberalised labour market (Azémar, Desbordes, 2010), promotion activities (Harding, Javorcik, 2011), and the size of domestic investment (Lautier, Moreau, 2012). However, despite the plethora of analyses devoted to individual variables, the only one certain conclusion is that FDI inflow depends on demand as estimated by an entrepreneur (market size) and the estimated investment risk (stability of the business environment and conditions), i.e. it is subject to the general investment decision rules formulated already by Keynes (Lautier, Moreau, 2012).

Despite many reservations raised by numerous researchers with reference to the effects of FDI for the development of the host country, and the absence of certainty when it comes to the importance of individual factors which attract FDI, politicians' attitude to such capital inflows, previously strongly differentiated, has become mostly positive since the 1990s. This change is particularly evident in developing countries, where other ways of complementing domestic savings remain limited (e.g. foreign assistance) or more risky (e.g. foreign portfolio investment), and domestic technical progress cannot keep pace with global solutions. Based on the expectation that foreign entrepreneurs, by starting their business activities in the host country, will help alleviate these barriers to growth, in many countries the regulations on FDI entry have become both more liberal and more selective in the last dozen or so years (WIR, 2013). Furthermore, most governments actively compete for projects through an array of incentives, from open grants and tax relief regimes to various promotional activities (Harding, Javorcik, 2011; James 2009, Cass, 2007).

The use of incentives to attract foreign investors carries with it various costs, and is theoretically justified if the positive external effects of the investment in question exceed such costs (Corden, 1997), but usually it is not an effective policy of for improving the overall welfare of the host country (Blomström, Kokko, 2003). Due to the complexities around the estimation of externalities, empirical studies on FDI incentives focus on their importance as a decisive factor in investment location. The results of such studies provide different answers, depending on the concrete circumstances in which incentives are applied. Let's take promotion (providing information on conditions for running a business

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and support in dealing with administrative formalities) as an example. It is pursued in 124 countries by specialized government agencies and has no effect in developed countries, but clearly helps FDI inflow to developing countries because it compensates for the weaknesses of the state, red tape, corruption and information asymmetry (Harding, Javorcik, 2011). Tax incentives and labour cost subsidies are also more effective in developing countries, but labour market liberalization (easier dismissal procedures) (Azémar, Desbordes, 2010) and better quality of business regulations (Busse, Groizard, 2008) are more attractive solutions to investors. Earlier studies show that tax incentives are of secondary importance, as they are considered only when fundamental factors (political and economic stability, infrastructure, cost of transport) are similar in potential locations (Morisset, Pirnia, 2000). As we can easily notice, the above examples indicate that politicians should take divergent actions addressed to foreign investors.

Incentives for attracting foreign capital in order to modernize production may be used at various levels of government: central, regional or local. Analyses of the role of incentives and their economic rationale have been usually carried out for the first two groups, and most often for the central government, which is the main actor competing for FDI in the global economy. Local government efforts have been rather omitted by researchers – at least to our knowledge[2]. This lack of interest could well be explained by the difficulties with accessing reliable data on FDI inflows to local economies, and by the poor portfolio of instruments available to local authorities management.

However, at this level of governance a separate analysis would be necessary, as an extension of the conclusions formulated for central and regional levels to local levels seems unjustified. Firstly, local governments, due to their legal and political obligations to their communities, should be very interested in the positive long-term outcomes of FDI entry: new production facilities, more employment opportunities, better paid jobs, connection of local suppliers to more advanced enterprises, and additional tax revenues. Economic successes which improve the standard of living of the population are strong arguments for winning votes in an election campaign. At the same time, the arrival of a foreign investor may easily destabilize the local economy by, e.g., increasing demand for specific categories of workers and skyrocketing their wages (Mullen, Wiliams, 2007). Secondly, in contrast to the central or even regional levels, foreign investors are not anonymous to local authorities, who often engage in direct contact with them. Thus, effective dealing with the investment at administrative level, cross cultural sensibility, and readiness to help the investor, especially in recruiting adequate employees, are much more important. Also the ability to moderate potential conflicts between an investor and the local community is important (Calvano, 2008).

In sum, the attitudes and professionalism of local authorities are decisive for economic climate, which is an important factor for foreign entrepreneurs in choosing the right place for their investments. So two questions could be asked: (1) whether local governments are aware of these opportunities and of the instruments which could help make them happen; and (2) whether foreign investors are sensitive to the incentives offered by local authorities in selecting the location for an investment project in a host country.

This paper aims to study the role of the local government (representatives of communes (districts) and counties) in attracting foreign capital to the Province (Voivodeship) of Lodz as of the end of 2011. The Lodz Province is not an economic leader among Polish provinces,[3] and in order to stimulate growth of production and employment it undoubtedly needs the crucial assets provided by foreign enterprises: more

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[2] The study by Blonigen, O'Fallon (2011) is an exception. It is focused on management issues rather than economics, as the authors compared relationships between local authorities and communities in the US and foreign companies against the relations with domestic businesses. The assessment concerned the propensity of both groups to get involved in charity and to help local charity organizations. In this case differences were obvious.

[3] In 2011 GDP per capita in PPS for the Voivodeship of Lodz was 60% of the EU-28 average. This was below the average for Poland (65%), and the Lodz Voivodeship ranked 6th among 16 Polish voivodeships (Eurostat 2014).

capital, better technology, superior management skills. Therefore making concrete efforts to attract FDI would be a reasonable policy.

Poland can be considered as a transition country which has extensively used various incentives to attract FDI (Cass, 2007). Despite the above, the importance of incentives for the inflow of FDI to Poland and its regions has seldom been analyzed, and the activities of the local governments in this respect, whose competences were expanded after the administrative reforms in 1999, have not been of great interest to researchers. Summing up the outcomes of these macro- and microeconomic studies it seems justified to conclude that the role of incentives in stimulating FDI inflow to Poland and in shaping their structure (sectoral, technological, territorial) and economic effects remains little known, although it most probably has been marginal (Świerkocki, 2011). On one hand, this may mean the applied incentives were too weak and they should be strengthened or modified. On the other hand, however, in the light of empirical studies in other countries, the Polish experiences confirm the general pattern, whereby for weaker economies major importance is attached to fundamental factors (Morisset, Pirnia, 2000), and it seems justified to say that quite many foreign companies would invest in Poland (in a particular region) regardless of the incentives given by the authorities.

In our paper we try to broaden the scope of the current research on FDI in Poland, concentrating on local economies (communes and counties), and we point out the implications for the practices and policies of local authorities. Our conclusions are drawn based on the results of a questionnaire study.

2. Study description and method

The assessment of local government activities with respect to attracting FDI was a part of a broader study on the role played by FDI in the economy of a region.[4] The study was conducted in 2011 and included 275 participants. It was a direct questionnaire-based study, with two types of questionnaires (one for enterprises and one for LGUs). Each questionnaire included demographics and was composed of several dozen closed and open questions. Some of them included rating scales.

Random and quota sampling was applied. In selecting the local government units, quotas were based on the type of unit (type of commune, type of county). For companies, we used the REGON database[5] and the results of our own statistical analyses.

Based on a questionnaire survey, we evaluated the expectations of entrepreneurs in relation to the incentives provided by local government. For this purpose, LGUs were divided into different categories depending on the type and scope of the incentives used. The survey results were digitalized. Various statistical tools were used for processing the questionnaire data, such as: cross analysis, mean assessment, coefficients of variation, variance analysis, the Kolmogorov-Smirnov test and Cronbach's alpha reliability coefficient for the scale.

In order to identify the accuracy of the study, statistical surveys and tests were conducted. A large number of statistical hypotheses concerning the distribution of characteristics were verified. These hypotheses were related to the occurrence of a central tendency, dispersion, and coexistence. The correlation between FDI location and the incentives used by local government for attracting FDI to the Lodz region was tested and evaluated. In order to verify the correlation hypotheses, the eta coefficient and regression testing were used.

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[4] In the paper we used partial results of a direct study conducted for the Project *Role of foreign direct investment in shaping current and future economic profile of the voivodeship of Lodz,* delivered in the period 2009-2011 by the research team of the University of Lodz. The Project was co-financed from EU resources of the European Social Fund.

[5] National register of businesses kept by the Main Statistical Office.

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3. Study results

3.1. Incentives offered by LGUs to attract FDI

The majority of LGUs declared, firstly, that they sought investors; and secondly that they did so regardless of whether they were domestic investors or came from abroad. There were few activities addressed only to foreign investors. These activities were conducted by just 7% of communes and counties, including only one rural commune (which had just printed information materials in English) (Figure 1). The main reasons for this included: lack of knowledge of the specificity of promotion activities; unfamiliarity with the needs of foreign investors; and low assessment of the possibility to attract FDI to some communes because of the lack of investment opportunities. The chances of bringing in foreign investors were especially estimated low by rural communes with poorly developed hard and soft infrastructure.
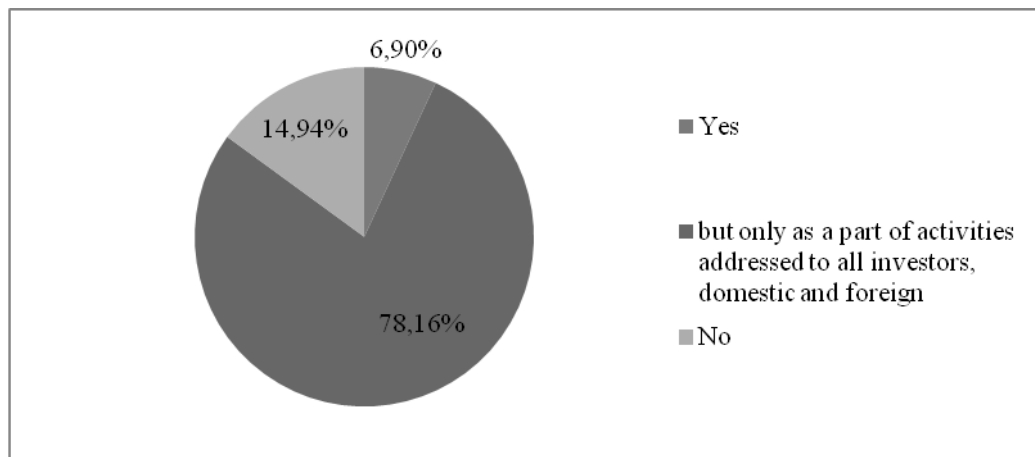
Source: own study.

Fig. 1. **Does your commune/county act to attract foreign investors?**

Analysts and politicians commonly believe (James, 2009) that financial support is one of the most effective policy instruments used for attracting external capital. However, as many as three quarters of communes did not have a ready-made offer of such support, neither for foreign nor for domestic investors. Some of them stressed they did not offer such support due to the lack of interest in it on the part of investors. Respondents with ready-made financial offers for foreign investors represented 70% of urban communes and just 13% of counties. Their share in the metropolitan area of Lodz was close to the average of 25%.

But the responses suggested that the absence of a ready-made offer did not mean that potential investors should not expect, under certain circumstances, to receive financial incentives, nor that such a support was not made available in the past. It was often stressed that the scope of assistance was considered only when an investor appeared. Attention was drawn to individual nature of negotiations in this matter. Unfortunately, this discretionary method is not very transparent and may induce corruption. Only very few LGUs attempted to approach the issue in a systematic way, by passing appropriate resolutions concerning the possibilities of granting financial aid to investors (domestic or foreign) depending on the value of the undertaking and the size of planned employment.

Representatives of LGUs which financially supported foreign investors agreed that when making their decisions they did not distinguish between capital based on its origin (foreign or domestic), and that they followed the same rules. They declared that discrimination against one of the groups would be unacceptable as incompatible with State aid rules and it would involve the risk of ineffective allocation of resources. This confirms a good command of the legal and economic regulations of the group of local government officials surveyed.

Tax relief and allowances in property and local charges were the most popular forms of financial support granted to investors by all the LGUs. This most probably resulted from the fact that such incentives are decided by communes and could become effective relatively quickly.

Potential investors could also receive non-financial support of a promotional type. Firstly, LGUs were generally ready to provide information concerning the terms on which one could operate in their respective territories. Relatively speaking, such assistance is the simplest, the cheapest and the least absorbing for local authorities. Information on how to start and pursue economic operations (e.g. availability of land, infrastructure, workers, suppliers) does not require the officials to be familiar with FDI mechanisms. And learning, free of charge, about the concrete realities of a given location is important to investors, as it accelerates their decision-making and reduces their transaction costs (Figure 2).
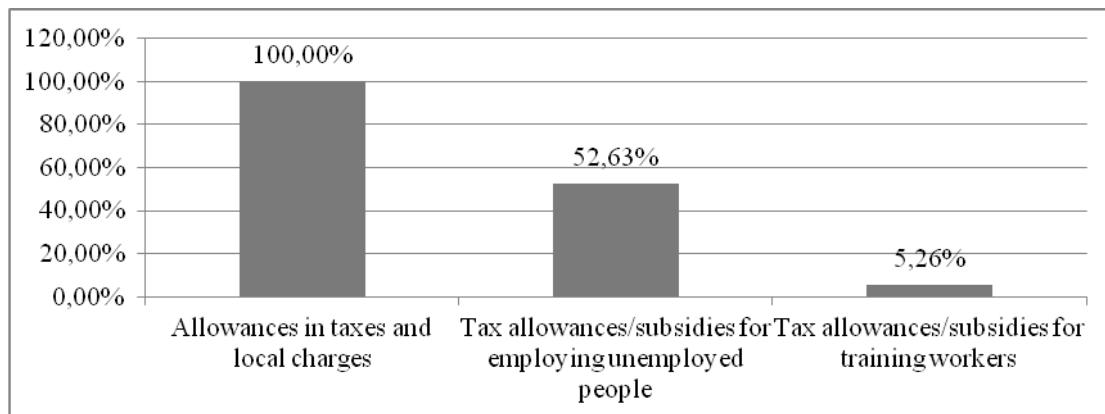
*   *This question was asked only to those respondents who claimed their LGUs offered financial support to foreign investors.*

Source: own studies.

Fig. 2. **Forms of financial support offered by LGUs* to foreign investors**

Secondly, most LGUs (60%) offered assistance in dealing with various formalities connected with the starting of business in a given area (e.g. in acquiring land). Sometimes LGUs were even willing to offer legal and financial consultancy. Such cases, however, were very rare probably due to the low competences of people employed there and restrictions in the number of full-time jobs in these units, or perhaps because they find this type of engagement awkward and operating on the edge of corruption. Usually respondents highlighted that their units only provided legal and financial information connected with business and investment activities, but did not offer legal and financial consultancy as such.

Thirdly, most of the LGUs (64%) could offer developed land ready to start an investment, and this land was of course also available to foreign investors.

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In practice, especially in rural communes, all the above forms were usually declarative or were used only by domestic investors, as in most cases there was no foreign operator interested in investing its capital (Diagram 3).
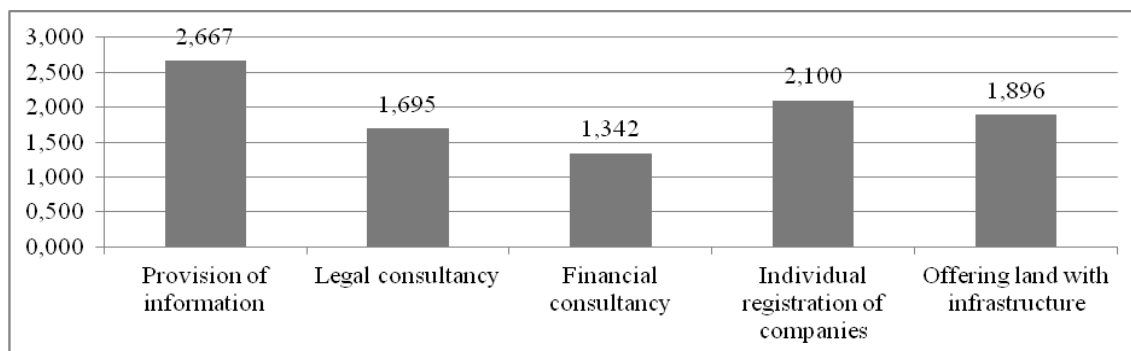
* *The mean answer was calculated using the following scale: non-financial assistance offered to a large extent – (3), to a small extent – (2), not offered – (1)*

Source: own study.

Fig. 3. **Non-financial assistance offered by LGUs to foreign investors, mean answers***

3.2. Companies' opinions about LGUs activities aimed at attracting FDI

In order to assess the activities of LGUs aimed at attracting FDI, companies with foreign capital were asked to specify the importance of proposed investment incentives against other factors that could make them select the Province of Lodz as a location for their investment. In fact CFCs were asked to specify the degree to which the factors outlined in the questionnaire encouraged or discouraged them from selecting the Lodz region. In their answers respondents evaluated 27 suggested reasons on a seven–degree scale. In analysing their responses we used both distributions and statistical indicators: mean answers, variance, standard deviation, average relative error, median and mode. The calculated Cronbach's alpha index of reliability was 0.884, which indicates a very high reliability of the received answers (Ferguson, Takane, 2004).

As expected, the Province of Lodz was selected by foreign investors mostly because of its attractive resources, in particular low labour costs, good availability of workers with relatively high qualifications, convenient location of the region at the cross-roads of main transportation routes of Poland, and Lodz's relatively rich offer of land with infrastructure. The promotion and investment support activities of the LGUs were much less important. Their impact upon location decision was assessed by respondents in their reactions to seven listed factors (Table 1).

According to half of companies with foreign capital, the attitude of local authorities (at various levels) was of little importance when they selected the Province of Lodz. This suggests that the promotion and support tools applied by the LGUs were indifferent to foreign investors in considering potential locations. Half of CFCs decided the possibility to get support from the authorities was of no importance to their choice to invest in the Province of Lodz instead of another region of Poland. This means the offered support was relatively unimportant compared to the comparative advantage of the region resulting from the availability of production factors. The distribution of opinions and mean answers in this area were very close at the commune, county and province levels. There were no major differences in the distribution of answers of companies representing various sectors and intensity of export operations.

Table 1

**Administrative activities as factors encouraging or discouraging the location of FDI
in the Province of Lodz***

Ranking position by means**	Factor	Mean answer	Variance	Standard deviation	Average relative error	Median	Mode
12	Attitude of commune authorities to foreign investors	4.627	1.844	1.358	0.293	5	4
15	Attitude of county authorities to foreign investors	4.489	1.563	1.250	0.278	4	4
17	Attitude of provincial authorities to foreign investors	4.435	1.416	1.190	0.268	4	4
18	Access to data and information about the province	4.435	1.132	1.064	0.240	4	4
19	Support offered to foreign investors by a commune, a county, or province	4.321	1.760	1.327	0.307	4	4
23	Quick action and flexibility of administration at different levels in the Province of Lodz	3.871	2.621	1.619	0.418	4	4
24	Stability of regulations issued by authorities at different levels in the Province of Lodz	3.863	1.558	1.248	0.323	4	4

* *Statistical indicators were calculated using the following scale: factor discouraging from location: to a large extent (1), to medium extent (2), to a small extent (3); neither encouraging nor discouraging (4); encouraging to a small extent (5), encouraging to a medium extent (6), encouraging to a large extent (7).*
** *This ranking covered 27 factors*

Source: own study.

The investors clearly criticized the rate at which decisions are issued by local authorities at different levels in the Province, their flexibility vis-à-vis declared needs, and the stability of legal regulations. The means (below 4) indicate the prevalence of negative answers. They prevailed among CFCs representing all industries and sectors of the economy, which is definitely a sign of bad promotion of the region among foreign investors.

It may be interesting that a certain regularity in the answers was observed – the bigger were the CFCs, the higher they evaluated available incentives, both financial and promotional ones. We could suppose then that the LGUs were more favourably disposed towards those foreign investors which had more to offer to the local economy, first of all in the form of additional jobs. However there were no significant differences in the opinions between CFCs oriented towards export and those oriented towards the

domestic market. Some authors have indicated that the former, as more mobile and selling in a more competitive environment, regard incentives more highly, especially financial ones (James, 2009).

In order to define the distribution of answers to the scaled question, we can use typical ranges of variation. For a seven-degree scale an appropriate range is 2.5-4.0. Its upper edge corresponds to a distribution of answers equally distributed across all the points of scale. The bottom edge of the range is interpreted as a situation in which the values of answers are rather concentrated around a given point on the scale, like in the normal distribution (Churchill, 2002). In the study of activities by the administration all the variances were below the lower extreme, meaning the answers were very uniform.

3.3. Efficiency of FDI support in the assessment of LGUs

The opinions of the CFCs concerning the quality of support for FDI in the region of Lodz should be supplemented by the perspective of the LGUs which offer such support. To this end representatives of communes and counties assessed, on a seven-degree scale, six factors connected with selected aspects of the work of local administration on behalf of investors (Table 2). Similarly to the study among CFCs, the distributions of answers and statistical measures were used in the analysis of them. The calculated Cronbach's alpha index of reliability was 0.62, meaning that the factors included on the scale are correlated in an acceptable way.

Table 2

Incentives to locate foreign investments in regions – self-assessment of LGUs *

No.	Factor	Mean	Variance	Standard deviation	Average relative error	Median	Mode
1	Availability of land for investment in LGUs:	5.988	2.812	1.677	0.278	7	7
	• with CFCs in their area	6.105	2.881	1.697	0.278	7	7
	• without CFCs in their area	5.590	3.206	1.791	0.320	6	7
2	Availability of information about a commune/county in LGUs:	6.082	0.993	0.997	0.164	6	6
	• with CFCs in their area	6.193	0.480	0.693	0.112	6	6
	• without CFCs in their area	5.571	1.188	1.090	0.196	6	6
3	Possibility to receive support from commune/county authorities in obtaining information	6.448	0.512	0.715	0.110	7	7
4	Possibility to receive support from commune/county authorities in dealing with legal and financial formalities	5.942	1.467	1.211	0.204	6	6
5	Tax relief and allowances in local charges	5.518	2.350	1.533	0.278	6	6
6	Possibility to receive support from commune/county authorities in applying for EU funds	5.459	1.442	1.201	0.220	6	6

* *Statistical indicators were calculated based on the following scale: factor discouraging location to a large extent (1), to a medium extent (2), to a small extent (3); neither encouraging nor discouraging (4); encouraging to a small extent (5), encouraging to a medium extent (6), encouraging to a large extent (7).*

Source: own study.

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The self-assessment by LGUs was very positive. A large majority of them highly assessed the engagement of their units in attracting foreign investors. The high medians, modes and mean answers, all above 5.5 (on a scale from 1 to 7), indicate a significant prevalence of answers at the two highest levels of the scale, meaning that a factor in question encourages companies to locate a foreign investment to a medium or large extent. Contrary opinions, stating that a particular factor discourages companies from locating FDI in a respondent's commune or county, were few and accounted for less than 6% of answers. Variances were below the lower extreme, which shows that the answers were strongly concentrated around the means, i.e. they were very uniform. Under such circumstances a relatively low saturation of a region with FDI would result from structural reasons (e.g. relatively low level of development), independent of the current policy of the LGU.

Provision of information about the conditions for economic operations in the LGU was identified as a strength, encouraging investments to be located in their area. This is confirmed by the highest mean and low variance, which means the respondents' opinions were the most uniform.

Local government units with no CFCs in their area clearly offered worse access to information, and did not have land available for potential investors. That could be caused by their pessimistic evaluation of the possibilities to attract foreign capital. In all other instances they assessed their support for investors similarly as the LGUs which have CFCs in their area.

3.4. Incentives and attracting FDI in the Province of Lodz

We analysed the relationship between incentives used by local authorities and the attraction of FDI in the Province of Lodz from the statistical point of view. With reference to the main objective of the paper, we formulated a thesis on positive impact of incentives offered by local authorities on attracting FDI to regions. The study was conducted for the counties in the Province. We used the eta ratio, the measure of correlation, which examines the relationship between interval/ratio variables (treated as dependent) and nominal/ ordinal (independent) variables (Rószkiewicz, 2002).

$$\eta = \sqrt{\frac{\sum_{i=1}^{k} (\bar{x}_i - \bar{x})^2 \cdot n_i}{\sum_{i=1}^{k} \sum_{j=1}^{n_i} (x_{ij} - \bar{x})^2}} \tag{1}$$

where:
η – eta ratio,
x_{ij} – value of a dependent statistical characteristics for unit j in group i, distinguished based on independent statistical characteristics,
$\bar{x}_i$ – mean value of dependent characteristics of a unit in group i, distinguished based on independent characteristics,
n_i – number of units in group i, distinguished based on independent characteristics,
$\bar{x}$ – mean value of dependent characteristics,
k – number of categories of the dependent characteristics.

In this part of the study the main problem consisted in construing an independent variable that would describe the activities of communes and counties in attracting FDI. Such data are not collected or published by statistical offices, in particular at local or regional levels. This is why we used partial results of questionnaire-based studies. Independent variables which describe the engagement in attracting FDI were based on financial and non-financial incentives used by county authorities and selected communes in a given county. Data from all 24 counties in the province was supplemented with the opinions of the representatives of communes, due to statutory premises and business practice. Communes enjoy much more extensive competences and definitely use financial and non-financial investment incentives, including state aid schemes, much more often than counties.

With respect to the category of financial incentives, we focused mostly on information about tax allowances and subsidies for hiring unemployed people, tax allowances and reduced local charges, and tax allowances and subsidies for training workers. Among non-financial incentives we assessed the involvement of the LGU in the provision of information, legal advice, financial advice, and individual services to investors when they start their businesses or are offered developed investment land. Hence our independent variables were:

1) financial and non-financial incentives offered by communes and county authorities (based on the answers of county authorities),(x_1);
2) financial incentives offered by communes (based on aggregated answers of representatives of communes in individual counties), (x_2).

Both independent variables were of a dichotomist nature and were accompanied by two categories each that were provided on the basis of yes or no answers. Dependent variables included:

1) the number of CFCs present in counties as of the end of 2011 (y_1);
2) cumulated value of FDI as of the end of 2011 in the counties of the Province of Lodz (y_2).

Calculations were made assuming that there are two possibilities for each of the two dependent variables, which take account of both independent variables. Calculations were made in two versions: for all the counties; and leaving aside the county of the City of Lodz, which hosts over half of all FDI in the province and strongly differs from the rest. Altogether, there were eight eta ratios. Then we validated the hypothesis on the statistical significance of eta ratios using the F-ratio of the following formula (Rószkiewicz, 2002):

$$F = \frac{\sum_{i=1}^{k}(\bar{x}_i - \bar{x})^2}{\sum_{i=1}^{k}\sum_{j=1}^{n_i}(x_{ij} - \bar{x}_i)^2} \cdot \frac{n - k}{k - 1} \tag{2}$$

where:
F – ratio used to analyse the significance of eta ratio,
n – number of categories of dependent characteristics,
for other symbols see (1).

Table 3

Eta ratios and statistical significance test calculations in option I (all counties)

Independent variables:	Dependent variables	
	y_1	y_2
	Eta ratios	
x_1	0.0434	0.0701
x_2	0.1630	0.1984
	Eta ratios calculated in statistical significance test	
Number of tested categories of independent variables	2	2
Number of tested categories of dependent variables	24	24
F – theoretical	4.30	
F – calculated	0.0415	0.1092
	0.601	0.920

Calculations in the tests of statistical significance were conducted at the level of statistical significance α = 0.05

Source: own calculations.

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Table 4

Eta ratios and statistical significance test calculations in option II (excluding City of Lodz County)

	Dependent variables	
	y_1	y_2
Independent variables	**Eta ratios**	
x_1	0.383	0.1152
x_2	0.023	0.1440
	Eta ratios calculated in statistical significance test	
Number of tested categories of independent variables	2	2
Number of tested categories of dependent variables	23	23
F – theoretical	4.31	
F – calculated	3.615	0.281
	0.011	0.457

Calculations in the tests of statistical significance were conducted at the level of statistical significance α = 0.05

Source: own calculations.

Calculated eta ratios remain low in both options. This prevented us from dismissing the zero hypothesis on the statistical insignificance of the relationship in all analysed cases. The results obtained are not clear-cut. They definitely indicate the absence of statistical links between variables.

Summing up, we can say that the relationship analysis we conducted has made us dismiss the thesis of the positive effect of incentives offered by local government units to attract foreign investors into the region.

We also conducted a study using the regression function. Already initial results suggested the lack of a relationship between the variables that describe FDI inflow to counties and incentives. The role of various factors decisive for attracting foreign capital to a region may become the subject of further in-depth analyses, conducted based on quantitative methods.

4. Conclusions

Empirical studies conducted in Poland show that investment incentives were of little importance for the inflow of FDI to the country and its regions. This is also true of the counties and communes of the Province of Lodz. Representatives of local governments in the Lodz region were aware that competing for foreign investors was necessary to accelerate the development of the local economy, but very few of them engaged more actively in attracting foreign capital as opposed to domestic capital. Only 7% of local governments prepared special offers for foreign investors. Financial incentives at their disposal were relatively modest and usually "tailor made" to assist a concrete candidate. Most of the LGUs did not have any specific strategy with respect to, e.g., preferred type of investment project or making the investment dependent upon the compliance of the proposed project with specified conditions. Incentives were complemented with promotional activities, mostly involving the provision of information, consultancy and assisting investors in dealing with formalities. Incentives and promotion were not accompanied by

any more general reflection on the cost-benefit analysis of the outcomes of FDI compared with the cost of attracting it.

However, to half of foreign investors included in the study, mostly SMEs, the modest financial incentives offered by LGUs and available information were completely irrelevant to their selection of the region for location of their investments. As far as promotion efforts were concerned, investors assessed the quality of cooperation with the local government as average, and evaluated the actions of communes, counties and the province similarly, even though the province has the largest contacts with other countries, the greatest resources and the best possibility to offer various types of assistance. Much attention was given to financial incentives as an important factor for remaining in a region (reinvestment). In this respect the CFCs also felt that the professional level of local administration was far from that desired, and it often hampered economic operations, which turned into counterproductive bad promotion rather than assistance. They also criticized the stability and enforcement of legal provisions, which, however, largely depend on the central government.

The impressions of foreign investors diverged from the generally high opinions of LGUs about their own engagement in attracting foreign capital. Probably by making local administration aware of this fact and by improving its operations we could mobilize significant reserves at a relatively low cost to attract and keep foreign investors. For the time being officials have too much discretion and too much depends on their personal commitment and their interpretation, especially on how they see the role of foreign capital in the development of the local economy.

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THE IMPACT OF EU POLICY ON SOCIAL DEVELOPMENT OF LATVIA

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Abstract

The purpose of this research is to introduce evaluation of European Cohesion Policy in Latvia, especially on eventual social development in the context of the new strategy "Europe 2020". The strategic goals of EU cohesion policy are discussed as well as the development challenges for improvement of the socio-economic well-being of states and regions in the European Union and also to avoid disparities. The objective of this study is to assess Latvian social level and its development, in order to reach goals of "Europe 2020" strategy by applying latest developments of convergence economic theory to the situation in Latvia. The main emphasis of this research lies in the complex approach to the EU cohesion policy analysis and its implementation in Latvia.

The research methodology is based on the EU cohesion and convergence economic theories analysis and on external and induced variables estimations: situations of the economic and welfare level. This research investigates major variable factors and presents information about various different socio-economic indicators and indexes. A major focus in this study is devoted to social cohesion analysis in Latvia. This study contains and discusses changes of key concepts related to the cohesion policy of the European Union and compares objectives and general outlines of the cohesion period 2014-2020 in the framework of Europe as a whole, as well as its impact on Latvian economics and living conditions.

The main results and conclusions reflect the overall social-economic situation in the EU and Latvia and present current and future European Cohesion policy's impact on social development of Latvia. The discussion consist socio-economic situations analysis in the EU and Latvia, national economy development estimations and trends in the context of the future's strategies of Latvia and "Europe 2020" strategy goals.

Key words: *EU strategies, cohesion policy, socio-economic development*

JEL codes: E24, F15, F42, I38, O19, O52

Introduction

The socio-economic policy improvement in general connected with the "Europe 2020" strategy targets for smart, sustainable and inclusive growth. Trends of the recent years (2014-2020) of Latvian economy are taken as the important priorities developing of social legislation, situation in the income's growth, pension's policy improving, education system and labour market development.

The flagship initiatives of the "Europe 2020" strategy, including the Platform against Poverty and Social Exclusion and the Agenda for New Skills and Jobs, support efforts to reach these targets.

Through its Social Investment Package, the Commission provides guidance to Member States to modernise their welfare systems towards social investment throughout life.

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The package complements the Employment Package, which sets out the way forward for a job rich recovery, the White Paper on Pensions, presenting a strategy for adequate, sustainable and safe pensions, the Youth Employment Package, which deals specifically with the situation of young people.

As social policies are an integral part of the Europe 2020 Strategy, the Commission also supports EU countries' efforts to address their social challenges through the actions foreseen in the Platform against Poverty and Social Exclusion and Social Investment Package as well as the EU funds, in particular the European Social Fund.

Now EU countries are far from reaching the 2020 target and the worsening social situation caused by the economic crisis is undermining the sustainability of social protection systems. European statistics show that in 2012 24% of all the EU population are at risk of poverty or social exclusion and this includes 28.1% of all children in Europe, 19.3% of those is over 65 age old and 25.4% of adults (*Eurostat,* 2014, *Income and living conditions database).*

This research presented information about main convergence socio-economic indicators as well as GNP growth, welfare, inflation and unemployment levels and its possible improvement for 2014-2020. In order to achieve socio-economic growth and social convergence goals Latvian government must identify main social priorities and deliver the best results in social efficiency. The social development investigations needs to be pragmatic approach into financing in order to create employment and reduce poverty level and social disparity in the national economy. The Latvian social policy improvement is general connected with productivity growth. The European budget spending will have to be more effective on 2014-2020 for Latvia's economic and social convergence promotion to the EU-28 average level. The main tasks of Latvian economy for the recent years are taken as the important priorities developing of social legislation, situation in the income's growth, pension's policy improving, education system and labour market development.

Aim of this research is to assess Latvian social level and its development in order to reach goals of "Europe 2020" strategy.

1. Types of Convergence

European convergence policy is a place-based policy which gives a role to each European state in the sense that it is not an obstacle to the optimal allocation of economic activity but can become a source of growth on its own. Recent economic theory confirms this approach in numerous case studies which show that convergence policy can make a difference. In fact, the EU has achieved impressive economic and social convergence since 1988.Convergence policy must be connected with a judgement of the likely future evolution of the national economy. In particular, as experience has shown, the sustainability and robustness of the convergence process after euro adoption is to a significant extent endogenous and it depends on a member state's domestic policy orientations after it has joined the euro area. Convergence processes for the EU states must be based on the strong economic growth of GDP per capita.

When discussing the concept of convergence, it is important to understand difference between real and nominal convergence. The process of real economic convergence suggests catching up in standards of living in EU New Member States with those of the old EU member states. This process is usually accompanied by nominal convergence and is usually related to the Balassa-Samuelson effect. Economic literature suggests that the term convergence in its economic essence describes gradual elimination of disparities in the income level. Economic growth theory provides two types of the convergence: σ-convergence (sigma) and β-convergence (beta) (*Barro, Sala-i-Martin, 2004*). The first kind serves as an indicator to measure weather the distribution of income across regions or countries has become less uneven over time. In contrast, β-convergence, attempts to describe the mobility of income within the same distribution and predominantly serves to find out whether the convergence occurred because poorer regions and/or countries have grown faster than the rest.

The results from convergence analysis are usually used to test the validity of the two economic growth models – neoclassical and endogenous. The former one predicts β-convergence regardless full, partial or absence of the capital mobility (*Marzinotto B., 2012).*

2. Development of social situation in Latvia

The economics of Latvia continued its growing at a rapid pace in 2012 and the gross domestic product increased by 5.2% (*Central Statistics Bureau, 2013*) compared to the previous year. It was the fastest growth among the European Union member states. Despite the unfavourable environment in external markets, growth remained rapid throughout 2012 and 2013. Fast evaluation from statistic office shows GDP increase by 4.2% compared 9 months of 2013 to 2012 and GDP increase by 3.5% compared 0.4 of 2013 to 2012 (*Eurostat, 2013*)

The strong economic growth in 2012 and 2013 was based on both external and domestic demand. Trade, manufacturing, construction and transport sectors contributed the most to the growth. The volume of public services sectors remained at the level of the previous year. It was influenced by the implemented fiscal consolidation measures.

"The Latvian labour market demonstrated a high degree of flexibility during the crisis. Job seekers also showed high mobility within the EU as emigration increased substantially in the process of structural adjustment. More recently, as of 2012, the economic recovery and the steady pace of job creation not only reduced emigration but raised significantly the number of immigrants in Latvia. Underpinned by a decentralised wage-setting system, a considerable wage in Latvia over 2009 and 2010 and wages moved adjustment took place broadly in line with productivity afterwards. In 2013-2014, wages are projected by the Commission services' 2013 Spring Forecast to remain consistent with productivity. Vacancy rates remain among the lowest in the EU indicating that at aggregated level labour supply is adequate. Nevertheless, regional differences and skills mismatches on specific labour market segments keep structural unemployment relatively high. However, the latest statistics show that youth unemployment, though still high, has moved slightly below the EU average while long-term unemployment remains a major challenge. All these structural deficiencies on the labour market amount to a significant loss in potential output and pose risks of excessive wage adjustments; they need to be properly addressed by active labour market policies and education reforms, as stipulated in the Commission and Council country specific recommendations" (*Convergence Report 2013 on Latvia. European Economy N° 3/2013, pp. 45-46*).

The situation in the labour market is improving along with the economic growth. The number of employed aged 15–74 years reached 900 thousand in Q4 2013, which was by 26.2% or about 23 thousand more than in 2011. The share of job seekers dropped to 11.8% in Q3 2013, which is by 1.9 percentage points lower than a year ago (*Central Statistical Bureau, 2013*).

The registered unemployment was among the most vulnerable problems during economic crisis. After decrease during several years before 2009 and level of 7.7% during one year unemployment rate reached 17.5% and continued to increase in 2010 up to 19.5% in 2010. Since 2011, Latvia continued decrease of unemployment, which goes in hand with economic development. In 2011 unemployment reached 16.2%, but in 2013 unemployment rate declined to 11.9%. It is needed to admit that unemployment rate is geographically quite diversified with Riga having unemployment rate 6.2% compared to Latgale region with unemployment rate 19.3% (*State Employment Agency, 2013*).

The main conclusions on the progress towards the achievement of objectives prescribed by the "Europe 2020" strategy in areas related to the labour market development are as follows: high growth rates of Latvia allow forecasting that in 2010 the GDP of Latvia per capita expressed as the purchasing power parity standard, will be close to the objective stated in the Strategy – 62% of the average level in the EU 15. During the recent years the economic growth observed in Latvia has had a positive impact on the labour market: the employment level increases and the unemployment rate declines, which suggests

that objectives stated in the 2020 concerning the employment and unemployment levels (the employment rate – 73% and the unemployment rate – 7%) can be achieved.

Although the economic growth rate remained high, the dynamics of inflation showed a tendency to decline significantly to -0.4% in November 2013. The dynamics of annual average inflation was similar, dropping from 4.4% in 2011 to 0% in 2013. Latvia has been complying with the Maastricht inflation criterion for the euro introduction since September 2012 but introduced in January 1 2014.

Table 1

National targets of Latvia for 2020 in the context of the "Europe 2020" strategy

	EU-27	Latvia	
	Target	Targets	
	2020	2020	2030
Persons at-risk-of-poverty (%)	20 million people lifted out of the risk of poverty or exclusion	21.0% (121 000 people lifted out of the risk of poverty or exclusion)	Persons at-risk-of-poverty after social transfers < 16%

Source: author's construction based on National reform program (Ministry of Economics), Sustainable Development Strategy of Latvia 2030 (Crossectoral coordination office)

The National Reform Programme of Latvia for the Implementation of the "Europe 2020" strategy and the Convergence Programme of Latvia were approved simultaneously by the Cabinet of Ministers on April 26, 2011 and submitted to the European Commission on April 29, 2011. The National Reform Programme of Latvia describes the medium-term macroeconomic scenario and reflects the main macro-structural bottlenecks of Latvia and the key measures for 2011–2013 to eliminate them, as well as national quantitative targets of Latvia for 2020 in the context of the "Europe 2020" strategy and the key measures for 2011–2013 to achieve them.

Number of person's at-risk-of-poverty or social inclusion has decreased since 2011 by 4.6 percentage point and reached 35.2 in 2013, which count to 703 thousand persons. This level is still below the level of 2008 when only 33.8% of total population was at-risk-of-poverty or social exclusion, but it is by 28 thousand people less than a year ago when this indicator was 731 thousand or 36.2%. Out of these, we have assessed additional two most vulnerable groups: children and elderly people (age group: over 65) (*Central Statistical Bureau of Latvia, 2013*).

Numbers for children at-risk-of-poverty or social exclusion shows that as of total population 38.4% were at-risk-of-poverty or social inclusion, which is 1.6 percentage points lower than year ago, but still it is 6.2 percentage points more than pre-crisis level.

Most interesting numbers in situation of Latvia we can see for age group "over 65", where numbers for at-risk-of-poverty or social exclusion have been decreased rapidly even during crisis period with a slightly increase in 2013 by 2.5 percentage points. Overall decrease for this age group compared to highest number in 2008 which is before crisis level is 22.6 percentage points.

The at-risk-of-poverty rate in Latvia has increased from 19.4% in 2005 to 26.4% in 2009 and decreased up to 19.4% in 2013. At the highest risk of poverty were households with dependent children and single parent (38.3%), as well as households with 3 or more children and both parents (33.2%) (*Central Statistical Bureau of Latvia, 2013*).

The at-risk-of-poverty rate or the share of the population below the poverty line increased during the period when the total income of the population was increasing substantially and the unemployment rate was comparatively low. It means that the increase in income of the population was unequal and not all people were able to adapt to the changes and benefit from the growth opportunities.

Table 2

Social poverty assessment in Latvia

	2005	2006	2007	2008	2009	2010	2011	2012	2013
At-risk-of-poverty or social exclusion (% of total population)	45.8	41.4	36.0	33.8	37.4	38.1	40.4	36.2	35.2
At-risk-of-poverty or social exclusion of children (% of total population)	45.7	42.7	32.8	32.4	38.4	42.2	44.1	40.0	38.4
At-risk-of-poverty or social exclusion of elderly (over 65 years) (% of total population)	55.3	51.8	51.4	58.8	55.5	36.8	33.0	33.7	36.2
At-Risk-of-Poverty rate (% of total population)	19.4	23.5	21.2	25.9	26.4	20.9	19.0	19.2	19.4

Source: author's construction and calculation based on Ministry of Welfare, Ministry of Economics, Eurostat data

Additional to assessment of at risk-of-poverty and social inclusion it is needed to assess situation with household disposable income. In 2012, household disposable income at current prices increased by 5.3% and reached euro 321 per household member monthly, as compared to euro 304 in 2011, which is more than the level of 2007 –euro 316. Income rise at constant prices (considering inflation) accounted for 3%. The amount is still below pre-crisis level of 2008, when household disposable income at current prices reached euro 355 (*Central Statistical Bureau of Latvia, 2013*).

Assessing the situation in regional dimension it is noted that the most notable increase in household disposable income was recorded in Riga (8.7%), while income rise in regions varied 4.6% in Vidzeme, 4.1% in Kurzeme, 3.9% in Latgale and 3.4% in Zemgale. It is important to note, that in 2012 income gaps between different regions has increased. Income in Riga households reached 121% of Latvia average, in Pieriga – 105% and in Kurzeme – 96%, Zemgale 87%, Vidzeme – 81% and Latgale - 75%.

There are the following challenges to reduce the high poverty rate in Latvia:

- Income inequality, including low income of the employed and rather high tax burden on low income employees ('working poor' problem);
- Limited budget resources in the upcoming years;
- Insufficient availability of different services and lagging-behind territories in terms of service provision.

The key priorities in reducing poverty and social exclusion are the increase in income from paid work, highlighting families with children as a special target group. *(The Sustainable Development Strategy of Latvia until 2030).* These measures comply with the priority of the Annual Growth Survey 2013 to tackle unemployment and the social consequences of the crisis, facilitate the achievement of employment, poverty and social exclusion targets of the Europe 2020 strategy and the implementation of the flagship initiative European platform against poverty.

3. Catching up Trend of Latvia to EU-28 level

Convergence reflects the measure of progress, while catch up measures the distance to be travelled. Economic theory provides wide set of indicators how to measure convergence of one country to other or

to set of others. Here we have taken to indicators. However, majority of them used data of GDP per capita in PPS as a main data.

Till now assessment of Latvia's catching-up trend has never been assessed in on a systematic way based on latest development in economic literature on convergence theories. To improve this issue, there has to be significant improvements and efforts needed to assess Latvia's situation based on different approaches mentioned in economic literature.

For our paper and analysis we have taken two indicators which use data of GDP per capita in PPS as a main data.

Firstly let us start with recap of achievements done so far.

In the case of Latvia Eurostat data show continued tendency to convergence with the EU-27 level.
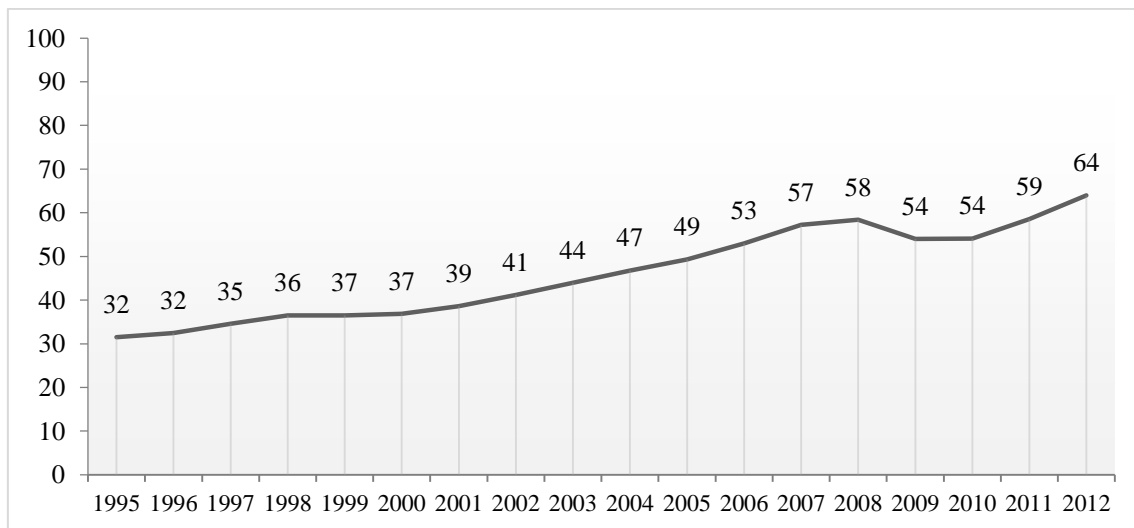
Source: author's construction based on Eurostat

Fig. 1. **Convergence level of Latvia's GDP per capita to EU 27 (EU-27=100)**

For convergence estimation used new measure how to calculate country's convergence of compared to average EU-28 level (*Halmai P., Vasary V., 2010*). They introduced catch-up rate, which is calculated as follows:

$$Catch\text{-}up\ rate = 100 * \frac{\Delta(y_{it}-y_t^*)}{(y_{it-1}-y_{t-1}^*)} \tag{1}$$

In this formula (1):

y_i is the level of GDP per capita at purchasing power standard for country *i* at time *t*;

y_t^* is the average of y_{it} for the EU-28;

Δ indicates the difference between *t* and *t-1*;

y_t^* is the weighted average of the EU-28.

The Catch-up rate is calculated by means of the historical actual growth rate. It gives a framework for ex-post analysis of the catch-up dynamism. In the case of negative catch-up rates the disparity between

the country concerned and the EU average decreases, while the positive catch-up rate shows the increase of this difference.

Looking back at Latvia's economic development, we can see several cycles of development ending up with crisis. Firstly in period from 1998-2000 average catch up rate has been 5.96 which indicates that Latvia had not have any convergence and differences between Latvia and EU-28 increased. In period from 2001 up to 2008, before crisis Latvia's average catch up rate was -0.8 which means, that during this time, Latvia increased convergence with EU-27. It is also visible in Figure 1, where GDP per capita increased from 39% as of EU-27 level in 2001 up to 58% in 2008. After overcoming global financial crisis since 2011, average catch-up rate climbed up to -14.9, which indicates rapid convergence.

GDP data of period from 2001 until 2008 shows that average GDP growth rate in Latvia was 7.3%, but in EU-27 area GDP growth rate was 2.1%.

Comparing catch up rate with the development of GDP growth we can conclude that to achieve Latvia's convergence with EU-27 with a catch-up rate of 0.8 Latvia's GDP need to grow 5.2 percentage points faster than EU-27 GDP growth. In other words, we can conclude that every percentage point of Latvia's GDP growth that is higher than EU-27 GDP growth increases convergence with a catch-up rate of 0.154.

Based on our conclusion we can predict development of future convergence (*National Development Plan of Latvia for 2014-2020, 2012).* But next forecasts from Ministry of Economic of Latvia specify trends for Latvian GDP growth for 2015-2020 years at the level of 4.5% per year with diminishing development of GDP at the level of 3.5%.
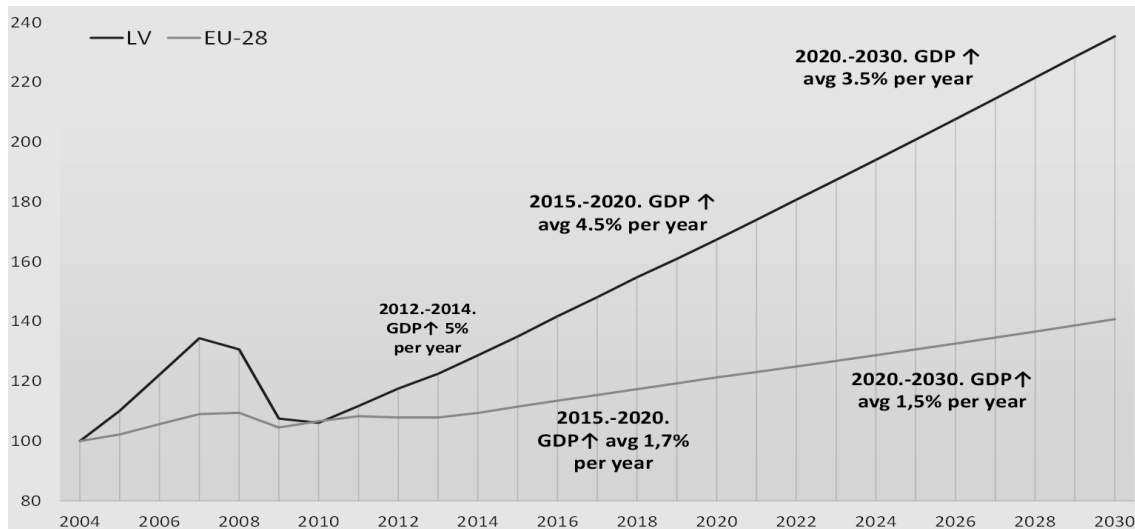
Source: author's construction based on Ministry of Economics, European Commission

Fig. 2. **Forecasted GDP growth rates (2004=100, comparable prices)**

In comparison, European Commission forecasts EU GDP growth for 2015-2020 in the average level of 1.7% per year with diminishing development of 1.5% per year for 2020-2030 *(European Commission, 2013).* This means that difference of Latvia's GDP growth versus EU-28 GDP growth will be 2.8 percentage points in period 2015-2020 and in period 2020-2030 difference between GDP growths will be 2 percentage points. Converting it to catch up rate and using our calculated data based on historical development gives us result of forecasted average catch-up rate for period 2015-2020 of 0.431 and

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forecasted catch-up rate for period 2020-2030 of 0.308. As described earlier catch-up rate gives us necessary information about development of convergence, but not the forecasted level of it.

To assess the forecasted level of convergence of Latvia's GDP per capita to the EU-28 level we have referred back to the GDP and GDP per capita development in comparable period 2001-2008. Average GDP per capita growth rate to EU-28 level in this period was 2.71 percentage point annually, while data for GDP growth rate from 2001 until 2008 shows that average GDP growth rate in Latvia was 7.3%, but in EU-28 GDP growth rate was 2.1%. Both growth rates allows us to calculate relationship between growth rate of GDP and development of GDP per capita. We have calculated that every percentage point of Latvia's GDP growth rate that is higher than EU-28 GDP growth rate increases GDP per capita convergence level by 0.522.

As the calculation is based on historical data set for economic development in Latvia which is similar to those forecasted for future. Taking into account this, we can estimate development of GDP per capita level of Latvia compared to EU 28 for upcoming years. We have chosen to assess short term medium term and long term forecast. According to our calculations based on data mentioned earlier, the level of Latvia's GDP per capita compared to EU-28 level in 2015 will increase up to 68.1%, with future increase up to 75.3% in 2020 and up to 87.0% in 2030. This calculation gives us macro level forecast taking into account that other development factors will be the relevant to those that were into force in 2001 until 2008 and when Latvia achieved significant progress in Cohesion Policy.

The socio-economic Latvia's grows revealed the different dynamics of several indicators (GDP, employment and unemployment, wages), but as well as increasing in absolute values till 2011.Social situation in Latvia is improving development level after s hardly hock influenced by crisis. Until now the process of social convergence in Latvia show steady grows.

Conclusions, proposals, recommendations

1. The EU cohesion policy is the EU development policy and provides new evidence on the evolution of regional and social disparities in Europe. Cohesion policy designed to reduce socio-economic disparities in the development capacity and contribute social situation of the regions and the EU Member States, including its large single market and its currency – euro. The EU strives to improve living standards by protecting the environment, job creation, reducing regional social disparities.
2. Convergence policy must bet connected with a judgement of the likely future evolution of the national economy. In particular, as experience has shown, the sustainability and robustness of the convergence process after euro adoption is to a significant extent endogenous and it depends on a member state's domestic policy orientations after it has joined the euro area. Convergence processes for the EU states must be based on the strong economic growth of GDP per capita.
3. Cohesion Policy is a place-based policy which gives a role to each European state in the sense that it is not an obstacle to the optimal allocation of economic activity but can become a source of growth on its own. Recent economic theory confirms this approach in numerous case studies which show that 'geography matters' and that convergence policy can make a difference. In fact, the EU has achieved impressive economic and social convergence since 1988. At the level of the state, relatively strong economic growth of those with a low GDP per capita has meant that EU state have been converging living standards.
4. European Union convergence the past years showed a relatively steady pace. The inverse relationship between growth and the level of income is considered β-convergence. If this factor is present, poorer countries get closer to the richer ones. Socio-economic convergence of the new member states like Latvia has been considered as one of the most important economic development targets in the EU. It supports job creation, competitiveness, economic growth, improved quality of life and sustainable development.

5. The main tasks of Latvian economy for the recent years 2014-2020 are taken as the important priorities developing of social legislation, situation in the income's growth, pension's policy improving, education system and labour market development in order to reach goals of "Europe 2020" strategy.

6. The situation in the social policy in Latvia continues improving According to author's calculation based on methodological framework of latest convergence theories, the level of Latvia's GDP per capita compared to EU-28 level in 2015 will increase up to 68.1%, with future increase up to 75.3% in 2020 and up to 87.0% in 2030.

7. European national economies strategies have been related to the influence of several internal and external factors. Latvian participation in EU convergence process can be sufficiently supports for improvement sustainable development, job creation, economic and competitiveness growth and quality of life. Socio-economic development of Latvia reflecting goals and tasks defined by EU program's documents and social strategies. In order to improve the information support researchers offer a unified flowchart of the research information for the social situation and convergence estimation and forecasts in Latvia.

8. EU national economies strategies have been related to the influence of several internal and external factors. Latvian participation in EU convergence process can guarantee political stability and sufficiently consistent implementation of economic and social strategies and programmes. developed level The development of economic situation in Latvia and its future forecasts will allow Latvia to increase level of social convergence with EU-28 level on sustainable but strongly developed level, reaching 87.0% in 2030.

9. Taking into account the actual socio-economic problems in the EU countries European cohesion policy should provide more attention for countries with minimum income level and high income's disparity with target to reduce unequal between EU countries and improved social convergence between EU Member States

10. The macroeconomic and social development scenario in Latvia for 2014-2020 is based on the assumption that the situation in the euro area will continue stabilising and growth in the euro area will gradually recover from the 2014. Therefore, as growth resumes in the euro area, external demand for Latvian exports of goods and services is expected to increase, thus promoting further economic and social development of Latvia. As one of Latvia's biggest external market – EU market will resume in growth, external demand for Latvian exports of goods and services is expected to increase, thus promoting further economic and social development of Latvia.

11. The social conditions and employees in Latvia also become more and more aware of the possibilities offered by the global EU market. It requires not only a structure of national social models but also on the strategic choice of countries concerning the social policy. For Latvian future's social development investigations and governmental decisions needs to be pragmatic approach into financing in order to create employment and reduce poverty level and social disparities in the national economy.

12. The socio-economic policy improvement in general connected with investment flows, new technologies and productivity growth. Trends of the recent years of development of Latvian economy, which shows significant development of GDP compared to other EU countries, are taken into account in order to forecast future growth with an overage GDP development by 3.5-4.5% per year and this is taken into account when developing priorities of social legislation, situation in the income's growth, pension's policy improving, education system and labour market development.

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INTERNAL AUDIT SYSTEM CHANGES IN LOCAL GOVERNMENTS OF LATVIA

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Abstract

To ensure effective performance of the internal audit function local government may enter into cooperative agreement with the relevant ministries of the person into the ministry of internal audit system. The aim of this article is to find out what internal auditing methodology is used by internal auditors in local governments of Latvia. The tasks of this research are: to make survey of Latvia local governments, to make data collection and analysis. In Latvia is still not in place an internal audit system in local government's level and because of that this research is topical.

Author made survey of Latvia local governments, made data collection and data analysis. Data from 30.25% local governments were collected and analysed.

Each internal auditor in Latvia local governments makes audits by internal audit methodology (46%), International Standards for the Professional Practice of Internal Auditing (23%), International Audit Standards (8%), Latvian legislation and Local government binding rules (85%). Just one Local Government internal auditor is member of the Institute of Internal auditors, just in 54% of local governments is approved internal audit methodology.

From the results of the research the author has come to the following conclusions that no Internal audit system in Latvia local government level and no common approach in Latvia local governments internal auditing because of Latvian legislation rules. Authors' suggestion – common system (authors research is not finished yet, but one of them could be budget indicators – table 3) for local governments internal auditing is necessary for comparable and transparent information of local government's activities.

Key words: *internal audit, local government, methodology*

JEL codes: M42, H790

Introduction

The various interpretations of internal audit were provided by experts in the public internal control sector of the EU Member States, and it is possible that the understanding of internal audit would have been more varied and vague if managers had also been asked to give their interpretation of the concept of internal audit.

In Latvia Internal Audit law there is stated that internal audit systems, internal audit organization and conducting internal audits shall be determined by the Authority. To ensure effective performance of the internal audit function local government may enter into cooperative agreement with the relevant ministries of the person into the ministry of internal audit system.

The aim of this article is to find out what internal auditing methodology is used by internal auditors in local governments of Latvia.

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The tasks of this research are: to make survey of Latvia local governments, to make data collection and analysis. The methods of this research are survey method, monograph method, statistical methods.

In Latvia is still not in place an internal audit system in local government's level and because of that this research is topical. In Latvia were defended one dissertation on state administration internal audit (Magone I., 2010) and one dissertation on internal audit system in local governments (Sulca R., 2010).

Author considered that internal audit system changes at the level of Latvia local governments is the main instrument for improvement of the state and local administration system if combining state control audits, certified auditors (zvērināts revidents) audits and internal auditors functions according to International Standards for the Professional Practice of Internal Auditing and International Standards on Auditing (in using other auditors work).

Research results and discussion

Internal audit situation in EU and Latvia

International Standards for the Professional Practice of Internal Auditing clarify that the chief audit executive must effectively manage the internal audit activity to ensure it adds value to the organization; the chief audit executive must establish risk-based plans to determine the priorities of the internal audit activity, consistent with the organization's goals, the chief audit executive must establish policies and procedures to guide the internal audit activity, the form and content of policies and procedures are dependent upon the size and structure of the internal audit activity and the complexity of its work (IIA., 2012).

According to data from the Compendium (Compendium of the Public…, 2012) on public internal control systems within the member states of the EU in 2012, the vast majority of the 27 EU member states have an internal audit function in place. Three countries presently rely on other arrangements, but have plans to introduce internal audits within their public sector (Greece, Spain, and Italy). Most of the existing internal audit systems do not cover all parts of the public sector, or, they do not cover every part in the same way. Even the coverage of the various central governments varies from country to country.

For example, Lithuania plans to amend its existing legislation for a better elaboration of local government internal audits. In Estonia, work is continuing on the implementation of both internal control systems and on an internal audit function within local government authorities. In both of these countries there is a need, and an objective, to ensure that more coherent and comparable information is made available on the performance and accountability of the public sector. Efforts aimed at achieving cost efficiency within government also explain the variations in internal audit coverage.

In Romania, internal audit structures have been established within each public entity and undertake the same tasks, which range from issues of legality to audit of economy, efficiency, and effectiveness.

In Sweden, only those few agencies that manage complex or sensitive operations, possess large assets, transfer huge funds, or have a high cost base are required to set up internal audits.

Belgian regulations explicitly allow for internal audit activities to be carried out in three different ways: by a permanent, dedicated audit service; by a permanent, shared audit service for a number of institutions; or by an external service. These methods are already possible, or will soon be possible, in other countries as well, under certain conditions (e.g. Denmark, Estonia, the Netherlands, and Slovenia).

The Spanish contribution serves to illustrate the new complexities, which arise from a public audit and control point of view, whereby a centralised public sector becomes fundamentally re-organised and the demand for control and audit affects different types of organisations, which have different reporting requirements. One way forward which has been suggested in this contribution is with the implementation

of a broader and more common application of the single audit concept, including techniques, procedures, and reporting arrangements, which would allow for a more cohesive action by all control/audit bodies (Compendium of the Public…, 2012).

EU Member states are in different situation with internal audit implementation, internal audit system in public sector.

The various interpretations of internal audit were provided by experts in the public internal control sector of the EU Member States, and it is possible that the understanding of internal audit would have been more varied and vague if managers had also been asked to give their interpretation of the concept of internal audit.

While most EU Member States assert that they have internal audit in place, at least at the central government level, it could nevertheless be assumed that the goals of internal audit have no been perfectly achieved, given the situation of many public structures in Europe (Chapon N., 2012).

Under the coordination of The UK's Chartered Institute of Internal Auditors and effective from 1 April, 2013, new standards which had applied, respectively, to central government, the National Health Service end local government entities across UK. Whilst those disbanded standards inevitably had some commonality with the IIA's global standards, they were not the same. Now these new standards are verbatim identical to those of the IIA (Chambers, 2014).

In January, 2012 (local government structure research, interview of the personnel departments) author find out that just in 19 local governments out of 119 is internal department formed or one internal auditor is working in unit of Finance or Accountancy department of local government.

At the end of 2013 author made survey of Latvia local governments, made data collection and data analysis. Data from 30.25% local governments were collected and analyzed. This sample is representative if we have assumed that 10% sample is enough for data analyses.

Each internal auditor in local governments makes audits by internal audit methodology (46%), International Standards for the Professional Practice of Internal Auditing (23%), International Audit Standards (8%), Latvian legislation and Local government binding rules (85%). Just one Local Government internal auditor is member of the Institute of Internal auditors, just in 54% of local governments is approved internal audit methodology.

From the results of the research the author has come to the following conclusions that no Internal audit system in Latvia local government level and no common approach in Latvia local governments internal auditing because of Latvian legislation rules. Authors' suggestion – common system for local governments internal auditing is necessary for comparable and transparent information of local government's activities.

Author considered that internal audit system changes at the level of Latvia local governments is the main instrument for improvement of the state and local administration system if combining state control audits, certified auditors (zvērināts revidents) audits and internal auditors functions according to International Standards for the Professional Practice of Internal Auditing and International Standards on Auditing (in using other auditors work).

Latvian Local Governments budgets and internal audit

Author made research on Latvia local government budgets indicators (revenue and expenditures). From research results (Table 1) we can see significant differences between Latvian local government's budgets indicators.

Table1

Latvia Local Governments Expenditures (lats) Dependent of Revenue 2013 Statistics Data

		Revenue, 2013	Expenditures, 2013
N	Valid	119	119
	Missing	1	1
	Mean	12924790,44	13648302,50
	Median	5135077,00	5263931,00
	Mode	1066121a	995595a
	Std. Deviation	45106486,449	48882486,982
	Variance	2034595119812672,500	2389497533553167,000
	Minimum	1066121	995595
	Maximum	488670968	528592054
	Sum	1538050062	1624147997

a. Multiple modes exist. The smallest value is shown

There are 11.7% smallest local governments with revenue from 1 to 2 million and Riga local governments revenue is 31.77% of total amount of revenue of Latvia local governments.

Table 2

Results of Regression Analysis of Local governments Expenditures Dependent of Revenue, 2013

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-354718.451	108247.781		-3.277	.001
	Revenue, 2013	1.083	.002	1.000	467.800	.000

a. Dependent Variable: Expenditures, 2013

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000a	.999	.999	1134797.109

a. Predictors: (Constant), Revenue, 2013

ANOVA a Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2818100040515213440.000	1	2818100040515213440.000	218836.631	.000b
	Residual	150668444060214.900	117	1287764479147.136		
	Total	2819607089592733664.000	118			

a. Dependent Variable: Expenditures, 2013, b. Predictors: (Constant), Revenue, 2013

Source: author's calculations based on data from Ministry of Finance

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From data in Table 2 we can see that regression is significant (p value is less than 0.05) and we can maintain that expenditures of local governments are dependent of local governments revenue.

Author make suggestion that implementation of internal audit in local governments can be organized based on budget indicator- revenue (see Table 3).

Table 3

Internal audit Activity charters in Latvia local governments

Local governments revenue, EUR	Auditors in local government (minimum)
1 000 000 – 29 999 999	2 auditors
30 000 000 – 59 999 999	3 auditors
60 000 000 – 89 999 999	4 auditors
More than 99 000 000	5 auditors

Source: author's construction.

Like we can see in Table 3 authors suggestion is audit unit with minimums 2 auditors in the audit unit to ensure four eye principles.

Author's suggestion is that the internal audit activity in Latvia local governments must be established by the Audit Committee, which is highest level of internal audit in public sector.

The internal audit plan will be developed based on a prioritization of the audit universe using a risk-based methodology, including input of senior management. The internal audit report may include management's response and corrective action taken or to be taken in regard to the specific findings and recommendations (Model Internal ..., 2013).

The management is respectively responsible for providing oversight and monitoring risk management strategies and processes. To effectively assume these duties, they seek assurance from various sources within the organisation.

This model, which is rapidly gaining universal recognition, is illustrated in Figure 1.
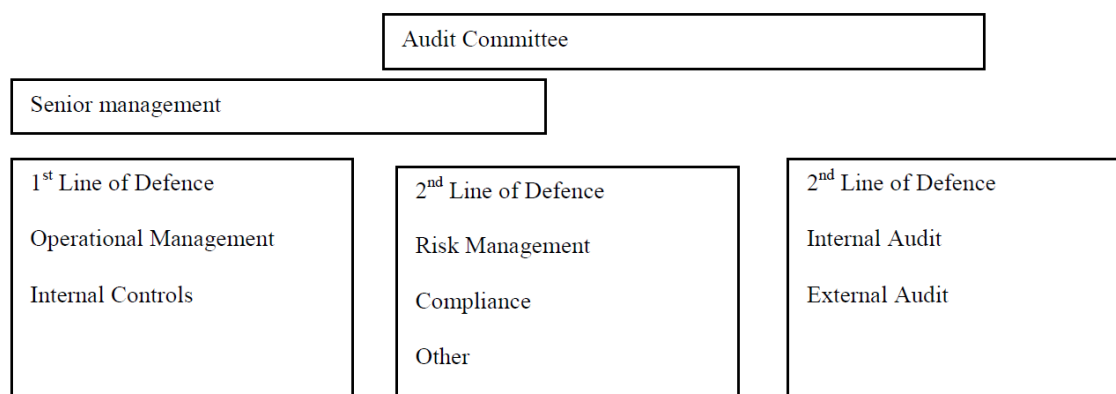
Source: Guidance for Boards and Audit Committees..., 2010.

Fig. 1. **Three lines of Defence Model**

Operational management has ownership, responsibility and accountability for a assessing, controlling and mitigating risks together with maintaining effective internal controls. The risk management function facilitates and monitors the implementation of effective risk management practices by operational management. The internal audit function will, through a risk based approach, provide assurance to the organisations management, on how effectively the organisation assesses and manages its risks, including the manner in which the first and second lines of defence operate.

Conclusions, proposals, recommendations

No Internal audit system in Latvia local government level and no common approach in Latvia local governments internal auditing because of Latvian legislation rules.

Authors research results shows that each internal auditor in Latvia local government makes audits by internal audit methodology (46%), International Standards for the Professional Practice of Internal Auditing (23%), International Audit Standards (8%), Latvian legislation and Local government binding rules (85%).

Just one Local Government internal auditor is member of the Institute of Internal auditors, just in 54% of local governments is approved internal audit methodology.

The common system (authors research is not finished yet, but one of them could be budget indicators- Table 3) for local governments internal auditing is necessary for comparable and transparent information of local government's activities.

Author considered that internal audit system changes at the level of Latvia local governments is the main instrument for improvement of the state and local administration system if combining state control audits, certified auditors (zvērināts revidents) audits and internal auditors functions according to International Standards for the Professional Practice of Internal Auditing and International Standards on Auditing (in using other auditors work).

The internal audit activity in Latvia local governments must be established by the Audit Committee, which is highest level of internal audit in public sector.

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INTERNATIONAL FRANCHISE PARTNERN SELECTION MODEL

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Abstract

Cooperations are the base for many business activities ever since. Especially vertically cooperating systems have developed in many commercial sectors at present. One of their advantages is the unification of main distribution channel members under one umbrella. Therefore, they present themselves externally as one unit, although internally, several units work hand in hand. One example of a vertically operating system is franchising. Selecting adequate partners to expand the systems and to trigger growth, coverage, market share, and popularity has turned out to be a challenge in franchising. Researchers are united in the thought of selecting qualified franchisees; it is perceived as the franchisor's single most pervasive operating problem (Clarkin and Swavely 2006), which prevails for national and international franchising alike. The goal of this academic contribution is developing a two-step model for successful partner selection in international franchising. The model is based first on cross border literature review elements, and second, paired with expert interviews from German speaking countries to finally determine a questionnaire for franchisors, in order to build the ideal profile of franchise candidates for Germany based franchisors. The main result of this paper is the model. It is based on three franchisee attributes found relevant for selection: local knowledge, soft skills, and hard skills. Final results will help any German franchisor to fine tune its approach of franchisee selection and to professionalize the selection phase in order to chose more profitable candidates. Reliability of the model will be considered after testing the two-step model in the near future.

Key words: *model, franchising, franchisee selection*

JEL code: M16

Introduction

A vertical cooperation system succeeds in unifying its main distribution channel members, working together as one team, meeting consumer needs. It is the connection between steps in the value chain, meaning between producers and suppliers (Haas & Neumair 2006). Classical cooperation channels include an independent producer, a wholesaler, and a retailer. Each of the parties works its 'input-processing- output chain' separately and hands it on to the next party. Vertical cooperation systems act together and represent themselves externally as one unit. Still, one channel member takes over the power over the others and guarantees cooperation (Kotler & Keller 2008). Vertically integrated systems keep competing over customers with non-integrated systems (Ahlert & Schefer 2013). This competitive setting allows dynamic process of change. It further supports continuous improvement in channel operation. Franchising is one example of a vertical cooperation system and has gained reputable popularity in the last decades, as it has been growing acceptance all around the world.

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Franchising is the alternative to vertical integration of producing and distributing a good or service within a company. Via franchising, cost of production and the respective coordination of it decrease, while flexibility of the business rises (Caves & Murphy 1976). The reasons why to opt for franchising as an entrepreneur are foremost a high possibility of gaining superior standard of living, the offer to receiving training on the job, and the chance to being one's own boss, (Bennett et al. 2010) while being backed up by an entire system. Moreover, franchising on the one hand is an expansion form permitting easy access to capital, rapid market penetration, development of a network distribution system, cooperation with striving entrepreneurs, and quick growth rates (Hoffman & F. Preble 1991, D. Ahlert & M. Ahlert 2010, Alon 2006), while on the other hand, it relaxes several other growth constraints a firm may have (Lafontaine 1992).

Amongst many challenges, such as to triggering growth, coverage, market share, and popularity, selecting adequate partners to expand the systems has turned out to be a key aspect with potential long-term benefits or losses, depending on the quality of the selection. Business partnerships need to prosper; otherwise they are not worth the compound effort. Challenges have existed for a long time and have not only kept business parties occupied, but also academic researchers. Researchers and practitioners are united in the thought of selecting qualified franchisees; it is perceived as the franchisor's single most pervasive operating problem (Clarkin and Swavely 2006), which prevails for national and international business alike. The ultimate goals of searching suitable candidates are to minimize the risk of inadequate selection, to increase the probability of finding the right candidates, and to diminish the component of lucky guessing and gambling for a qualified partner (Ahlert, Brock, & Evanschitzky).

The research for this paper is the quest for developing a franchisee selection model. Therefore the research question is formed as follows: What does model contain to include the most favourable franchisee criteria, which lead to a higher chance of choosing a well performing future franchisee candidate. The goal of this contribution consists of the creation of a selection model, which can be tested within the franchisor community. One contribution to the discipline of franchising is the collection of examined selection criteria across international literature of the last three decades. This collection then is filtered and summed up by several independent latent variables and their possible relation with dependent variables. The model will allow a deeper insight into qualifications and criteria necessary for favourable franchisee selection.

Limitations of the presented model to date include its theoretical nature. To achieve a well-rounded approach for future testing, practical input certainly improves the approach. Only after discussing the model during several occasions with additional experts in the near future, the author will be able to modify and improve the theoretical to a realistic and practical approach. The novelties of the model are twofold. For once it is the categorization of soft and hard skills for a selection process. Second it displays another category, the category of local knowledge, which adds to the existing categories, in order to establish an even more suitable framework.

Problematic questions may arise regarding further relevant categories of independent latent variables, which may complement the model. Therefore this model is no claim of perfection, but a start of capturing the selection process, displaying measurable variables, and suggesting them for future testing. Main results are yet to be found after verification of the model. Final results will help any franchisor to fine-tune its approach of franchisee selection and to professionalize the selection phase based on relevant criteria gathered in international literature.

Research results and discussion

Generally, researchers distinguish between strategies of selection processes and a combination of selection characteristics. Establishing well-conceptualized processes inside the company before entering the selection procedure is a necessary step to discovering talented individuals. No matter whether

strategies of selection processes of a combination of selection characteristics are emphasised during the process or not, first, decision-making needs the involvement of numerous department heads. More critical eyes generally enhance the quality of the finally selected applicant and the combined effort helps screening a wider spectrum of demanded skills. Altinay (2006) observed this procedure in large international corporations. Second, the understanding of the difference of country markets, including culture is another relevant focus the headquarter needs to include in its expansion strategy. The research and preparation for these potential knowledge gaps brings a franchisor closer to understanding the individuals interested in a specific franchise market. Then, a franchisee selection process flows empathetically, and later misunderstandings can be minimized.

The overall topic of franchising also touches distinct well-known economic theories. Amongst the most commonly cited in franchising are transaction cost theory, principal-agent theory, and resources scarcity theory, which all play vital roles in the area of national and international franchising environments. Franchising emerged by strongly being affected by transaction cost theory and developed into being a significant business strategy to reduce transaction cost (John Stanworth & Curran 1999 citing Jones 1995). To reduce transaction cost, frictions that result in interruptions and failures of business need to be reduced (Williamson 1989). Moreover, agency problems influence the decision whether to own or franchise, since monitoring cost of employed company managers can turn out higher than the cost of franchising the unit. Brickley and Dark (1987) refer to these behavior as inefficient risk bearing. Transaction cost can be seen as combination of rational assumptions and self-interest seeking assumptions. The result is a taste of guile amongst others (Williamson 1996). Resource scarcity is a general economic theory and strongly applicable in the case of franchising (Combs, Ketchen, et al., 2011) The short summary of mentioned theories affect franchisees and franchisor alike, as well as they are applicable to the franchisee selection process.

Also several key success factors in franchising are of high relevance. Amongst them is partner selection. Franchisees need to have a special mix of entrepreneur and employees characteristics. Many discussions arise about the entrepreneurial aspect of franchisees and whether they can be seen as "real" entrepreneurs. One group of researcher argues against franchisees reflecting the entrepreneurial spirit since the franchisee follows the given paths of the franchisor of which many are legally defined in the franchise contract. Another argument is, that the risk of a new market entry is shared between franchisor and franchisee; and business opportunities are normally identified by the franchisor. Others critique and argue for franchisees to be managers. In their view, franchisees only manage their franchised units, but do not pursue a significant overall growth strategy (Ketchen Jr. et al. 2011).

Expansion tactics for franchisors can be multiple, such as growth plans, gaining market share, or as tactics for national and international market entry strategies. From an opportunistic angle, franchisors can select adequate international franchise partners to complement the franchisors strategy abroad. "International franchising is one of the most efficient and successful expansion strategies in cross-border distribution," (Hero 2010) it bears minimal risks and a rapid entry strategy (Alon 2006). Nevertheless, selecting suitable business partners abroad stays a noteworthy research problem (M. Thompson & Stanton 2010). Some franchisors do not favour the internationalization of their operations, as they prefer focusing on their respective national markets to bundle their resources (Oxenfeld & Thompson 1969).

Resulting from the urge to internationalize, various challenges of internationalization reach out to institutions engaging in cross-border business. In franchising local knowledge is necessary for franchisee candidates to pursue a licence in their selected geographic area (Ahlert & Wunderlich 2002). Local knowledge is a relevant (Doherty 2009), yet little examined aspect, for successful partner search. "Langston and Teas (1976) found that the international orientation of US firm's top management correlates with whether or not they had lived abroad, could speak foreign languages and whether their foreign experiences were favourable or not" (Eroglu 1992 citing Langston & Teas 1976). Also Doherty and Quinn (2007) reflect that problems in international retail franchising may arise from cultural and

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language barriers, plus different local operating practices. For this reason, the local candidate is seen as rich source of information, beside a fincial empowerment of the sytem (Eroglu 1992 citing Langston & Teas 1976).

Therefore, the author claims local knowledge to be a relevant factor for successful partner search, and in the case of franchising, it is a applicable factor for successful international franchisee search. Thus, the first hypothesis is stated as:

H1: The better the local knowledge of a franchisee candidate, the higher the quality of the selected franchisee.

Many researchers, Altinay, Jambulingam, Ahlert, Clarkin, and Stanworth amongst others, have dedicated their contribution to franchise expansion topics. Relevant authors contributing to the topic are mostly publishing about the North American, Australian, and European market. Summarizing the examined literature, it is clear, that the core literature comes from societies, influenced by western civilization. Due to this prevailing situation, required skills as displayed in the following paragraphs, may differ depending on the prevailing societal influences in other countries or cultural areas. The author keeps this aspect in mind during further exploration of the topic.

As local knowledge can only be one part of the ideal franchisee profile category, other criteria are yet to be determined. Considering selection criteria apart from the selection process, several authors have grouped abilities, talents, and skills for certain business tasks. In 1991 Geringer brings an approach of task-related and partner-related abilities into the field of discussion. Specifically in the hotel industry, Altinay found out that both, task and partner-related criteria should be identified early in the selection process to find hints on whether the applicant has the necessary potential to fit the required profile (Altinay et al. 2013 citing Altinay 2006). The distinction of abilities in the field of business partner selection is therefore an already known fact.

In this paper, the author decides to take on a combination of soft skills and hard skills to determine the fruitfulness of the fit between franchisor and franchisee. Criteria, such as the will to work hard (McCosker 2000, DeCeglie 1993, Lim and Frazer 2004, Ramírez-Hurtado et. al 2011) and appropriate financial background were found to be among the most relevant hard and soft facts (Doherty 2009, Rahatullah and Raeside 2009, Clarkin and Swavely 2006, Olm et. al 1988, DeCeglie 1993, Hsu and Chen 2008). Also education (Doherty 2009, Clarkin and Swavely 2006, DeCeglie 1993), and experience (Hsu and Chen 2008, Clarkin and Swavely 2006, McCosker 2000) are often rated highly towards a fitting candidate profile. As per definition soft skills are generally referred to customer handling, communication, problem solving, teamworking, loyalty, enthusiams, punctuality, and strong work ethics (Oxford Reference online). Hard skills are generally defined as numeracy, literacy, fluency in a foreign language, and specific job-related technical abilities (operating a machine, creating a spreadsheet, touch-typing, driving, dressing a wound) (Oxford Reference online).

Resulting from the above, hypothesis two and three are stated:

H2: The higher developed soft skills of a franchisee candidate, the higher the quality of the selected franchisee.

H3: The higher developed hard skills of a franchisee candidate, the higher the quality of the selected franchisee.

Based on the three mentioned hypotheses, the points to be taken a close look at are soft skills, hard skills, and having local knowledge in the geographic area of operating the business. As far as the operationalization of the specific variables is concerned, the following measurements can be assumed. For local knowledge different measurements of the ability of speaking the local language, period of how long the person has lived in the region claimed franchise territory, and general business, social and legal knowledge are captured. Soft skills can be operationalized through measuring general work ethics,

punctuality on the job, loyalty to the business, enthusiasm for work, and general communication skills. Hard skills for franchisee candidates can be operationalized by measuring literacy, numeracy, job related abilities, being fluent in another language, type of academic schooling, and financial background of candidate. As for the total performance of a franchiseship, indicators such as number of years in the network, the increase of number of employees at the franchisor, and sales growth are relevant information sources.

Three independent variables are chosen for finding a suitable partner: first local knowledge, second soft skills, and third hard skills. These three categories lead to an internationalization fit, interpersonal fit between franchisor and franchisee, and an objective fit respectively. All components influence the total performance of the franchiseship, while performance is the dependent variable.

In detail, the model consists of attributes found in previous studies to be significantly influencing the ideal franchisee profile. Cross-border partner selection adds to the difficulty overall. For this reason, a special feature in this model is the understanding that national franchisee selection may differ from international franchisee selection. Difficulties of international business may arouse in the absence of awareness of certain challenges. These obstacles in the target market include distribution of wealth, egalitarian of society, types of laws, foreign investment procedures, communication styles, human relationship dimensions, freedom of press, political and religious boundaries, gender issues, consumer and commercial spending, and many more topics (Hero 2010). Both parties, franchisor and franchisee, have to be aware of prevailing differences and resulting challenges, as it is equally difficult for a franchisor to export a certain system into problematic market, as it is for a franchisee to import a non-fitting system structure into a certain market. In addition, compatibility of the parties, goodwill, and trust are needed for any relationships, and so they are needed for franchiseships.

Gaul's franchisee selection model
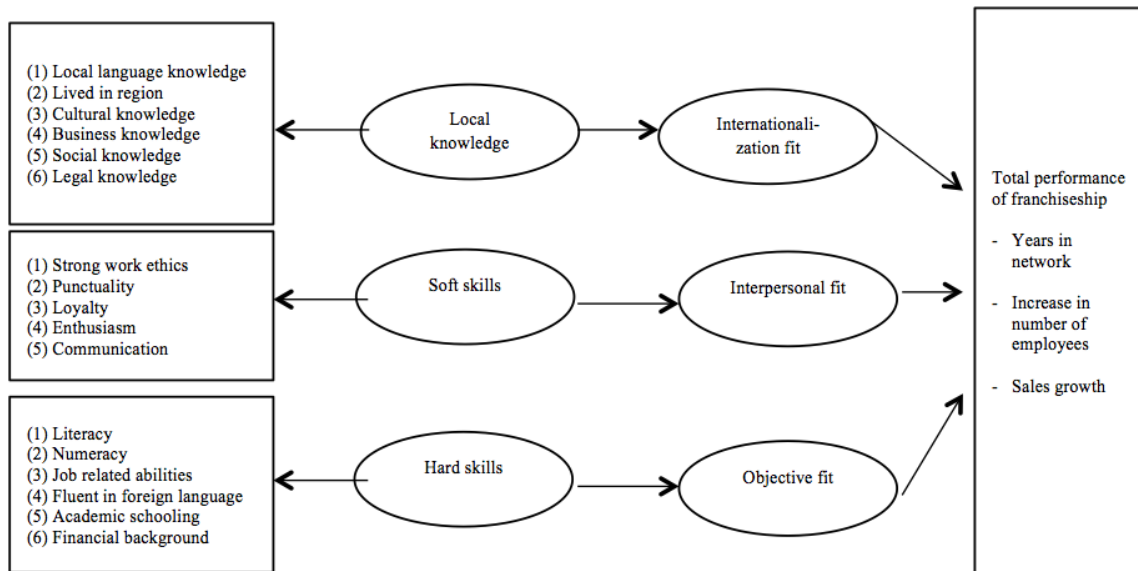
Fig. 2. **Author's model to date**

The model demonstrates the dependent variables on the right side "total performance of franchiseship", and the independent variables on the left side "local knowledge" determining the so called

internationalization fit, "soft skills" to determine the so called interpersonal fit, and "hard skills" to determine the so called objective fit. All fits together influence the quality of a candidate. The author proposes the use of expert questionnaires for verifying the elements of the model. Based on this input and an improved model, a second questionnaire shall be distributed to franchisors, in order to receive feedback from actual decision makers in the selection process.

Conclusions, proposals, recommendations

The conclusion of this paper is the construction of the Gaul's selection model. The model is based on literature review aspects and has so far no practical verification. The model takes into account that several factors influence the quality of franchisee selection, which again influences the performance of the member in the systems. To date, the model is build on three selected criteria.

1. Internationalization fit: Local knowledge is seen as key element for future franchisees to successfully establish their business as entrepreneurs. Local knowledge gives the franchisor the competitive advantage entering a market. Especially for foreign markets this qualification is of high value for the franchisor.
2. Interpersonal fit: Soft skills are necessary to progress in the franchise network, as they include skills to externally and internally operate the new business.
3. Objective fit: Hard skills complement the well-rounded qualification packet of a franchisee candidate. In combination with high soft skills and great local knowledge, the candidate may resemble high potential for entrepreneurial activities within the system.
4. As suggestion, to ascertain a higher robustness of the model, the developed hypotheses shall be tested with the presented model to give answers to vital aspects of national and international franchising.

The author has started gathering expert opinions to improve the model. In further research, these finding shall be presented and form the base for a robust model and additional data collection from actual franchisors. In the current state of the research project and with an intense review of specific literature, the author believes that the stated hypotheses are highly likely to be temporarily accepted.

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ETHICAL CODES IN LITHUANIAN SMALL AND MEDIUM-SIZED ENTERPRISES: PROBLEMS AND SOLUTIONS

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Abstract

Nowadays competitiveness is very strong in the market, economic situation is complex, sometimes rough, and tentative. A lot of depends of effective management, on solutions based on new paradigms, new views, and approaches. Business ethics is still one of the spheres which is not fully used in Lithuanian enterprises. Lithuania remains as one of the countries applying ethical principals in enterprises rather reserved. Ethical issues are rather complicated and might be an object of intensive discussions. **The scientific problem** of this article is how ethical codes might be more effectively implemented in activity of Lithuanian small and medium-sized enterprises (SMEs). **The aim of the article** is to analyse the importance of ethical codes in enterprises disclosing the results of empirical research made in Lithuanian SMEs. **Research object** of this article is appliance of ethical code in an enterprise. **The tasks of the article are**: to ground the importance of ethical codes in enterprise activity, to present situation of ethics' implementation in Lithuania, to reveal the results of empirical research about ethical codes, fulfilled in Lithuanian SMEs; to evaluate practical situation and propose solutions how more effectively implement ethical codes in Lithuanian SMEs activity. The empirical research was made in Lithuanian SMEs applying ethical codes in their casual activity. **Research methods** used in preparing the article are scientific literature analysis, pilot structured interview in Lithuanian SMEs.

The main outcomes of the article are: ethical code might be rather useful instrument in strong competition; Lithuanian SMEs have some problems implementing ethical codes in their activity, but overall effect of implementation of ethical codes in enterprises is very positive as to the enterprises themselves and society in a whole. Enterprises need to have good examples in order to implement ethical principals in their own activity. Being ethical must supply some added value that enterprise could really experience. Lithuania and other rather new EU countries should develop and use research for their enterprises and rising ethical problems there.

Key words: *ethical codes, business ethics, Lithuanian SMEs*

JEL code: M140

Introduction

Strongly competitive environment fosters to take various measures in organisations for strengthening position in the market. One of them is appliance of ethical code. The main reason why enterprises apply ethical codes in their activity is improving of organizational climate "so that individuals can behave ethically" (Shaw B. and Barry J., 1995; Adams J. S. et al., 2001). Ethical codes help to institutionalize ethical norms and values in organisations. Such institutionalization helps keeping some rules in different situations for members of enterprise as well as helps for adapting to new ones to organizational climate. Ethical codes fulfill very important function: they are managerial and legal tool in enterprises (Adams J. S. et al., 2001). As a legal and administrative instrument, codes of ethics may have a leading role in the

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infrastructure of ethics. At the same time, they establish and publicize the behavioral norms and standards gaining control function. Most of the codes generally have dual purpose:

- Discipline;
- Set aspirational standards.

The arguments for and against ethical codes still exist. Researchers are arguing about effectiveness and necessity of ethical codes in business (Rayborn C. A. and Payne D., 1990; Donaldson T., 1996; Bass B. M., Steidlmeier P, 1999; Adams J. S. et al., 2001; Wotruba T. R. et al., 2001; Pater A., van Gils A., 2003; Lawton A., 2004; Coughlan R., 2005; Schwartz M. S., 2005; Garcia-Marza D., 2005; Vasiljeviene N., Vasiljevas A., 2006; Waldman D. A. et al., 2006; Rodriguez-Dominguez L. et al., 2009; Kinney J. A. , Emerson T. L., Neubert M. J., 2010; Svennson G. et al., 2010; Forsyth D. R., O'Boyle E. H. Jr., 2011; Williams S., 2011; Winkler I., 2011; Sanchez-Garcia I. M. et al., 2013; Schwartz M. S., 2013).

The aim of the article is to analyse the importance of ethical codes in enterprises disclosing the results of empirical research made in Lithuanian small and medium-sized enterprises (SMEs). **Research object** of this article is appliance of ethical code in an enterprise. **The tasks of the article are**: to ground the importance of ethical codes in enterprise activity; to present situation of ethics' implementation in Lithuania; to reveal the results of empirical research about ethical codes made in Lithuanian SMEs; to evaluate practical situation and propose solutions how more effectively implement ethical codes in Lithuanian SMEs activity. The empirical research was made in Lithuanian SMEs applying ethical codes in their casual activity. **Research methods** used in preparing the article are scientific literature analysis, pilot structured interview in Lithuanian SMEs.

Novelty/ Value of findings. The results of this research are rather new and valuable to SMEs in Lithuania preparing implement ethical codes in their activity as well as results are valuable to further research about implementation of ethical codes situation in Lithuania. Findings are important for politicians and society, supporting ethical values in business environment.

Limitations of empirical research are related with rather narrow research based on SMEs. But from the other side SMEs are more lacking of resources and inspiration for implementing ethical codes in their activity and this research may serve as inspiration for real actions.

Theoretical considerations in this article are made on importance and effectiveness of ethical codes in enterprises, main functions and values cherished by ethical codes.

Modern business ethics is based on three main statements:

- A company must create and provide the society not only with material products but also create and cherish moral values.
- A profit of business organizations and other incomes must be directed to achieve socially beneficial aims.
- When solving problems encountered in the business world, coordination of interpersonal interest must be prioritized and production issues should be taken into account only after all.

Ethical code is a system of principles governing morality and acceptable conduct[2]. "Organisational codes of ethics are intended to capture the key values on a firm and to convey values to both internal and external stakeholders" (Coughlan P., 2005). Forsyth D. R., O'Boyle E. H. (2011) define code of ethics as "a set of principles, both general and specific, that by identifying actions, emotions, and psychological states that are prescribed and proscribed, provides guidelines for actions in morally complex situations" (p. 355). If organization does not have an ethical code it might be considered as it ignores morality and social values (Adams J. S. et al., 2001). Ethical codes are not the tool for obeying the legal acts, but they should be tightly connected with law and especially oriented to specific values, moral norms in enterprises. In the codes corporate values and the corporate expectations of managerial and employee conduct can be expressed (Williams S., 2011)

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[2] http://www.thefreedictionary.com/ethical+code

The code's primary function may be to signal what behavior (in this case – ethical) is expected in organization (Adams J. S. et al., 2001). "Codes of ethics are documents that both define a set of specific behavioral guidelines for members of the company and propose how social actors should understand their position and the position of others within the company" (Winkler I., 2011, p. 662). Ethical codes are important in corporate model of sustainable business from ethical perspective (Svennson G. et al., 2010). Sustainability and integrity of enterprise activity are important components in overall status and position of enterprises (Lawton A., 2004). The purpose of ethical codes is using them to solve the ethical contradictions and inconsistencies in organisations and to transmit the organisation's moral principles to employees (Pater A., van Gils A., 2003, p. 764). Wotruba T. R. et al. (2001) state that the main function of ethical codes is solving some ethical dilemmas in organisations and transmitting of moral principles, cherished by organization, to the employees. Lawton A. (2004) marks out the following functions of ethical code (p. 95):

1) Ethical codes offer a clear statement of values, roles and duties, rights and responsibilities;
2) Codes clarify ethical behavior expected from stakeholders, public officials, society;
3) They act as guidelines in developing ethical conduct;
4) Ethical codes form an independent, consistent and predetermined set of criteria for ethical conduct;
5) Help resolve possible ethical dilemmas;
6) Clarify processes and sanctions when appears some misconduct;
7) Ethical codes help minimize ambiguity and reduce uncertainty;
8) Offer a coherent statement of ethical conduct;
9) Promote public trust;
10) Generate pride amongst staff;
11) Establish external credibility and indicate that ethics are being taken seriously.

Throughout the history of ethical codes their content have evolved from focusing on illegal activities, strict compliance with the law and employee misconduct towards environmental issues, workplace safety, and the achievement of long-term relationship with customers and suppliers (Rodriguez-Dominguez L. et al., 2009; Sanchez-Garcia I. M. et al., 2013). According Pater A. and van Gils A. (2003), ethical codes have the potential to affect the behavior of employees in two ways:

1) By fomalising expected behavior;
2) By changing organizational ethical climate (p. 764).

Formalisation of employees' behavior is fulfilled by systematic detecting and sanctioning unethical behavior. It is important that measures would be taken not accidently but in every unethical case. Employees should know that no exceptions exist in their behavior and actions. Scrutiny is recommended in solving ethical dilemmas in organisations. Wotruba T. R. et al. (2001) state that ethical climate in organization a lot of depends on how the members of organization are familiar with the content of ethical code. The practical application and usefulness of the code is also very important. Raiborn C. A. and Payne D. (1990) suggest a model based on values for creating effective ethical codes (pp. 48-49). Those main values are: justice, competence, utility, and integrity. Justice involves impartiality and good faith in dealings with others. Justice is very important in interpersonal dealings. Competence is a high value standard for an organization. Utility is connected to societal improvement and responsible usage of resources. Integrity according Raiborn C. A. and Payne D. is based on grounding ethical codes on moral values. Work values are specific individual behavior guides important to interpersonal stability when compared to an alternative (Williams S., 2011), for example, being loyal to the company or not. Donaldson T. (1996) distinguishes such values important in workplace: respect for human dignity; respect for basic rights; good citizenship.

In the companies transformation of traditional moral values is needed. Values should be adapted in specific business environment. Consideration about following justification: "I did it because it was legal" must be made because it is better than ethical codes are tightly connected with legal acts; there is little

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space for interpretations (Raiborn C. A., Payne D., 1990, p. 51). Authors emphasize three important factors influencing use of ethical codes by employees: culture, communication and compensation practices. Strong organizational culture helps to provide grounded ethical decisions in enterprises. Everyday communication and appliance of ethical code in everyday situations allow reaching the appropriate level in organizational ethical behavior and ethical standards. Compensation mechanisms should be clear and understandable for all members in organization informing that unethical behavior is not tolerated and even non useful.

According Schwartz M. S. (2013), many individuals accept 20-60-20 rule (p. 40). 20 % of a given workforce will always do the right thing; it means will act legally or/ and ethically regardless any circumstances at the workplace. The other 20 % of workforce will always engage in illegal or unethical behavior when the opportunity occurs. The remaining 60 % will decide of acting legally or illegally, ethically or unethically depending on the surrounding environment. So, decision rests upon top management how to create such organizational environment that those 60 % of workforce will act to the interests of company. Shwartz M. S. (2013) suggests that there is needed to build ethical corporate culture (41 p.), where should be:

1. A set of core ethical values;
2. A formal ethics program, including a code of ethics, an ethics hotline, and an ethics officer;
3. Regular ethical leadership is needed in organization (good examples from top managers, board of executives).

Earlier Schwartz M. S. (2005) proposed a set of universal core ethical values:
- Trustworthiness, including honesty, promise keeping, integrity, transparency, reliability, and loyalty;
- Respect, including respect for human rights;
- Responsibility, including accountability, accepting fault, and not blaming others;
- Fairness, including notions of process, impartiality, and equity;
- Caring, including sensitivity towards others and avoiding harm;
- Citizenship, including obeying laws, assisting the community, and protecting the environment.

The code of ethics is the most important document in which core ethical values should be included. Values should be also included in annual report, public accountability statement, or social report (Schwartz M. S., 2013). Enterprise homepage is also the place where values should be reflected. The processes going in the companies should include core ethical values, for example, hiring of new employees. Ethical training should be included in agenda of important events in the enterprises. Leaders and executives need to establish internal organization-specific definitions and descriptions of each core work value (Williams S., 2011).

Very important role goes to general managers in the enterprises because they are responsible for ethical leadership. Showing example by behavior of top managers is very important and has strong positive impact on employees (Trevino L. K. et al., 2005, p.117). Quiet often senior managers do not have appropriate perception of ethics by themselves or keeping ethical standards are very poor from their side. Lack of good examples from top managers influences overall organizational climate and ethical culture in enterprise. The involvement of Board of executives in designing and implementing ethical codes has grown considerably (Berenbeim R. E., Kaplan J. M., 2004; Sanchez-Garcia I. M. et al., 2013). Leaders at all levels should be seen as examples of value implementation practices in the companies. Tepper B. J. (2010) suggests that managers should be trained of cherishing and promoting ethical values.

Trevino L. K. et al. (2003) suggested dimensions to ethical leadership. One dimension is a "moral person" dimension, the other – "moral manager" dimension. Moral person's characteristics obligate manager to act in work environment keeping societally common moral norms and keeping moral behavior in decisions and relations with customers, employees, competitors, society. Moral manager's characteristics are more related to being a strong moral manager and a strong moral person (Schwartz M.

S., 2013, p. 45). The most important point of ethical leadership is that actual managerial behavior would be identified with declared ethical behavior and ethical attitudes. Sanchez-Garcia I. M. et al. (2013) emphasize that CEO's characteristics may influence organizational culture, from another side CEOs change organizational culture themselves by strong leadership. CEOs can be considered as an essential ethical agent inside organisations.

Ethical codes play key role in relations with stakeholders as well (Kinney J. A. et al., 2010). "A code of ethics is a critical component of an ethical infrastructure that is likely to contribute toward developing an organizational character that can maintain or restore a firm's ethical reputation in the eyes of its stakeholders" (p. 513). The role of ethical code is related with internal and external stakeholders (Winkler I., 2011). Often in ethical codes employees are separated from the company as top management states about themselves "we" and apply in the codes "our employees" (Winkler, 2011, p. 661). Language of ethical codes becomes very important ensuring good relations in the companies (Fairclough N., 1995; Winkler I., 2011). It is rather doubtful application language for good organizational climate formation. From one side ethical code sometimes hold a tension between top managers and employees, from another side ethical code ensures that moral and ethical face of company depends on employees. It is very important to choose appropriate tone and language in ethical codes as the positive results of ethical code depends on authors and readers common result (Winkler I., 2011, p. 663).

The other very important question for discussion is the effectiveness of code. Here the most important are the criteria of effectiveness (Winkler, 2011, p. 663). Employees are the group that should ensure ethical behavior according to the other stakeholders groups. Ensuring of power relations according the codes shows the effectiveness of the codes in enterprises. The effectiveness of ethical codes might be tightly connected to integrity of ethical norms in practice (Pater A., van Gils A., 2003). When sanctions are taken for every unethical behavior in organization it is perceived as rather positive effect. But if, for example, salaries are not paid in time, it is also perceived by employees as unethical managers' behavior without sanctions. Integrity principal is broken.

Effectiveness of ethical code is tightly connected with how employees perceive ethical climate in organisations. Often the appropriate behavior of top managers is more important than existence of ethical codes. The position of moral manager strengthens the connection between top managers and employees because good relations could be kept by training and education. The effectiveness of ethical codes might be measured by ethical auditing (Garcia-Marza D, 2005; Svensson G. et al., 2010).

Lawton A. (2004) emphasizes that a consideration of context, content, implementation and enforcement of codes can enhance their effectiveness (p 94). But it should be considered that ethical codes have been recognising a lot of critique. Most of it goes for that codes cannot provide guidance in all situations might be difficult to implement and enforce, might cause disagreement among groups (CSR) of stakeholders (Vasiljeviene N., Vasiljevas J., 2006). The arguments against corporate social responsibility of enterprises still exist (Bernatonyte D., Simanaviciene Z., 2008). In Lithuanian enterprises such initiatives are prompted by foreign partners or mother enterprises. The economic barriers for slow development of corporate social responsibility might be various, tightly connected with innovation and technological development (Vasiljeviene, Vasiljevas, 2006), corruption level in the country.

How to act that ethical codes become effectively implemented in activity of enterprises? There are some important points that might be stressed:

1) The ethical principles should be embedded in organizational culture attracting all stakeholders groups into the process.
2) Members of enterprises should see that ethical codes are active and usable for unethical behavior situations; the effectiveness of ethical codes should be marked out clearly.
3) Consulting, learning and training are very important for developing understanding in enterprises of overall use of ethical codes as well as developing appropriate skills.
4) Strong civil society with moral values and participation activity is needed for effective implementation of codes.

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Effective implementation of ethical codes is tightly connected with rising of ethical leaders in organisations. Waldman D. A. et al. (2006) stress that charismatic leadership of CEOs may also affect engaging level in ethical concerns, and CSR development. Managers might be involved in moral values and ethical norms implementation in enterprises for very simple reason – they must be effective leaders. CEOs need to intellectually stimulate leaders who are related to altruism, justice, and humanistic approach (Bass B. M., Steidlmeier P., 1999). As Sanchez-Garcia I. M. et al. (2013) research results provide "the decision to adopt a code can be considered as an overall choice undertaken by the company as a whole or imposed from stakeholders 'wishes and expectations, and not significantly influenced by specific CEO's values and perspectives (p. 309).

The effective implementation of ethical codes in enterprises a lot of depends on systematic approach to rising ethical problems and dilemmas. Ethical code is just one element in that system, but plays an important role.

Research results and discussion

1. Situation of ethics implementation in Lithuania

In Lithuania, as well as in many other countries, a rapid spread of creation of codes of ethics was noticed. Reacting to higher society's expectations, codes of ethics, that define target values, responsibilities, boundaries of certain actions, etc., are being created They are regarded as one of the means of management and control that helps to achieve greater efficiency of government institutions and business organizations. Importance of such documents is publically recognized, however, there are also many doubts within the academic discourse about the actual power of such documents.

Having analysed the information provided by a professor of Kaunas University of Technology Jolanta Palidauskaitė (2010) on codes of ethics in Lithuania (public sector) it was determined that the status of some existing codes is different. While most of the codes have a legislative status, others were adopted by a decision made at the official meeting. Resources of most of the codes of ethics in Lithuania are legislation of the Republic of Lithuania and general ethical standards. In some of the codes of ethics two types of provisions are distinguished: general and specific emphasizing only those questions that are relevant to a particular institution or occupation. Codes of ethics in public and private sectors in Lithuania differ in their scope, objectives, structure, questions discussed and mode of analysis. In many of the codes, questions of responsibility or supervision of codes are only mentioned, but not analyzed further.

Examples of codes of ethics in public sector of Lithuania are rather many. Codes of ethics are used also in organizations of a private sector. For example (Palidauskaite, 2010):

- Lithuanian Brewers Code of Honour (Lietuvos aludarių garbės kodeksas);
- Code of Ethics of Lithuanian Medical Association (Lietuvos gydytojų sąjungos profesinės etikos kodeksas);
- Ethical Rules of Lithuanian Corporate Lawyers (Lietuvos įmonių teisininkų profesinės etikos taisyklės);
- Code of Ethics of Lithuanian Association of Public Relations Specialists (Lietuvos ryšių su visuomene specialistų sąjungos etikos kodeksas);
- Code of Ethics of Lithuanian Builders Association (Lietuvos statybininkų asociacijos etikos kodeksas);
- Code of Ethics of Lithuanian Journalists and Publishers (Lietuvos žurnalistų ir leidėjų etikos kodeksas);
- Code of Ethics of Lithuanian Social Workers (Lietuvos socialinių darbuotojų etikos kodeksas).

It is claimed that good understanding of business ethics, respect to the norms and unwritten rules recognized in the business world is a way to success. However, in Lithuania, many things are different. Next relevant question is whether everything is exactly how it has to be. Socialization is highly dependent on the model of behavior of high public figures. Many management situations show that people are

inspired to act in one or another way by the examples that they see, and not from what they hear. What people see now in Lithuania? Let's start with government. Government is that institution which is basically example for the whole country. High officers steal money and care only of their own well-being. Moral or ethical norms seem to be only an imaginary thing, something meant for others but not for them. They cheat, lie, steal, get caught, and do that again. Corruption is one of the main issues related to ethics in Lithuania. Ethics is a vital factor in creating and maintaining trust, first of all, in government and its institutions and in business. Everything starts with government. If a bad example is demonstrated in governing bodies, so how can we expect the norms of ethics to be followed by the rest of the nation, especially the owners of various forms of business and then employees.

If government ignores ethical norms or codes of ethics why business people should care about following them? Lithuanian government's reputation is very low within the society. Almost everyday people hear in the news and read in the newspapers about unethical behavior and actions of the highest governing bodies. According to OECD (The Organisation for Economic Co-operation and Development) society's trust in government and other public institutions is getting lower and lower every day not only in Lithuania. It looks like people are not willing to believe in persons that make important decisions and think negatively about activities of institutions. This kind of so called trust deficit is caused by various scandals and inappropriate actions of responsible government bodies. Officers are caught drunk at work, they use State's money for their own purposes, police officers, doctors, lawyers take bribes disregarding the existence of codes of ethics adapted especially to avoid unethical behavior in their professions, working spheres. And there are many other similar examples every day.

In the world, Wall Street manipulates and plays with global markets. Ethical standarts applied for ordinary employees is nothing compared to what is going on behind the scenes when the great "players", investors, bank magnates perform their own speculations with fluctuating, unstable markets. There is a serious problem seen: business ethics and codes of ethics and various institutions meant to deal with violation ethical norms are impotent to prevent from what is happening. They can only reflect the things that already happened. Ethical standards are not able to prevent from these things because financial machinations, transactions and other unethical things are being done along with ethical declarations.

Business ethics in Lithuania started in a very difficult way. The main obstacle was prevailing attitude that business and morality are incompatible. Especially hard the years were of Lithuanian Independence and all related events: crises and collapse of banks, privatization of most of the companies, their bankrupts and etc. Business ethics became especially relevant for Lithuanian businessmen when they started cooperating with foreign partners. Searching for ways into the Western markets, seeking civilized cooperation between the partners, encouraged businessmen to realize that ethical norms of business are not only nice and in a way funny theory. More and more companies started implementing the ideas of honest behavior with employees, clients and business partners.

However, it did not last long. Economic crisis revealed the real face of some of Lithuanian businessmen. For many of them ethical norms remained only words written in the websites of their companies. There were seen attempts to save by making use of the employees, bankrupts of companies, shareholders' hiding from their clients or partners and avoiding liability for debts. Such actions extremely decreased society's trust in business, which is basically of the same level nowadays.

According to a philosopher Tomas Kavaliauskas[3], there is no such thing as a model of Lithuanian business ethics. He claims that Lithuanians are very nimble, however, not in a positive sense. This is an ability to take benefit from a changing situation. In cases of unstable economic situations people that are nimble know how to recognize changes and find ways to take advantage from them and eventually make profit. During Soviet period businessmen were trying to find roundabouts by means of presents. Today the situation basically has not changed. A person can run business if he/she is nimble, can maneuver in

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[3] Kairiūnaitė A. (2013). T. Kavaliauskas: letuviško verslo etikos modelis – gebėjimas prasisukti. LRT klasikos laida „Manasis aš". Available on the internet: www.delfi.lt

changing circumstances. Codes of ethics are mostly an obligation that has to be followed but which is not; it is applied only in theoretical sense. Many companies declare their ethics related rules, however, are far away from following them. Lithuanian news website www.delfi.lt carried out a very simple online survey about ethical norms and codes in Lithuania. Most of the respondents claimed that in Lithuania businesses do not care about moral issues.

Society is worried about the effectiveness of codes of ethics. It is assumed that the codes are too specific or too general, inappropriate to implement, unused, unknown or even offensive to the employees. One of the weak points is vague responsibility and question of monitoring of the document. Also, it is claimed that a relatively simple arrangement of rules is not the best way to deal with complex ethical issues that people face. No arrangement of rules will help to solve every ethical dilemma. Other problems related to the codes are confusion regarding their purpose or inappropriate/poor implementation.

Usually, in society, it is very difficult to come up with an agreement what is moral or, in other words, ethical and what is not. That is why various controlling structures are being established. Various institutions, committees, agencies are established to control general ethical structure and ensure compliance with codes of ethics. In Lithuania, there are many institutions and associations fighting with unethical behavior in business and in government, corruption nationwide, ecological crimes, discrimination or fraud within society or its separate groups. These agencies, institutions or committees typically perform one or more of the following three roles: monitor, advice or encourage. Depending on the circumstances, their influence is defined as coercive or educational, and sometimes by both together. If an institution is established in response to a scandal or a crisis, it is more coercive in nature. If it works according to general ethical program, it is more educative.

Dominating ethics supervision institutions in Lithuania:
- Vyriausioji tarnybinės etikos komisija (Chief Ethics Commission);
- LR Seimo etikos ir procedūrų komisija (Ethics and Procedures' Commission);
- Lygių galimybių kontrolieriaus tarnyba (Service of Equal Opportunities Inspector);
- LR Seimo kontrolierių įstaiga (State's Ombudsman's Office).

Others:
- Lietuvos žurnalistą ir leidėjų etikos komisija (Journalists and Publishers' Ethics Commission);
- Vyriausioji tarnybinės etikos komisija (Chief Commission of Ethics);
- Prokurorų etikos komisija (Ethics Commission of Prosecutors);
- Teisėjų etikos ir drausmės komisija (Judicial Ethics and Discipline Commission).

Basically every code of ethics has to have a certain controlling institution, committee, commission, etc. Even it seems that mechanism of ethical control is rather big and integrating, but overall ethical morality situation in Lithuania remains rather doubtful. A lot of ethical problems exist in public sector. The unclearness of public institutions provides dual behavior situations for business and other society members. In the research made by Bernatonyte D. and Simanaviciene Z. (2008) about implementing corporate social responsibility in Lithuanian SMEs were identified that 47 % of researched enterprises were not acquainted with the concept of social responsibility, additional explanation was necessary. Respondents often CSR identified with holidays in enterprise, charity or some social projects (59 %). Especially respondents missed state attitude and real actions in the area of social responsibility in the enterprises. Authors state that CSR concept was still in more theoretical level than in practice.

2. Research results in Lithuanian SMEs, applying ethical codes

Empirical research presented in this article was made in order to clarify situation about implementation of ethical codes in Lithuanian SMEs. The research was fulfilled in selected Lithuanian SMEs acting in service sector, because this sector is very important in Lithuanian economy. 32 percent of

SMEs in Lithuania act in service sector[4]. The main motive of the research was to select such enterprises which are applying ethical codes in their activity[5]. For selection of enterprises was applied task selection. There were selected four SMEs enterprises with different activity for pilot research. Selected enterprises are described below:

1) Enterprise "A" acts from 2008. Its activity is based on photo and video services, design, layout, printing services. Enterprise has 15 employees.
2) Enterprise "B" acts from 2007. This enterprise provides services of projecting and designing in construction and building, interior design. Enterprise employs 22 employees.
3) Enterprise "C" was established in 2003. The enterprise provides services of translation from/ to 35 languages, synchronic translation, and legal affirmation of translations. Enterprise employs 28 people.
4) Enterprise "D" was established in 2007. It provides various cleaning services: office cleaning, window, glass wall partition cleaning, cleaning after maintenance refit, dry cleaning of carpets, general cleaning, waxing and other similar services under agreement. Enterprise employs 36 people.

In every enterprise were selected 2 respondents: one of them was general manager, the other – ordinary employee. The task of such selection is to have representatives from both sides: employer and employee. Employees were selected accidently. **The aim of empirical research** was to clarify how Lithuanian enterprises implement their ethical codes in practice and to disclose peculiarities in applying of ethical codes in all organizational levels. **The research object** of empirical research was ethical codes in Lithuanian SMEs. **Research method** was sctructurised interview as this method is mostly suitable when it is needed to get information about specific question in broadened explanation (as more information as possible).

The main interview questions were formed:
1) In your opinion, what main ethical attitudes are necessary in business?
2) What do you think about problems when ethical attitudes are applied in enterprises?
3) What reasons did become the main for implementation of ethical code in your enterprise?
4) Which role is played by ethical code in your enterprise?
5) How do you think is ethical code needed in your enterprise?
6) What is your opinion about being ethical? Does it guarantee profit? If yes, so why?
7) How to make ethical code appliance effective?
8) How do you think which ways, measures, and instruments would be possible effectively implement ethical attitudes in business?

The research was constructed dividing answers to raised questions in different levels: relations in an enterprise, relations with clients and partners, relations with society, and relations with state. Such subdividing of answers makes research results more constructive and clearly related with interest groups of Lithuanian SMEs. Subcategory characterizes mentioned as important ethical attitudes, roles of ethical codes. Proposition is further explanation how subcategory is perceived and interpreted by respondents.

In this part of article the main results of the empirical research are presented. Table 1 presents the main ethical attitudes, revealed in Lithuanian SMEs.

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[4] Statistics for all branches in Lithuania. Prieiga per internetą: http://www.hyfoma.com/en/europe/lt/lithuania.html5.
[5] The research was fulfilled in 2011 April by Egle Juodžbalyte supervising assoc. prof., dr. Jolita Greblikaite.

Table 1

The main ethical attitudes researched in Lithuanian SMEs

Category	Subcategory	Proposition
Relations in enterprise	Criticism – flexibility	It is based on critical view to different situation.
	Responsibility	Every employee is responsible for his actions.
	Co-operation	New employer gets an experience from colleagues and passes it further.
	Psychological climate	Ethical values and norms in enterprises must be connected to improving organizational climate.
	Kindness	Employees should be good willing.
	Respect	Respect of employees, respect to each other.
	Honesty	Honesty in paying salary; organising fair admission to positions.
	Tolerance	Tolerance to age, race, religion, nationality and other social or personal conditions.
	Effectiveness	Employees are seeking to show the best results at work.
Relations with clients, partners	Confidentiality	Confidentiality of clients information
	Honesty	Fair competitiveness
	Fulfillment of obligations	Keeping obligations and promises
	Respect	Respect for employees, clients, people overall
Relations with society	Environmental protection	Business must be environment protecting.
	Legal compliance	Legal activity, no connections with criminal activity
	Cherishment of values	Social responsibility, norms and values cherished in society
Relations with state	Honesty	Payment of taxes

The main problems from employees' side when ethical attitudes are applied in Lithuanian enterprises were researched. They are: different values, different experience, inflexibility, and age.

The main obstacle from management side was mentioned as *providing of bad examples: lack of moral norms of employer himself*. Ethical codes are rather new in Lithuania. So, the *main obstacles from the society side* were mentioned: attitude from society, inadequate behavior from public sector, (un)profitability.

The main causes of ethical codes' implementation were researched in Lithuanian enterprises as well. The mostly common factors for ethical codes implementation in SMEs are fulfillment *of internal aims and external factors.* As *main internal factors* can be mentioned: motivation of employees, flexible decision making, creation of enterprise microclimate, prevention of conflicts, promotion of effectiveness and productiveness, long-term profitability, work ethics, image creation, reaching of raised aims. As main external factor *gaining of society confidence* should be mentioned. The opinion about ethical (having ethical codes) enterprise in society is always better.

Also the role of ethical codes in enterprises was researched. The main functions of ethical codes are presented in Table 2.

Table 2

The role of ethical code in Lithuanian SMEs

Category	Subcategory	Proposition
Role in enterprise	Improvement of decision making	Unified values and norms allow making effective decisions.
	Improvement of enterprise microclimate	Vales are very important in co-operation and understanding. Ethical codes help to maintain internal sustainability.
	Prevention of conflicts	Having ethical codes less conflict arises.
	Raising effectiveness	Enterprises would be less effective without ethical codes in their activity.
	Ethical behavior of employees	Ethical codes play important role in relations with clients, help to keep confidentiality and business rules, which are constant.
	Raising of profitability	Social value.
Relations with society	Co-operation support	Creating the chain of co-operation and involving clients and other interested groups in profitability creation.
	Good ethical example	Raising up ethical society
	Changing approach to business and entrepreneurship	Creates new attitude to business and competitiveness.
	Image creation	Creates good image for society.

It is very important to notice that opinions about ethical codes in Lithuanian enterprises were just positive. According research results the role of ethical codes is significant and important in enterprises activity. *The main causes, supporting the positive effect of ethical codes in enterprises are*:

- Promotes good behavior;
- Improves relations with clients and partners;
- Makes easier fulfillment of different tasks;
- Defines attitudes of organizational behavior, obligatory for all employees;
- Helps to create positive image;
- Improves microclimate of enterprise;
- Profit rising.

There are some causes, which limit/ discipline the actions by using ethical codes in Lithuanian enterprises: corruption prevention; conflict prevention; limitless of abuse. The research fulfilled in interviewing Lithuanian SMEs revealed *the causes, deciding successful functioning of ethical codes*. Such causes are: adaption of ethical codes to employees, understandability of ethical codes, adaption to concrete enterprise, using of code in everyday activity, assimilation of ethical codes, employees' acquaintance with ethical code, maintenance of ethical codes by managers.

All measures and instruments should be taken successfully implement ethical codes in enterprise activity as the positive effect is clearly seen. *Those measures could be* discussions on ethical questions, good examples from managers, obligation to maintain the ethical behavior, support for being ethical, co-operation, control of microclimate, education and training of ethical society, ethical behavior in everyday life.

Empirical research in Lithuanian SMEs revealed that positive effect of applied ethical codes is obvious. It is very important that attitude of employees and employers about ethical codes is based on positive assumptions and attitudes. These researched 4 enterprises serve as good-practice examples in Lithuania for other SMEs about implementing in their activity ethical codes. Above mentioned measures for successful and effective implementation of ethical codes should be evaluated in enterprises by top managers and applied in enterprise activity. Especially valuable measures could be training and discussions, obligation of all members to maintain ethical behavior.

The main problems when ethical attitudes are applied in Lithuanian SMEs, such as different values, different experience, inflexibility, lack of moral norms from top managers should be tried to excluded or minimized seeking for effective implementation of ethical codes. Negative attitude from society could be changed by educational courses and seminars as well as adequate ethical behavior from public sector institutions could really strengthen positive attitudes to ethical situation overall in Lithuania.

Conclusions, recommendations

1. Ethical code might be rather useful instrument in strong competition. Ethical codes play very important role in organizational culture and formation of microclimate. Ethical codes have a lot of functions in enterprises. Codes in their content encounter relations among various interest groups of companies: employers, employees, stakeholders, customers, partners, and society. Ethical code is "the receipt" of moral values and ethical behavior in enterprise. Very important are integral elements of ethical codes such as content, context, language, but the most important is the effective (constant and integral) appliance of ethical codes in enterprise activity.

2. Lithuania has ethics supervision institutions controlling public sector. Different professionals, business groups have their own ethical codes, but overall situation in the country related with clarity of activity is not very favorable for ethical behavior. Corruption index of Lithuania is rather high and almost has not changed during twenty years of independence of the country. Society has rather negative opinion about government and business activity as acting without ethical norms. It has to be changed by educational measures, media, and, of course, real changes in institutions and enterprises of being ethical, socially responsible, and sustainable.

3. Lithuanian SMEs have some problems implementing ethical codes in their activity, but overall effect of implementation of ethical codes in enterprises is very positive as to the enterprises themselves and society in a whole. Enterprises need to have good examples in order to implement ethical principals in their own activity. Lithuanian enterprises successfully implementing ethical codes in their activity are good examples for other enterprises doubting about code implementation or the usefulness of it.

4. Being ethical must supply some added value that enterprise could really experience it. Empirical research revealed that ethical codes in Lithuanian SMEs improve decision making, improve enterprise microclimate, prevent from conflicts, raise effectiveness, foster ethical behavior of employees, raise profitability, support co-operation, are good ethical examples, change approach to business and entrepreneurship, create image. Positive value effect is clearly seen in enterprises implementing ethical codes in their activity. Consulting, learning and training are very important for developing understanding in enterprises of overall use of ethical codes as well as developing appropriate skills.

5. Successful functioning of ethical codes in Lithuanian SMEs depends on developing adaption of ethical codes by employees, understandability of ethical codes, adaption of ethical code to concrete enterprise and activity, using of ethical code in everyday activity, maintenance of ethical codes by top managers.

6. Lithuania and other EU countries should use research for their enterprises and rising ethical problems there. It is very important to find common path for society, business, politicians, and educational and training institutions for developing the framework supporting ethical consciousness in overall society

of country. Especially in Lithuania the trust in business should be strengthen. Enterprises must be interested not only in raising their profits but in applying moral values in their activity as additional value in their common gaining of profitability. Modern society values not only good products and services, but wants to see business as an integral part of responsible and sustainable society.

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ALTERNATIVE INVESTMENT FUND MANAGERS DIRECTIVE AND ITS IMPACT ON MALTA'S FINANCIAL SERVICE INDUSTRY

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Abstract

The introduction of the Directive on Alternative Investment Fund Managers (AIFM Directive 2011/61/EU) in 2013 means a radical transformation of the EU regulatory landscape for the whole alternative investment fund industry. Taking into account the growing meaning of the alternative investment fund industry in Europe, the aim of the paper is to assess the impact the Directive on Alternative Investment Fund Managers (AIFMD) will have on the Alternative Investment Fund Managers (AIFMs) managing Alternative Investment Funds (AIFs) in the EU. The research is based on the case of Malta, which is a quickly growing financial centre. The main findings are based on an analysis of questionnaire responses conducted with key players in the fund industry regulated and licensed by the Malta Financial Services Authority. This study provides an extensive analysis of the AIFMD and its impact on Malta's financial service industry. It has highlighted various factors that will have a positive or negative impact on the industry resulting from the AIFMD. The paper provides recommendations for further development of the Maltese fund industry in the context of the AIFMD that can be partially applied to other fund domiciles.

Key words: *Alternative Investment Fund Managers Directive (AIFMD), investment fund managers, incentives, disincentives, Malta*

JEL codes: C23, C24

Introduction

In June 2011, the European Commission proposed a new Directive (AIFM Directive 2011/61/EU) on Alternative Investment Fund Managers (AIFM). The aim of this Directive is to establish common requirements governing the authorisation and supervision of AIFMs in order to provide a coherent approach to the related risks and their impact on investors and markets in the European Union (Directive, 2011). According to the requirements, the AIFM directive should be in place across the whole of the European Union by the end of July 2014, thus establishing an EU-wide harmonised framework for monitoring and supervising risks as well as imposing more rigorous regulation on alternative investment fund managers. The AIFM Directive covers different types of alternative investment funds, e.g., hedge funds, private equity funds, real estate funds, retail investment funds, as well as alternative investment companies. Thus, this Directive means a radical transformation of the EU regulatory landscape for the whole alternative investment fund industry.

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The reaction of the investment fund industry was rather equivocal. On one hand, the Directive creates a European passport system for alternative investment fund managers (AIFMs), thus allowing distribution of these investment funds to professional investors. On the other hand, new regulations bring additional work for alternative managers to get the processes and procedures in place, especially concerning regulatory reporting, depositary requirements, risk management and certain disclosures to investors. Besides, some rules are still unclear, like remuneration rules of alternative managers.

The AIFM Directive requires enhanced transparency of alternative managers (European Commission, 2012) and the investment funds they manage, thus offering investors an additional protection and giving more clarity in such important issues like taxation of carried interest. On the other hand, assurance of additional transparency means extra costs for the alternative fund managers that in most cases will be transposed to investors. Therefore, the new Directive with the imposition of a licensing and regulatory compliance framework on the managers of alternative investment funds (AIFs) which are marketed or managed in the EU, will have significant implications for financial sponsors across the globe, let alone small domiciles such as Malta. The Directive introduced some transitional periods, as follows:

- 1 year transitional period until 22 July, 2014 for existing fund managers / self-managed funds to upgrade their licence into full AIFMs / self-managed AIFs or de minimis AIFMs.
- Non-EU fund managers may continue to manage / market without a passport non-EU AIFs / EU AIFs without requiring full AIFMD compliance until 2015.
- AIFMs and AIFs are allowed to engage both local depositaries as well as a depositary that is a credit institution in another EU Member State until 22 July, 2017.

The transposition of the AIFM directive into national legislation might create additional advantages to some market players, as the Directive provides some discretion for Member States. For example, it allows private placement of non-EU alternative investment funds (AIFs) marketed by EU-based alternative investment fund managers (AIFMs) and AIFs marketed by non-EU AIFMs. Furthermore EU AIFs, especially of the self-managed type, may still benefit from national private placement regimes. Thus the final requirements may vary significantly among the EU Member States.

Therefore the aim of the paper is to assess the impact AIFMD will have on AIFMs managing AIFs in Malta. After over-viewing key concepts associated with the AIFMD and possible impacts of this directive on the AIF industry, this paper focuses exclusively on the Maltese fund industry. It investigates various factors that might have a positive or negative impact on the industry resulting from the AIFMD. Malta is a small island state situated in the centre of the Mediterranean Sea with a population of circa 400,000 persons. It is a member of the EU and forms part of the Eurozone. In Malta, economic growth and stability are highly dependent on financial services (Falzon, 2011) and so the issues raised in this paper are very important for Malta as well as other member states that will be influenced by this Directive. The findings will be discussed and the study goes to provide recommendations aimed at better guiding Maltese authorities to adapt to the changes brought forth by the AIFMD and to ensure that the Maltese Fund Industry can continue to grow and prosper. Various prominent researchers have used islands as case studies for policy and development studies (King, 1993). Hence, the recommendations of this study can be also partially applied to other investment fund domiciles.

Theoretical framework and literature review

The investment fund industry can be seen as one of the key drivers of financial market and the economy as a whole. Several studies point out that investment funds facilitate innovations in other sectors of economy (Njegomir&Demko Rihter, 2013), support economic growth and improve social welfare (Chou&Chin, 2004). Investment funds accumulate capital, ensure risk diversification and provide investors new investment diversification options, realizing financial innovations through new assets

classes, new asset allocation techniques, new risk and returns enhancing tools, new theme funds and new business models (Rajan, 2011).

Moreover, the alternative investment industry covering hedge funds, private equity funds, real estate funds etc. is often seen a benefit for the financial market it operates in, enhancing market liquidity and efficiency (e.g., hedge funds) as well as expanding sources of available corporate financing (e.g., private equity funds) (Ferran, 2011). Thus the introduction of the Directive on Alternative Investment Fund Managers will have an impact not only on the particular funds, but also on financial markets and economies as a whole.

The idea of pan-European regulation of investment funds is not new. In 1985 the UCITS (Undertakings for Collective Investment in Transferable Securities) Directive was invented introducing European harmonized investment funds (Directive 85/611/ECC, 1985). The aim of the UCITS Directive was to allow collective investment schemes to operate freely throughout the European Union on the basis of a single authorization from one member state. Later the directive had to be applied in all EEA countries, thus including also Iceland, Norway and Liechtenstein. This harmonized legal framework had a strong focus on investors' protection and product regulation. Changing economic environment as well as market pressure gave an incentive to ensure further improvement of the investment fund regulatory framework. In 2001 UCITS III Directives (Directive 2001/107/EC "Management Directive" & Directive 2001/108/EC "Product Directive") were introduced enabling wider range of eligible assets, extended use of derivatives as well as improved regulation of investment fund management companies (Directive 2001/107/EC, 2001; Directive 2001/108/EC, 2001). Currently the UCITS IV Directive is in place, enabling a simplified notification process and key investor information document, regulating cross-border merger, providing the possibility to obtain a management company passport, and to establish master-feeder structure on a local and cross-border basis etc (Directive 2009/65/EC, 2009).

Still, the establishment of the pan-European regulatory framework for investment funds is an ongoing process. UCITS V proposals are already published (in July 2012) enhancing regulation of depository regime (including duties, delegation, eligibility and liability), rules governing remuneration as well as a sanctions regime. The second step in the establishment of a pan-European regulation of the investment fund industry is the introduction of the new Directive on Alternative Investment Fund Managers (AIFM Directive 2011/61/EU) to establish common requirements governing the authorisation and supervision of alternative investment fund managers and funds.

The consultation paper on key concepts of the Alternative Investment Fund Managers Directive and types of AIFM published in February 2012 was widely discussed (ESMA, 2012) by numerous investment fund industry participants and financial experts (Alternative Investment Management Association, Association Française de la Gestion financière, Association of Foreign Investment Companies in Austria, BVI Bundesverband Investment and Asset Management, EFAMA, Investment Management Association, German Banking Industry Committee, ALFI, PricewaterhouseCoopers and many others). The introduction of the AIFM Directive in 2013 was taken by the investment fund industry rather equivocal. The scope of the Directive is rather broad, including management and marketing of AIFs, requirements of AIF managers authorization, EU marketing passport, private placement exemptions to professional investors, capital requirements, remuneration, risk management, reporting and repository requirements. Besides, different rules should be applied depending on whether the alternative investment fund and fund manager are based in the EEA or outside EEA.

The impact of the Directive on the investment fund industry is still unclear. Several studies conducted by industry professionals have shown that most market participants see the AIFM Directive as a threat to their business and competitiveness of the industry in Europe (Deloitte, 2012). Besides, the Directive may put some alternative investment fund markets in a weak competitive position as an alternative fund and management company domicile. The European asset management industry employs ca.510, 000 specialists across European countries and has an annual Gross value added of 102.6 billion EUR (European Fund and Asset Management Association, 2013). Change of competitiveness of domiciles may

put it under risk. According to a survey of UK based asset managers carried out by Deloitte, nearly three quarters of respondents see the Directive as a threat to their business and two thirds believe that AIFM Directive will reduce competitiveness of the alternative investment fund industry in Europe (Deloitte, 2012). Therefore, it is extremely important to assess the impact of AFMD on the industry as a whole and on the competitiveness of the domiciles affected by it. The fact that, after the end of the transitional period in 2017, the depositary must be located in the AIF's domicile could also cause concerns in smaller financial centres. Furthermore, the rules on depositary liability and responsibilities could lead to increasing costs for AIFs and reduction of competition since certain market participants could leave the custody market. Thus, the assessment of the possible impact of the AIFM directive is important to provide recommendations to maintain/improve competitiveness AIF domiciles.

Research methodology and results

The paper investigates the following three research questions empirically:
1. Following the AIFMD, how important will specific incentives be for retaining/obtaining an AIF licence in Malta?
2. Following the AIFMD, how important will specific disincentives be for retaining/obtaining an AIF licence in Malta?
3. Does the intention to retain/obtain an AIF licence in Malta following the AIFMD vary as a function of the size of the Fund, whether the Fund Manager is already licensed in Malta and whether the Fund Manager has a licensed Fund in Malta?

To answer these questions, we targeted all players in the fund industry comprising 71 Fund Managers and 231 licenced Funds regulated and licensed by the Malta Financial Services Authority [MFSA]. Additionally, we targeted potential AIF licence holders; i.e., those who intend to obtain an AIF licence in Malta in the next two years (population not available). With no sampling frame available for the latter, we resorted to 'critical-case purposive sampling' (Saunders, Thornhill, & Lewis, 2009). Our distribution strategy focused on two fronts – our personal network involved in the AIF industry who voluntarily agreed to help us in getting exposure, and Linkedin related groups/ forums in which one of the authors has been a member for a long time. All the data were gathered via a web-link on kwiksurveys.com and no incentives were offered to the participants for answering the questionnaire.

The Research Instrument

The questionnaire entitled 'Alternative Fund Managers' Directive and its Implications for Malta' consisted of:
- 5 closed ended demographic variables regarding the Fund Manager's Fund and licence (e.g., 'Is the Fund Manager Licensed in Malta?').
- 22 randomly ordered, five point Likert-style questions ranging from 'strongly disagree' to 'strongly agree' comprising 11 incentives for retaining/obtaining an AIF licence in Malta following the AIFMD (e.g., 'Lower running costs in Malta [e.g., legal/administration/authorisation fees] when compared with other established jurisdictions') and 11 disincentives for retaining/obtaining an AIF licence in Malta following the AIFMD (e.g., 'Lack of internationally established custodians/depositaries'). Some of these statements were adapted from various sources that we consulted during the literature search, e.g., MFSA publications (MFSA, 2013), Kinetic Partners (Kinetic Partners, 2013), Deloitte (Deloitte, 2012), Ernst & Young (Ernst & Young, 2013) while others were designed by the authors following discussion with experts in the field.

- another 3 five-point Likert type items regarding the Fund or Fund Manager's intention to retain/obtain a licence in Malta following the AIFMD (e.g., 'The AIFMD will not affect the Fund/Fund Manager decision to retain/obtain the AIF licence in Malta'), the latter being restricted to those Fund Managers who had a licensed fund or a Fund Manager licence in Malta.

The respondents were able to amend their responses until the questionnaire was completed, while the software allowed one respondent per IP address, thereby helping prevent multiple completions from the same respondent or from the same Fund Manager. We stressed that there were no 'right' or 'wrong' answers to the statements, that confidentiality and anonymity were guaranteed, and that the individual responses would be used for research purposes to help see the 'big picture'. The questionnaire took approximately 10 minutes to complete.

Data Analysis Procedures

To answer the first two research questions, we started by generating descriptive statistics for each of the 11 incentives and 11 disincentives using the median (Md), the range (R), the mean (M), the standard deviation (SD) and mean rank (MR). To test for difference in mean ranks across the various ordinal scales, we conducted the Friedman test. In the presence of a significant χ^2 statistic in the Friedman test, we computed a series of Wilcoxon tests as post-hoc tests, applying the Bonferroni correction to avoid the problem of inflating the Type 1 error due to multiple comparisons (Miller, 1991). To answer the third research question, we used stepwise multiple regression. 'Intention to retain/obtain the Licence in Malta following AIFMD' was included as the dependent variable, while 'size of Fund', whether or not 'the Fund manager is already licensed in Malta' and whether or not 'the Fund manager has a licensed fund in Malta' were included as independent variables. Before interpreting the results, we ensured that the assumptions of no autocorrelation in the residuals and multicollinearity were not violated by means of the Durbin-Watson statistic and the VIFs respectively.

Sample Characteristics

A total of 299 persons responded to our invitation during the February 2014. From these, the responses of 29 participants were discarded because one of the following three requirements was not met: (1) Fund Manager was already licensed in Malta, (2) the Fund was licenced in Malta, and (3) the Fund or Fund Manager had the intention to obtain a new licence in Malta within the next two years. Thus, 270 complete surveys formed the basis of the statistical analysis. Of these, 38 (14.1%) have a Fund Manager licence in Malta, 112 (41.5%) have a licensed fund in Malta, and the remaining 120 (44.4%) represented prospective AIF licence holders. 173 (64.1%) respondents have the Fund Manager licensed in the EU. Also, 137 (50.7%) reported that the size of the Fund (Assets under Management) was below 100 million euro with the remaining 133 (49.3%) reporting that the size of the Fund was between 100 million and 250 million euro. No Fund in the sample exceeded 250 million euro in Assets under Management including leverage.

Table 1 exhibits the population and sample distributions by licence type. The sample size of 150 for Fund managers of Funds licenced in Malta (which excluded the 120 prospective AIF licence holders) already exceeded the a-priori minimum sample size of 30 for the Friedman test and associated Wilcoxon post-hoc tests (Green & Salkind, 2008). It also exceeded the minimum a-priori sample size of 112 for multiple regression for the following pre-set criteria – three predictors, desired statistical power of 0.8, Type 1 error rate of 0.05, and an anticipated effect size of 0.10 (Soper, 2014). A Chi-squared test of independence revealed that the population and sample distributions by licence type did not differ significantly from each other ($\chi^2(1) = 0.512$, $p = 0.474$). This confirmed the representativeness of our sample, thereby increasing our confidence in making generalisations for the sample to the population in

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question. Since MFSA was not in a position to provide us a list of prospective AIF licence holders due to Data Protection, they had to be excluded from the Chi-squared analysis of independence.

Table 1

Population and sample distributions by licence type

Licence Type	Population	Sample
Have a Fund Manager licence in Malta	71 (23.5%)	38 (25.3%)
Have Licenced Fund(s) in Malta	231 (76.5%)	112 (74.7%)

Sources: MFSA website (http://www.mfsa.com.mt/) and authors' calculations based on the survey made

Following the AIFMD, how important will specific incentives be for retaining/obtaining an AIF licence in Malta?

The Friedman test revealed that that the incentives (N = 11) differed significantly with respect to their mean ranks (χ^2 (10) = 1725.30, N = 238, p < 0.001). In fact, the most important incentive (Md= 5) that emerged was that the running costs in Malta would be lower than in other established jurisdictions. Other important incentives (Md = 4) that emerged were 'tax incentives', 'Malta as a member of the EU (including EU passport)', 'the Financial Services infrastructure and robust Financial Services Regulator', and 'the economic climate in Malta'. A summary of descriptive statistics and post-hoc analysis with Wilcoxon Signed Ranks tests is presented in Table 2 below.

Table 2

Descriptive Statistics and Wilcoxon Signed Ranks Test Summary (Incentives)

Incentives for obtaining/retaining an AIF Licence following AIFMD	MR	MD (R)	M	SD	WPHT*
Lower running costs in Malta when compared to other established jurisdictions	9.47	5 (2-5)	4.55	1.05	A
Tax incentives	9.07	4 (3-5)	4.17	0.44	B
Malta being a member of the EU (including EU passport)	8.72	4 (3-5)	4.03	0.28	C
The Financial Services infrastructure and robust Regulator	7.84	4 (3-4)	3.84	0.37	D
The economic climate in Malta	7.20	4 (3-4)	3.70	0.46	E
The legal system in Malta	5.27	3 (3-4)	3.20	0.40	F
The political climate in Malta	4.62	3 (3-4)	3.05	0.23	G
Availability of multi-lingual personnel	4.62	3 (3-4)	3.05	0.23	G
Maltese culture and history (UK traditional banking culture)	4.41	3 (3-3)	3.00	0.00	H
The technological infrastructure	2.70	2 (2-4)	2.41	0.59	I
The productivity of the labour force	2.09	2 (2-4)	2.28	0.56	J

*WPHT = Wilcoxon post-hoc tests; * different letters signify statistically significant differences between groups (p < 0.001) following Bonferroni correction*

Source: authors' calculations based on the survey made.

Following the AIFMD, how important will specific disincentives be for retaining/obtaining an AIF licence in Malta?

The Friedman test revealed that that the disincentives (N = 11) also differed significantly with respect to their mean ranks (χ^2 (10) = 1082.384, N = 238, p < 0.001). In fact, the most important disincentives (Md = 4) were 'insufficient number of custodians/depositaries', 'lack of internationally established custodians/depositaries' and 'the marketing of AIFs to non-professional investors'. A summary of descriptive statistics and post-hoc analysis with Wilcoxon Signed Ranks tests is presented in Table 3 below.

Table 3

Descriptive Statistics and Wilcoxon Signed Ranks Test Summary (Disincentives)

Disincentives for obtaining/retaining an AIF Licence following AIFMD	MR	MD (R)	M	SD	WPHT*
Insufficient number of custodians/depositaries	9.04	4 (3-4)	3.97	0.16	A
Lack of internationally established custodians/depositaries	8.85	4 (3-4)	3.92	0.27	A, B
The marketing of AIFs to non-professional investors	8.41	4 (2-5)	3.87	0.71	B
Fund manager needs to comply with AIFMD even if fund is smaller than € 100 million	5.82	3 (3-5)	3.42	0.73	C
No passporting possibilities currently available for depositories /custodians	5.14	3 (3-5)	3.29	0.70	D
Increased custody costs due to additional responsibilities of custodian (depositary)	5.02	3 (2-5)	3.00	0.71	D, E
Insufficient availability of qualified risk managers in Malta	4.89	3 (3-4)	3.13	0.34	E
Requirement of professional indemnity insurance and associated costs	4.89	3 (3-4)	3.13	0.34	E
Possible negative impact of tax harmonisation within EU member states on Malta's current favourable tax regime	4.87	3 (2-5)	3.23	0.76	E
The harmonisation of the definition of professional investor under AIFMD	4.87	3 (2-5)	3.23	0.76	E
Malta's immature (embryonic) Fund Industry when compared to traditional centres	4.21	3 (3-3)	3.00	0.00	F

*WPHT = Wilcoxon post-hoc tests; *different letters signify statistically significant differences between groups (p < 0.001) following Bonferroni correction*

Source: authors' calculations based on the survey made

Does the intention to retain/obtain an AIF licence in Malta following the AIFMD vary as a function of the size of the Fund, whether the Fund Manager is already licensed in Malta and whether the Fund Manager has a licensed Fund in Malta?

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In the survey, we asked those who currently have a licensed Fund and/or a Fund Manager licence in Malta to rate their level of agreement with three five-point Likert-type items concerning their intention to retain/obtain a licence in Malta following the AIFMD. Since the measures pertaining to these three items were internally consistent (Cronbach α = 0.845) and loaded on a single factor in Principal Component Analysis (eigenvalue (λ) = 2.09, % of variance = 69.53) we summed the scores of each participant together and found the average score, to obtain the 'Intention' scale (dependant variable in stepwise multiple regression analysis).

Stepwise multiple regression analysis revealed that the intention to retain/obtain a Licence in Malta following the AIFMD was significantly predicted by possession (No/Yes) of a licensed fund in Malta. In fact, those Fund Managers who currently have a licensed Fund in Malta (β = 0.316, t = 3.59, p <0.001) have a greater intention to retain a Licence in Malta following the AIFMD. 'Size of Fund' (β = 0.131, t = 1.38, p = 0.17) and possession of a Fund Manager licence (No/Yes) in Malta' (β = 0.015, t = 0.16, p = 0.88) did not have a significant impact on 'intention' and so these variables were excluded from the model. Table 4 below provides a summary of the stepwise multiple regression output.

Table 4

Stepwise Multiple Regression Coefficients Table

Model[a]		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.000	.156		19.232	.000		
	Licensed fund in Malta	.574	.160	.316	3.587	.000	1.000	1.000

a. Dependent Variable: Intention; 'Has AIF in Malta' (No = '0', yes = '1')

Source: authors' calculations based on the survey made.

With respect to the statistical assumptions of regression analysis, it is worth noting that with one regressor, multicollinearity is not an issue (Field, 2009). With one regressor, an intercept in the model and a sample size of 118, the observed Durbin-Watson statistic (d = 2.24) was greater than 2. Hence, we tested the null hypothesis of no autocorrelation in the residuals versus negative first-order autocorrelation at the 5% level of significance. We computed 4-d (= 1.76) and compared the result with the tabulated 5% significance points of dL = 1.654 and dU = 1.694 (Savin & White, 1977). Since 1.76 is higher than 1.694, we retained the null hypothesis of no autocorrelation.

Discussion

The first goal of this study was to determine the importance of specific incentives for Fund Managers and Funds in obtaining/retaining an AIF Licence in Malta following the AIFMD. The most important incentive that emerged was that the running costs in Malta will still remain lower than in other established jurisdictions. This gives Malta the advantage of cost competitiveness and its effect is expected to be most pronounced with start-up fund managers, although more established fund managers looking to relocate to Malta would also be expected to consider this advantage positively. Malta is known to provide high quality and efficient services and hence one can gain global brand service provisions from tier two service providers at very competitive prices without losing on quality. Such costs include renting, legal fees, telecommunication and IT services costs,

Audit fees and a well-trained and productive staff complement. The second most important incentive for obtaining/retaining an AIF licence following the AIFMD was related to tax incentives. Although the taxation of funds itself is zero or near zero in the most important European fund domiciles, and the VAT exemption for investment management is settled EU case-law, Malta's advantage lies in its full imputation system of taxation which avoids double taxation of corporate profits. In addition, a number of tax treaties further enhance Malta's offering. Tax incentives help to reduce discrimination with countries that are already attractive, and this makes sense in the context of a small island state like Malta (Bezzina, Falzon & Zammit, 2012, p. 595). In fact, Maltese authorities continuously conduct a rethinking of tax incentives to ensure that they at least match those offered by other competing domiciles. The third most important incentive selected was that Malta is a member of the EU. This provides Fund Managers and Funds the opportunity for EU passporting, enhances transparency and standardisation, and reduces the possibility of regulatory arbitrage among jurisdictions. The fourth important incentive concerned the financial services regulator (MFSA) in Malta, which is slowly but steadily developing into one of the most robust yet business-oriented regulators in the EU. The fifth important incentive related to the economic climate in Malta. The way in which the Maltese economy went unscathed through the recent global financial crisis provides clear evidence of the resilience of the Maltese economy. In fact, Malta did not have to resort to any bank bailouts and its banking system has been ranked as the 13th most solvent out of 144 countries (World Economic Forum, 2013). Additionally, a recent study by Bezzina, Grima and Mamo (2014, in press) shows that Maltese financial firms have sound risk management practices that link positively with added value and principled performance.

The second goal of this study was to determine the importance of specific disincentives for Fund Managers and Funds in obtaining/retaining an AIF Licence in Malta following the AIFMD. The two most important disincentives that were ranked on par concerned AIFMD requirements – the 'insufficient number of custodians/depositaries', and the 'lack of internationally established custodians/depositaries'. It is clear that Malta needs a quick solution to its depositary offering. Malta needs to attract depositaries that are open for the wide array of alternative investments and fund sizes. The problem here is that although Malta has a few big names, they have been reluctant to act as custodians of a certain size or type of investment. A possible solution to this problem would be to encourage the European Commission to push relentlessly forward its plans for a pan-European passport for the depositary, thus allowing depositaries to provide cross-border services. This is a missing link in the European integration of financial markets. However, Maltese authorities do not seem to be in favour of this proposal, arguing that it is not exactly in line with the spirit of the requirements. The other factor that emerged as an important disincentive was 'the marketing of AIFs to non-professional investors'. The results of the questionnaire show that AIFMD is generating interest from medium to smaller managers who are attracted to the possibility of a European passport to market their fund to professional investors across the EU. However the authors consider that the current legislation is too polarised between professional investors and retail investors. There exists another category of investor that is wealthy enough not to be considered as retail, yet would not meet the strict criteria of a professional investor. Within that space, marketing will still be dominated by national rules which were left unharmonised by AIFMD. Here Malta's role will be to reach out to other European regulators and gain an even better understanding of national private placement rules in order to be able to offer solutions for the benefit of Fund Managers and Funds in Malta.

An unexpected finding in relation to disincentives following the AIFMD was that the limited number of risk managers on the Island did not emerge as a preoccupation for the respondents. Possible explanations could be that most of the Fund Managers and Funds already have a strong setup for this function and so the lack of risk managers on the island will not impact negatively on their decision. In this regard, the MFSA's training arm, the Malta International Training Centre (MITC), the Malta Association of Risk Management (MARM), the University of Malta and other private institutions have been providing training courses and seminars over the last three years to fill this gap. Additionally, MFSA is currently

exploring additional/alternative initiatives in this regard to boost the number of qualified risk managers on the Island.

The third and final goal of this study was to determine whether the intention to obtain/retain a Fund Manager licence and/or a Fund licence in Malta following the AIFMD varied as a function of the size of the Fund, possession of a Fund Manager licence in Malta, or possession a Fund licence in Malta. The analysis revealed that those who have a fund licensed in Malta are more likely to obtain/retain their licence after the AIFMD than others who do not have a fund. Further scrutiny of the data revealed that this was due to Fund Managers licenced in Malta who still do not have any funds under management, and this might have negatively impacted their outlook. This finding however warrants further investigation before any strong conclusions may be drawn.

Conclusions

This study provides a comprehensive picture of the importance of specific incentives and disincentives for Fund Managers and Funds in obtaining or retaining an AIF licence in Malta following the AIFMD. Firstly, four specific incentives emerged as important in attracting Fund Managers and Funds to obtain/retain an AIF licence in Malta following the AIFMD; namely, lower running costs, tax incentives, the stable economic climate, and EU passporting. Secondly, three specific disincentives in obtaining/retaining an AIF Licence following the AIFMD are identified: namely, an insufficient number of custodians/depositaries, a lack of internationally established custodians/depositaries and the marketing of AIFs to non-professional investors. Thirdly, the study shows those who already have a licenced fund in Malta had a greater intention to obtain/retain an AIF licence following the AIFMD, with the size of fund and possession of a Fund manager licence not producing any impact on intention.

In the light of the findings, various proposals have need highlighted. Of particular importance are (i) the need to attract custodians that are open for the wide array of alternative investments and fund sizes, and (ii) that private placement rules include another category of investors that is in between the profession and the retail investor. Such proposals could better guide Maltese authorities to reduce the impact of the AIFMD on the Maltese fund industry and to help it develop successfully in the coming years. The conclusions and recommendations of this study can be also partially applied to other investment fund domiciles.

There are some limitations to the findings, however, that should be noted. First, the data used in this study were gathered from a single jurisdiction (Malta) and so it was not possible to make cross-jurisdiction comparisons. Second, the findings are based on a survey and we are not in a position to verify that a non-questionnaire approach would have generated similar findings. Third, the dis/incentives specified in this study for obtaining/retaining an AIF licence may not be exhaustive and there may be other important factors that could be investigated in future studies. Despite these limitations, some interesting avenues for further research emerge. For instance, it would be interesting to conduct this study in other jurisdictions to facilitate cross-jurisdiction comparisons. Additionally, further research is required to determine the types of initiatives required to attract the establishment of depositories in Malta that accept custody of smaller funds with different underlying investments or profiles, and to find ways of increasing the redomiciliation of non EU funds to the EU.

To remain attractive, Malta needs to make sure that the reasons that attracted Fund Managers and Funds to Malta are be kept in place and possibly improved when these managers take the step up to comply with AIFMD. The Maltese requirements for fund managers are already largely compliant with AIFMD. The MFSA and other institutions and Associations such as MARM and Finance Malta must keep working in tandem to devote all possible resources to help Fund Managers to make it through the transition period so that the AIFMD would have an overall positive impact on Malta's fund industry.

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ASSESSMENT OF PREPAREDNESS TO LEAN SIX SIGMA PROJECTS IN SMALL AND MEDIUM-SIZED ENTERPRISES

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Abstract

The article presents a proposal for the maturity indicator of Lean Six Sigma projects within the framework of the original comprehensive methodology of Lean Six Sigma implementation dedicated to the SME sector. The indicator allows an LSS project to be matched to the real needs and preparedness of any small or medium-sized organization. The indicator was designed as a result of pilot research conducted in Polish and French SMEs referring to the context of the implementation and application of Lean Six Sigma. The studies led to the identification of the needs, expectations, concerns and experience of these companies and helped to develop the assessment criteria of their preparedness to LSS projects.

Key words: *small and medium-sized companies, lean six sigma, maturity/preparedness assessment*

JEL code: L6

Introduction

Companies operating on the global market, especially small and medium-sized enterprises (SMEs) that want to maintain a stable position on the market, gain competitive advantage and quickly respond to changes in demand are forced to constantly improve the high quality of their products and services. To achieve this objective it is necessary to implement and maintain an effective and efficient quality management system and to apply the process approach, customer orientation in accordance with Total Quality Management principles.

There are many reasons that oblige SMEs to apply a continuous improvement principle. One of the most important is the demand from their clients – large companies, use modern management methods as a condition of cooperation. The key principle of quality management – customer focus, materializes, first of all, thanks to the reduction in the variation of the processes which are essential from the customer's point of view – called Critical to Quality (CTQ) (Antony J., Escamilla J.P., Caine P., 2003) (Linderman K., Schroeder R.G., Zaheer S., Choo A.S., 2003), (Gowen C.R.III , Tallon W. J., 2005).

These requirements may be met by using the hybrid Lean Six Sigma (LSS) concept adapted to the specificities of small and medium-sized enterprises, such as a lack of financial resources, qualifications, time available and also a low level of sector maturity. The mentioned conditions and the choice of functional and flexible tools for SMEs were specified in detail in the publications by P. Grudowski and E. Leseure (Grudowski P., Leseure E., 2010) as well as by P. Grudowski, E. Zajkowska, M. Bigand and E. Castelain (Grudowski P., Zajkowska E., Bigand M., Castelain W., 2009).

In the case of SMEs, the application of the concept of Lean Six Sigma is so far much less common than in large organizations. This is evidenced by the scarce literature on the subject.

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The main objective of the paper is to present a diagnostic method useful in the profiled adaptation of LSS and its implementation in small and medium-sized enterprises of the manufacturing sector. The aim of the method therefore is the determination of the level of maturity of a smaller organization to implement LSS projects.

The authors present the thesis that in small and medium-sized enterprises it is necessary to apply dedicated support for LSS methodology.

The assumptions of the original method presented in the article are based on a pilot study that helped the authors to find the answer to the question of what the problems and needs are of small and medium-sized enterprises in terms of the implementation and application of LSS methodology. The research was conducted in France and Poland. An important aspect of the research was therefore a comparative analysis, taking into account Polish and French conditions.

Needs and problems of SMEs in the context of Lean Six Sigma applications

In order to collect data on the application of the LSS concept in the SME sector, the authors conducted case studies, observations, interviews and pilot studies in Polish and French small and medium-sized businesses. The studies allowed the authors to identify the needs, expectations, concerns and experience of these companies. At the same time, possible benefits of the implementation of LSS methodology in SMEs and the barriers to that implementation and application were identified. The research results generally confirmed the demand for Lean Six Sigma methodology in SMEs.

The authors selected 60 small and medium-sized enterprises in Poland and France. Out of the group, 23 companies agreed to attend, of which 18 were selected as organizations suitable for comparative analysis. Finally, the pilot study was conducted in 18 companies from the SME sector, including 9 Polish and 9 French organizations. The participation of micro, small and medium-sized organizations, was almost identical in this group. Similarly, uniformly (33%), tangible and intangible services organizations were selected. The researched companies represented various industries: automotive, financial advisory, trade, transportation, food, clothing, plastics processing, recreational and decorative. In terms of their "quality maturity", 22% had implemented a quality management system and 33% used tools of Lean or Six Sigma.

The pilot study indicated that Lean Six Sigma methodology can be effectively applied in small and medium-sized enterprises in Poland and France. Comparing the Polish and French conditions, the authors concluded that there were similar expectations in terms of the needs, barriers and benefits achieved from the implementation of LSS.

Moreover, the urgent need of companies to increase productivity may cause a more frequent implementation of LSS tools. The important difference between the two countries was the expectations related to the implementation of elements of LSS.

French companies anticipated good profits counting on subsidies for cooperation development within the enterprise network. They also applied similar methods of process management to large companies – their key customers. The majority of smaller companies in both countries had difficulty with the correct application of the tools of Lean Management or Six Sigma.

The study revealed that micro-enterprises and service companies have significantly lower motivation to implement continuous improvement processes and they lack clear vision for radical organizational changes.

Further analysis confirmed the thesis that in spite of the growing interest in modern management methods, SMEs face numerous constraints and obstacles in the implementation of LSS methods. This conclusion can be formulated with regard to smaller firms in Poland and in France. These results are in accordance with the opinion of other researchers (Poznańska K., 2004), indicating that, insufficient financial resources to launch improvement projects and the unavailability of qualified specialists in the

field of continuous improvement are the main causes of the problem. Due to their small size, good internal communication and simplified decision-making processes in comparison to big companies there is no need for SMEs to use all the tools available in the repository of Lean Six Sigma.

Both the Polish and French research results indicated that the vast majority of the tools of Lean Management can be efficiently applied in SMEs, while a large group of tools used in the framework of the concept of Six Sigma seem to be too complicated and therefore are usually rejected. This concerns in particular the tools to collect and organize a large amount of information and tools that require advanced knowledge of statistical methods of data analysis.

The final decision about the choice and number of LSS tools to implement should be taken individually, on the basis of the real needs and opportunities of the organizations. There are important differences in the demand for the tools depending on the size and maturity of an organization. Companies employing more than 100 employees are free to use all the tools of Lean and selected Six Sigma techniques in order to change the management of their processes, flows and stocks. In the case of small companies the scope of the application of Lean Six Sigma is narrowed to selected improvements in key processes.

International experience in the application of LSS shows the growth of interest in the concept. This in turn is associated with the organizational progress represented by large corporations. In the developed European countries and the United States, not to mention Japan, smaller organizations commonly use one of the key tools of Statistical Process Control and Six Sigma - control charts, to ensure the high quality of products by the active control of processes. Most other well-known statistical tools used to identify and solve problems are still considered too complicated, time-consuming and require specialized qualifications.

Small and medium-sized companies have, in fact, a tendency to a selective, non-systematic application of the tools of Lean and Six Sigma. Corrective actions are not usually backed up by a rigorous analysis of the problem. Areas of improvement are generally selected based on the intuition and experience of selected employees. The lack of a systematic approach and complexity in terms of defining the problem and identifying the methodological process efficiency of improvement projects significantly reduces the effectiveness of the management systems in the group of SMEs.

In order to sustain beneficial changes in small and medium-sized enterprises the application of the EFQM Excellence Model may be useful as well. Its use in the SME sector is recommended by Zymonik (Zymonik J., 2005).

Maturity indicator of LSS projects dedicated to the SME sector

The study showed that smaller companies need to determine the most accurate scope of the LSS project. For this reason, within the comprehensive methodology for the introduction of Lean Six Sigma in SMEs - LSS Plutus (Grudowski P., Leseure E., 2010) proposed by the authors, a maturity index for SMEs for the LSS project has been suggested, which allows for the adjustment of the LSS project characteristics to the real internal and external needs of a business and to the opportunities of realising them.

The indicator is based on the evaluation criteria listed in Table 1. These criteria and their descriptions have been identified on the basis of an extensive literature study as well as the result of the same studies, which were presented earlier in this article (selected, the most common suggestions of the respondents in France and in Poland).

Table 1

Evaluation criteria of the maturity of SMEs for conducting LSS projects

Criteria	Description
A. A number of processes	• Medium-sized business and/or • Numerous and complicated business processes and/or • Complex relationships between processes
B. Need for change	• High costs of the production or service process and/or • Money frozen in surplus stocks and/or • High price of products or services in comparison with the competition and/or • Strong competition and/or • Low customer satisfaction, loss of clients or numerous complaints and/or • Intention to acquire new customers and/or • Low quality of products or services and/or • Need for the development of new products or services and/or • Need for streamlining the current manufacturing process or the introduction of a new production line and/or • Long order execution time and/or • Long reaction time to fluctuations in demand and/or • Need for introducing production to order and/or • LSS tools unsuitable or implemented selectively and improperly and/or • Demand for introducing a modern management system from a corporation or a large receiver of goods and/or • Inability to permanently maintain improvement and/or • Low use of the competence and experience of personnel and/or • Need for improving working conditions and/or • Strong motivation to develop the company and/or • Intention to implement a quality system and industry standard and/or • Motivation to win awards for quality and/or • Intention to cooperate with business partners within a logistics chain and/or • Intention to cooperate within a cluster or with research institutions and universities
C. Difficulties in obtaining customer satisfaction	• Lack of knowledge on the level of customer satisfaction or considerable difficulties in identifying it and/or • Products or services not fulfilling the expectations of clients or lack of knowledge on customer needs and/or • Loss of clients or lack of regular clients and/or • Numerous complaints and/or • Long time of order execution or untimely deliveries and/or • High price in comparison with competition

Criteria	Description
D. Acquired competence regarding quality oriented production management	• Implemented methods of organisation and production management (including Lean Six Sigma, TQM) and/or • Experience in independent running of an improvement project and/or • Appropriate self-evaluation of company results (e.g. self-evaluation according to the criteria of the EFQM or CAF models, corporation criteria, agreements with business partners, own criteria) and/or • Performed audits of operation (e.g. Internal audits in compliance with ISO type standards, industry standards) and/or • Completed training on production management
E. Knowledge of Lean Six Sigma	• Knowledge of the Lean Thinking concept and practical application of LSS tools and/or Six Sigma, • Capability of appropriate selection and effective implementation of LSS tools and/or • Capability of autonomous running of an improvement project based on Lean Six Sigma and/or • Capability of independently maintaining the introduced LSS solutions and/or • Presence of a specialist responsible for continuous improvement
F. Organisational culture conducive to the implementation of permanent development	• Organisational culture based on trust, respect, recognition, motivation and cooperation and/or • Project awareness in the organisation and/or • Permanent involvement of all personnel in continuous improvement, including the most senior management and/or • Interest in and recognition for the efforts of the staff shown by the senior management and/or • Permanent support for the involvement and/or the functioning of a quality circle in a company and/or awarding achievements and/or • Autonomy of work connected with delegating competences and increasing the sense of responsibility for the completed task and/or • Versatility and/or team work and/or • Sharing skills within one team (cross training) and organisation (internal benchmarking) and/or • Lack of communication barriers between departments and/or • Announcing results to staff and/or • Lack of resistance to change
G. Time availability for conducting the LSS project	• Time reserves for conducting an improvement project and/or • Time availability for training

Criteria	Description
H. Availability of financial resour-ces for activities connected with improvement	• Possibility of devoting considerable financial resources to improvement and/or • Low cost of improving activities and/or • Availability of considerable financial resources from the mother company and/or obtained EU or state funding and/or • Ease of obtaining a loan and/or financial resources for training

Source: own.

The criteria presented in Table 1 are given in Table 2 in reference to the needs and capabilities of a company in implementing the elements of the Lean Six Sigma concept.

Table 2

Maturity indicator of SMEs for the LSS project

SME evaluation categories	SME maturity evaluation criteria for running the LSS project	Company maturity evaluation for LSS (1 – no, 2 – rather not, 3 – partly, maybe, hard to say, 4 – rather yes, 5 – yes)				
		1	**2**	**3**	**4**	**5**
Needs	A. Large number of processes					
	B. Need for change					
	C. Difficulties in obtaining customer satisfaction					
Capabilities	D. Competence in production management					
	E. Knowledge of Lean Six Sigma					
	F. Organisation culture conducive to the implementation of continuous improvement					
	G. Time availability of the implementation of the LSS project					
	H. Availability of financial resources for improvement activities					
Needs or capabilities:		**Small**		**Medium-sized**	**Big**	

Source: own.

The Table 2 enable the self-evaluation of a company. Rating 5 represents full compliance with the description of the criteria set out in Table 1. When the majority of responses to criteria A, B and C is at the level of 1 and 2, the need for improvement can be defined as small. If the results of self-evaluation to A, B and C are at the level of 4 and 5, it can be concluded that this need is great. When the rating of criteria A, B and C is generally 3 or the ratings are scattered throughout the scale, the need for improvement can be regarded as moderate. An analogous classification is made on the basis of criteria D, E, F, G and H regarding the capability a company has to pursue improvements. Figure 1 helps to interpret the results with reference to the needs and capabilities of an enterprise, according to which an organization is approved for an LSS project from Zone 1 or Zone 2. The division into these zones denotes the ability to effectively and efficiently carry out the implementation of Lean Six Sigma at the primary level (Zone 1) or the advanced one (Zone 2).

		small	medium-sized	big
NEEDS OF SME	big	**ZONE 1** (preparation for Zone 2)	**ZONE 1 or 2** (decision of the company)	**ZONE 2**
	medium-sized	**ZONE 1**	**ZONE 1 or 2** (decision of the company)	**ZONE 1 or 2** (decision of the company)
	small	**ZONE 1**	**ZONE 1**	**ZONE 1**
		small	medium-sized	big
		CAPABILITIES OF SME		

Source: own.

Fig. 1. **Interpretation of the maturity index for SMEs for the LSS project**

According to these guidelines resulting from Figure 1, the deciding factors of the level of advancement of the LSS project are first of all the internal and external needs of an organization in the form of the number of processes, the need for change or the need to improve customer satisfaction. The additional element supporting the decision are the possibilities available to the company, including knowledge and skills in production management, especially Lean Six Sigma, the pro-quality culture of an organization and the availability of time and financial resources to carry out the LSS project.

As a general rule, small needs and small capabilities to improve place a company in Zone 1, where the LSS project is executed at a basic level. High needs and big capabilities of improvement place a company in Zone 2, which indicates that the LSS project will be implemented using methods, techniques, tools and indicators. It is worth noting that when the demand for improvement is insignificant in a company, and its organizational potential is considerable, the LSS project should be run at the basic level.

In particular cases, there are situations where a company has a high or moderate need for an improvement project, but the capabilities of its implementation are modest. Then, basic improvements corresponding to the scope of Zone 1 are recommended. When the demand for improvement is high and the resources are few, carrying out the LSS project at the basic level is the basis for introducing better solutions within criteria D, E and F, which could be a preparation for the implementation of more advanced projects in the future. An alternative solution in this situation is to postpone the launch of the LSS project in the scope of Zone 2 until the capabilities of a company are significantly increased, for example through the employment of a specialist

in the implementation of Lean Six Sigma projects, or by obtaining a development grant. Other results from the self-evaluation of a company, according to which it could be placed either in Zone 1 or 2, create the possibility of an individual choice about the scope of the LSS project with regards to the weight of expectations and the barriers with reference to effective and sustainable improvement activities.

Conclusions

Companies belonging to the SME sector are characterized by simplified dependencies between processes, efficient internal and external communication, the ability to make quick decisions and flexibility in adapting to fluctuations in demand. However, as a result of the occurrence of naturally existing barriers in the form of limited resources, their potential for improvement, particularly in the case of the smallest organizations, is limited.

Presented in the first part of the paper research results are important because they create the framework for the design of an advanced quality and efficiency oriented improvement methodology.

The original maturity index developed by the authors, used to determine the scope of and preparedness to the LSS project, can serve as a tool for self-evaluation to identify the key weaknesses of smaller organizations and directions of development of their management systems.

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WEB-BASED RESOURCES AS FINANCIAL LITERACY IMPROVEMENT TOOL

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Abstract

Consumers have become more active in financial markets along with the appearance of variety of new financial products. Market liberalization in Baltic countries has caused an ongoing shift of a decision-making responsibility away from the government toward private consumers. Thus, the pivotal question is whether individuals possess sufficient financial literacy and experience to demonstrate sound financial behaviour. The financial literacy is considered to possess three components: monetary, price and budget literacy.

Provided an increasing use of internet nowadays, the aim of the research is to assess to what extent content of current web-based resources in local languages, matches defined components of financial literacy. The tasks of the research are to analyse components, study both local open web-based and internetbanking related financial literacy resources, assess content of resources from the financial literacy perspective.

The study conducted on open web-based local resources in Estonia, Latvia and Lithuania. Findings show each country has two universal open web resources while others are mostly dedicated to savings and retirement. Moreover, local resources provide coverage of monetary and budget related literacy only partly while none of them addresses the price literacy. Thus, there is potential for content improvement in open web resources to achieve a broader coverage of financial literacy items as well as include the price literacy perspective.

Regression analysis suggests that for both Latvia and Estonia nine out of ten new customers are using internetbanking services and they were discovered to be marginally higher correlated with a number of complaints. Therefore, there is space to improve financial literacy by providing online planning tools built into internetbanking platforms.

Key words: *Financial literacy, banks, web-based resources*

JEL codes: G02, G20, M31

Introduction

In recent years consumers have become more active in financial markets, and their participation has been conducted or even encouraged by the appearance of broad variety of new financial services and products. Although some of these products are very complicated and difficult to understanding, especially for unsophisticated consumers. Also financial markets liberalization in Baltic countries has caused an ongoing change in decision-making liability away from the government toward private consumers. Therefore individuals have to take upon oneself more responsibility for their families and own financial wellbeing. Are consumers well-equipped to cooperate with commercial banks, manage own budget and

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make financial decisions? Do individuals possess sufficient financial literacy, knowledge, behavior and financial attitude? There has been a lot of studies on this problem and the few existing researches indicate that individuals lack financial illiteracy of even the most basic financial aspects and their knowledge is widespread (Van Rooij et al, 2011b; Gustman et al., 2011; Klapper et al., 2013), as well there are concerns that individuals are not taking steps toward saving for retirement (Engelhardt and Kumar, 2011), are borrowing excessive loans (Disney and Gathergood, 2013), and are not using advantage of innovations in financial markets (Karunarathnea and Gibsonb, 2014). The existing empirical literature on financial literacy also shown that individuals who are not financially literate, on average, are less likely to care for retirement and to amass wealth (Van Rooij et al., 2011a) and are more likely to obtain high-interest loans (Bucks and Pence, 2008) or have problems with loan payments (Courchane, 2008). According to the OECD's definition the financial literacy is "a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing" (Atkinson and Messy, 2012). Researchers Vitt et al., 2000 define financial literacy as follows: "an individual's ability to understand, analyze, manage, and communicate personal finance matters". Particularly financial literacy concerns to the knowledge, competence and skills required to deal with decisions and financial challenges in everyday life. Czech researchers Klínský and Chromá, 2009 structured the definition of financial literacy on the economical basis. In their opinion the financial literacy as a management of individual and family finances concerns three components:

1) monetary literacy, which includes competencies, knowledge and skills necessary for understanding and administration of cash and cashless money;
2) price literacy, which includes competencies, knowledge and skills necessary for understanding the inflation and mechanism of prices;
3) budget literacy, which includes competencies, knowledge and skills necessary for administration of the individual and family budget (for instance, the ability to create a main issues of budget, to determine the financial purposes, objectives, plans and to decide about the distributions of the financial sources) and contains the ability to guide a range of life situations and problems from a financial point of view.

This economic perspective based definition of the financial literacy is chosen for this purpose of the current research paper.

At the macro-level financial literacy ensures that consumers are enough equipped to handle with everyday financial situations and activities in the financial marketplace. Thus low levels of financial literacy can lead to defective financial decisions and actions, which, in the aggregate, can produce low level of wellbeing by making it complicated for individuals to meet their financial needs significant for living. Previous empirical research shows that poor financial literacy is concerned with a tendency for individuals to be out from processes yielding to correct decision making (Altman, 2012). This often reflects in financial behaviors shifting extremely from recommended guidelines, which, by-turn, leads to poor levels of financial wellbeing (Bay et al. 2014). Furthermore, increasing the financial literacy of young consumers is especially essential when considered from the perspective that financial competence, skills and behavior acquired early in life cause a foundation for future financial attitude, knowledge and well-being (Johnson and Sherraden, 2007). There are three dimensions related to research of financial literacy. The first dimension assays to evaluate the level of financial literacy in different behavioral and demographic cross-sections (Jappelli, 2010; Huston, 2010; Lusardi and Mitchell, 2011). The second dimension studies the influence of financial literacy on consumer financial decisions (Duca and Kumar, 2014; Jappelli and Padula, 2013; Gathergood, 2012). The third dimension investigates the role of financial education (Meier and Sprenger, 2013; Tomáškováa et al., 2011; Ionica, 2012). A principle discussion in many studies is whether financial illiteracy can be overcome by financial education programs (Collins, 2013). Some studies have investigated the impact of financial education on financial literacy (Willis, 2011; Molly, 2010) and efficient approaches to deliver financial education (DeLaune,

2010; Simkova and Stepanek, 2013). However, few academic researches have explored the determinants of financial literacy (Fernandes, 2012). Thus previous studies have shown that individuals obtain financial knowledge, behavior and attitude not only from formal educational programs, but also from interactions with socialization agents such as family, friends and media (Sohn, 2012). Media is important socialization agent for consumers – in a research by Lyons et al. (2006), 33% of college and high school students answered that they had used the Internet as main source to obtain financial information. For example, Loibl and Hira (2005) argued that the degree to which individuals used media (e.g., Internet, TV) as an information source for budget planning was positively related with better and correct financial practices and activities as well as financial attitude and satisfaction. They found that a considerable part of financial learning and information perception takes place at a consumer's initiative, and that Internet serves as valuable self-directed learning tool for seeking of financial knowledge (Greenfield and Williams, 2007). Therefore education programs should be undoubtedly supported by e-learning tool, through which the broad variety of information can be shared. Mayer (2014) defined e-learning as a "combination of content and instructional methods delivered by media elements such as words and graphics on a computer intended to build job-transferable knowledge and skills linked to individual learning goals or organizational performance. It may be designed for self-study or instructor-led training". Web environment contains opportunities that allow the trainer to manage the course, effectively plan and determine the quality of teaching, because Internet education courses include collaboration between trainers and students (Sun and Rueda, 2012). Thus consumers themselves monitor their knowledge, setting access for different categories of information.

Among the major advantages of using web environment belong saving time in teaching and learning, and the fact that each individual can choose the optimal time, method and even content of study (Kuo et al., 2014).

Meanwhile a number of internet users is steadily growing around the world while Europe and Baltic countries in particular are not an exception. According to Eurostat data, 82% of Estonian population, 76% of Latvian population and 69% Lithuanian of population used internet in 2013. Moreover, internetbanking platforms are being widely used by customers. For instance, a percentage of internet users who also used internetbanking services was 73% in Estonia, 55% in Latvia and 46% in Lithuania (Eurostat, 2013).

Provided a lack of financial literacy of customers and increasing use of internet nowadays, the aim of the research is to assess to what extent content of current web-based resources, which are available in local languages, matches above defined components of financial literacy of customers (i.e. by Klínský and Chromá). The tasks of the research are to analyse and define components of financial literacy of customers, study both local open web-based and internetbanking related financial literacy resources in Estonia, Latvia and Lithuania, assess content of these resources from the financial literacy perspective and draw conclusions about match of the studied resources content with the defined components of financial literacy of customers. The research period is October-December, 2013.

Research results and discussion

1. Methodology

Within the research, authors studied both open web-based and internetbanking related financial literacy resources in Estonia, Latvia and Lithuania as at December, 2013. The open web-based resources were further classified by authors in terms of their topic coverage whether there are universal or specialized covering only specific areas (eg., investments, retirement etc.). Afterwards the open web-based resources were classified in terms of financial literacy areas they are supposed to cover- price, monetary or budget. The next step of the research was to study internetbanking related financial literacy resources to find out whether an online financial planning tool is available in an internetbanking platform

of a specific bank or not. Furthermore, a regression analysis was run to reveal relationship between a number of internetbanking customers and a number of banking customers as well as relationship between a number of complaints and a number of both total customers and internetbanking customers.

2. Empirical findings

Authors conducted a study on open web-based local resources in Estonia, Latvia and Lithuania. The open web-based resources were classified by authors in terms of their topic coverage whether there are universal or specialized covering only specific areas (eg., investments, retirement etc.). According to the findings of this part of the research, each country has two universal open-web based resources while others are specialized and mostly are dedicated to savings and retirement topics. Interestingly, that in all three countries on of these universal web-based resourced is backed by a local financial supervision authority while another is the Personal Finance Institute backed by local daughter companies of Swedbank AB. Afterwards the open web-based resources were classified in terms of financial literacy areas they are supposed to cover- price, monetary or budget. Findings are summarized in the Table 1.

Table 1

Analysis of open web-based resources from the financial literacy perspective

No.	Resource Name	Country	Price	Monetary	Budget
1.	Financial Institute for Individuals	Latvia	No	Yes	Yes
2.	Decent Pension	Latvia	No	Partly	No
3.	Customers' School	Latvia	No	Partly	No
4.	Money Matters	Latvia	No	Yes	No
5.	My Pension	Latvia	No	Partly	No
6.	Purchase or Rent	Latvia	No	No	Partly
7.	Money Bee	Lithuania	No	Yes	Yes
8.	Financial Literacy Olympics	Lithuania	No	Partly	Partly
9.	Investology	Lithuania	No	Yes	Yes
10.	Money	Lithuania	No	Partly	Partly
11.	The Mission of Money	Lithuania	No	Partly	Partly
12.	Pension System	Lithuania	No	Partly	No
13.	Institute for Private Finances	Lithuania	No	Yes	Yes
14.	Pensions' Centre	Estonia	No	Partly	No
15.	My Money	Estonia	No	Yes	Yes
16.	Institute for Private Finances	Estonia	No	Yes	Yes

Source: compiled by authors

Authors conclude, that within the scope of the current research, they have not found any local web-based resource, which would address the price area of the customers' financial literacy while a number of resources are addressing other areas of financial literacy of customers only partly. Thus, the first conclusion authors draw is that there is clearly potential for further content improvement in open web-based resources in relation to the price area of customers' financial literacy. Monetary and budget areas could be further improved because addressed only partly.

Additionally, authors study internetbanking related financial literacy resources to find out whether online financial planning tools are available in internetbanking platforms of banks or not. According to findings, only internetbanking platform run by local daughter companies of Swedbank AB offers a financial planning tool for customers. Thus, the second conclusion by authors is that there space to improve financial literacy of customers by providing online financial planning tools built-in into internetbanking platforms. The conclusion can be also reasoned by findings of the regression analysis, which suggest that for both Latvia and Estonia nine out of ten new banking customers are using internetbanking services (adjusted R-squared exceeds 0.96, significance less than 0.001).

Table 2

ANOVA of multiple regression of financial literacy

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.889	4	3.383	45.61	.000 (a)
	Residual	21.350	139	1.061		
	Total	**50.239**	**135**			

a   Predictors: (Constant), Monetary Literacy score, Price Literacy score, Budget Literacy score, Education, Income, Age
b   Dependent Variable: Financial Literacy score

Source: compiled by authors.

Table 2

Coefficients of multiple regression of financial literacy

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.823	1.748		-.473	.025		
	Monetary Literacy	.194	.186	.220	1.019	.001	.278	3.588
	Price Literacy	.397	.228	.315	1.762	.000	.425	2.357
	Budget Literacy	.402	.340	.162	1.185	.001	.701	1.423
	Education	.258	.451	.243	1.214	.000	.348	2.873
	Income	.070	.081	.157	0.804	.000	.448	2.234
	Age	.007	.025	.046	.203	.842	.315	3.220

a   Dependent Variable: Financial Literacy score

Source: compiled by authors

In multiple regression authors have more than one predictor variable in the equation. Thus in this study authors have predicted internetbanking customers' financial literacy score from monetary literacy, price literacy, budget literacy scores and demographic factors. The study used a cross-sectional online survey. The population was internetbanking customers in Latvia, Lithuania and Estonia, and the sampling frame was the internetbanking platform. This sample was desirable for study because it ensured accessibility of respondents and variability on different demographic factors (age, gender, income, education). Respondents for survey were selected using stratified random sampling. This method ensures representativeness in frames of variables important to the study, and also it is a superior approach to

simple random sampling. Therefore the total sample size selected for the study was 715 respondents. Specifically, every component of financial literacy (monetary literacy, price literacy and budget literacy) was measured by asking for 30 questions. Operationally, a ten-point scale was used to measure each answer. In Table 2 and Table 3 authors present results of multiple regression of financial literacy.

The results of multiple regression indicate that the model is statistically significant ($F=45.61$, $p=0.000$), since it fits for significantly more variance, that is captured, in the criterion variable than would be expected on the basis of by chance.

Furthermore, all of the predictor variables are statistically significant except for *Age*. Thus each of predictors contributes to the regression, but *Age* does not. The results show that the *Price Literacy score* and the *Budget Literacy score* is a more important determinant in overall financial literacy estimation.

Conclusions, proposals, recommendations

Many researches suggest that financial literacy of customers needs to be improved substantially. Web-based resources can be efficiently used for this purpose. According to the study by authors, local web-based resources in Estonia, Latvia and Lithuania provide coverage of monetary and budget related financial literacy only partly while none of them addresses the price literacy related topics. Each country has only two universal open-web based resources while others are mostly dedicated to savings and retirement topics. A number of resources are addressing other areas of financial literacy of customers only partly. Thus, the first conclusion authors draw is that there is clearly potential for further content improvement in open web-based resources in relation to the price area of customers' financial literacy. Monetary and budget areas could be further improved because addressed only partly.

Furthermore, having run a regression analysis, authors conclude that nine out of ten new banking customers are using internetbanking services in both Latvia and Estonia. However, only internetbanking platforms run by local companies of Swedbank AB offer a financial planning tool for customers leaving space for other banks to support personilized budgeting financial literacy in the similar manner. The findings lays out the foundation for the second conclusion by authors, according to which there space to improve financial literacy of customers by providing online financial planning tools built-in into internetbanking platforms.

Proposals for further research are to study financial literacy programmes already introduced in Latvia and Estonia, which are jointly backed by public and private institutions, which are supposed to have a purely educational purpose. Besides, authors propose to study effectiveness of individual advisory sessions run by banks in the context of improvement of financial literacy of customers. The latter can be of high interest from the context of the financial literacy since the implicit goal of advisory sessions can rather be a sales opportunity for banks, which might end up in conflicts of interest.

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DIFFICULTIES WITH INNOVATION STATISTICS: SOME KEY ISSUES

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Abstract

The statistical data on innovations are essential for effective decision-making. Regular methodological changes and globalisation complicate the process of generation of innovation statistics. The problem is connected not only with selecting an appropriate criteria to evaluate the quality of statistical data on innovations, but also on existing methodology and the understanding of innovation itself and the significance of innovation statistics held both by statisticians and innovation survey respondents. Quality is not an easily definable concept. This paper aims to discuss the most common problems that make significant impact on the quality of innovation statistics and to propose an approach for determining innovation data quality. In this paper author developed a system of collecting and processing innovation statistical data and identified various problems of this process at the every stage of data collecting and processing. Author identified the following problems in the context of quality of innovation statistics: lack of co-operation between statisticians and respondents, methodological difficulties, lack of a common understanding and a harmonisation of the innovation process, difficulties to motivate enterprises to provide correct and accurate data, lack of understanding of the significance of the interpretation of statistical information as an integral part in the planning process of innovation policy etc. The quality of innovation statistics should be improved.

Key words: *innovations statistics, data quality, data collection and processing system*
JEL codes: O10, C10

Introduction

An innovation is considered to be the main driver for the economic growth by the economists (Solow, 1957). Innovation can not only make use of available resources, improve efficiency, but also bring new intangible assets into organization. Enterprises with greater innovativeness usually are more successful in responding to customers' needs and in developing new capabilities that allow them to achieve better performance or profitability (Sadikoglu & Zehir, 2010).

Investment in research and innovation is a relevant determinant of the capacity of an economy to generate growth and competitiveness of the economy. The qualitative measurement of innovation is critical to underpin evidence-based policy-making, to assess the impact of policies and reforms as well as to evaluate investment in research and innovation.

In this article some common problems of innovation statistics are summarized and an approach of evaluation quality of statistical data on innovation is proposed. Author proposes a systematic approach for determining innovation data quality that contains the following quality characteristics: Validity (including, reliability; accuracy; representativeness; adequacy and substantiated nature of a measuring instrument; objectivity); Comparability; Completeness; Coherence; Understandability/interpretability/clarity of the

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data; Complexity; Flexibility; Timeliness/actuality in disseminating results; Utility/importance; Informativeness; Sensitivity.

The theoretical and methodological evidence used in this study is based on the analysis of the economics literature and scientific papers, conference and seminar papers, the statistics database of Eurostat and of the Central Statistical Bureau of Latvia, Eurostat and other international statistical and methodological materials. A review of the bibliography, as well as methods of statistical analysis such as grouping, processing and comparative analysis has mainly been used in this paper.

Methodological overview of CIS 2010

Official statistics is the key source of information for planning and policy making in almost all the countries. Innovation surveys were first experimented in several Western European countries but have since been conducted in many other countries including Canada, all EU countries, Switzerland, Russia, Turkey, Australia, New Zealand, South Korea, South Africa and most Latin American countries (OECD Innovation Microdata Project, 2009).
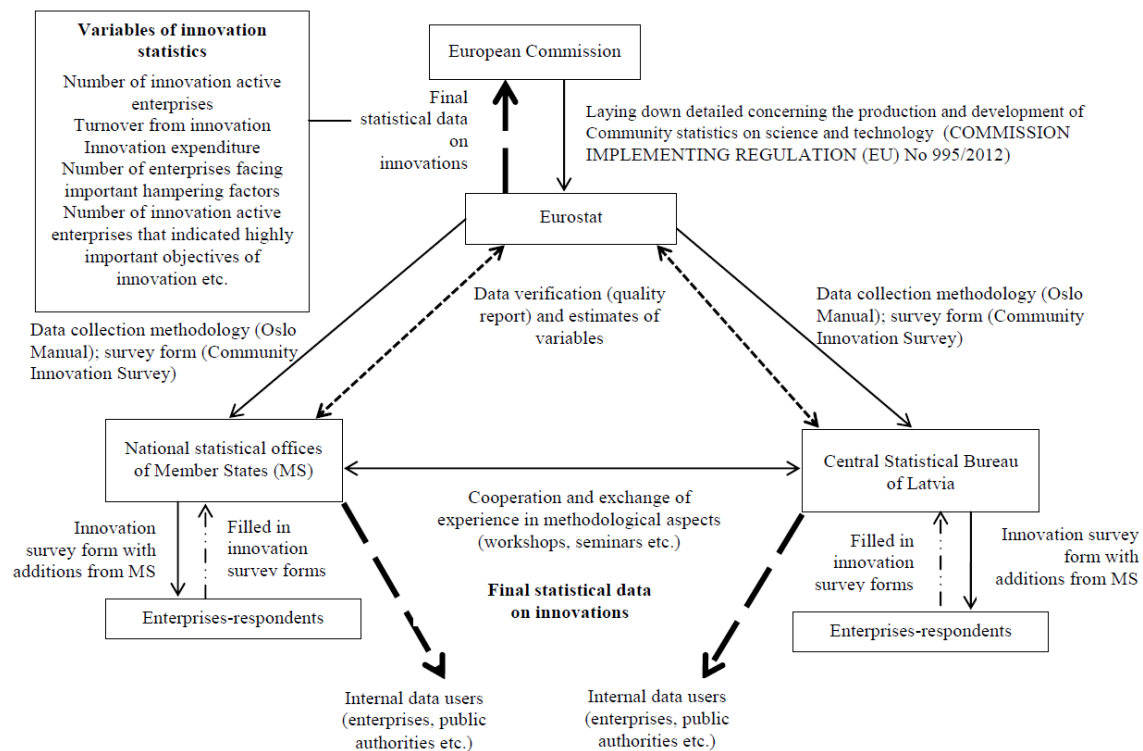
Source: author's construction.

Fig. 1. **System of innovation statistical data collecting and processing**

In order to summarize shortcomings in the innovation statistical data collection and processing process, author developed the system of process of collection and processing statistical data on innovations shown in Figure 1. The system provided by author is complicated as it consists of several

actors not only in Latvia (like Central Statistical Bureau and Latvian internal data users), but also foreign national statistical offices, Eurostat, European Commission and foreign data users. Some particular features of Statistical data collection and processing process can be discussed in the context of the Community innovation survey 2010 (CIS 2010).

In order to harmonize and promote the quality of innovation surveys, the Oslo Manual was developed by the OECD and Eurostat. The collection of the CIS 2010 statistics at a national level was made following the Commission Regulation No. 1450/2004 implementing Decision No. 1608/2003 concerning the production and development of Community statistics on innovation (in 26 October 2012 REGULATION (EU) No 995/2012 was implemented). The Regulation lists the variables to be collected and specifies the sectors (CORE NACE coverage) and the breakdowns by size class of the results. The system developed by author is complemented by the block of innovation variables.

The target population for CIS 2010 was all enterprises in NACE Rev.2 sections B, C, D, E, H, K and in the NACE Rev. 2 divisions 46, 58, 61, 62, 63 and 71. Latvia, Spain, Portugal, Finland, United Kingdom, Iceland, Norway and Serbia also included some NACE divisions on full voluntary basis (outside the recommended and mandatory target population). As regards the breakdown of enterprises into size classes, the Regulation defines the following three classes depending on the number of employees in the enterprise: 10-49 employees, 50-249 employees and 250 or more employees (Community Innovation Survey 2010 Synthesis Quality Report, 2013).

In addition, the methodological guidelines proposed by Eurostat provide specific information on the implementation of the CIS 2010, the computation of the indicators and the transmission rules to Eurostat. In accordance with the Regulation, Member States may also collect additional statistics (if such a request comes from the national internal data users, for example, public authorities).

CIS 2010 data were collected either through an electronic or a mail survey. In fact, the majority of countries offered both possibilities to the enterprises. Finally, some countries also contacted the enterprises by telephone. This mode served at first as a reminder for replying to the survey and secondly as a follow-up to clarify non-responses and missing data. Table 1 gives an overview of the data collection methods used in CIS 2010. In Latvia (like also in Lithuania and Estonia) statistics on innovation was collected through postal and electronic survey (Community Innovation Survey 2010 Synthesis Quality Report, 2013).

Table 1

CIS 2010 statistics, data collection methods

Data Collection Method	Number of countries	Countries
Postal and electronic survey	18	BE, BG, CZ, DE, EE, ES, FR, HR, IT, LV, LT, HU, AT, PT, RO, FI, SE, NO
Only postal survey	4	MT, SI, SK, UK (half of the responses collected by telephone interviews)
Only electronic survey	2	IT, IS
Face-to-Face interviews	1	CY

Source: Community Innovation Survey 2010 Synthesis Quality Report, 2013.

The majority of countries published the innovation survey results on their website. More than half of the countries published a press release with the main results and indicators and various paper publications.

An on-line database of all or part of the survey data is also available to users. According to the national quality reports, five countries reported dissemination of CIS microdata. Latvia published its innovation survey results on the website of Central Statistical Bureau, as well as some data is available on Eurostat website (Community Innovation Survey 2010 Synthesis Quality Report, 2013).

Table 2

CIS 2010 statistics, means of CIS 2010 dissemination

Level of access		Number of countries	Countries
Paper publication	Free of charge	6	BE, HR, IT, LT, SK (internal staff), RS
	Paid	7	CY, CZ, LV, HU, AT, RO, SK, NO
	Online version free	10	BE, DE, EE, FR, CY, AT, RO, SE, UK, NO
On-line database	Free of charge	16	BE, DE, EE, ES, FR, IT, LV, LT, HU, PL, RO, SI, SK, FI, SE, UK, NO
Website	Free of charge	22	BE, BG, CZ, DE, EE, ES, FR, HR, IT, CY, LT, HU, AT, PL, PT, RO, SI, SK, FI, SE, UK, NO, RS
CD-ROM	Free of charge	1	RO
	Paid	2	CZ, ES, AT
Press release	Free of charge	12	BG, CZ, DE, EE, ES, IT, CY, LT, MT, AT, RO, SE, NO
Micro-data/ Anonymised micro-data (for research)	Free of charge	3	DE, IT, UK
	Paid	2	CZ, NO

Source: Community Innovation Survey 2010 Synthesis Quality Report, 2013.

Data are usually accompanied by methodological notes that provide information on the scope of the survey, the related concepts, definitions and the data collection method. Some countries provided also guidelines to users for the interpretation of the indicators published. The feedback received from users on the clarity of CIS statistics is considered positive.

In the system of process of collection and processing statistical data on innovations provided by author there are a methodology flow and data flow. The quality of final statistical data depends on the quality of methodology that is why both of these processes (development of an appropriate methodology and data collection) are closely related.

The main strengths and weaknesses of the CIS 2010 methodology, as reported by the countries in the national quality reports are summarised as follows with the number of countries sharing the same opinion (a count of at least 2 countries was needed to include the item).

Table 3

Highlighted strengths and weaknesses

Highlighted strengths	Highlighted weaknesses
• High unit response rate (10 countries) • Collection of regional data (availability and as improvement factor of the quality) (4 countries) • Better knowledge and understanding of the questionnaire by the users (4 countries) • Timeliness and punctuality (3 countries) • Accuracy (inter alia because of census) (3 countries) • Electronic form of collecting data (convenient for respondents, economical form of collecting data, data control during fulfilling questionnaires) (3 countries) • Electronic and manual data checking (3 countries) • Higher quality of expenditures categories (2 countries) • Relevance – no compulsory cells are missing (2 countries) • Better comparability over time (2 countries) • Eurostat checks were incorporated into the data checking program (2 countries) • On-line manual and a phone line were made available for respondents (2 countries) • In all necessary cases, enterprises were contacted to consult errors and missing variables (2 countries)	• Low response rate (3 countries) • Too long questionnaire for small enterprises (2 countries) • No user satisfaction survey was undertaken (2 countries) • "Innovation concept" as a whole, which makes it difficult for the enterprise to assess their own activities as innovative or not innovative (2 countries) • R&D innovation expenditures maybe overestimated (2 countries)

Source: Community Innovation Survey 2010 Synthesis Quality Report, 2013.

Some Latvia's shortcomings

The Central Statistical Bureau of Latvia collects statistical data on innovation activity but it appears with a time lag, e.g., in 2013 the data was collected for the observation period 2010-2012. During the time period when a CIS survey is not conducted, it would be necessary to carry out smaller sample surveys determining the basic indicators of innovative activity which are essential for development of the innovation support policy to obtain operational data (Jesiļevska, 2012). Due to time lag in data collection and data dissemination the usefulness and importance of data become redundant and national programs and policies suffers from lack of timely data.

One of the significant problems in Latvia is lack of understanding what innovation actually means (within one country – Latvia – several definitions of national innovation system exists) etc. The Oslo

Manual definition states that: 'An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations' (Oslo Manual, 2005). The following definition is used in the Law on Scientific Activity: 'Innovation – the implementation in a product or service of new ideas, developments and technologies of a scientific, technical, social, or in the cultural or other fields' (The Law on Scientific Activity). The main difference between the two definitions is that in the Law of Scientific Activity the following types of innovations are distinguished: product innovation and process innovation, whilst in the Oslo Manual four types of innovations are distinguished: product innovations, process innovations, marketing innovations and organisational innovations (Jesiļevska, S. & Škiltere, D., 2013b).

One more problem is not developed a system of national innovation indicators, as a result lack of an understanding of the linkages and the process by which knowledge assets are converted for commercial purposes and some difficulties in developing a systematic approach of policy decisions in order to encourage innovative performance in the country. In practice innovation is a complex process. Individual indicators provide useful insights into the specific components, but together, they provide an understanding of the linkages and the process by which knowledge assets are converted for commercial purposes. In fact, the most interesting lessons can be learned using a multitude of different approaches at the same time (Jesiļevska, S. & Škiltere, D., 2013c).

Innovation systems theory stresses that the relationships between actors of innovation system and system performance is often determined by the weakest link in the chain (National Innovation Systems, online).

Essential problem is lack of co-operation between enterprises and institutions. Enterprises play a crucial role in the development of innovations, but the process of development and dissemination of innovations includes a complex interaction among enterprises, universities, research centers, government bodies and other institutions. In authors view, this interaction is a broad concept, here author can mention quality of relationship between customers and suppliers, degree of competitive or co-operative behaviour among institutions, enterprises' willingness to co-operate with research institutions and universities, closeness of relationship between enterprises and technology policy (Jesiļevska, Škiltere, 2013a).

One more weak point is lack of co-operation between enterprises and respondents. There is a strong need to improve co-operation between statisticians and respondents and to motivate enterprises to provide correct and accurate data. For these purposes, booklets with the main indicators on innovation statistics from the last survey should be disseminated directly to respondents who filled-in the survey questionnaire, together with expressing thanks for their collaboration. Such information could be interesting to respondents (Jesiļevska, 2012a).

The essential drawback is lack of systematic approach to manage the quality of statistical data, the quality of statistical data collection and processing process. Statistical data quality evaluation helps to determine to what extent the statistical information is relevant and representative. Data users not always are able to evaluate independently the quality of data produced and provided by a statistical office. In fact it is up to statistical office to evaluate data and provide users with the results in a usable form. Data quality evaluations help to determine the extent to which errors can be associated with certain stages of the survey process; in practice such evaluations can be used to improve the quality of the next survey, as well as other similar surveys etc. Developing methodology for estimation and analysis the quality of data, plays a central role.

Nowadays there are multiple different ways to define statistical data quality and until now there is currently no commonly agreed definition on what data quality is. Wang and Strong (1996) provide the following definition: "[…] data that are fit for use by data consumers". Kahn, Strong, and Wang (2002) propose that data quality is "conformance to specifications" and "meeting or exceeding consumer expectations". According to ISO 8000 quality is the "degree to which a set of inherent characteristics fulfils requirements".

Some quality criteria from the scientific literature: transferability, generalizability, ontological authenticity, reciprocity, dependability, fittingness, vitality, sacredness, goodness *(Creswell 2002);* fairness *(Lincoln&Guba 2000)*); rigour, breadth and depth *(Flick 199);* coherence, consensus, instrumental utility *(Eisner 1991);* openness and clarity *(Cohen&Crabtree 2008);* verisimilitude, integrity, verite' *(Garman 1996);* resonance *(Tracy 2010);* extrapolation, reciprocity, empathic neutrality *(Patton 2002);* locatability *(Goodhue 1995);* portability *(Caby et al. 1995);* appearance, comparability, precision, relevance, redundancy, context, informativeness, conciseness, importance, sufficiency, usefulness *(Delone et al. 1992).*

Author made the conclusion that there are many different views on defining and determining data quality and no systematic approach. To have a possibility to manage the quality of innovation statistics, author propose the systematic approach for determining statistical data quality that contains eleven characteristics: validity consists of reliability, accuracy, representativeness, adequacy and substantiated nature of a measuring instrument and objectivity; comparability; completeness; coherence; understandability/interpretability/clarity of the data; complexity; flexibility; timeliness/actuality in disseminating results; utility/importance; informativeness; sensitivity (Jesiļevska, S. & Škiltere, D., 2013d).

Conclusions, proposals, recommendations

- In this paper author indicated the following problems of quality of innovation statistics: lack of co-operation between statisticians and respondents, as well as lack of co-operation between enterprises and institutions, methodological difficulties, lack of a common understanding and a harmonisation of the innovation process, difficulties to motivate enterprises to provide correct and accurate data, lack of understanding of the significance of the interpretation of statistical information as an integral part in the planning process of innovation policy etc.

- In authors opinion, capabilities and co-operation between enterprises and institutions is a broad concept, here we can mention quality of relationship between customers and suppliers, degree of competitive or co-operative behaviour among institutions, enterprises' willingness to co-operate with research institutions and universities, closeness of relationship between enterprises and technology policy.

- Due to time lag in data collection and data dissemination the usefulness and importance of data become redundant and national programs and policies suffers from lack of timely data. During the time period when an innovation survey is not conducted, it would be necessary to carry out smaller sample surveys determining the basic indicators of innovative activity which are essential for development of the innovation support policy to obtain operational data

- Latvia published its innovation survey 2010 results on the website of Central Statistical Bureau, as well as some data is available on Eurostat website. Latvia should take into consideration experience of other countries and to publish a press release with the main results and indicators and various paper publications on innovation statistics with methodological notes to make innovation statistics easier to understand for data users.

- The following system of data quality indicators can be used to evaluate the quality of innovation statistics: Validity (reliability; accuracy; representativeness; adequacy and substantiated nature of a measuring instrument; objectivity); Comparability; Completeness; Coherence; Understandability/interpretability/clarity of the data; Complexity; Flexibility; Timeliness/actuality in disseminating results; Utility/importance; Informativeness; Sensitivity.

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THE METHODOLOGY OF MEASUREMENT OF OBJECTIVE WELL-BEING IN MUNICIPALITIES: CASE OF LATVIA

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Abstract

Well-being has always been a topical concept, there had been developed different methodologies how to evaluate it emphasizing objective or/ and subjective features of the well-being concept. The objective features of well-being has been under investigation of economists as measuring of objective well-being would provide wide opportunities, e.g. to compare different administrative territories, to assess the status of well-being before and after certain activities, etc. Although nowadays municipalities are becoming more and more important regarding ensuring well-being to its citizens, traditionally the well-being is being evaluated at national level. The aim of the paper is to develop and approbate research methodology for measurement of objective well-being at local level. Methodology used: a survey of experts, standardization of empirical statistical data, analysis and comparisons of empirical statistical data. Main results and findings of the paper: there has been elaborated and approbated the objective well-being index for municipalities taking into account different features of well-being which could be widely used in decision making processes. In addition there has been identified possible opportunities where to use developed index in Latvia.

Key words: *objective well-being, municipality, index, methodology*

JEL codes: B41, H75, R58

Introduction

Traditionally, the nation's well-being is measured by objective macroeconomics indicators like GDP or GNP. However, well-being is more than the accumulation of material wealth, it is a complex concept which contains many features, e.g. economic, social, and environmental. At the same time, the local government is becoming more and more important nowadays regarding ensuring the well-being of their communities, thereby it is important to measure well-being at local level. The research question: "What is the optimal research methodology for measurement of objective well-being at local level?". In order to develop the methodology for measurement of objective well-being at local level there would be conducted research of existing objective well-being evaluation and measurement methodologies for municipalities, accordingly would be proposed the methodology of measurement of well-being at local level. In addition there would be approbated proposed methodology for Latvian municipalities for 2011.

The aim of the paper is to develop and approbate research methodology for measurement of objective well-being at local level. In order to achieve the aim, the tasks are formulated as follows:

1) to conduct a research of existing methodologies for evaluation and measurement of well-being at local level;
2) to develop the research methodology for measurement of objective well-being for municipalities;

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3) to approbate developed methodology for measurement of objective well-being for Latvian municipalities;
4) to provide proposals for using the developed methodology for measurement of objective well-being for Latvian municipalities;
5) to identify possible limitations of developed methodology for evaluating objective well-being at local level.

Methodology used: a survey of experts, standardization of empirical statistical data, analysis and comparisons of empirical statistical data.

The proposed methodology for measurement of objective well-being for municipalities would be innovative at national level, as there hadn't been developed a system for evaluation and measurement of objective well-being at municipal level in Latvia.

The paper relates to thematic track "Public Administration, Taxation and Budget" as the main findings of paper – developed objective well-being index for Latvian municipalities – contributes to improvement of public administration processes at local and regional level.

Research results and discussion

In this part would be reviewed theoretical background for developing methodology for measuring objective well-being at local level, the process of developing and approbation the methodology for measuring objective well-being at local level, possible opportunities and limitations of developed methodology.

1. Theoretical background – the researches of objective well-being at local level

Measuring the extent of well-being has long been the subject matter of theoretical and empirical work in the fields of human geography, urban and regional studies, regional science and regional Economics. Most of the efforts to date involve the use of objective approaches to researching well-being, whereby factors pertaining to the social and physical environment, that are relatively easy to quantify and which are assumed to determine human well-being (e.g. income, consumption, residential land, wages and rents, local amenities, natural environment, environmental pollution) are observed, measured and modelled. These factors are typically rated, and regions and cities are ranked on this basis (e.g. Savageau, 2007; Mercer, 2012; Jordison and Kieran, 2003).

One of the first comprehensive geographical approach to measuring local and regional well-being using objective measures is the work of David Smith, who systematically examined the geography of social well-being in the US (Smith, 1973). This study was based on the statistical analysis of secondary data for different geographical levels. Since then there has been a steadily growing number of similar but increasingly sophisticated studies of urban and regional well-being. There have also been a number of reviews of such studies, some of which have been very comprehensive and informative. Amongst the notable most recent surveys is the work of Craglia et al., 2004, Mulligan et al., 2004, Stimson and Marans, 2011 and Mulligan and Carruthers, 2011 and Lambiri, Biagi, and Royuela (2007).

These theoretical developments have been complemented by numerous attempts to provide specific objective indicators of well-being by city and region, and to identify the factors affecting it, including natural and urban amenities. In particular, there has been considerable research on the impact of the latter and of related public policy initiatives upon a range of measures that are thought to affect well-being in cities and regions (e.g Bartik and Smith, 1987; Beeson, 1991). A recent example is the work of Morais and Camanho (2011) who presented an evaluation of the performance of 206 European cities on the basis of quality of life based on two approaches: the construction of a composite indicator and an assessment of the ability of local authorities to promote quality of life in the city given the economic position of their

country. Further, Morais, Miguèis, and Camanho (2011) present an assessment of the urban well-being in European cities from the perspective of highly qualified and educated workers. They highlight the increasing policy relevance of urban well-being, given that it plays a major role in the migration decisions of highly educated workers. The attraction of highly educated workers in turn significantly affects the competitiveness of cities, so it is argued that there is a strong need to improve methods to evaluate and monitor urban well-being. Morais et al. (2011) developed a composite well-being index for 246 European cities by using data from the European Urban Audit.

Another key debate identified and considered by Mulligan and Carruthers (2011) is 'jobs versus people', or, in other words, demand (employment) versus supply (population). This is underpinned by the ideas discussed above, as well as the thinking of Borts and Stein, 1964 and Muth, 1971, and Steines and Fisher (1974) according to which jobs follow people into cities and regions in addition to the other way around. Mulligan and Carruthers (2011) present an overview of studies tackling these issues with the use of the so called regional adjustment tool (Mulligan et al., 2011 and Mulligan and Vias, 2006). Also, a very good recent example of this type of work is a comparative study of Europe and North America by Faggian, Olfert, and Partridge (2011) who examine the relationship between population change and local natural amenities as well as income per capita; they point out that the migration-behaviour revealed preferences (or 'voting with their feet') measures are more reflective of well-being in North America than in Europe. Also of relevance here is a recent relevant study by Korpi, Clark, and Malmberg (2011) who explored the interaction between internal migration, disposable income and the cost of living in Sweden. They pointed out that people are willing to pay more for their homes when moving to more attractive areas. Pilars of prosperity in different aspects are analysed world-wide, recognised authorities from the Princeton University Timothy Besly and Torsten Persson have analysed pilaors of prosperity in aspects of political economics (Besley and Persson, 2011). Daron Acemoglu and James A.Robinson have analysed why nations fail and have looked for the origins of power, prosperity and poverty (Acemoglu and Robinson, 2012).

In addition there have been developed new approaches to the analysis of well-being where are analysed the housing markets for a better understanding of what makes a place attractive and what maximises utility from living in a particular city or neighbourhood (Boelhouwer, 2011; Clark, 2011; Marsh and Gibb, 2011; Smith, 2011; Watkins and McMaster, 2011). Annual calculations and comparisons of the Legatum Prosperity index which is an annual ranking (based on a variety of factors including wealth, economic growth and quality of life) developed by the Legatum Institute, of 142 countries, (Legatum Institute, 2013) is often used for analysis of well- being. In 2013 Latvia was ranked as 48 in this rank, Estonia was 36 and Lithuania was 43 (Legatum Institute, 2013). Researchers from different fields have professional interest in multi-country prosperity index using different analysis methods, including spectrum analysis (Jiawei, *et al*, 2011). This could serve as some indicator for comparative studies and inspirations for policy development in the country.

2. The process of evaluation of objective well-being at local level: description of methodology

Among social researchers there is confidence that well-being is complex concept which could be evaluated using measurable indicators (Rinne et. al., 2013; Hezri, 2004, Bauler, 2012; Rydin et. al., 2003). One of the approach for measuring well-being is developing indexes which allows to include different indicators in one index (Briec et. al., 2013; Smith et. al., 2013; Osberg & Sharpe, 2009).

Based on those observation there would be developed index for measuring objective well-being at local level adopted for municipalities of Latvia. In order to develop this index, at the beginning there would be selected indicators of well-being measured at local level – the evaluation and selection of indicators would be based on expert evaluation. Pilot expert survey has been conducted to test the approach. Among the experts high level professionals and researchers are invited. Afterwards the values

of selected indicators would be standardized and there would be given certain significant weight for indicators. In the end there would be determined the value and rank of objective well-being index for Latvian municipalities for 2012 (see Fig.1).
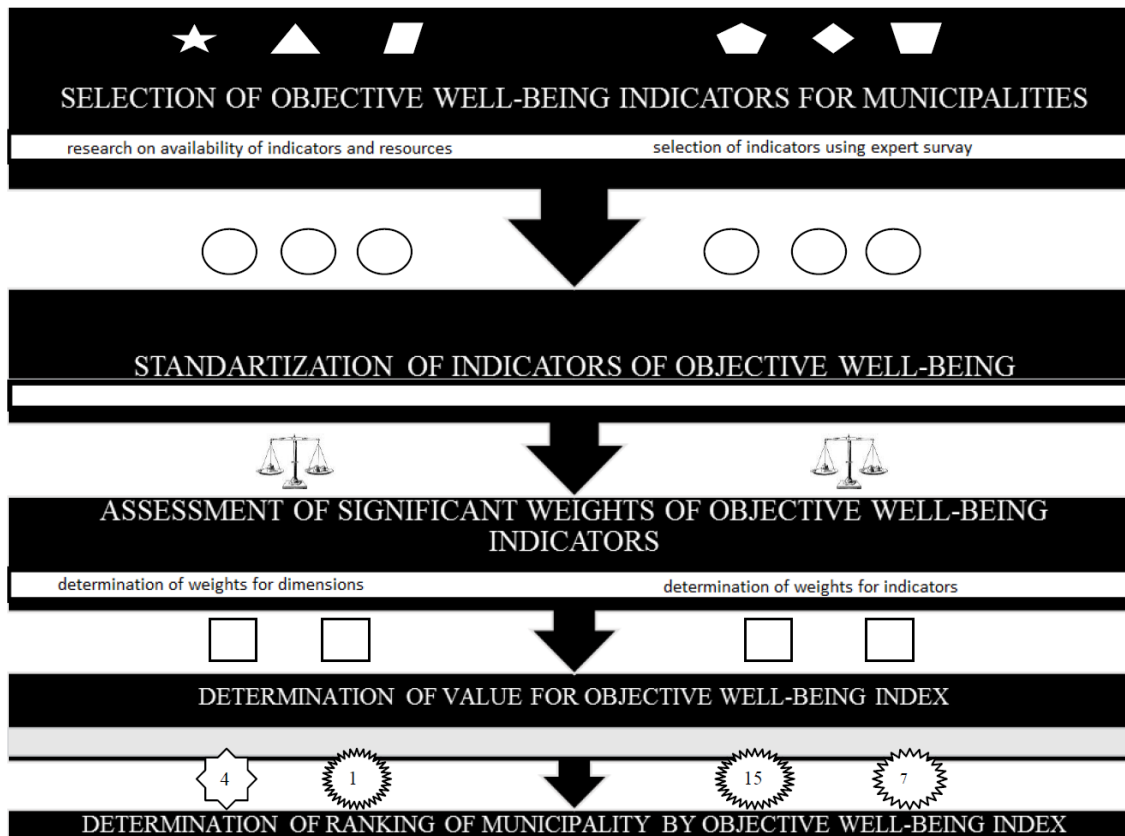
Source: Inga Jēkabsone's construction.

Fig. 1. **Estimation steps for objective well-being index for municipalities**

In next sub-parts would be detailed described each stage of estimation of objective well-being index for municipalities with approbation in Latvia.

2.1. Selection of objective well-being indicators for municipalities

In order to determine what other indicators might be used to describe the level of well-being in municipalities there was prepared summary where listed indicators, which are measured by local level. Then was organized expert survey, where experts had to decide which indicators are essential for studying well-being in municipality. The experts were selected at local level (development specialists in municipalities, heads of social services – in each planning region were randomly selected 5 municipalities, in each municipality – 2 experts), at regional level (representatives from planning region – one expert from each planning region) and at national level (Ministry of Welfare of Latvia, Ministry of Environmental Protection and Regional Development of Latvia). The questionnaire via e-mail was sent to 59 experts, the answers were received from 31 experts.

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Evaluating the results of the survey of experts (see Table 1), as well as the calculated average values (arithmetic average, median, mode), the authors assumed that further evaluation and the final selection there should be selected those indicators whose arithmetic average rating is higher than the average of all indicators. Consequently, for further research would be explored 11 of the 22 statistical indicators.

Table 1

Indicators of well-being in the municipalities of Latvia and their average values

No	Well-being indicator	Arithmetic mean	Median	Mode
1.	**The average monthly wage in the municipality**	**9.18**	**8**	**9**
2.	**The population growth by mechanical increase**	**8.46**	**8**	**8**
3.	**Economically active market sector units in the municipality**	**8.28**	**6.5**	**7**
4.	**Number of full-time employees by actual workplace**	**8.18**	**7**	**7**
5	**Number of recorded criminal offenses in the municipality**	**8.15**	**7**	**7**
6.	**Live born children in the municipality**	**8.08**	**7**	**8**
7.	**Population and the proportion of before working age and above working age in the municipality**	**7.95**	**6.5**	**7**
8.	**Population growth by natural increase**	**7.93**	**7**	**7**
9.	**The average number of employees with normal working hours recording in normal time units in the municipality**	**6.93**	**6**	**7**
10.	**The average annual number of permanent residents in the municipality**	**6.90**	**6**	**7**
11.	**Number of residents in the municipality at the beginning of the year**	**6.83**	**6**	**7**
12.	Occupied workplace in the municipality average per year	6.08	5	6
13.	Economically active market sector statistical units in the municipalities by size, business forms and main activities	6.03	5	5
14.	Economically active statistical units in the municipality	5.88	5	5
15.	Number of concluded marriages in the municipality	5.63	4.5	6
16.	The dependency rate in the municipality	5.60	4.5	5
17.	The balance of international migration in the municipality	5.25	4	6
18.	Hotels and other tourist accommodation in the municipality	5.15	4	6
19.	Residential homes in the municipality	3.63	3.5	5
20.	Total area of residential houses at the end of the year in the municipality	3.53	3	4
21.	The number of deaths in the municipality	2.83	2	4
22.	Resident population by ethnic composition of the municipality at the beginning of year	1.88	1	1
Arithmetic average/ median/mode of the all indicators		**6.29**	**5.5**	**7**

Note: The experts presented an assessment in scale 0-10, where 0 is no answer, "I do not know", 1 – not significant, 10 – a very significant indicator characterizing the well-being indicator

Source: Inga Jēkabsone' calculations based on the results of the expert questionnaire held in March and April, 2013

In order to reduce the number of indicators and escape from the fact that in the index are included similar indicators, selected indicators were divided into groups, as well as formal transformation in order to make them comparable between municipalities, e.g. indicator "Economically active market sector units in municipality" was transformed into indicator "Economically active market sector units per 1000 residents".

In addition there were also added the indicators "Unemployment rate" and "The amount of personal income tax per capita" which have been used in Latvia for territory development index (*Latvijas Vēstnesis, 2012, No. 371).* As it is not possible in the local level to make estimates of GDP, the indicator "The amount of personal income tax per capita" could objectively, although indirectly indicate the income level of citizens declared in the municipality. This indicator is also precisely to determine – the data are obtained from the State Treasury of Latvia. Of course, there should be taken into account the fact that in many municipalities, especially in Pieriga Region, is a problem of declaration, that is, people actually live and work near Riga, while they are registered in the rural municipalities. It should also be noted that underground economy also affect this indicator, so it must be assumed that the value of the indicator will always be more or less artificially low. However, despite this fact, it is worth to consider that in the municipalities where higher amount of income tax is per capita also is higher well-being level. While unemployment rate as described in different scientific publications (Diener, 1984; Lucas et al.,2004; Frey and Stutzer, 2002; Clark, 2009), there is a significant causal link between high unemployment and low well-being and vice versa, that's why there is a reason to use unemployment rate as objective well-being indicator. As the result there were selected 6 different indicators in 3 dimensions of well-being – economic, social and environmental (see Table 2).

Table 2

Indicators of objective well-being indicators of economic, social and environmental dimensions in municipalities of Latvia

Dimension	Area	Indicator	Source
Economic	Labour market	Unemployment rate	State Employment Agency
		Employment rate	Central Statistical Bureau
	Economic activity	The amount of personal income tax per capita	The State Treasury
		The average monthly wage	Central Statistical Bureau
		Economically active market sector units per 1000 residents	Central Statistical Bureau
Social	Demography	Permanent population changes over the past five years	Central Statistical Bureau
		The birth rate	Central Statistical Bureau
Environmental	Safety	Recorded criminal offenses per 1000 residents	Central Statistical Bureau

Source: Table created by the authors

All selected indicators are available at municipal level in Latvia.

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2.2. Standardization of objective well-being indicators

To combine the well-being indicators, expressed in different units and to create objective well-being index for municipalities, there have been done statistical standardization, using the following formula:

$$t = \frac{x - \bar{x}}{s}, \tag{1}$$

where

t – standardized value of well-being indicator in a given municipality;

x – well-being indicator in their specific unit of measurement in a given municipality that has to be standardized;

$\bar{x}$ – the annual weighted arithmetic average of the well-being indicator;

s – standard deviation, which is calculated for a given year, according to the formula:

$$s = \sqrt{\frac{\sum (x - \bar{x})^2 f}{\sum f}}, \tag{2}$$

f – statistical weight (Vanags et al., 2005).

2.3. Assessment of significance weights of objective well-being indicators

Analyzing different studies on usage of significance weights in different well-being studies (especially in the development of indexes), it was concluded that there is no reliable basis to determine the significance weights for well-being indicators. In the scientific literature is mentioned that the most common method to characterize the well-being indices are choosing arbitrarily or similar scales (Mayer and Jencks, 1989). In the most of the studies significance weights are determined arbitrarily without a quantitative analysis and in this case, "it is impossible to determine, which of elements of common index is more important, it is based only on the researchers' psychological beliefs" (Fleurbaey, 2009). A lot of the researchers believe that "despite the popularity of the use of significance weights, more appropriate is to use the similar weights as in any case, their use is controversial, but in this case, at least simple" (Chowdhury and Squire, 2006).

Taking in to account what mentioned above, as well as the analysis of scientific literature (Legatum Institute 2012; Redefining Progress and Earth Day Network, 2002), in addition conducted studies of well-being indicators in Salaspils Municipality (Latvia) (Grantiņš et al., 2010; Grantiņš et al., 2011; Grantiņš et al., 2012; Jekabsone et al., 2013), the authors decided to grant following importance weights of objective well-being of three dimensions:

- economic – 50%, emphasizing financial factors relation to objective well-being;
- social and environmental – each 25%, there is equal importance in promoting well-being for both dimensions;
- as within each dimension is a number of indicators, it was decided also to give equal weight within each dimension.

2.4. Determination of value for objective well-being index

After the assessment of significance weights is following the determination of the value for objective well-being index for municipalities. These values were calculated for all municipalities and republic cities in Latvia.

2.5. Determination of ranking of municipality by objective well-being index

Next, there were determinate ranking of each municipality by objective well-being index for municipalities (see Table 3).

Analyzing the results by Objective well-being index in Latvia in 2012, it can be concluded that the obtained results are similar to overall presumptions about development of different territories of Latvia – higher assessment received municipalities in Pieriga region, lower – in Latgale region. It is not possible to use the results of Territorial Development index (TDI) which had been calculated for municipalities and republican cities in Latvia as there had been developed different methodology for calculation of indexes for municipalities and republic cities. However there could be concluded that not all municipalities of Pieriga ranks relatively high by Objective well-being index, like Salaspils municipality which is observed to be one of the wealthier municipalities. This is due to the fact that municipalities in Pieriga region have relatively low employment rate, despite low unemployment rate, which can be explained by the fact that in a lot of municipalities of Pieriga region are few jobs and there declared persons are working in Riga.

Table 3

The ranks of municipalities and republic cities by Objective well-being index in Latvia, 2012

Republic city/ municipality	Rank by the objective well-being index for municipalities
Stopiņi municipality	1
Mārupe municipality	2
Ādaži municipality	3
Garkalne municipality	4
Ikšķile municipality	5
Ozolnieki municipality	6
Babīte municipality	7
Ķekava municipality	8
Valmiera	9
Carnikava municipality	10
...	...
Strenči municipality	110
Viesīte municipality	111
Ludza municipality	112
Cibla municipality	113
Baltinava municipality	114
Viļāni municipality	115
Kārsava municipality	116
Vecpiebalga municipality	117
Aglona municipality	118
Zilupe municipality	119

Source: table is made using the authors' calculations

Also it is possible to calculate the values using the newest available data for certain periods (quarters).

3. The possibilities of developed objective well-being index for municipalities

Three are wide possibilities to use developed index of objective well-being for municipalities in public sector as it provides wide opportunities to compere different administrative territories by main indicators of well-being. This comparison can also could be made within one certain administrative territory between years in order to analyse dynamic of level of well-being. This index could also be used assessing different politics and their impact to level of well-being.

In case of Latvia, it could be proposed that the calculation and analysis of the results of Objective well-being index for municipalities could be done by State Regional Development Agency (SRDA), taking into account the functions of the agency. SRDA was developed ERDF project "Municipal spatial planning, infrastructure and real estate management and monitoring information system", more commonly known as "Spatial Development Planning Information System" (SDPIS), within which takes place the design of the Regional Development Indicator Module (RDIM), providing instrument for regional development monitoring and decision-making support. This will be additional instrument for municipalities for evaluation of trends and for preparation and monitoring of development programs. Within the Regional development Indicator module would be displayed and analyzed indicators in different areas at the local level – one of the areas is "Well-being" (VRAA, 2013). Within this module SRDA specialists could provide calculation and analysis of objective well-being index for municipalities.

Objective well-being index for municipalities allows comparing by objective indicators well-being level at every municipality in Latvia which could be the basis for:

- in developing of Regional development support program aimed to ensure well-being;
- in evaluation of effects of EU, state aid and other financial instruments' on local well-being and economic efficiency;
- for differentiation of support within the EU funds;
- for well-being comparison, evaluation, forecasting and other analysis in local level.

At national level, the developed index could be used by the Association of Local Governments of Latvia, using it as justification for certain activities or projects, as well as the Ministry of Environmental Protection and Regional Development and the Ministry of Welfare of Republic of Latvia, using it as criteria for the assessment of regional development support measures funding allocation by territorial distribution. While the at regional level Planning regions could use this index as target indicator in development planning documents (Development Programme, Sustainable Development Strategy), also in establishing inter-municipal and inter-regional activities and initiating projects aimed at raising the level of well-being, as well as in assessment of municipalities' or private project applications for the national or regional development support and providing opinion on them. At the local level objective well-being index could be used as a target indicator in development documents, in developing and promotion the image of the municipality, as well as the argument to organize events or write project proposals.

4. Limitations and possibilities of proposed methodology

The proposed methodology provides wide opportunities to develop index which consists of indicators who are more topical in every country, namely it is possible to different indicators, taking into account the statistical data which are available at local level. However, there could be situation when there aren't available data for certain indicators, for example at local level there are only available statistics about population and other indicators which could represent another well-being dimensions, e.g. economical, environment, institutional, etc. In this case the results could not be reliable as they don't represent different dimension of well-being. This issue appears also in situation when there had been done reforms in division of administrative territories – the statistics are not comparable, it takes time and efforts to recalculate values. In this case there should be used another methodology and most probably there could be evaluated subjective well-being instead of objective well-being. In case of Latvia there are available a lot of indicators

what represent different dimensions of well-being, that's why the results of this index could be used in decision making processes. However taking into account different researches mentioned above there should be reviewed possibility to use other well-being indicators which are not measured at local level. There is planned in the future to conduct an expert survey in order to recognize those indicators.

Conclusions, proposals, recommendations

1. The meaning of well-being – one of the most topical concepts in social sciences at all times – could be divided in the subjective and objective one. Objective indicators of well-being can be found for some measurable components or factors of well-being, e.g. income, consumption, residential land, wages and rents, local amenities, natural environment, environmental pollution) are observed, measured and modelled.
2. Nowadays the local government is becoming more and more important regarding ensuring the well-being of the society, implementing the co-responsibility approach in decision-making and public participation processes in resolving topical local issues, that's why it is important to research well-being at local level.
3. There have been conducted a lot of researches to evaluate the objective well-being at local level, mostly there were used specific indicators for certain city or region. Also there is popular assumption that well-being is closely related to migration and employment, that's why there had been done numerous researches about housing markets and migration.
4. In order to evaluate the different dimensions of well-being, there was proposed Objective well-being index for municipalities which consists of 8 indicators: unemployment rate, employment rate, the amount of personal income tax per capita, the average monthly wage, economically active market sector units per 1000 residents, permanent population changes over the past five years, the birth rate, recorded criminal offenses per 1000 residents.
5. The results of approbation of Objective well-being index for municipalities for Latvia in 2012 showed that the results are are similar to overall presumptions about development of different territories of Latvia – higher assessment received municipalities in Pieriga region, lower – in Latgale region.
6. Objective well-being index for municipalities allows comparing by objective indicators well-being level at every municipality which could be used in Latvia in decision making processes and could be used as the basis for developing of Regional development support program aimed to ensure well-being, in evaluation of effects of EU, state aid and other financial instruments' on local well-being and economic efficiency, as well as for differentiation of support within the EU funds and for well-being comparison, evaluation, forecasting and other analysis in local level.
7. The main limitation of proposed methodology for municipalities is the lack of statistics on municipal level. If there aren't available indicators of different well-being dimensions there is no point in using provided methodology. In this case more reliable is to use methodologies for evaluation of subjective well-being.
8. There should be provided survey of experts to define possible indicators for objective well-being index for municipalities which are not available yet but which could be used for more reliable results.

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THE ROLE OF ORGANIZATIONAL CULTURE IN INNOVATIVE PERFORMANCE OF SMALL AND MEDIUM-SIZED KNOWLEDGE-INTENSIVE COMPANIES IN THE BALTIC STATES

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Abstract

Nowadays there is a belief that innovations are the main aim of any organization, while organizational culture is recognized as one of the most important factors influencing them, as it encourages employees' innovative behaviour and creation of innovations.

Assumption, that a certain type of organizational culture provides better performance, is one of the reasons that explain the great interest in it. However, there is still no united consensus between scholars on this relationship.

The aim of this paper was set to examine the role of organizational culture in innovative performance of small and medium-sized knowledge-intensive companies in the Baltic States and two hypotheses were proposed: Adhocracy promotes the innovative performance of small and medium-sized IT companies in the Baltic States; and Hierarchy hinders the innovative performance of small and medium-sized IT companies in the Baltic States.

The Competing Values Framework was used for diagnosis of organizational culture types and the innovative company indicators made by Latvian Technology Centre for measuring the innovative performance. The study covered 27 IT companies from the Baltic States.

The research results reveal that the innovative performance of small and medium-sized Baltic States' IT companies is promoted by Adhocracy, as there was strong statistically significant positive correlation between innovation coefficient and adhocracy. In turn, the hypothesis that hierarchy hinders the companies' innovative performance confirmed partly – there was statistically significant relationship between innovation coefficient and hierarchy. However, hierarchy had stronger statistically significant negative correlation with adhocracy than innovation coefficient.

Key words: *organizational culture, innovations, Baltic States*

JEL code: M14

Introduction

Nowadays the knowledge-based economy and fierce competition puts high demands for companies – it requires continuous learning, improvement process and only those companies can be successful that can offer the newest and most unique products. There is a belief that innovations are the main aim of any organization. The term "innovation" includes a wide range of activities, including organizational, financial, marketing and technological innovations (Rush, H., Bessant, J., Hobday, M., 2007). It is any application, idea or object, that individual or other entity perceives as something new. Innovations include a new product and/or process adoption in order to increase competitiveness and profitability, as well as

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finding new ways to identify the needs of existing and new customers (Kenny, B., Reedy, E., 2007). Innovation is everything that is associated with finding new possibilities to do something and gain strategic advantage (Tidd, J., Bessant, J., Pavitt, K., 2001).

Other authors in the innovation definition goes further stressing that innovation is a cultural element, which must be instilled by managers. Through communication process with subordinates organization's mission is transmitted, employees are encouraged to look for unique opportunities and to link these opportunities with strategic directions. Later, identifying the measurements to evaluate success brought by these opportunities, it is possible to preserve the opportunities in the future, and benefit from them (Gaynor, G.H., 2002).

Nowadays, innovations are not only the basis for economic growth, competitiveness and economic security but they have become the major source of income and important factor determining the company's international competitiveness. Moreover, innovations are associated not only with entirely new product, technology or service creation, but they also can significantly reduce production and labour costs (Zhuparova, A.S., 2012). Thus, innovations plays a significant role in organizations performance and success, which is one of the reasons why companies tries to influence the quality and quantity of innovations in order to achieve higher performance. Many studies have shown that innovative companies that are able to use innovations to improve processes, differentiate products and services, surpasses their competitors in terms of market share, profitability, growth and market capitalization. It is also very important to sufficiently often be able to replace old products with their new versions. "Competition in time" reflects the increasing pressure to offer not only new products, but also to manage to do it faster then competitors do (Tidd, J., Bessant, J., Pavitt, K., 2001). Moreover, innovations are vital for small and medium-sized enterprises to compete successfully in domestic and foreign markets (Kenny, B., Reedy, E., 2007).

However, in the long-term not the specific innovations are important, but the ability to generate a range of product and process changes. It stresses the way, how innovations are managed and deepened. This ability does not arise by itself, it is created by continuous learning process, including processes, procedures, daily activities and structures, that altogether describes "the way we operate" (Rush, H., Bessant, J., Hobday, M., 2007). "The way we operate" is characterized by organizational culture. Organizational culture is recognized as one of the most important factors influencing innovations.

Organizational culture is defined as a deep assumption about how the work should be organized, authority used and people controlled and rewarded (Handy, C.B., 1993). It is a system that allows individuals and groups to collaborate with each other and rest of the world. This system includes values, beliefs, assumptions, behaviour, language, material culture artefacts and technology, and it works both ways – from inside to outside and vice versa, as the environment determines technology, art, people's behaviour and language and deeper values. Mole both national and organizational culture describes as mechanism designed to unite people with common language, values and ideas for a common goal (Mole, J., 2003). Organizational culture according to Schein is a model of basic assumptions that a group have learned (or created) and found to be good and useful enough when dealing with external adaptation and internal integration problems. This model is thought to newcomers as the appropriate way to perceive, feel and understand these problems (Schein, E.H., 2010). Hofstede (2001) defines culture as collective programming of the mind, which distinguishes the members of one group from another. He points out that the main difference among various organizational culture researchers is that one believe that organizational culture is something that organizations has, while others – something that organizations are. Robbins (1983) note that organizational culture is what differentiates one organization from another. Every organization has its own unique culture, which covers ancient and often unwritten laws, regulations, specific language that facilitate communication between group members, common standards, etiquette, behaviour, habits, attitude towards colleagues, subordinates, managers and persons outside of the organization, as well as other traditions that guide group members in what is appropriate behaviour and what is not.

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Competing Values Framework (Organizational Culture Assessment Instrument), developed by Cameron and Quinn (2001), classifies organizational culture into four types – Clan, Hierarchy, Market and Adhocracy. Hierarchy is described as a formal and structured work environment where the procedures guide what has to be done and by whom it must be done. Organization is united by formal rules and the main long-term aim is to maintain stability, effective and uniform operations. Market culture is results-oriented organization where the main aim is to get the work done. Employees focus on competition and goal achievement, the desire to win is the main force that unites the organization. In the long run, focus is set on competitive activities and goal achievement. The clan culture is described as friendly environment where people have a lot in common and a high level of mutual trust. Clan is described as a large family where leaders are seen as mentors and tutors, always providing support and help. Loyalty and traditions are the forces that unite the organization. Organization emphasizes the long-term benefits from human resources development and pays attention to coherence and mood, excellent teamwork, participation and consensus. Adhocracy is described as dynamic, entrepreneurial, risk-taking and creative workplace. Leaders are characterized by the ability to predict events, innovation, creativity, willingness to take risks, focus on the future. Commitment to experimentation and innovation are the main forces that unite the organization. The main emphasis is on conquering the leading market position, while the long term objectives include rapid growth and acquiring new resources. Success is perceived as a production of new and unique products, it is important to be a market leader, predict future. The main aim is to promote adaptability, provide flexibility and encourage individual initiative and creativity.

According to Cameron (2004), organizations characterized by clan culture are more effective in such performance characteristics as mood, satisfaction, internal communication and support. Adhocracy in turn is more effective in adaptation, system openness, innovation and knowledge. Market cultures demonstrated better performance in ability to obtain the necessary resources – income, abilities, reputation, etc. Hierarchy did not show superiority at any of performance characteristics.

Assumption, that a certain type of organizational culture provides better performance, is one of the reasons that explain the great interest in it. Moreover, in nowadays fierce competition when companies within the same industry have access to the same resources, technologies and other factors, the organizational culture can serve as a competitive advantage. In the knowledge-based economy, competitive advantage is mostly gained through continuous knowledge acquisition and accumulation process. In order to create continuous and sustainable values, companies must develop and implement innovation culture, that allows to create capabilities necessary to compete successfully now and in the future (March-Chorda, I., Moser, J., 2011).

An innovative culture is a way of thinking and behaviour that creates, develops and implements values and attitudes in the company which allows to create, approve and support ideas and changes, focusing on the functioning and efficiency improvements. Studies have shown that in order to promote company's innovative performance, organizational culture must have qualities like leadership, management who is willing to take risks, organization's member participation, stimulating creativity and shared responsibility. Innovative culture is described by orientation to clients, dedication to goals, challenges and initiatives, continuous improvements (Kenny, B., Reedy, E., 2007). An innovative company's culture is flexible (Wright, P. et al., 1992), open to risks and opportunities that innovations and new ideas provide (Uzkurt, C. et al., 2013). Naranjo-Valencia, Jimenez and Sanz-Valle (2011) states that flexibility-oriented cultures fosters more the emergence of innovations as independence and freedom promotes creativity which is a key to innovation creation. Organizational culture must promote the atmosphere and encouraging support so that it is possible for new ideas to emerge (Alas, R., Ubius, U., 2009). Companies that do not have an appropriate organizational culture that encourages new ideas and risk-taking, more often have difficulties with creating and implementing innovative ideas (March-Chorda, I., Moser, J., 2011). Culture impacts innovations because it creates a basis for dealing with innovation, individual initiative, collective actions and understanding and attitude towards

risks and opportunities (Kaasa, A., Vadi, M., 2008). Where innovation meets the cultural values or change itself is perceived as value, it will have a positive impact however, if the innovation is in conflict with culture, it will be rejected or its implementation delayed.

A study carried out by Uzkurt et al. (2013) in the Turkish banking sector shows that innovative organizational culture has a positive and significant impact on innovation. Mathew (2007) studied Indian software companies and revealed that organizational culture has a significant impact on productivity and quality in the knowledge-based industries. While March-Chord and Moser (2011) believes that for the companies operating in high-tech industries innovative organizational culture is not a tool, but a necessity crucial to success. They distinguished preconditions for innovative culture, including openness to external ideas, inspiring creativity and frequent communication to openly discuss new ideas.

According to Cameron and Quinn (2001) organizational culture types, innovative culture is best described by adhocracy, which is described as dynamic, risk-taking and creative workplace, united by devotion to experiments, innovation and unique product development.

Naranjo-Valencia, Jimenez and Sanz-Valle (2011) states that stability-oriented cultures hinder the innovation occurrence, since rules, regulations, strict management and weak employee involvement limits the ability of participants to take innovation risks and act creatively. Also a study conducted by Vermeulen (2004) reveals significant barriers to innovation, including strict organizational structure where all activities and functions are described, lack of communication and cooperation, a conservative organizational culture with management trying to ensure stability, and avoiding risk-taking, even finding it wrong.

All of these characteristics, according to Cameron and Quinn (2001) organizational culture type classification, correspond to hierarchy. Hierarchy is defined as formal and structured environment, where standardized procedures and rules guide everyday actions, and it has number of structural levels.

In literature the link between organizational culture and company performance is examined in different aspects, however the relationship still isn't scientifically established (Ilies L., 2008). Most of the previous studies have focused more on the research of individual elements of organizational culture rather than culture types, as well as mostly on traditional sectors of economy such as manufacturing, not viewing dynamic and knowledge-based industries where organizational culture can play a key role in productivity and quality promotion.

In nowadays economy, knowledge and technology-intensive industries play an important role, in addition, they are characterized by significant differences from the traditional sectors of economy. For example, management in the knowledge-intensive industries often have less and weaker knowledge than the employees. In contrast to manufacturing industry, companies operating in knowledge-intensive sectors are more people-oriented, which means larger investment in employees rather than equipment, concentrating on employee satisfaction. Therefore, in such dynamic knowledge-intensive industries organizational culture has an important role in increasing quality and productivity, encouraging innovations, creativity and motivation (Mathew, J., 2007). Thus, the author in this paper will focus on the role of organizational culture in knowledge-intensive companies' performance.

The aim of this paper was set to examine the role of organizational culture in innovative performance of small and medium-sized knowledge-intensive companies in the Baltic States and based on theoretical discussion, two hypotheses were proposed:

Adhocracy promotes the innovative performance of small and medium-sized IT companies in the Baltic States; and

Hierarchy hinders the innovative performance of small and medium-sized IT companies in the Baltic States.

The following tasks were set: review the theoretical background of organizational culture and innovations; summarize the previous studies in this field and their results; conduct a research in Baltic States; compare the obtained results with results of similar studies.

In this study the Competing Values Framework (Organizational Culture Assessment Instrument), developed by Cameron and Quinn (2001) was used for diagnosis of organizational culture types. The method classifies organizational culture into four types (as described above) – Clan, Hierarchy, Market and Adhocracy. Comparing to other models, it has shown better validity rates and it is one of the most common methods used for determination of organizational culture (Cameron K., 2004).

To determine the innovative performance of companies, the innovative company indicators made by the Latvian Technology Centre (LTC) were used. LTC, based on international research, developed five indicators that best reflect the innovative companies in Latvia's conditions. Indicators include such measures as the number of new products introduced in last 3 years; percentage of annual turnover contributed to new product development; the proportion of new products (launched on the market in last five years) in annual turnover; increase in annual turnover of the new products introduced in the last 3 years; the share of profit in the last year, derived from new products that are not older than 3 years. A company may be described as "innovative" if the minimum requirements are met at least in three indicators. During the research, the author added an innovation coefficient that made possible to compare various companies with each other.

Companies were offered to electronically complete a questionnaire that consisted of two parts – the first part included questions about innovative companies' indicators, and was asked to fill in by managers or responsible employees, as any employee may not be aware of these data. The second part of questionnaire included questions developed by Cameron and Quinn for organizational culture type diagnosis. This part was asked to fill in by all employees.

In order to obtain greater responsiveness and more accurate results, the questionnaire was developed in Latvian, Lithuanian and Estonian, as questions formulated in mother tongue is easier to understand and answer.

72 randomly selected small and medium-sized IT companies from the Baltic States were invited to participate in the research. The response rate was relatively high and total of 27 companies were included in the study – 9 Lithuanian companies, 7 Estonian companies and 11 IT companies form Latvia. The total number of respondents covered 83 employees and managers, which was not as high as expected, probably because the survey was conducted electronically, when it is easy to ignore it or put off for an unknown time period.

In the category of small and medium-sized enterprises companies with fewer than 250 employees and annual turnover less than EUR 50 million and/or annual balance not exceeding EUR 43 million (EC Regulation No.364/2004) are included. Small and medium-sized companies were selected because in the large organizations the most common culture type is hierarchy, as the growing number of employees and functions requires increasing need for control and certain procedures, and management has no time to establish relationships with employees. Thus, in small and medium-sized companies a greater differentiation of culture types might be observed, in addition, culture type might have a greater role in company's performance.

To examine the role of organizational culture in company's innovative performance, excluding other influencing factors as much as possible, author decided to include in the research only companies from the same industry. Although most of the previous research in this field included companies from various sectors, culture type may depend on the sector company operates in, also innovations may depend on industry and government support for specific sectors.

IT companies were selected because the impact of an organizational culture is more visible within one sector and because the information technologies is knowledge-intensive industry, where the organizational culture may have a significant impact on employees, their capabilities, knowledge, creativity and activity, and in result it may significantly affect the company's innovative capacity.

Research results and discussion

The research results reveal that between 27 Baltic small and medium-sized IT companies 17 or 63% as the dominant organizational culture type showed clan culture, 18.5% – adhocracy and 18.5% – market culture, while hierarchy was not observed in any of the cases, which might be explained with peculiarities of the industry.

A total of 33.3% of the IT companies included in the research were recognized as non-innovative, since the innovation coefficient did not exceed 0.4 points. It must be noted, that companies with adhocracy culture type all classified in the innovative companies' category, moreover, these companies showed the best innovative performance with highest coefficients.

In order to determine weather it is possible look at the results of all three countries as a one sample, analysis of variance were made for organizational culture types and innovation coefficient for Latvian, Lithuanian and Estonian companies. The results showed that in all cases observed the significance level $\alpha > 0.05$, thereby it might be concluded that the organizational culture types and innovation coefficients in Baltic States do not differ statistically significant at the significance level $\alpha = 0.05$.

Since there were no statistically significant differences between culture types and innovation coefficients in Baltic States observed, it is possible to investigate the role of organizational culture in the innovative performance in Baltic States as in one sample. Therefore, to test the stated hypothesis, correlation and regression analysis were made. The calculated parameters are summarized in Table 1.

Table 1

Correlation and Regression Analysis Results

Innovation Coefficient	Clan	Adhocracy	Market	Hierarchy
Pearson Correlation	.085	.831*	-.581*	-.620
Sig. (2-tailed)	.637	.000	.001	.001
Regression Coefficient	.833			
R^2	.694			
Sig.	.000			
Unstandardized Coefficients	.052	.080	.049	.050
Standardized Coefficients	1.274	2.203	1.046	1.029
t	.382	.597	.369	.375
Sig.	.706	.556	.716	.711

* Correlation is significant at the 0.01 level (2-tailed)

Source: author's calculations based on the research results

The correlation analysis reveals a statistically significant relationship between the innovation coefficient and adhocracy (r = 0.831, α = 0.01), statistically significant negative relationship between innovation coefficient and market culture (r = -0.581, α = 0.01) and statistically significant negative relationship between innovation coefficient and hierarchy (r = -0.620, α = 0.01). In turn, there was no statistically significant correlation revealed between innovation coefficient and clan culture (r = 0,085, α = 0,673). Based on these results it is possible to draw conclusions that adhocracy has a positive impact on the innovation coefficient, while market culture and hierarchy reduces it. However it must be noted that correlation between mutual culture types reduces the statistical significance of the hierarchy and market culture impact on innovative performance. These types had stronger correlation with each other rather than coefficient.

The regression analysis shows that the Pearson correlation coefficient R = 0.833, which means that there is a close relationship between the four organizational culture types and innovation coefficient. Furthermore, the coefficient of determination R^2 = 0.694, which indicates that 69.4% of actual fluctuations of innovation coefficient around the mean coefficient, is explained exactly by four types of organizational culture. Standardized coefficients of regression analysis reveal that adhocracy has the greatest impact on innovation coefficient (β^2 = 2.203), however the significance level α = 0.556, which means that this relationship is not statistically significant. One of the reasons might be the relatively small sample included in the research.

It can be concluded that the hypothesis that adhocracy promotes the innovative performance of small and medium-sized IT companies in the Baltic States confirms, as there were a statistically significant relationship between the innovation coefficient and adhocracy observed.

In turn, the hypothesis that hierarchy hinders the innovative performance of small and medium-sized IT companies in the Baltic States confirmed partly – there was statistically significant relationship between innovation coefficient and hierarchy. However, hierarchy had stronger statistically significant negative correlation with adhocracy than innovation coefficient. Thus, it might be concluded that if the hierarchy has a negative impact on adhocracy, which in turn significantly impacts innovation coefficient, then through adhocracy dimension hierarchy has a negative impact on company's innovative performance.

Similar results were obtained by other authors. Research carried out in electronics, automotive and retail companies in Japan, China, Slovakia, Czech Republic and Russia reveals that the innovative climate in surveyed countries is fostered by adhocracy, while hierarchy does not lead to innovative climate within an organization in any of the countries investigated (Alas R. et al., 2012). Study in Japanese companies showed that the best performing companies have an adhocracy culture type while hierarchy showed poor performance (Deshpande R. et al., 1993). Authors mentioned that companies that are non-innovative internally oriented bureaucracies with relatively small customer-orientation showed the worst performance. Also study in Spanish manufacturing companies reveals the positive impact of adhocracy on innovation orientation (Naranjo-Valencia J.C. et al., 2011). Naranjo-Valencia states that flexibility-oriented cultures encourage innovation occurrence since independence and freedom fosters creativity, which is a key to innovation creation, while rules, regulations, control and weak employee involvement limits the ability of participants to take innovation risks. In addition, it was discovered that such adhocracy characteristics as "glue" and criteria for success had positive impact on innovation orientation, while leadership element had a negative effect, probably because adhocracy do not support teamwork, which is one of the preconditions for innovations. Thus, it can be concluded that as the adhocracy do not support the teamwork, the clan culture fills this gap and leads to an organizational culture that is favourable for innovation creation. Similar conclusions were drawn from a study of Lithuanian knowledge-intensive organizations. These companies put a great emphasis on flexibility, cooperation and trust (Jucevičius, G., 2009) – characteristics specific to clan culture type.

Cameron and Quinn (2001) states that organizational culture tends to vary over time as the organization grows and expands. The initial growth phase is dominated by adhocracy, as there is no formal structure established. As organization evolves over time, adhocracy is supplemented with clan culture characteristics, creating family atmosphere, unity and sense of belonging. Innovation level tends to vary over time as well. Early life cycle phase is characterized by rapid and frequent innovations, in later phases there might be relatively stable concept with few incremental innovations, putting greater emphasis on process innovations and cost reduction (Tidd, J., Bessant, J., Pavitt, K., 2001). Hence, the high innovative performance of Baltic States' IT companies and dominant clan culture might be explained with the age of companies. This industry is characterized by relatively new companies, which may also be reflected by the small number of employees. However, in this study data about company age weren't obtained and this relationship can't be viewed.

There is a belief that effective companies in maturity stage tends to develop organizational culture, where all culture types are represented, emphasizing one type, which is usually determined by the industry and company's goals (Cameron, C., Quinn, R., 2001). In all companies observed in the Baltic States, all four

organizational culture types were represented, with very slight lead of dominant culture. Thus, it might be that all companies included in the research are in the maturity stage with strong organizational culture that promotes the innovative performance. However, this relationship must be examined more detailed.

Conclusions, proposals, recommendations

Based on the research results, number of conclusions might be drawn:

1. Innovations have a significant role in company's performance. Many researchers believe that innovations are the main aim of any organization. Innovations are crucial to obtain a competitive advantage and be able to successfully operate in today's environment. While organizational culture is recognized as one of the most important factors that can promote or limit the innovation emergence.

2. In order to promote innovation emergence, organizational culture needs flexible structure, mutual trust, communication and involvement, management support in generating creative ideas, encouragement to take initiative and risks, orientation towards future and customers, considering innovations as a value.

3. Although there is a small number of previous studies on organizational culture's role in company's innovative performance, most of them shows that, based on Cameron and Quinn organizational culture classification, best innovative performance is observed in companies characterized by adhocracy culture. While the worst innovative performance is observed in companies characterized by hierarchy type with strict rules, weak communication, avoiding creativity and risk-taking.

4. The dominant culture type in Baltic States small and medium-sized IT companies is clan culture, followed by adhocracy.

5. Baltic States small and medium-sized IT companies showed a relatively high level of innovative performance, as only 33% of companies observed were non-innovative.

6. Adhocracy promotes the innovative performance of small and medium-sized IT companies in the Baltic States, as there was a statistically significant relationship between the innovation coefficient and adhocracy observed.

7. The hypothesis that hierarchy hinders the companies' innovative performance confirmed partly – there was statistically significant relationship between innovation coefficient and hierarchy. However, hierarchy had stronger statistically significant negative correlation with adhocracy than innovation coefficient. Thus, it might be concluded that if the hierarchy has a negative impact on adhocracy, which in turn significantly impacts innovation coefficient, then through adhocracy dimension hierarchy has a negative impact on company's innovative performance.

For further research there are several proposals:

1. Authors' study revealed a tendency for hierarchy to have a negative impact on company's innovative performance however, the role of hierarchy remained unclear. One of the reasons might be a relatively small sample. This relationship would be worth exploring closer, including larger number of companies', as well it might help to strengthen the results on adhocracy's positive impact on innovative performance.

2. Further studies examining the role of organizational culture in company's innovative performance, might explore the impact of different organizational culture characteristics, the age of company, development stage, as well as compare the results between different sectors of economy and different countries.

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EVALUATION OF WIND ENERGY INVESTMENT PROJECTS

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Abstract

Households are one of the potential operators of wind power projects. However, recent studies do not pay enough attention to the analysis of these projects. There are a number of studies which are focused exclusively on the financial evaluation of large wind power generators parks. It was determined that the projects of small wind power are to be treated as low risk projects, therefore, traditional project evaluation methods can be applied to evaluate them. Financial analysis of three small wind power projects of various capacities is carried out and their economic viability is evaluated for different wind climate conditions. The distribution of the values of the internal rate of return (IRR) in household wind power projects in Lithuania has been deduced.

Key words: *capital budgeting, project valuation, wind energy*

JEL code: G31

Introduction

The EU aims to get 20% of its energy from renewable sources by 2020 (European Parliament, 2009). Lithuania has set the same objectives. The development of renewable energy resources to produce electricity in Lithuania is one of the strategic goals of the state's energy policy. Lithuania seeks to ensure a sustainable development of renewable source exploitation, promote further development and implementation of cutting-edge technologies as well as consumption of the produced energy with special regard to the international commitments of the Republic of Lithuania. Therefore, the LR Law on Renewable Energy Sources (12 May 2011, Nr. XI-1375) sets the task to ensure that the share of renewable energy in comparison to the country's gross final energy consumption would take not less than 23% by 2020 and the share should be increased by applying the cutting-edge and most effective technologies of renewable energy sources exploitation as well as the efficiency of the produced energy consumption should be encouraged. The tasks for 2020 in particular energy sectors in Lithuania are the following: (1) to increase the share of energy from renewable sources in all means of transport not less than by 10% to compare with the final energy consumption in the transport sector; (2) to increase the share of electricity generated from renewable sources not less than by 20% to compare with the country's gross final consumption of energy; (3) to increase the share of the energy supplied to ensure central heating and produced from renewal energy sources in the heat balance at least by 60%, and to increase the share of renewable energy used in households as indicated in the balance of energy sources used for heating in minority of countries less than by 80% (Seimas of the Republic of Lithuania, 2011).

Wind energy is one of the most important sources of renewable energy in the Middle and Northern Europe. The popularity of wind energy has grown, according to Ertűrk (2012), due to the environmental reasons (Irena-GWEG. 2013), the growth of fossil fuel prices, decrease of wind energy costs and the

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attitude of developed countries to reduce their dependence on the imported fossil fuel. Consequently, the need necessity to assess economic viability of wind power projects has been increasing.

Despite that the state strategy pays a lot of attention to households as producers of green power, researchers address solely on the analysis of large parks of wind power generators, whereas the economic benefits of household wind plants remain beyond the scope of scholarly interest. Such studies have not been carried out in Lithuania yet.

Therefore, the aim of the paper is to determine the distribution of IRR for small wind turbines in Lithuania. It might help the households to make decisions for the implementation of wind power projects. In order to achieve the objectives the following tasks have been carried out: (1) to investigate the methods applied to the evaluation of investment projects; (2) to analyse the empirical investigations provided in literature in order to highlight the methods of investment project evaluation employed in practice; (3) to examine the methods applied for assessment of the wind energy projects and to introduce a more thorough methodology. The analytical analysis attempts to assess wind resources in Lithuania and to evaluate financially wind energy projects of different capacity – 5 kW, 10 kW and 20 kW.

Research results and discussion

1. Investment project assessment methods applied both in theoretical research and practice

Methods of investment project assessment. Current state of economic science offers a great variety of methods to assess the efficiency of investment projects. Nevertheless, Ginevičius et al. (2009) carried out the analysis of research papers and determined that there is no a common system of investment project efficiency assessment. The methods applied to assess the implementation of investment project have no common approach.

Keršytė (2010) points out that traditional analysis of discounted cash flows is relevant to assess investment projects in a stable environment. However, under the conditions of increasing uncertainty, strategic investment projects and their strategic benefits should be assessed by applying more complex models of investment project assessment. The real options in investment project evaluation appreciate the value of managerial flexibility and the potential of achieving improved return on investment (Petravičius, 2009). Thus, these methods are based on complex calculation and require a lot of resources. Whereas, according to Tomaševič (2010), investors often demand an easily and quickly calculated, objective and universally understandable unit of measure to evaluate investment efficiency. Therefore, it is expedient to use traditional models of discounted cash flow if they are adopted appropriately.

Investment project assessment methods applied in practice. The article analyses the results of empirical research carried out in various countries. Graham and Harvey's research (2001) reveals the methods of capital investment assessment chosen by the USA companies (the survey was carried out in 392 companies). Majority of the respondents state that they usually apply the net present value (NPV) or internal rate of return (IRR) to assess capital investment projects: 74.9% of the companies always or nearly always apply NPV and 75.7% always or nearly always apply IRR. The payback period is also a frequently used method of capital investment assessment (56.7%).

Sahdal and Sjorgen (2003) analysed the data of 128 Swedish companies and determined that the payback period is the most frequently applied method in all branches of industry (78% of all companies); the second popular method is NPV (applied in more than 50% of all companies); IRR is applied in 22.7% of companies. It was estimated that 65% of all companies use all discounted cash flow (DCF) methods. Besides, companies from the public sector are the most common users of DCF methods.

Czech companies (Scholleova et al., 2010) apply static capital investment assessment methods (more than 75% of the respondents). The payback period is a frequently employed budgeting method. Dynamic

methods are not very popular: less than one fourth of the respondents (22%) use dynamic investment assessment methods such as NPV or IRR.

The survey of Lithuanian companies follows the world-wide trends. Levišauskaitė and Rūškys (2001) investigated 10 Lithuanian companies on the issue of the capital budgeting: 9 companies employed the payback period; 5 – NPV, 3 – IRR.

Graham and Harvey's research (2001) also reveals the differences that are between small and large companies: large companies are more inclined to apply NPV than small ones. Moreover, small companies use the payback period just as frequently as NPV and IRR.

The examination of the empirical research supports the suggestion to apply widely traditional assessment methods of the investment project efficiency in practice.

Assessment methods of wind power projects. The analysis revealed that the majority of the authors usually apply two or three methods to assess the projects. The methods include net present value (NPV), internal rate of return (IRR) and the payback period (Lima and Filho, 2010, Recalde, 2010, Parissis et al., 2011, Hamouda, 2012, O'Connor et al., 2013).

On the basis of the theoretical analysis the conclusion that it is expedient to use traditional evaluation methods to assess wind power projects as these projects should be classified as stable environment projects is drawn.

2. Evaluation of wind energy

Wind energy is an indirect form of solar energy. Only about 2% of the solar energy of 1.5×10^{18} kWh is captured annually by the Earth's atmosphere and converted into the energy of air motion. Nevertheless, the energy of wind is about 4×10^{12} kWh. This is approximately one hundred times more than the output of all power stations (de Castro et al., 2011).

Any detailed assessment of wind energy economics requires detailed investigations of wind resources. Long term wind data from the meteorological stations near the potential installation sites are usually used for making preliminary estimates. The wind speed increases with the height above the ground because of the frictional drag with the obstacles located on the ground, for example, vegetation and buildings. Since the height above the ground at which wind turbine is mounted may vary depending on the type and power of a wind power plant, the analysis should include the variation of wind speed at different heights. A typical variation of wind speed over time is shown in Fig. 1.

Wind energy depends on the cube of wind speed

$$E = \frac{1}{2}\rho v^2 \tag{1}$$

Here E – energy density, W/m^2; ρ – air density, kg/m3; v – wind speed at hub height, m/s. Therefore, a small change in the wind speed can result in a considerable increase of wind energy resources. Thus, wind energy potential has to be assessed individually for every wind speed interval. Taking into account wind speed variability shown in Fig. 1, this task looks very difficult. In order to calculate the energy capture from a particular wind turbine in a certain site and to estimate other useful parameters, such as the proportion of time, wind speed in a certain range, the wind speed distribution is usually "modelled".

One of the most widely used functions for fitting a measured wind speed probability distribution in a particular location over a certain period of time is the Weibull distribution. The probability density function of the Weibull, $f(v)$, wind speed, v, during any time interval is given (Bhattacharya, 2011).
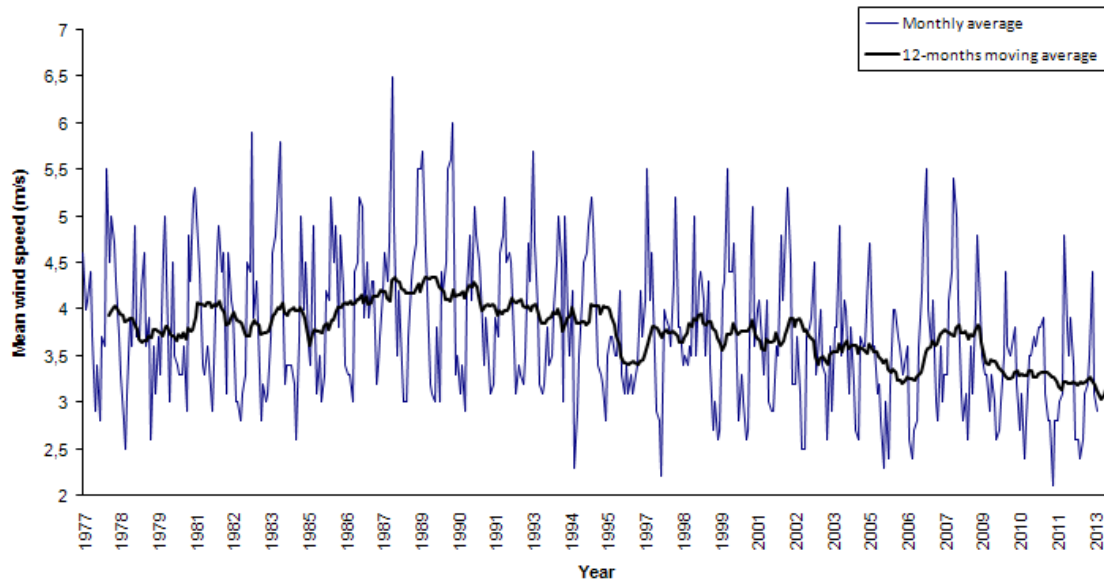
Fig. 1. **Variations in wind speed at the 10 m height in Kaunas meteorological site in 1977 – 2012**

$$f(v) = \left(\frac{k}{\alpha}\right)\left(\frac{v}{\alpha}\right)^{k-1} e^{-\left(\frac{v}{\alpha}\right)^k} \tag{2}$$

Here, k (m/s) is the Weibull scaling parameter and α is the dimensionless Weibull parameter.

According to the Lithuanian Wind Atlas (Rathmann, 2003), the territory of the country (Fig 2.) can be divided into 5 regions where annual average wind speed at the 50 m above the ground are, m/s: 5.5 – 6.0 (Zone I), 5.0 – 5.5 (Zone II), 4.5 – 5.0 (Zone III), 4.0 – 4.5 (Zone IV), 3.5 – 4.0 (Zone V).

Parameters of the Weibull distribution for these wind intervals (Zones 1-5) are shown in Table 1. Using these values, the frequency of particular wind speed can be calculated. Since typical hub height for small wind turbines is 9-18 m depending on power, therefore, the typical height of hub 10 m has been chosen for calculation.

Table 1

Wind energy parameters at the 10 m above the ground

Meteorological site	Average wind speed, m/s	Weibull scaling parameter k, m/s	Weibull dimensionless parameter α
Nida	6.94	2.06	6.49
Kaunas	3.77	2.07	4.26
Panevėžys	3.34	2.38	3.65
Telšiai	2.90	2.33	3.28
Varėna	2.50	2.18	2.38

Source: the authors' calculations based on Katinas (2001), Rathmann (2003).

Functions, which have been developed to describe the change in average wind speed with height, are based on experiments. One of these functions is as follows:

$$v(z) = v_0 \left(\frac{z}{z_0} \right)^{\beta} \tag{3}$$

Here, z is the height above ground, v_0 is the wind speed at the reference height, z_0 above ground level, $v(z)$ is the wind speed at height z; β is an exponent which depends on the roughness of the ground. Wind speed was recalculated for the required height using (3) equation.
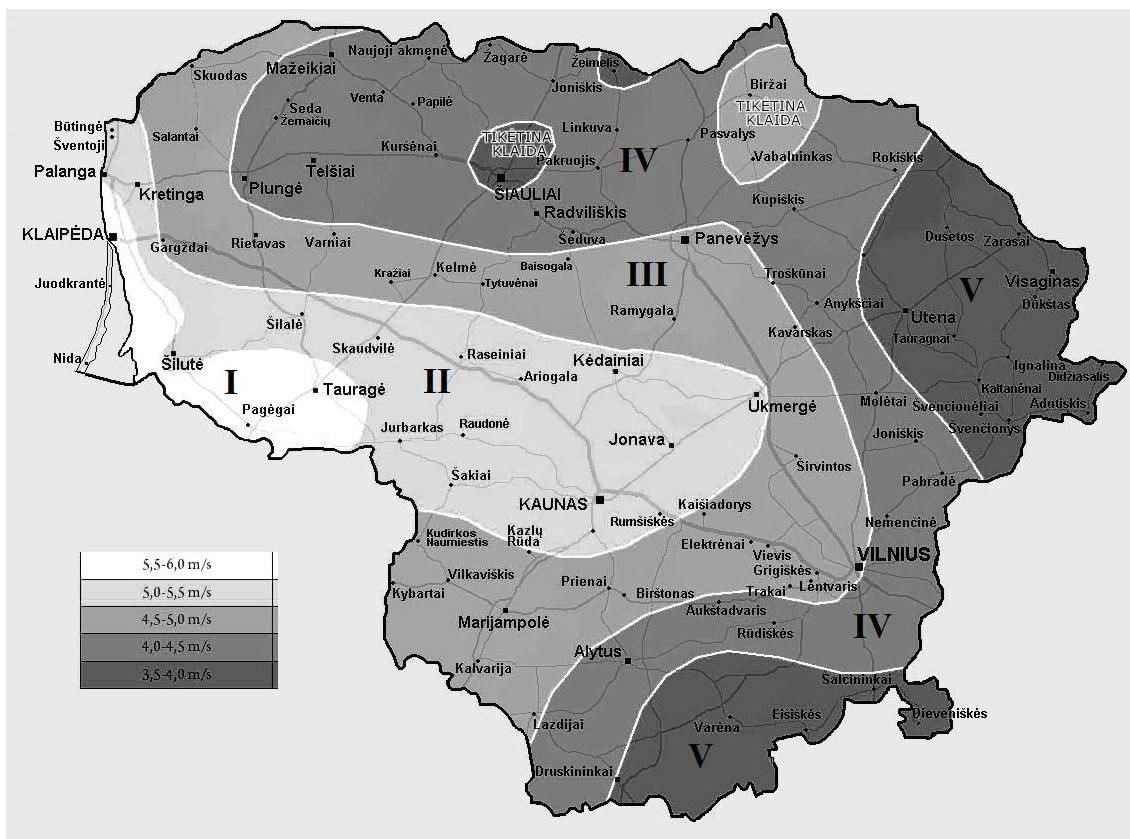
Source: the authors' compilation based on Rathmann (2003). Regions with corresponding wind speed zones are marked by numbers.

Fig. 2. **Wind Atlas of Lithuania**

Another important parameter which actually describes performance of a wind turbine is the power curve. The power curve of a wind turbine is a curve that indicates amount of the electrical power output for the turbine at different wind speeds. The power curve is an individual characteristic of a turbine. It may be obtained from the manufacturer. Power curves of three wind turbines (Westwind, 2014) which were used as sample turbines for electrical power output calculation are shown in Figure 3.

Electricity produced by a wind component of [v, $v+\Delta v$] is equal

$$E_v = f(v)P(v) \tag{4}$$

Here, $f(v)$ is Weibull frequency distribution of wind speed v and $P(v)$ is electrical power of a wind turbine at a particular wind speed. Total annual electrical output, E_e, can be calculated by a simple sum of electrical power of individual wind components multiplied by number of hours in a year, N:

$$E_e = N\sum_v f(v)P(v) \tag{5}$$

Here, N is a number of days multiplied by a number of hours in a day, i.e. $N= 365\cdot24$ [h]. When using units, as it is indicated, the unit of final result is kWh which is appropriate for economic calculations.
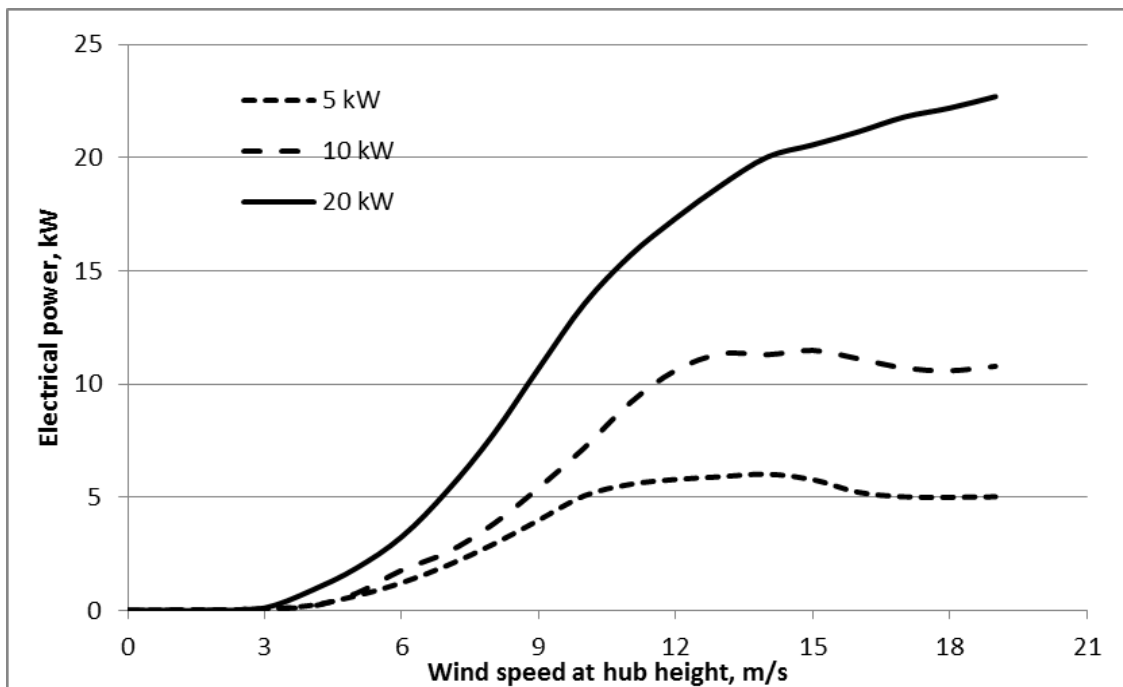
Source: the authors' calculations based on http://www.westwindturbines.co.uk/ (2014).

Fig. 3. **Power curves of wind turbines used for calculation
of electrical power output (Ampair, Westwind)**

3. Financial analysis of onshore wind energy in Lithuania

Three projects were chosen for the analysis: the installation of 5 kW, 10 kW and 20 kW wind turbines.
The price of wind power turbines has decreased since 1980 mainly due to the increase of the wind turbines capacity and extent of wind power projects (Ertűrk, 2012; Hammons, 2004). Therefore, wind power projects have become more attractive. The main wind power project costs are amounted from investment cash outlay, operating and maintenance (O&M) costs. Ertűrk (2012, cited in Blanco 2009)

points out that the ratio between the two main constituents is as follows: investment cash outlay make 80% of gross costs during the wind power project implementation; whereas, the rest is O&M costs.

Investment cash outlay. Investment cash outlays are amounted from the following costs: turbine costs, grid connection costs, construction works costs, other installation costs (Ertűrk, 2012).

Turbine costs. According to the data of Danish Wind Industry Association (Andersen and Drejer, 2012), 31% of wind turbines installed in Denmark are made in China. Therefore, the turbines made by Chinese manufacturers are chosen for the present research. After the analysis of wind turbines produced by various manufacturers, it was found out that average turbine prices were: 5kW – 5500 USD, 10kW – 10800 USD, 20kW – 16550 USD.

Sensitivity analysis has been carried out. It means that the average prices of turbines have increased or decreased by 30%. The price range considered in the sensitivity analysis (-30%; +30%) actually correspond to real prices of wind turbines offered on the market at present.

Grid connection costs. According to the LR Law on Renewable Energy Sources (2011 May 12, Nr. XI-1375) Article 3, one of the tools intended to induce the exploitation of renewable energy is the compensation of the costs due to the connection of renewable energy equipment to energy nets and systems. It means that in the case of wind power projects, there are no grid connection costs.

Construction work costs. After the survey of companies that install wind turbines in Lithuania, the average construction work prices were chosen: 5 kW – 6000 LTL (1737.7 EUR), 10 kW – 15000 LTL (4344.3 EUR), 20 kW – 32500 LTL (9412.7 EUR).

Other installation costs. Other costs must necessarily include the costs of wind turbine transportation and customs duties. The research takes into account the costs of transporting a wind turbine by means of a sea container. Customs duties are evaluated on the basis of the Integrated Tariff of the Republic of Lithuania (LITAR), i.e. the collection of information regarding EU customs duties and national taxes as well as certain restrictions and prohibitions on import and export. According to the LITAR, wind power plants belong to the class of generators and electricity converters empowered by wind (group 8502 31) and in case they are imported from China, the import tariff of 2.7% is applied.

Operating revenues. Revenues of the project are calculated on the grounds of the amount of energy generated by the wind turbine and the buying-in price. According to the LR Law on Renewable Energy Sources (2011 May 12, Nr. XI-1375) Article 3, one of the instruments to encourage the exploitation of renewable energy sources is a feed-in payment. The feed-in payment for the wind power projects being currently in place is fixed for the next 12 years and is 0.37 Lt/kWh (0.107 EUR/kWh). In the present study it is anticipated the increase of the feed-in payment by 1.2% a year (Yue, 2009).

O&M costs. Several approaches regarding the calculation of O&M costs can be found in scientific literature. Some authors suggest considering the price/MWh as the basis for the calculation; others think that the percentage of the initial costs should be calculated. The present study is based on the latter approach: annual O&M costs amount to 15% of the investment costs (Yue, 2009). The annual increase of O&M costs by 3% is also taken into consideration (Yue, 2009). This finding corresponds to the results of Ertűrk research (2012) which indicate that investment costs amount to 80% of the wind power project costs, whereas the rest 20% are the O&M costs.

Tax rate. According to the LR Profits Tax Law, 15% profits tax is applied in Lithuania. When calculating the profits tax the fact that tangible fixed assets depreciate during the life cycle of the project should be taken into consideration.

Economic lifetime. The last important factor is the economic lifetime of onshore turbines which is considered to be 20 years in many studies (Yue, 2009; Lima, 2010; Parissis, 2011; Hamouda, 2012).

The main parameters crucial for the calculation were selected, analysed and validated. They include the lifetime of a wind turbine, capital costs of a wind turbine, annual running costs, feed-in payment, and increase of running costs, increase of feed-in payment. The cash flow of each investment project was calculated and IRR was evaluated. The map of Lithuanian internal rate of return (IRR) distribution of household wind power projects was compiled (Figure 2).

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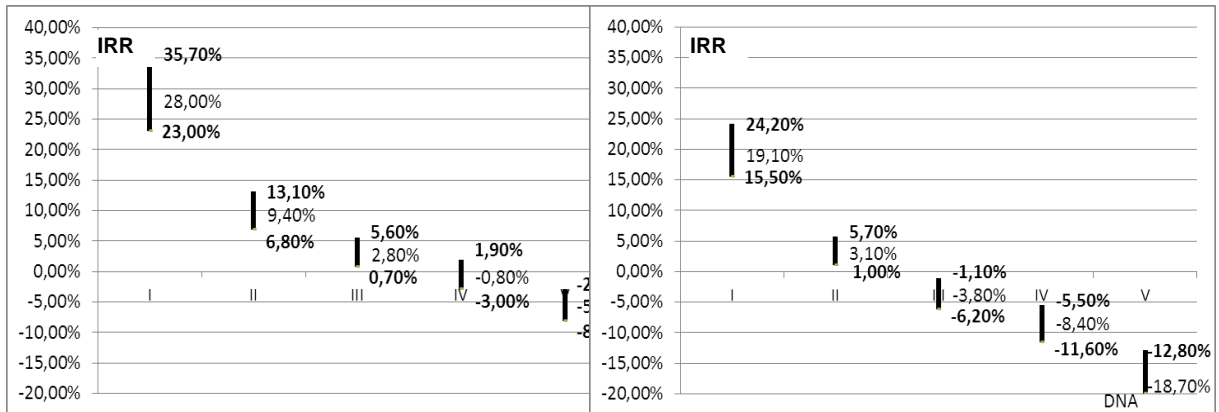
Sensitivity analysis of a 5kW wind turbine

Sensitivity analysis of a 10kW wind turbine
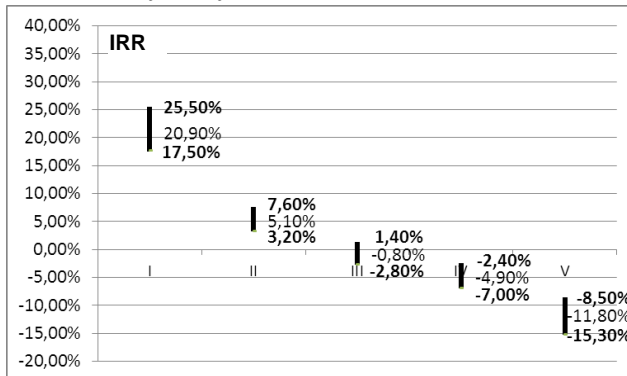
Sensitivity analysis of a 20kW wind turbine

Windiness zones:
I
II
III
IV
V

Source: authors' calculations based on the results of the analytical research.

Fig. 4. **Sensitivity Analysis: the dependence of IRR on the wind turbine price change (Deviation from the base-case value by 30%)**

Table 2

Distribution of IRR values in Lithuania

Windiness zones	5 kW	10 kW	20 kW
I	28.0%	19.1%	20.9%
II	9.4%	3.1%	5.1%
III	2.8%	-3.8%	-0.8%
IV	-0.8%	-8.4%	-4.9%
V	-5.7%	-18.7%	-11.8%

Source: the authors' calculations based on the results of the analytical research.

The results obtained in the research might be classified into three groups (Table 2):
1) Detrimental projects: the projects of all types of wind turbines show negative IRR in the zones IV and V. That is, the projects will not buy-off in 20 years period; the projects of 10 kW and 20 kW wind power plants are detrimental in the zone III as well.
2) Projects of high profitability: the projects implemented on the seashore in Lithuania (zone I) show high profitability (IRR from 19% to 28%).
3) Projects of limited profitability: wind power projects of 5 kW might be implemented in the zones II and III provided that their capital costs are lower than IRR.

In the second stage of the research, the sensitivity analysis was carried out, and the dependence of IRR on the wind turbine price change was examined. Three possible scenarios were analysed: (1) a base-case scenario, that is developed using the *expected* values for the installation of 5 kW, 10 kW and 20 kW wind turbines (parameters of projects that are considered to be the most likely values are described above in this section), (2) the IRR of a project is evaluated taking into account that the price of the wind turbine is lower by 30% than indicated in the base-case; (3) the IRR of a project is evaluated taking into account that the price of the wind turbine is higher by 30% than indicated in the base-case. The obtained results are shown in Figure 4.

The results of the sensitivity analysis might be divided into three groups:
1) Detrimental projects: even in case the price of a wind turbine decreases by 30% wind power projects in the zones IV and V have negative IRR. 10 kW wind power projects are detrimental in the zone III.
2) Projects of high profitability: Projects of high profitability: the projects implemented on the seashore in Lithuania (zone I) show high profitability (IRR from 19% to 28%).

Projects of limited profitability: wind power projects of 5 kW might be implemented in the zones II and III on condition that their capital costs are lower than IRR. The group also includes the projects of 10 kW wind power plants in the zone III when the price of wind turbines is lowered by 30%.

Conclusions, proposals, recommendations

In the present research, the IRR distribution of projects of small wind turbines for households in Lithuania based on Lithuanian wind atlas was proposed**.** The distribution reveals that: 1) IRR of projects for wind turbines of various sizes installed in the same location is different; 2) the range of the IRR of a project for the same wind turbine installed in different locations depends on wind speed in different areas in Lithuania. The spatial distribution of IRR for investment might provide information for investors about favourable locations for the exploitation of wind resources.

The investigation has showed that wind power projects in the zones III-V do not buy-off when the feed-in payment for the small size wind power projects is applied. This leads to the conclusion that, in order to encourage the small size wind power projects in these zones, the feed-in payments for the wind energy have be re-assessed.

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ECONOMIC GROWTH IN FIRM INVESTMENT POLICY MODEL ACCOUNTING FOR EMPLOYEES LEARNING

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Abstract

A modification of the vintage capital model, developed by N.N. Olenev and I.G. Pospelov (Olenev N.N., Pospelov I.G., 1986), is proposed. The novelty of the approach is including both learning-by-doing and credit market equilibrium and dynamics. This model describes economics of innovative firms more accurately, than models, not accounting for learning. The investment and production policy of a single firm was specified and the results were applied to a macroeconomic model. The regimes of the models were studied theoretically and numerically, and the comparison of models with and without employees learning was performed. Optimal control problem for a single firm was solved and it was concluded that in general, there is a lag between firm establishment and production. Equations for parameters of balanced growth were derived and checked numerically. It was concluded that the dependency between the degree of importance of employees learning and the growth rate has a maximum. Numerical experiments with other regimes than balanced growth demonstrated that the model, accounting for learning-by-doing are more stable in during fast changes in wages, than model not accounting for learning.

Key words: *Vintage Capital*, *Investment Policy, Optimal Control, Production Function*

JEL codes: C61, C68, O40

Introduction

The purpose of the research is building a model of economics with high importance of human capital that can be used for forecasting and assessing the consequences of economic decisions. In this article we account for employees learning via introducing non-monotonous productivity function (similar to (Benhabib J. and Rustichini A., 1991) and (Parente S., 1994)). However, in our research we also study the interaction of industry and financial system, most importantly introducing variable interest rate and a link between loans markets and investment, using the assumptions about market and financial equilibrium similar to those proposed by N.N. Olenev and I.G. Pospelov (Olenev N.N., Pospelov I.G., 1986). The combination of these two approaches makes modelling of innovative economics with non-fixed interest rate more accurate.

The model, described in this article, is based on the principles of vintage capital theory. The main assumption of vintage capital models is that older capital has lower contribution to output that newer. One of the first papers on the topic was proposed by Johansen (Johansen L., 1959). In (Solow R. et all, 1966), the regimes of the vintage capital economics model were studied. One of the main conclusions for a single-sector model, was that in case saving rate (ratio between investments and production) is large enough to account for productivity growth, the only stable regime is exponential growth. On this trajectory the production and investments are growing exponentially at the rate, which is equal to the sum of population growth rate and productivity growth rate. The interest rate remains constant during balanced growth, which is also true for our model. They also formulated a Golden rule for the system, maximising the consumption per capita.

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Petrov and Pospelov (Petrov, Pospelov, 1979) performed a research of a model accounting for capital depreciation without technical progress. The numerical experiments demonstrated, that under a broad set of initial conditions and assuming labour supply is constant, the economy starts with the balanced growth regime while labour supply is sufficient to provide growth and turns to inflation regime afterwards. Many of its assumptions were used in papers by Olenev and Pospelov (Olenev N.N., Pospelov I.G.,1986). They performed a research of systems with single production sector and two sectors. Numerical experiments resulted in either growing or collapsing economy. However for two-sector the economical indicators were experiencing continuous oscillations, while in single sector model the system converged to balanced exponential growth.

Vintage capital models with human capital have been studies in several articles. Boucekkine et all (Boucekkine, de la Croix and Licandro, 2011) point out accounting for human capital as one of three major breakthroughs in the vintage capital theory. In (Boucekkine R. et all, 2002) the assumption that production depends only on human capital was used. The authors came to conclusion that the only stable regime is balanced growth, and the rate of economics growth is non-monotonous function of population growth rate. Benhabib and Rustichini (Benhabib J. and Rustichini A., 1991) studied behaviour of model with an arbitrary dependency of production capacity on time, including non-monotenueus functions, accounting for "learning by doing" and "gestation lags", which is similar to the assumptions made in this article. Parente (Parente S., 1994) explored the model with firm specific learning-by-doing. The economy without capital markets (with each firm maximising its discounted profit) and with capital markets (with stable regimes being equilibrium between firms, maximising the profits, and population, maximising the consumption) was studied. In steady equilibrium, the growth rate of output per capita is constant, and it is larger for a model with capital markets. Greenwood and Jovanovic (Greenwood J. and Jovanovic B., 2001) performed a review of vintage capital models, accounting for learning adopting new technology. According to their study, these models explain the economic growth during the period of intense introduction of new technology in 1970th. This is one of the evidences, confirming that models accounting for learning are more accurate for description of economics of innovative firms.

In this research, a modification of the model, developed in (Olenev N.N., Pospelov I.G., 1986), is proposed. The economy consists of a pool of small firms. The firm is interpreted as an aggregate of all production lines, creatated at the same moment. While the original model assumes that the production capacity of a firm decreases in time, in (Makarova, Olenev, 2013) a model with the production capacity increasing with employees learning is specified. The learning of the firm management, or learning with time, is modelled with the dependancy if the production capacity on time, and the learning of the staff, or learning-by-doing, is modelled with the functional relation between capacity and the cumulative production of the firm. Taking into account employee learning allows to model economy of innovative firms more accuratelly.

The main task of the research is studying economical growth in the model accounting for employees learning with prices, wages and interest rate defined with market equilibrium. In addition, a comparison of models with and without employees learning is performed. The problem can be split into four subtasks, which define the structure of the article:

1) As the main agent in the economics is a firm, in section 1 we specify the condition of a firm operation and solve profit maximisation problem for a single firm. In the following theoretical and numerical study of macroeconomics we use the solution of a single firm problem (as in numerical experiments price and wages are changing in time, we solve the single firm problem at every step) to determine industry production and investment.

2) In section 2 a description of economics is provided and duality of production and profit function is proved. The duality of of production and profit function indicate, that the results of sections 3 and 4 are valid not only for competitive equilibrium, but also for planer's problem.

3) One of the most important regimes of the model is balanced growth regime, with constant prices and exponentially growing production. The numerical experiments demonstrate, that in case there is no restriction on labour supply. In section 3 exponential growth regime is studied both theoretically and numerically.

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4) In case there is a deficiency of labour, wages and prices are no more constant. The study of this case concluded that macroeconomic model either has continuous oscillations or collapses. In section 4 numerical experiments with other regimes were performed. Combined with results of section 3 it provides a study of two main growth regimes, possible in the model.

In our model the main variables in the economy – production and investment – are calculated as an aggregate of characteristics of firms, operating at a certain period of time. In order to find the macroeconomic parameters at each point we perform two operations – solving single firm optimisation problem (2) for all firms and than finding global characteristics of economy using equations (4) – (9).

The variables used in the model can be divided into constant parameters, supplied externally (via assumptions or calibration), and characteristics, arising by numerically solving equations (these variables are time-dependant). The list of variables is provided below, with the following notations are used:

t – stands for time (since the start of the model) and τ – for the moment of firm establishment.

Table 1

List of variables

	Parameters	**Dynamically changing characteristics**
Single firm problem	m_0 – nominal productivity; λ – labour intensity (number of employees in a firm); μ – capacity depreciation rate; $F(y_{total}, a)$ – learning function.	$a = t - \tau$ – age of the firm; y – production rate of a single firm; y_{total} – cumulative production of a firm since its establishment; m – productivity of a single firm (maximum possible production rate at a certain time point); $\theta = y/m$ – capacity load.
Macro-economics model	b – capital intensity of production capacity (number of goods, required to produce one unit production machines); γ_R – population growth rate; ξ – bank reserves norm; π – share of production, that goes into increase of bank reserves; Δ – wage elasticity to deficiency of labour supply.	p – product price; s – wage; γ – economics growth rate; r – interest rate; Y – total production rate of the industry; Y_1 – rate of scraping of obsolete equipment (total product supply is $Y + Y_1$); R – labour demand (number of employees); R_0 – labour supply (employable population). Can be lower than number of employees, which is achieved via overtime work; I – investment into new production capacity; L – total dept amount, outstanding from all firms.

Source: author's notations.

Research results and discussion

1. Single firm problem

We consider an economy producing single product and using single resource – labour. The main assumption is that capacity of a firm depends on the time non-monotonically (increasing in short-term and decreasing in long-term), and it also increases with an increase in cumulative production of the firm since its start, while the number of employees is constant:

$$m(a) = F(y_{total}, a) m_0 \exp(-\mu a)$$
$$y_{total}(a) = \int_0^a y(\theta) d\theta \tag{1}$$

Where a is the age of the firm, $y_{total}(a)$ – cumulative production of a firm since its establishment, $m(a)$ – production capacity.

A firm solves an optimal control problem that maximising the profit, given constant product price p and wages s. As well as in (Bitros, Hritonenko and Yatsenko, 2007), we maximise the total production of the firm during its lifetime, like the initial model (Olenev N.N., Pospelov I.G., 1986), where the firm production desidion was based only on current profitability of production.

$$\int_0^\infty \theta(a) \left[pF(y_{total}(a), a) \exp(-\mu a) - s\lambda \right] dt \rightarrow \max_{\theta(a)}$$
$$y_{total}' = \theta(a) F(Y, a) \exp(-\mu a), \, y_{total}(0) = 0 \tag{2}$$

Where $\theta(a)$ is the capacity load, $0 \leq \theta(a) \leq 1$, λ – number of employees.

The solution of the optimal control problem is starting the production using full capacity at the moment a_0, which can be equal or not equal to zero depending on the parameters:

$$\theta(t) = \begin{cases} 0, s\lambda - (p + r(a)) F(y_{total}, a) \exp(-\mu a) > 0, \\ 1, s\lambda - (p + r(a)) F(y_{total}, a) \exp(-\mu a) < 0. \end{cases} \tag{3}$$

where $r(a)$ is a Lagrange multiplier.

This means that a firm is always producing using the full capacity, however it does not necessarily starts production from the moment of establishment. In case production capacity increases significantly in time, the firm management prefers to gain some experience before starting the production. This behaviour is typical for highly technological industries. For example, according to data by Hoover's (Hoovers, Inc., 2013) database, approximately 50% of pharmaceutical companies and 40% of software producers, founded in 2011, 2012 and 2013 have not started production yet.

This result is also in line with the conclusions, achieved by Jovanovic and Yatsenko (Jovanovic, B., Yatsenko Y., 2010). They use interpretation of firm, taking decision whether to adopt a newer technology. Using the same productivity function, as applied in the numerical experiments in this article (eq. (14)), in

case $\beta = 0$ (accounting for dependence of productivity only on time, not on total production) the concluded, that firms start to adopt a new technology some time after it appears. The similar behaviour leads to another possible interpretation of the model, considering not firms, but technologies as main entities.

2. General properties of the macroeconomics model

A dynamic macroeconomics model was built. The agents are firms, and the main characteristic of a frim is its time of establishment τ. They take decisions whether to start (or continue) production at each moment of time. The production and labour demand in the economics are:

$$Y(t) = \int_0^t y(\tau,t)d\tau$$

$$R(t) = \lambda \int_0^t y(\tau,t)m_0(\tau)/m(\tau,t)d\tau$$

(4)

The other source of product is scraping of obsolete equipment, which happens when the production becomes unprofitable. The capital intensity of production capacity (number of goods, required to produce one unit production machines) is b.

$$Y_1(t) = \int_{\substack{m(\tau,t)/m_0(\tau)=\lambda s/p, \\ m'(\tau,t)<0}} m(\tau,t)d\tau * b$$

(5)

They take into account product price p and labour costs s. The dynamics of wages is defined with surplus or deficiency of labour supply:

$$\frac{1}{s}\frac{ds}{dt} = \frac{1}{\Delta}\left(\frac{R(t)-R_0(t)}{R_0(t)}\right)_+$$

$$R_0(t) = R_0 * \exp(t\gamma_R)$$

(6)

The produced goods are used by final consumers and for new production capacity building. Product price is defined by market equilibrium: it is assumed that production equals the sum of consumption and new capacity introduction. The amount of money available to be spend for goods consumption is equal to employees' wages.

$$p(t) = \frac{R(t)s(t)+I(t)}{Y(t)+Y_1(t)}$$

(7)

where $I(t)$ is investment. In case production is profitable under current prices, new firms are founded. The availability of funds is restricted by credit capacity of the financial system. The financial system provides loans for building new capacity. The interest rate is variable and defined by equilibrium of loans market. It is set so that NPV of investment equals to zero (under assumptions on constant prices). The

increase credit capacity $L(t)$ of the financial system is assumed to be proportional to production. Equation (8) is derived in (Olenev N.N., Pospelov I.G., 1986):

$$\frac{dL(t)}{dt} = \frac{1-\xi}{\xi}\pi Y(t) \tag{8}$$

$$I(t) = \frac{1-\xi}{\xi}\pi Y(t) - \frac{dL}{dt} \tag{9}$$

The duality of production and profit functions has been proven theoretically (similarly to Shananin, 1984). The production function is the maximum production achievable under labour and capital constraints; profit function is maximum profit available, given fixed prices and wages. The profit function for one firm was calculated in section 1, and the production function of a sector is a sum of profit functions of all firms. We assume that the initial distribution of production capacity among vintages is $m(t_0)$. The initial cumulative production of the firm created at the moment t_0 is $Y(t_0)$. The optimisation problem is finding the optimal capacity load $0 \le \theta(t_0,t) \le 1$ – given restricted number of employees.

$$\int_0^\infty \int_{-\infty}^0 -\theta(t_0,t)[m(t_0)F(y_{total}(t_0,t),t)\exp(-\mu(t-t_0))]dt_0\,dt \to \min_{\theta(t)}$$

$$dY(t_0,t)/dt = \theta(t)m(t_0)F(y_{total}(t_0,t),t)\exp(-\mu(t-t_0)) \tag{10}$$

$$\int_{-\infty}^0 \lambda\theta(t_0,t)m(t_0)dt_0 \le L(t)$$

The solution of the problem has the same form as the solution of profit maximiation problem.

$$\theta(t,t_0) = \begin{cases} 0, & \lambda_1\lambda - (\lambda_0 + p(t,t_0))F(y_{total}(t_0,t),t)\exp(-\mu(t-t_0)) > 0, \\ 1, & \lambda_1\lambda - (\lambda_0 + p(t,t_0))F(y_{total}(t_0,t),t)\exp(-\mu(t-t_0)) < 0. \end{cases} \tag{11}$$

The Lagrange multiplier λ_0 stands for product price, λ_1 – for salary, $p(t,t_0)$ can be interpreted as additional future profit a firm gains from production due to employees learning. The form of the solution is the same as those in equation (3), which proves the duality.

The duality of production and profit maximisation problems means that maximising the profits given the constant prices results in the same dependance of firm production on time as maximizing the cumulative production of the industry. So the equilibrium in the model is also Pareto-optimal. Similar results were obtained in (Kredler, 2010) for equivalence of competitive equilibrium between workers, deciding on the investment into human capital, and planner's problem.

3. Exponential growth regime

One of the most important regimes is exponential growth with price and labour cost remaining constant, and investment, production and number of employees grow exponentially with rate γ. The model described in this article follows exponential growth regime when there is no deficiency of labour.

The main parameters of the balanced growth regime are growth rate γ, price p and interest rate r (as only ratio p/s is important, we assume s=1). We denote the ratios between investment and other variables the following way.

$$R(t) \equiv I(t)x = \frac{I(t)}{pb} \lambda(e^{-\gamma t_0} - e^{-jT})/j$$

$$Y(t) \equiv I(t)f = \frac{I(t)}{pb} \int_{t_0}^{T} e^{-\gamma t} e^{-\mu t} F(t, y_{total})dt$$

$$Y_1(t) \equiv I(t)f_1 = \frac{I(t-T)}{pb} \lambda s/p = J(t)e^{-\gamma T} \lambda s/p$$

$$L(t) \equiv I(t)Dur = \frac{I(t)}{pb} \int_{t_0}^{T} e^{-\gamma t} (pe^{-\mu t} F(t, y_{total}) - \lambda s)tdt$$

(12)

The parameters satisfy the following equations:

$$
\begin{cases}
\dfrac{f}{\gamma} \dfrac{1-\xi}{\xi} \pi = Dur \Leftrightarrow \dfrac{1-\xi}{\xi\gamma} \pi \displaystyle\int_{t_0}^{T} e^{-\gamma t} e^{-\mu t} F(t, y_{total})dt = \int_{t_0}^{T} e^{-jt}(pe^{-\mu t} F(t, y_{total}) - \lambda s)tdt & \text{(13.1)} \\[4mm]
\displaystyle\int_{t_0}^{T} e^{-rt}(pe^{-\mu t} F(t, y_{total}) - \lambda s)dt = pb(1 - e^{-(r+\mu)T}) & \text{(13.2)} \\[4mm]
\displaystyle\int_{t_0}^{T} e^{-\gamma t}(pe^{-\mu t} F(t, y_{total}) - \lambda s)dt = pb(1 - e^{-(\gamma+\mu)T}) & \text{(13.3)}
\end{cases}
$$

Equation (13.1) follows from eq. (7); equation (13.2) ensures that NPV of the investment is zero, equation (13.3) follows from price definition from market equilibrium (7). From (13.2) and (13.3) we infer $\gamma = r$.

We solved the system of equations numerically for:

$$F(t, y_{total}) = c(1 - \alpha e^{-vt})(1 - \beta e^{-vy_{total}})$$

(14)

$\mu = 0.05$, $s = 0.2$. The parameter α was varied with $\beta = 0$ (and conversely). The same calculations were performed with scale parameter c adjusted to make maximum capacity flat at all levels of α (or β) (normalised). The dependency between parameter, controlling the importance of employees learning and macroeconomics growth rates has a maximum, which indicates that there is an optimal degree of learning importance providing the fastest growth (Figure 1).
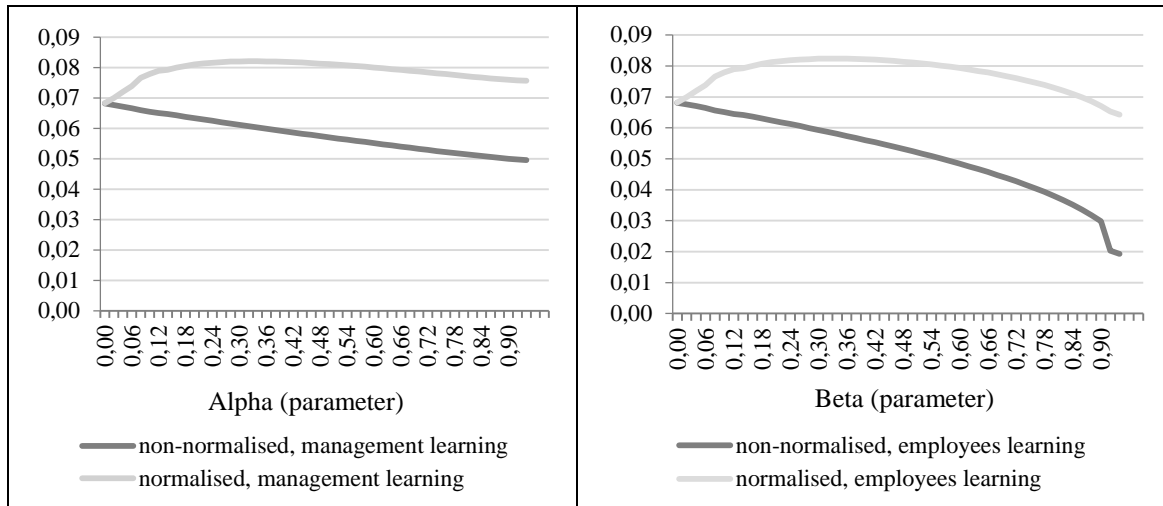
Source: author's construction based on numerical experiments with the model.

Fig. 1. **Growth rates for different importance of employees learning**
(controlled with the parameters α and β)

The results of the calculation were checked by numerical experiments. To improve stability of the system it was assumed that the scraping takes finite amount of time (unlike the theoretical model, where the scrapping takes place as soon as the firm finishes production). The modified model with finite scraping time resulted in interest rates higher than growth rate. The dynamics of growth rate roughly follows the theoretical solution, except for case $\beta = 0.4$).

Table 2

Growth and interest rates achieved in numerical experiments compared with theoretical results

		Non-normalised			Normalised		
		Theoretical growth rate	**Interest rate**	**Growth rate**	**Theoretical growth rate**	**Interest rate**	**Growth rate**
Alpha	0	6.81%	7.90%	7.15%	6.83%	7.90%	7.15%
	0.1	6.55%	7.48%	6.86%	7.79%	9.26%	8.52%
	0.2	6.34%	7.11%	6.57%	8.10%	9.98%	9.32%
	0.3	6.11%	6.72%	6.31%	8.20%	10.17%	9.61%
	0.4	5.95%	6.39%	6.04%	8.20%	10.15%	9.71%
Beta	0	6.81%	7.90%	7.15%	6.82%	7.90%	7.15%
	0.1	6.51%	7.44%	6.64%	7.79%	9.23%	8.31%
	0.2	6.24%	6.97%	6.15%	8.12%	9.92%	8.82%
	0.3	5.93%	6.67%	5.48%	8.23%	10.18%	8.54%
	0.4	5.67%	6.41%	4.69%	8.22%	10.05%	7.93%

Source: author's construction based on numerical experiments with the model.

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One of the most important regimes is exponential growth regime in which price and labour cost remain constant, and investment, production and number of employed grow exponentially with rate γ. The Solow's golden rule (for example, (Abel A.B. et. al., 2005)) analogue for the system is the following:

$$f(x,\gamma) = xs / p + 1/ p \qquad (15)$$

It is derived by maximising production per capita w:

$$w = \frac{(f(x,\gamma) - 1/ p)}{x} \to \max$$

$$\frac{\partial f(x,\gamma)}{\partial x} x - f(x, j) + 1/ p = 0 \qquad (16)$$

Assuming labour oversupply, the marginal labour productivity $\dfrac{\partial f(x,\gamma)}{\partial x}$ is equal to the ratio of wages and product price s/p, which leads to equation (14). This equation directly follows from eq. (7), which indicates tha market equilibrium, assumed in this model, leads to maximum possible consumption level.

4. Numerical experiments with other trajectories

The model was studied numerically, by applying initial exponentially decaying production and solving the equations (4) – (9) numerically. As mentioned before, the scrapping was assumed to take finite time to increase the stability of the model. In case of oversupply of labour, the system trajectory either converges to balanced growth, or results in economics failure. The case with possible undersupply of labour involves changing of the labour costs and is studied numerically.

In case the rate of population growth is below implicit growth rate, labour undersupply results in an increase in wages. The system does not allow infinite growth of wages (numerical experiments and calculations demonstrate that wages growth is always followed by interest rate decline). After a period of wages and price growth, oscillations of interest rate and price start. During the oscillations the average growth rate of production, labour and investment is below population growth rate.

The charts below for learning parameters $\alpha = 0$, $\beta = 0$ (no accounting for employees learning), $\alpha = 0.5$, $\beta = 0$ (accounting only for management learning, or learning-in-time), $\alpha = 0$, $\beta = 0.5$ (accounting only for staff learning, or learning-by-doing) and $\alpha = 0.5$, $\beta = 0.5$ (accounting for both).

The charts below demonstrate time dynamics of production, salary and interest rate. In case $\beta = 0$ after a short period of growth of both wages and production, the economics collapses. Then it starts recovering from small levels of production, with interest rate experiencing oscillations. For $\beta = 0.5$ the transition from initial growth phase to slower growth with rate oscillations happens without collapse of production. However for $\beta = 0.5$ and $\alpha = 0$ the oscillations have increasing amplitude, leading to collapse of the economics. The higher stability in case $\beta = 0.5$ can be explained with the lag between external events (wages growth in this case) and reaction in case $\beta > 0$ (employees learning-by-doing), which makes the parameters changing smoother. However, this lag also can lead to autocorrelations (as demonstrated in the charts in case $\alpha = 0$, $\beta = 0.5$).
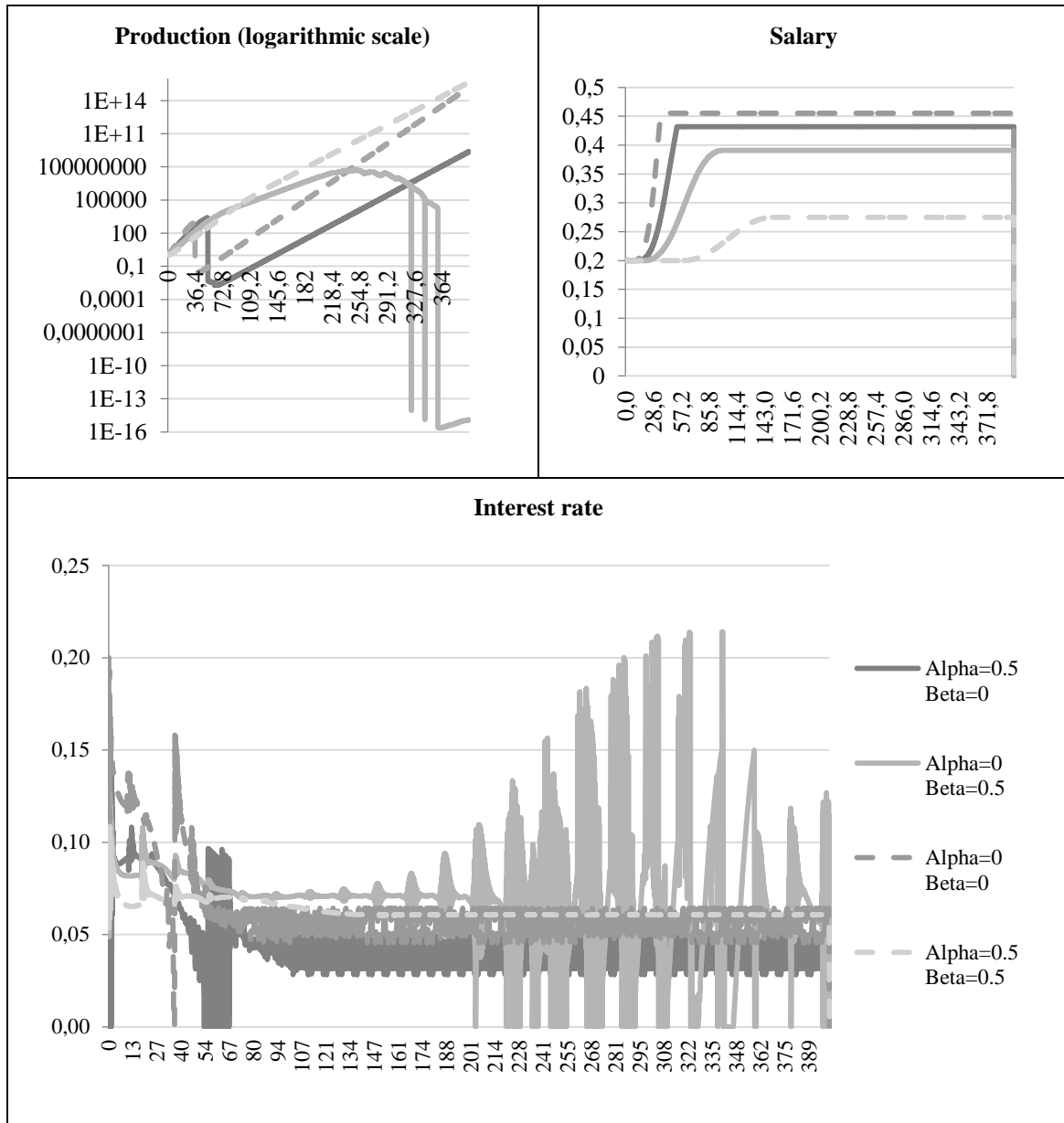
Source: author's construction based on numerical experiments with the model.

Fig. 2. **Dynamics of economical characteristics with different levels of accounting for learning**

To conclude, in contrast with model with constant wages, the behaviour of the model with variable wages changes fundamentally with variation in parameters, controlling accounting for growth. The results of the numerical experiments also suggest that there is a substantial difference between model accounting for employees learning ($\beta > 0$) and accounting for only management learning ($\beta = 0, \alpha \geq 0$)

Conclusions

1. A new economics model was built accounting for increasing of production capacity of a firm in time. The model can be used for estimation of consequences of economical decisions more precisely than models not accounting for employees learning.
2. The novelty of the approach is including learning-by-doing (both via dependence of productivity on time cumulative production) and equations, ensuring equilibrium of the financial system and describing dynamics of credit capacity.
3. It has been proved, that a firm with production capacity depending on experience in general starts production some time after the firm establishment, but before it starts to be profitable. After starting, the production is performed at full capacity. The lag is typical for highly technological industries, like IT and pharmaceutics. This, combined with results, described in (Greenwood and Jovanovic, 2001), confirms that the model with employees learning describes economics of innovative firm more accurately than classical models.
4. The equations for the parameters of balanced growth in case of constant wages have been derived. They do not depend on the initial prices and capacity profile, which indicates that the trajectory of the system converges to single path with, not depending on the initial state. The equilibrium growth parameters satisfy Solow's equation.
5. It was concluded that the dependency between the degree of importance of employee learning and the growth rate has a maximum. The results of the parameters calculations were broadly confirmed with numerical experiments. This result indicates the level of human capital intensity, optimal for economic growth, which can be applied for development of economic policy, including the level of government support to innovative industries.
6. Under the assumption of restricted labour, after transitional processes continuous oscillations of price and interest rate start. Numerical experiment demonstrated, that when stressed by fast growing wages, the models, accounting for learning-by-doing, are more stable than models not accounting for them. This result highlights the higher adaptability of innovative economics.
7. Further research is suggested on the influence of government measures and subsidising on the investment policy of innovative firms and economic development.

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POSSIBILITIES TO APPLY BANKRUPTCY PREDICTION MODELS IN LITHUANIAN COMPANIES OF CONSTRUCTION AND TRANSPORT

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Abstract

The article presents the results of the research in the application of bankruptcy prediction models in the sectors of construction and transport in Lithuania. During the financial crisis, many companies in the construction and transport sectors went bankrupt. Therefore, the research aims to reveal if conventional bankruptcy prediction models are applicable in these sectors. The present study distinguishes by its broad scope that was targeted for the first time: 736 companies whose bankruptcy was initiated in 2009-2013 were examined. Moreover, Lithuanian researchers have contradictory opinions about the possibilities to apply bankruptcy prediction models. Empirical researches provide conflicting results as well.

Key words: *bankruptcy, bankruptcy prediction, bankruptcy prediction models.*

JEL code: G33

Introduction

Constantly changing business environment makes it difficult to maintain stable activity of a business. Yet, under market conditions, the bankruptcy of companies is not a rare phenomenon: companies from various fields of economy go bankrupt. Therefore, the evaluation of bankruptcy risk has become a very important instrument of the financial management.

In order to identify the reasons of the deterioration of the company's financial state and factors which determine the financial decline of companies as early as possible, the executives must constantly carry out bankruptcy prediction. There are many models to predict bankruptcy, whereas a company, according to Bivainis and Garškaitė (2000), must choose proper and the most accurate models of bankruptcy prediction. Moreover, financial position of a company, continuation and prospects of its performance are evaluated not only by the company itself but also by other business entities: share-holders, investors, suppliers, etc. who, in their turn, use models of bankruptcy prediction as well.

Many of the researchers who have investigated various models of bankruptcy prediction have not come up to an agreement as to the suitability of bankruptcy prediction models for Lithuanian companies. Nonetheless, they emphasized that the academic research in the field must be continued. There is also a lack of research on the specifics of bankruptcy models' application in different sectors of economic activity.

The object of the research is bankruptcy prediction of companies.

The aim of the research is to investigate and evaluate the possibilities to apply bankruptcy prediction models in Lithuanian companies in construction and transport sectors. The formulation of the aim is drawn on the fact that mainly transport and construction companies have gone bankrupt since the world crisis till now.

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The research of the application of bankruptcy forecasting models in Lithuania

Lithuanian researchers have mostly applied the model of E.I. Altman to examine and apply bankruptcy prediction models. However, they have not reached a common agreement as to the application of this model in Lithuanian companies. Mackevičius and Poškaitė (1999) employed the methodology of the analysis of the financial statements' changes in several years and used the E. I. Altman model to examine the bankruptcy probably of several companies whose shares were quoted in stock exchange. The researchers arrived at the conclusion about the expediency of the E. I. Altman model.

Mackevičius and Rakštelienė (2005), having investigated 30 cases of bankruptcy (Table 1), suggest applying all three Altman's models to predict bankruptcy in Lithuanian companies. According to them, prediction must be carried out every year because the results of a single year do not allow for a univocal conclusion. Buškevičiūtė and Mačerinskienė(1998) claim that the results acquired following this model reveal whether a company's is to go bankrupt, but the researchers insist not to rely on this model solely while predicting the bankruptcy possibilities. Tvaronavičienė (2001), Purvinis et al. (2004) keep to an even stricter opinion and maintain that this model is not appropriate to evaluate the insolvency of Lithuanian companies.

Mackevičius and Silvanavičiūtė (2006) examined the application of five classical statistical models: Altman (dedicated to evaluate companies whose shares are quoted in stock exchange; the model was developed in 1968), Springate (the model was developed in 1978), Taffler & Tisshaw (the model was developed in 1977), Zavgren (the model was developed in 1985) and Chesser (the model was developed in 1974). The researchers have formulated the following statements regarding the prediction of bankruptcy in Lithuanian companies: 1) linear discriminant analysis models (Altman, Springate, Taffler & Tisshaare) are applicable; 2) bankruptcy prediction calculated according to the Chesser model was not accurate in all companies; 3) the Zavgren model is unreliable and inappropriate to predict bankruptcy in Lithuanian companies.

Garškaitė (2008) applied the Altman (all three), Liso, Taffler & Tisshaw and Springate models in Lithuanian companies from a single economic branch and came to the conclusion that the results of the models nearly match the real situation, i.e., predict bankruptcy. However, the scholar is not strict as to the appropriateness of the models; she states that it is not advisable to rely blindly on each of the models and their suitability to predict bankruptcy in Lithuanian companies because the peculiarities of both the state's economy and activity of the company must be taken into consideration.

Karalevičienė and Bužinskienė (2012a) investigated modern models of bankruptcy prediction. Namely, the models proposed by Seifulin & Kadykov (1992), Begley et al. (1996), Shumway (1999), model of predicting bankruptcy of Romania 1999-2002, Grigaravičius (2003), Neumaier & Neumaier (2005), Boritz et al. (2007), Sandin & Porporato (2007), Stoškus et al. (2007), Bonity index (2009). After the investigation of ten companies, the researchers infer that the analysed models, with the exception of Romania Bankruptcy and Shumway models, are suitable for the prediction of a company's bankruptcy. Yet the academic approach ought to be more precise: some models, such as those offered by Grigaravičius and Stoškus et al. (these models did not predict bankruptcy for an insolvent or unprofitable company) or that of Seifulin & Kadykov (this model did not indicate bankruptcy for a solvent yet unprofitable company) should not be included in the category of high precision models.

Kanapickienė et al. (2008) investigated the suitability of six bankruptcy prediction models in Lithuanian companies of various size. The list of models includes: Altman, Springate, Taffler & Tisshaw, Zavgren, and the ones proposed by Grigavičius, Stundžienė & Boguslauskas. It was determined that the analysed models do not always precisely indicate the possibility of bankruptcy. The most appropriate ones to predict bankruptcy appeared to be that of Stundžienė & Boguslauskas (in the group of small companies) and Altman (in the group of large companies).

Scholarly research in Lithuania gives unanimous prospects of the possibilities to apply bankruptcy prediction models. It should also be noted that earlier researches tackled small numbers of companies which could have determined a rather great inaccuracy of the results. The above mentioned reasons

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encourage evaluating the accuracy of bankruptcy prediction models by considering large numbers of companies as well as attesting real benefits of the acquired information.

Table 1

Scope of research on the suitability of bankruptcy prediction models

Researchers	Quantity of examined companies
Buškevičiūtė and Mačerinskienė(1998)	2
Mackevičius and Poškaitė (1999)	3
Mackevičius and Rakštelienė (2005)	30
Mackevičius and Silvanavičiūtė (2006)	4
Garškaitė (2008)	20
Kanapickienė et al. (2008)	114
Karalevičienė, Bužinskienė (2012a)	6

Source: author's calculations.

Methodology of the survey to evaluate the applicability of bankruptcy prediction models in the transport and construction sectors

Lithuanian economy underwent essential changes during the period of independence: it had to orient to a new economic market system, enter new markets, change the structure of economy, and survive economic crises. Since 1993 till the end of 2012, there were 12922 bankrupts of companies and 15 bankrupts of banks. In the end of 2012, the bankruptcy process was over for 9042 companies (70%) and 14 banks. The growth of bankrupts was indicated during the crisis, namely, the process of bankruptcy was initiated for averagely 239 companies per quarter in 2008, whereas the number reached 461 companies per quarter in 2009. Since 2010 till 2011, the number of bankrupts declined: averagely 409 bankrupt companies per quarter in 2010; 318 bankrupts per quarter in 2011. In 2012, the number of initiated bankrupt processes has increased; it reached 335 initiated bankrupt processes per quarter (Statistics Lithuania, 2013). Huge scale of bankruptcy indicates that companies are not able to rationally evaluate their financial status. The evaluation of a company's' financial risk by applying the models of bankruptcy prediction might help a company to avoid going bankrupt. Rugenytė et al. (2010) claim that every company should find the methodology to evaluate the stability and continuation of its activity. However, one might get lost in the variety of the proposed models of bankruptcy prediction. The more so, that not all models are suitable to predict bankruptcy in Lithuania.

While organizing the survey, first of all, the population, sampling, minimal screening scope and the method of source data acquisition were determined.

Population. After the evaluation of the tendencies of bankruptcy development in Lithuania and with regard to the statistics of the bankrupt companies, companies form the construction and transport sectors were selected for the present survey. The choice was determined by the following factors:

1. According to the data of the Statistics Lithuania, there were 84574 economic operators in Lithuania on 1 January, 2009, whereas on 1 January, 2013, the number was 86929. The majority of the economic operators is constituted by business units working in the fields of manufacturing, construction, wholesale and retail trade, and transport and storage (on 1 January 2009, respective to the type of the economic activity 8.7%; 8.4%; 26.3%; 7.2%; on 1 January 2013, 7.8%; 6.9%; 25%; 7.5% respectively) (see Table 2).

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2. What concerns these four major sectors, in 2009-2013, most of bankruptcy processes were initiated in the construction, wholesale and retail trade, transport and storage sectors (in 2009, respective to the type of the economic activity 23.6%; 23.2%; 14.9%).

3. The analysis of the sectors which show the highest bankruptcy rate reveals that the construction and transport and storage sectors have the highest per cent of the bankruptcy processes initiated in the respective year regarding the whole number of economic operators in the sector registered in the beginning of the year (in 2009, respective to the type of the economic activity 6.1%; 4.5%). Analogical tendency is observed till 2013. The latter reason is one of the main factors that determined the choice of the sectors for the present survey.

Table 2

The number of economic operators and initiated bankruptcy processes in 2009-2013

EA*	The number of economic operators in the beginning of the year					The number of initiated bankruptcy processes in the respective year				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
C	7397	7004	7058	6564	6792	312	223	149	183	162
F	7096	6790	6594	5945	6038	435	358	265	270	243
G	22253	21518	22420	21178	21765	428	437	338	413	470
H	6048	5954	6284	6063	6477	274	180	129	117	173
Others	41780	41936	44631	43874	45857	395	439	392	417	459
Total	84574	83202	86987	83624	86929	1844	1637	1273	1400	1507
EA*	Per cent of initiated bankruptcy processes in the respective year with regard to the number of economic operators in the beginning of the year					Per cent of initiated bankruptcy processes in the respective year with regard to the number of all initiated bankruptcy processes				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
C	4.2	3.2	2.1	2.8	2.4	16.9	13.6	11.7	13.1	10.7
F	6.1	5.3	4	4.5	4	23.6	21.9	20.8	19.3	16.1
G	1.9	2	1.5	2	2.2	23.2	26.7	26.6	29.5	31.2
H	4.5	3	2.1	1.9	2.7	14.9	11	10.1	8.4	11.5
Others	0.9	1	0.9	1	1	21.4	26.8	30.8	29.7	30.5
Total						100	100	100	100	100

* EA – economic activities (EA classification 2): C Manufacturing; F Construction; G Wholesale and retail trade ;repair of engine vehicles and motorcycles; H Transport and storage

Source: author's calculations based on Statistics Lithuania (2013)

Sampling. In statistic investigation, the survey related data is obtained by means of sampling. Sampling is defined as a part of the population selected for the survey which can properly and sufficiently represent the population and provide necessary information. The elements of the population for the survey were selected by means of probability sampling.

Minimal screening scope. The results of the sampling are always more or less inaccurate. This inaccuracy decreases, whereas the precision of the conclusions increases when the screening scope is extended. Hence, the important task is set, namely, to determine the minimal screening scope $n_{\min}$ which might be calculated according to the following formula *(*Schutt, 2001*):*

$$n_{\min} = \frac{z_\alpha^2 N p (1-p)}{(\Delta p)^2 (N-1) + z_\alpha^2 p (1-p)} . \qquad (1)$$

The values of the formula (1) are as it follows:

N – the population size. The present survey investigates the construction and transport companies whose bankruptcy processes were initiated in 2009-2013. That is, 1571 bankruptcy processes were initiated in the construction sector and 873 in the transport sector during this period (see Table 2).

p – probability. Most often it is an unknown value. Since there is no information about the value p, its possible value might be *p=0.5.*

Δp – probability error.

z_α – normal distribution coefficient. If the results of the survey have 95% probability, then the normal distribution coefficient z_α=1.96.

In order to evaluate the accuracy of bankruptcy prediction models and ensure the quality of the acquired data, empirical calculation of 736 companies whose bankruptcy processes were initiated in 2009-2013 was carried out. These include 521 construction companies and 215 transport companies. In this way the following results were acquired: 95% probability and 3.5% error in the construction sector and 95% probability and 5.8% error in the transport sector.

Source data acquisition. Annual financial statements of 2007-2012 of the investigated companies were analysed. Since bankruptcy processes for the investigated companies were initiated in 2009-2013, the financial data of the companies was taken from the period of three years before the bankruptcy initiation.

Explication of the survey results on the applicability
of bankruptcy prediction models

To achieve the aim of the research, i.e., to evaluate the applicability of bankruptcy prediction models in Lithuanian companies, 5 classical statistical bankruptcy prediction models were chosen: 3 linear discriminant analytical models (*Altman (1968), Springate (1978), Taffler & Tisshaw (1977)*) and 2 logistic regression models (*Chesser (1974), Zavgren (*1985)).

Altman model. By applying this model in the companies from the construction sector it was discovered that 388 companies out of 521 had a real bankruptcy threat one year before the bankruptcy initiation (see Table 3). In order to determine the accuracy of the model, the accuracy of the bankruptcy prediction model was calculated. It comprised 74.5% with regard to the total number of the companies in the sector. Similar calculation was carried out in transport sector companies: when critical values of Z model were acquired, it became clear that 165 companies out of 215 had a real bankruptcy threat one year before the bankruptcy initiation. The accuracy of the model was 76.8%. While analysing both sectors it was calculated that 553 companies had a real bankruptcy threat one year before the bankruptcy initiation, whereas the accuracy of the model reaches 75.1%. The accuracy of bankruptcy prediction model decreases when the period considered is two years before the bankruptcy initiation. It has been determined that 278 companies in the construction sector had a bankruptcy threat (the accuracy of the prediction model is only 53.4%). Accordingly, what concerns companies in the transport sector, 151 companies had a real bankruptcy threat (the accuracy of the prediction model is 70.2%). Having evaluated

companies in both sectors, 429 companies had a real bankruptcy threat two years before the bankruptcy initiation (the accuracy of the prediction model reached only 58.3%). If the period of three years before the bankruptcy initiation is taken into consideration, the accuracy of the prediction model declines even more. Regarding the construction sector, there were 170 companies whose critical value Z indicated threat of bankruptcy which made 43.4% of the prediction model's accuracy. In the sector of transport, 81 companies which had a real bankruptcy threat were designated, whereas the accuracy of the model was only 51.9%. The examination of companies of both sectors revealed that 251 companies had a bankruptcy threat, while the model's accuracy probability was 45.8%.

According to the scholarly literature (Li and Rahgozar, 2012), in case the Altman model is applied the possibility to indicate bankruptcy probability is 95% one year before the bankruptcy initiation. It reaches 72% two years before the bankruptcy initiation. Nonetheless, the survey has proved that the accuracy of the Altman model is much lower when it is applied in Lithuanian companies of construction and transport sectors: it is lower by 20 percentage points when bankruptcy is being predicted one year before bankruptcy initiation and by 14 percentage points when bankruptcy is being predicted two years before bankruptcy initiation.

Table 3

Calculation of the probability of the Altman bankruptcy prediction model

Year till bankruptcy	Construction	Probability	Transport	Probability	Both sectors	Probability
1 year	388	74.5%	165	76.8%	553	75.1%
2 years	278	53.4%	151	70.2%	429	58.3%
3 years	170	43.4%	81	51.9%	251	45.8%

Source: created by the authors.

Springate model. One year before bankruptcy initiation, 453 companies in the construction sector had a bankruptcy threat (accuracy of the model is 86.9%). 190 companies in the transport sector had a bankruptcy threat (accuracy of the model is 88.4%). Evaluation of companies in both sectors revealed that 643 companies had a bankruptcy threat, whereas the accuracy of the model reaches 87.4%. When data of the two years period before the bankruptcy initiation is being examined, the accuracy of the model is 66.60% in the construction sector, 83.7% in the transport sector, 71.6% in both sectors. The accuracy of the model decreases even more when the data is tested three years before the bankruptcy initiation (see Table 4). According to the scholarly literature (Kasilingam and Ramasundaram, 2012), the Springate model has reached 88% of accuracy. However, in Lithuanian companies such accuracy is obtained only if the model is applied one year before bankruptcy initiation.

Table 4

Calculation of the probability of the Springat bankruptcy prediction model

Year till bankruptcy	Construction	Probability	Transport	Probability	Both sectors	Probability
1 year	453	86.9%	190	88.4%	643	87.4%
2 years	347	66.6%	180	83.7%	527	71.6%
3 years	210	53.6%	117	75.0%	327	59.7%

Source: created by the authors

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Taffler & Tisshaw model. Calculation revealed that this model is not accurate. It is possible to assume that the accuracy of the model is very low (see Table 5).

Among the construction sector companies, 224 had a bankruptcy threat one year before the bankruptcy initiation (the accuracy of the model is 43.0%. In the transport sector, 73 companies had a bankruptcy threat (the accuracy of the model is 34.0%). After the evaluation of the companies in both sectors, bankruptcy threat was identified in 297 companies, while the accuracy of the model is 40.4%.When two years period before the bankruptcy initiation is considered, the bankruptcy prediction model shows the accuracy as it follows: 29.8% in the construction sector, 25.1% in the transport sector, 28.4% in both sectors. Three years before the bankruptcy initiation the accuracy of the bankruptcy prediction model is even lower. Researchers indicate that the accuracy of the Taffle & Tisshaw model one year before the bankruptcy initiation is 97% (Mackevičius and Silvanavičiūtė, 2006). Nevertheless the application of the model in Lithuanian companies shows the accuracy to be lower by 2.4 times.

Table 5

Calculation of the probability of the Taffler & Tisshaw bankruptcy prediction model

Year till bankruptcy	Construction	Probability	Transport	Probability	Both sectors	Probability
1 year	224	43.0%	73	34.0%	297	40.4%
2 years	155	29.8%	54	25.1%	209	28.4%
3 years	100	25.5%	30	19.2%	130	23.7%

Source: created by the authors.

Chesser model. As Table 6 shows, a bankruptcy threat one year before the bankruptcy initiation was indicated in 483 companies from the construction sector (the accuracy of the model is 92.7%). In the transport sector, 204 companies had a bankruptcy threat (the accuracy of the model is 94.9%). The accuracy of the model in the conjoined analysis of both sectors was 93.3% as the bankruptcy threat was calculated in 687 companies.

Considering the data two and three years before the bankruptcy initiation in the companies of the construction sector, the accuracy of the model is 80.4% and 66.0% respectively. In the transport sector the accuracy reaches 87.4% and 80.76% respectively, in both sectors – 82.5% and 70.3% respectively.

According to scholarly researches, the accuracy of the Chesser bankruptcy prediction model is 78% one year before bankruptcy initiation, 57% two years before the bankruptcy initiation, therefore the model was not acknowledged to be an accurate one (Karalevičienė and Bužinskienė, 2012b). The results of the present survey show that the accuracy of the model when applied in Lithuanian companies is much higher. There is only 7% of probability to make an error and prescribe companies with a real bankruptcy threat to the category of the stable ones.

Table 6

Calculation of the probability of the Chesser bankruptcy prediction model

Year till bankruptcy	Construction	Probability	Transport	Probability	Both sectors	Probability
1 year	483	92.7%	204	94.9%	687	93.3%
2 years	419	80.4%	188	87.4%	607	82.5%
3 years	259	66.1%	126	80.8%	385	70.3%

Source: created by the authors.

Zavgren model. As Table 7 shows, 403 companies in the construction sector were indicated as suffering a bankruptcy threat one year before the bankruptcy initiation (the accuracy of the model is 77.4%). In the transport sector, a bankruptcy threat was indicated in 111 companies (the accuracy of the model is 51.7%). The examination of both sectors shows 514 companies that have a bankruptcy threat which makes 69.8% accuracy of the model.

When the data of two and three years before the bankruptcy initiation is considered, the accuracy of the model is as it follows: 61.0% and 66.3% respectively in the construction sector; 53.5% and 67.9% respectively in the transport sector, 58.8% and 66.8% respectively in both sectors.

The accuracy of the Zavgren model 1-2 years before the bankruptcy initiation is 82%, whereas 3-4 years before the bankruptcy initiation it falls to 73% (Karalevičienė and Bužinskienė, 2012b). The present survey indicates lower accuracy of the model. The attention should be brought to a rather paradoxical situation: in the construction sector, the model is more accurate when the data of three years before the bankruptcy initiation is considered in comparison with the examination of the data one year before the bankruptcy initiation.

Table 7

Calculation of the probability of the Zavgren bankruptcy prediction model

Year till bankruptcy	Construction	Probability	Transport	Probability	Both sectors	Probability
1 year	403	77.3%	111	51.6%	514	69.8%
2 years	318	61.0%	115	53.5%	433	58.8%
3 years	260	66.3%	106	67.9%	366	66.8%

Source: created by the authors.

To generalize, the analysis of each of the above mentioned bankruptcy prediction models in Lithuanian companies revealed that the linear discriminant Springate model and logistic regression Chesser model show the highest bankruptcy probability and are the most accurate ones to determine bankruptcy prediction.

One cannot claim, however, that other models are improper to predict bankruptcy of companies. Nevertheless, having in mind that the survey embraces 736 companies, the Springate and Chesser models show the highest accuracy. The examination of both transport and construction sectors reveals that the Chesser bankruptcy prediction model has the accuracy of 93.3% one year before the bankruptcy initiation; the Sprinagte model shows the accuracy of 87.4%. Two years before the bankruptcy initiation, the accuracy of the Chesser model declines to 82.5%, that of the Springate model to 71.6% respectively. Three years before the bankruptcy initiation, the accuracy of the Chesser model is retained relatively high, i.e., 70.3%. The accuracy of both models declined with respect to each year, nevertheless the comparison of their accuracy with the results of other models shows that the decline of the Chesser and Springate models was least and not so sharp.

Conclusions

Scholarly literature provides a great variety of opinions. Some authors claim that bankruptcy prediction models might be applied in practice on condition they are adapted. Others state that it is pointless to apply the models due to the economic environment and temporal differences, whereas the abundance of the factors that must be considered makes it inexpedient to construct analogical indicators or rely on experimental methods.

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The survey proved that the least accurate bankruptcy prediction model is the Taffler & Tisshaw model. The results of this bankruptcy prediction model were the least in comparison with all the rest bankruptcy prediction models. To illustrate, bankruptcy probability in the construction sector companies one year before the bankruptcy initiation was designated with the following accuracy: 43.0% according to the Taffler & Tisshaw model, 74.5% according to the Altman model, 86.9% according to the Springate model, 92.7% according to the Chesser model. The probability of the bankruptcy prediction in the transport sector one year before the bankruptcy, according to the Taffler & Tisshaw model is only 34.0%, whereas the Spingate and Chesser models show the probability with the accuracy of 88.4% and 94.9% respectively.

After the research has been carried out it is possible to arrive at the conclusion that the most accurate bankruptcy prediction models whose bankruptcy probability is the highest are the following ones: the linear discriminant Springate model and the logistic regression Chesser model.

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EXPLORING THE CONCEPT OF CULTURAL
AND CREATIVE INDUSTRIES

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Abstract

Innovation is a main economy driver in the 21st century and in recent years has shifted from a primarily technological 'information society' mantra to one describing broader non-technological innovation and intellectual capital. In any case this current approach is more suitable for a service-based sustainable society. The creative and cultural economy in the digital environment is a growing part of the global economy. Trade based on creativity, knowledge and information generates jobs, wealth and cultural engagement. According to a UNDP report Cultural and Creative Industries (CCI) contribute up to 7% of GDP and is the fastest growing sector of many economies. In Latvia the term Creative Industries (CI) has been used since 2005 and similarly to other Baltic States Latvia has accepted the CI definition provided by the British Department of Culture, Media and Sports (DCMS). Despite that, broader entrepreneurship policy support for CCI is used very little. In spite of the lack of attention by economic policy makers, creative industries in Latvia exist, therefore it makes sense to talk about them and analyze their economic condition as a means of understanding more deliberately their economic potential. The aim of this paper is to explore the concept of CCI with the method of literature review and to establish an understanding of the describing terms and theories. This is crucial because the amount of literature is large and many sources express policy formulations which could be questioned with respect to their academic strength. This research paper has three main themes – (a) key descriptions of CCI and related concepts; (b) statistical perceptions and the limitations of existing statistical frameworks; and (c) some interesting theories of how to perceive CCI.

Key words: *creative industries; cultural industries, cultural economics; innovation; cultural statistics, social networks*

JEL codes: Z1, O14

Introduction

Innovation has remained a source of development of the post-industrial economy and in the 21st century still is the main driver of economic growth. The EU 2000 Lisbon Strategy aimed to "make Europe, by 2010, the most competitive and the most dynamic knowledge-based economy in the world". It was based on new opportunities of the Internet and digitalization. However the results of the Lisbon strategy imply more failure than success because Lisbon was based on the concept of linear innovation, pushing technological development through R&D investment. More recently the concept of innovation has been replaced with the more complex thinking that knowledge accumulation does not necessarily flow easily from supply side R&D and R&D does not automatically lead to innovation. Note that innovation occurs when someone (or the innovator) assimilates and uses the knowledge to do something new with a practical application of that knowledge. Therefore, the cultural aspects of the dissemination of

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knowledge and know-how are important because they depend on people and society (Innovation Policy: A Guide for Developing Countries, World Bank, 2010). The Lisbon Strategy gave us such terms as "European Knowledge Area", "Information Society", "Information Economy", and the "Knowledge Economy". However, in the current Europe 2020 strategy of "smart, sustainable, inclusive growth", innovation is linked to creativity as a significant asset. The present Europe 2020 innovation strategy focuses on the gap between research outcomes and access to markets within an environment of decreased financial resources (EU Innovation Policy in 2012). Intellectual property (IP) rights form the base of the innovation business model and innovative behaviours have become critical for keeping pace with innovation-intensive global competition.

The creative and cultural economy is talked about as an important and growing part of the global economy because of the socio-economic potential of trade with creativity, knowledge and information, generating jobs, wealth and cultural engagement. At the heart of the creative economy are the cultural and creative industries that lie at the crossroads of arts, culture, business and technology. What unifies these activities is the fact that they all trade with creative assets in the form of intellectual property; the framework through which creativity translates into economic value (British Council).

The term Creative Industries (CI) in Latvia has been used since 2005, similar to in other Baltic States. Latvia as many others has accepted the CI definition provided by the British Department of Culture, Media and Sports (DCMS). The term "cultural and creative industries" is known to Latvian cultural policy makers, but it is used very little in broader entrepreneurship support policies. CI concepts are not well known to the broader public, at the same time there is a growing number of various grass roots initiatives amongst creative professional young activists because CI reflect new trends and opportunities provided by technology and ideas coming from international scenery. CCI activities generally concentrate around urban areas, where are the social networks and audiences. The creative quarters, alternative gathering places with independent theatre and music group performances, small fashion outlets, creative co-working spaces and IT start-ups in Riga are gaining popularity and are searching for their sustainable business model.

However, this trend is not yet picked up broadly by local policy makers and consequently there is no structured support to foster SME initiatives in culture-related sectors. Creative industries in Latvia exist practically in a publicly unsupported environment and creative education is not providing training for entrepreneurial skills. Young artists, stage performers, musicians and designers are trying to come up with business initiatives and to choose an optimal framework and financing. The purpose of mentioning grass roots initiatives is to highlight that regardless of the lack of attention by economic policy makers, creative industries in Latvia exist, therefore it makes sense to talk about them and to research and analyse their economic condition.

The aim of this paper is to explore the concept of creative and cultural industries (CCI) with the method of literature review and to establish an understanding of the most important terms and theories. The base concepts provide the understanding for further research of the broad topic of CCI. This research is crucial because the amount of literature is large and many sources express policy type formulations which can be questioned. This research paper has three main themes – (a) key descriptions of CCI and related concepts; (b) statistical perceptions and the limitations of existing statistical frameworks; and (c) some interesting theories of how to perceive CCI.

The concept of CCI is new and the past decade shows that it is evolving which means that there is room for further exploration of how to apply this novel and often inspiring concept. This research will look at historical development because it goes back to the cultural industries concept from the 1950s, industrial society formation and the earlier concepts of culture, because CCI are about the commercializing of culture. Links of culture with innovation come with changes provided by new technologies and with the CCI concept creativity becomes an important input factor because of content creation. Development of the CCI concept in recent years is illustrated by new theories such as the 4 models concept and social markets theory. The defined scope of this paper limits the investigation of

economic indicators, which are broadly discussed in various policy reports, and could be accepted as a base proof of CCI's economic contribution and growth rate.

1. Cultural and Creative industries in the 1990s

The term CI was invented by Britain relatively recently in the 1990s. The UK started to articulate the CI concept with Tony Blair's New Labour coming into power in 1997. It was a result of active thinking over the development of ICT and the ideas of creative industries and economies being built in parallel, enabled by ICT developments. It seemed that at first the term creative industries just replaced that of cultural industries, thereby impacting arts and media policies.

According to Garnham (2001) ICT development was encouraged by the neo-liberal perspectives in the United Kingdom in the 1980s and 1990s: 'The use of the term CI can only be understood in the context of Information Society Policy. It draws its political and ideological power from the prestige and economic importance attached to concepts of innovation, information, information workers and the impact of Information and Communication Technologies drawn from Information Society theory'. The concept of "Making a business of Information" (1983) was developed by the UK's earlier Conservative government and then continued by New Labor under Prime Minister Tony Blair and already included ideas about CI.

It would be fair to recognise that Australia was the first known to use creativity in its culture policies which consequently became part of economic policy with dedicated funding. In 1994 the Australian government released their new cultural policy "Creative nation", designed to expand IT opportunities by digital media.

Various national and international reports state that Cultural and Creative Industries (CCI) contribute up to 7% of GDP (the highest being in the US, exceeding 7% and in Europe the UK being the highest and exceeding 6%) and is the fastest growing sector of those economies. Today creative industries are among the most dynamic sectors in world trade. Over the period 2000-2005, international trade in creative goods and services experienced an unprecedented average annual growth rate of 8.7% (UNCTAD 2008). The UK has been a leader with creative employment surpassing financial services in London in the wake of the 2009-2011 global financial crises. A recent creative economy manifesto released by the UK charity Nesta, declares the country's creative economy to be "one of its great national strengths, historically deeply rooted and accounting for around one–tenth of the whole [UK] economy". It provides jobs for 2.5 million people, more than financial services, advanced manufacturing or construction and contributes over 6% to GDP. (NESTA 2013).

2. Defining Cultural and Creative Industries

The UK's definition of CCI is: creative industries are activities which 'have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the exploitation of their intellectual property' (DCMS).

"Creative industries" group together a broad variety of industries; some are highly capitalized and industrialized in their modes of production and distribution (e.g., film and television), more labour-intensive and artisanal (arts and crafts, designer fashion, music making, the visual and performing arts), and highly commercial sectors driven purely for profit (such as advertising and architecture). Meanwhile the "arts" are sustained largely by public subsidy.

Critics of the DCMS approach, such as Garnham (2005), argue that the inclusion of software, computer games and electronic publishing industries artificially inflate the size and economic significance of the creative industries, while David Hesmondhalgh (2007) questions the exclusion of sectors such as heritage, tourism, entertainment, and sport (Flew 2010).

Most European governments did not adopt the British formulation of creative industries, preferring to use cultural industries or the cultural sectors, whereas some Scandinavian countries talk of the creative economy or the experience economy. Various definitions of the cultural economy and existence of so-called cultural or creative industries depend on whether a statistical, economic, sociological, or political approach is chosen. The naming variety includes: artistic, arts, cultural industries, arts and entertainment industries, audiovisual, knowledge, content, entertainment, imagination industries, leisure, media industries, industries based on artistic or literary property, and copyright-based or copyright industries.

On a global scale the United Nations Commission on Trade, Aid, and Development (UNCTAD) has become an enthusiastic proponent of the creative industries as a new engine of growth in developing countries (UNCTAD 2008) and the United Nations Educational, Scientific, and Cultural Organization (UNESCO) has upgraded its statistics to incorporate the size, scope and significance of cultural production in the global economy (UNESCO 2007).

3. The Creative Economy concept

The term creative economy is derived from the term creative industries, previously referred to as cultural industries. The concept extends creativity to the whole of the economy, including socio-economic processes and the organization of labour or creative means. From 2000 the concept of the 'creative economy' has taken on a central role in discussions of policy and in positive analyses of cultural economics. It is an evolving concept, based on creative assets potentially generating economic growth. UNCTAD's Creative Economy Report defines the creative economy as follows:

- It can foster income generation, job creation and export earnings while promoting social inclusion, cultural diversity and human development;
- It embraces economic, cultural and social aspects interacting with technology, intellectual property and tourism objectives;
- It is a set of knowledge-based economic activities with a development dimension and cross-cutting linkages at macro and micro levels to the overall economy;
- It is a feasible development option calling for innovative multidisciplinary policy responses and inter-ministerial action;
- At the heart of the creative economy are the creative industries (UNCTAD, 2008).

Throsby (2001) in his model from Figure 1 above describes the creative economy as a succession of concentric circles. The industries are grouped ranging from very high cultural content industries in the centre circle (music, theatre, visual art, etc.), to the smaller cultural content industries relative to commercial content in their output in the outermost circle (fashion, architecture, etc.). He stresses the importance of arts as a core source of creativity and places arts at the centre, followed by creative industries, then in the next circles other activities, depending on the greater or lesser relationship they have with creativity. The ideas generated in the central core diffuse outwards, stimulating creative output and innovation in other industries and sectors. Similarly, creative talent and skills from the core find application in other industries through the movement of creative workers.

A German research publication for Berlin creative industries accepts that the term "creative economy" comes from the UK in 2000 and that creativity plays a central role in the concept, as the name suggests, and creative industries expand into the broader economy. CI includes cultural economy, advertising, software and digital games industries (Söndermann, 2007). German interpretation systematizes three involved types of activities, namely: private sector, targeted at profit making; public sector; and the intermediate or charitable sector. Sector difference is a challenge for appropriate measurement scales and economic policy which can increase accuracy (Puchta et al 2010).

Core creative arts

Literature
Music
Visual arts
Performing arts

Other core cultural industries

Film
Museums, galleries, libraries
Photography

Related industries

Advertising
Architecture
Design
Fashion

Wider cultural industries

Héritage services
Publishing and print media
Television and radio
Sound recording
Video and computer games
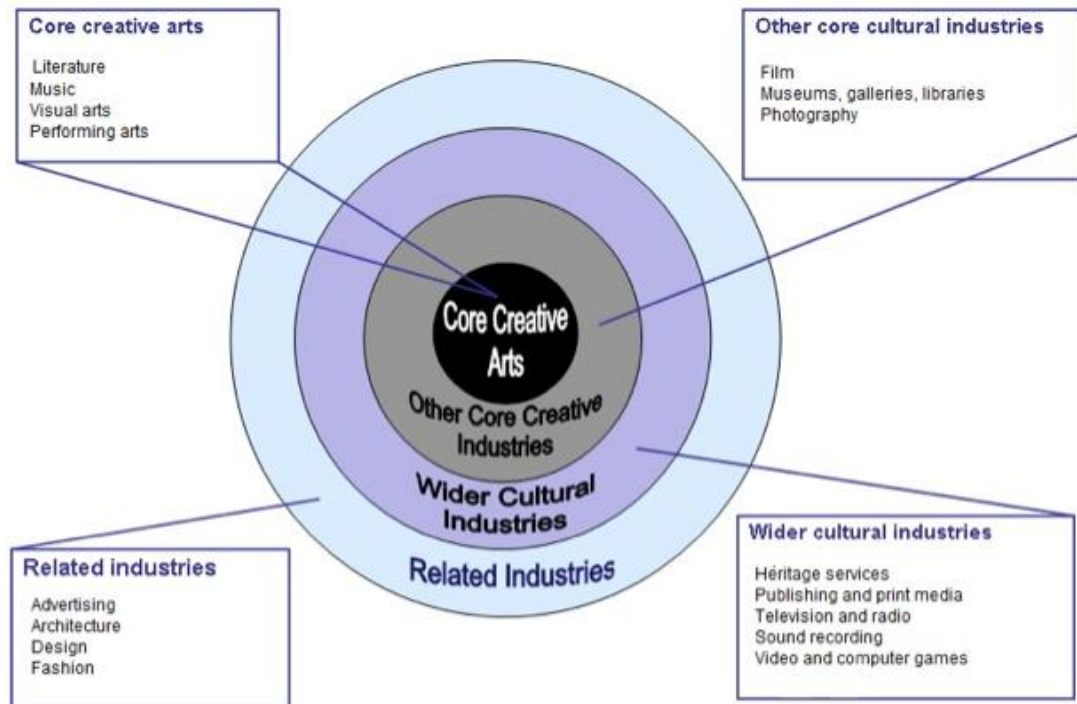
Source: Throsby, 2001.

Fig. 1. **The Concentric Circles Model of Cultural Industries**

The French have been somewhat sceptical of the creative industries concept, sticking with "cultural industries" as their approach, which serves better their interests of preserving national heritage and traditions. However, digital trends are becoming stronger and the official French position in 2013 acknowledged and recognized the creative industries concept (Institut Français, 2014). France's interest in CCI is formulated in the form of aims, such as – reaching a variety of new audiences, particularly among the young, complementary to the Francophone audience traditionally targeted in the past; promoting the mobility of creators and their works, with equal importance being given to facilitating links between French and foreign professionals; supporting professional bodies, the network and the Institut Français; guaranteeing a regulatory environment favourable to CCI by taking part in the preparation and, in certain cases, in the conduct of negotiations on cultural and audiovisual issues by international organisations.

4. Cultural statistics and policy concepts in EU

Since the 1970s(3), the statistical comparability among the EU states in the cultural domain is an old concern. The EU policy goal to improve culture data required the update of the definition of the cultural field and a new assessment framework, compatible with the UNESCO framework adopted in 2009.

The Green Paper on cultural and creative industries in Europe (EC 2010) is a tentative government consultation report with the policy proposals for debate and discussion. It states that the cultural and creative

industries sector can contribute to EU 2020 strategy and competitiveness of the European economy. The key issue is a need for a robust evaluating methodology and data for measuring cultural activity.

The ESSnet for Culture was created by the European Commission and Eurostat in 2009, for structuring the data and the methodology for cultural statistics. Financed on the basis of a grant agreement between the European Commission and a group of five partners co-responsible for the project (Luxemburg's Ministry of Culture, French Ministry of Culture and Communication, Statistical Office of the Czech Republic, Statistics Estonia and the Dutch Ministry of Education, Culture and Science). The 'Leadership Group Culture' in 2012 produced a report for the European Statistical System Network on Culture (ESSnet Culture) to establish the statistical mapping of Culture in Europe. The report provides a practical methodological and conceptual summary of existing cultural structures and statistics in Europe. The challenge still is to find some critical factors that need to be compared among EU member states to create consistent measurement mechanisms which provide a taxonomy and data that can be interpreted in a synchronized way.

The ESSnet summary of the definitions of culture and related sectors of the European countries shows varying approaches. The World Intellectual Property Organization (WIPO) uses 'copyright-based industries'; UNESCO favours cultural products and services which are part of international commerce, while the OECD employs an approach which places content industries and the information economy at the heart of its definition. Depending on their own economic sectors or cultural traditions, European states favour specific fields of cultural activities and name the fields differently as shown in **Table 1** below. The British approach is based on the economic concept of Creative Industries and that products are intellectual property and not only as copyrights. The French 'Cultural industries' approach refers to the "content industry" which is based on mass reproduction and copyrights; Scandinavian states have the Culture and Experience Economy being based largely on the Internet for access and distribution of cultural products. The ESSnet summary of the European situation in 2011 shows groupings with Creative industries, Copyright industries, Experience economy and Sector approach/Cultural industries. As will be discussed later, to view CCI as "just another sector of the economy' is too limiting because CCI are present in many economic sectors.

Table 1

Summary of EU national approaches of Creative and Cultural Industries (CCI)

Creative industries (CI) approach	Copyright industries approach	Experience economy approach	Sector approach, Cult.I or sector specific studies
Austria	Denmark (2006)	Sweden (2004)	French Community of Belgium
Flemish Community of Belgium	Finland	Denmark (2003)	France
Denmark (2000)	Hungary		Ireland
Estonia	Latvia (2005)		Luxemburg
Latvia (2005)	Norway		Poland
Lithuania			Portugal
Sweden (2002)			Slovak Republic
Romania			Spain
Bulgaria			
United Kingdom			

Source: ESSnet Culture report 2012.

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ESSnet describes broad EU opinion and concludes that the cultural sector and creative industries require common EU definitions and a statistical framework to enable the measurement of the economic contribution which can lead to consensus at the pan-European level. As part of the follow-up to the above-mentioned Green Paper the discussion about suitable measures has for example led to the creation of a 'European Creative industries Alliance' whose aim is to involve all key stakeholders on both a European and a Member State level. ESSnet provides a definition of the creative, artistic and cultural activities includes ten cultural **domains** – Heritage, Archives, Libraries, Books and press, Visual arts, Performing arts, Audiovisual & Multimedia, Architecture, Advertising, and Art crafts – which are based on the economic **functions** of Creation, Production & Publishing, Dissemination & Trade, Preservation, Education and Management & Regulation. With this approach software and ICT sectors are not included in the cultural and creative industries.

The EU statistical classification system of economic activities (NACE) has limitations because CCI do not have their own separate industry section as do other industries. Under the current NACE methodology the main sections applicable to CCI would be the 'J – Information and communication' and 'R – Arts, entertainment and recreation' and some can be found isolated within other sections which contain non-culture activities. To describe CCI within the NACE system would require deeper than the current 4-digit classification levels, probably five or even six levels of classification. Besides the NACE system leaves no scope for differentiating between for-profit and not-for-profit activities. Structural business statistics (SBS) and the labour force survey (LFS) are limited to the 3-digit level. A 4-digit to 5-digit level structure may be possible on a national level within the Member States. EU-LFS does not allow the distinction between market and non-market sectors, whereas SBS describes only the marketable sectors. The ESSnet report provides concrete recommendations for developing NACE 5 or 6-digit codes, goods and services (CPA) classifications, employment (ISCO) classifications and expenditure (COICOP) classifications which are inter-compatible but also it stresses a need for further attention on data collection quality and the adoption of more detailed cultural categories.

5. Cultural industries

As Hesmondhalgh (2008) summarizes, the term cultural industries has been known for many decades and more recently was joined by another version of the same phrase: creative industries. Both concepts refer to cultural goods production and dissemination from different theoretical and policy contexts. A traditional cultural industries nomenclature since 1950 includes publishing and literature; performing arts; music; film and photography; broadcasting (television and radio); visual arts and crafts; advertising; design, including fashion; museums, galleries and libraries.

"Cultural industries" join together the broad term "culture", which is not easily linked to economic theory, and the core economic term "industry" of mass production of consumable goods. It started with the industrial revolution of the 18th and 19th centuries where mechanised production influenced peoples' lives and social culture and introduced the concepts of "workforce", "standardization", "urbanization" and "consumer market", with a radical change of society culture.

Industrialization and urbanization shifted the "common" and "elite" cultures of the pre-industrial lower and upper society classes to popular and mass culture (Storey, 2009). It is important for cultural industries that mass culture and popular culture represent the demand for cultural industries (cultural production). Note however that mass culture and popular culture are not the same. Ideology transmitted by mass media (mass culture) is different from culture that is popular with lots of people (popular culture). Popular culture represents bottom-up culture, often from smaller groups and sub cultures (Sokolovski 2011). Mass culture did not take the place of high culture because it popularized culture among the masses which had previously not had access to it and filled an empty niche. Yet even

simplified forms of high art provide aesthetic models for people who do not normally have contact with the products of high culture. Both popular and high cultures have a large number of participants and popular culture is often spread via direct contact. Mass culture is the repertoire, popular culture is what people actively make from it and actually do with the commodities and commoditized practices they consume. LeRoy (2010) (1) writes that during the 1960s and especially the 1970s there was no awareness of "history from the bottom up" nor interest about popular culture and entertainment. The study of popular culture was viewed as trivial and of insufficient academic value. "Economically, popular culture has become the nation's leading export". US domination of the world's "musical soundscape" for example has produced what Ashby describes as "a truly international political economy of culture – with a heavy American accent." Once a powerhouse-manufacturing centre, the US has increasingly focused on producing entertainment LeRoy (2010) (2). American historian Russell Nye pioneered in popular culture studies and expressed that popular culture reinforces the familiar and unlike elite high arts, tends to explore the new; it expresses the pulse of social segments of the masses.

One of the most authoritative assessments of cultural industry comes from Theodor W. Adorno, a member of the influential Frankfurt School, composed of scholarly refugees from Nazi Germany. In the 1940s from a leftist perspective Adorno critiqued the "culture industry" through which corporate producers exercised control from the top down, undercutting any hope that culture "arises spontaneously from the masses themselves". The avant-garde of the 1930s ironized mass culture – how radio, the gramophone, cinema and cheap novels made culture available for the masses thereby simultaneously diluting the value of such culture through its artificial and wide distribution.

The French sociologist Bernard Miège criticized the culture industry: its failure to see how technological innovations had transformed artistic practice; its paradoxical emphasis on markets and commodities rather than on culture as an industry, as a process of production with limitations and problems; and the implication in the term 'culture industry' that analysts were addressing a unified field governed by one single process, rather than a complex and diverse set of industries competing for the same pool of disposable consumer income, time, advertising revenue and labour.

The creative economy's core content is provided and depends on culture in a broader sense – mentality outside of the arts. Culture determines our choices, the structure of our lives, identity, motivation, inspiration, communities, perceptions and a common understanding. There is no one definition of culture because of the complexity of the human context. Culture is a complex system of knowledge, beliefs, arts, morals, laws, habits and all the other activities, created by humans as social creatures (Griswold 2004). Williams (1976) suggests three broad categories for the use of the word 'culture': a general process of intellectual, spiritual and aesthetic development; a particular way of life, whether of a people, a period, a group, or humanity in general; and the works and practices of intellectual and especially artistic activity. Culture is used also to describe sub groupings, such as consumer culture, high culture, remix culture, contra culture, participatory culture, primitive culture, children's culture, coffee culture, drinking culture, corporate culture, official culture, urban culture, alternative culture, oppositional, underground culture, subcultures, video game culture, national culture, tribal culture, and city culture. Or the notion that culture of an organization is not a written policy but rather something that develops over time and is described by the live behaviour of its participants.

6. CCI as an economic sector

The discourse of simply championing commercial popular culture over the traditional "market failure" for arts and cultural funding has been replaced with a better understanding of the role of public sector institutions. Government funded cultural activities are seen as drivers of innovation and socially networked markets, clarifying the relationship between the public and private sectors in creative

industries development (Cunningham 2008). The purpose of CCI mapping activities has been to estimate the 'significance' of the creative industries in the modern economy in order to reorient economic policy support in accordance with that significance. Studies show that the economic value of the creative industries may extend beyond just the manifest production of cultural goods or the employment of creative people. Cunningham (2008) suggests that CCI may have a more general role in driving and facilitating the process of change across the entire economy. The 'dynamic significance' of the creative industries might be greater than their 'static significance'.

   1) Cunningham's four models of CCI. His four models theory suggests four possible answers to the dynamic vs static question: namely (1) welfare, (2) competition, (3) growth and (4) innovation. Each of these possibilities translates into a very different policy model: in (1), a welfare subsidy is required; in (2), standard industry policy; in (3), investment and growth policy; and in (4), innovation policy is best.

   1) If CCI represent a **welfare model** then they have a net negative impact on the economy since they consume more resources than they produce and productivity growth is less than in other sectors, as is assumed in Baumol and Bowen (1966). Then CCI are a ''merit good'' sector which produces a welfare-enhancing cultural good and are economically viable only with resources redistribution from the rest of the economy. In the welfare model the creative industries are a net drain on the economy, although a net drain worth having, as the overall effect is welfare positive because of the production of commodities of high cultural value but low market value. The production is unprofitable because the demand curve lies below the cost curve. The economic justification then rests on a market failure and policy adjusting to non-market value. If a welfare model of market failure is true then policy would be about income and resource reallocation or price maintenance in order to protect an inherently valuable asset – cultural production, which is naturally and continually under threat in a market economy and would mean that growth in the creative industries comes at the cost of aggregate economic growth. Evidence – high levels and rates of financial losses among creative industries firms; low total factor productivity; persistently lower income to factors of production in creative industries compared to other industries; and other indications would mean that the economic viability of activity in the creative industries depends on the resource transfer from the rest of the economy to maintain prices, demand or supply. If a welfare model is true we would expect to observe not just an economically stagnant or low-growth sector, but also one with lower performance levels and return on investment, incomes, etc. However the field of **cultural economics** would not exist with such an assumption of below-average income or productivity growth.

   2) If CCI are '**just another industry**' then it should be seen as the entertainment or leisure industry. Then standard microeconomic analysis would imply that creative industries would in aggregate contribute no more or less to technological change, innovation or productivity growth than the average of other sectors. The creative industries are normally competitive with no economic welfare gains to special policy treatment, cultural/creative goods are 'normal goods', they vary in relative price and would be substitutable to equalize their marginal utility. Then expansion of the creative industries sector would have no aggregate welfare benefit distinct from expansion of any other sector. The 'Economic sector' model still assumes that the economics of the creative industries are ''special'' in terms of extreme levels of demand uncertainty, power-law revenue models, tendencies toward monopoly, complex labour markets and property rights, endemic hold-up problems, information asymmetries, highly strategic factor markets, and so on (Caves 2000, De Vany 2004). These coordination problems are eventually solved under competitive conditions, just as the special circumstances of other industries led them to discover specific institutional arrangements and coordination structures. The 'Economic sector' model emphasizes that CCI are no different to the 'special'' problems of all other industries, such as energy or tourism which also have 'interesting'' features associated with scale, coordination, uncertainty, networks, and so forth. The 'Economic sector' model would mean that creative industries have comparable industry statistics to other sectors, they should properly require the same policy treatment as other industries as just another member

of the industrial community and they should rightfully then demand neither more nor less ''assistance'' than that due to others. Recognition of normal existence is sufficient and ''significance'' is immaterial. For the more industrially mature parts of the creative industries, such as film, TV and publishing, this is generally true, as the dominant firms in these sectors have experienced relative stability and consolidation over several decades. However, there is a range of new media which does not fit this pattern and this is the basis of the third model in which the creative industries facilitate economic growth.

3) The **growth model** would mean that CCI actively are involved in growth of the economy. The supply-side interpretation of this model emphasizes the export of new ideas from CI to the economy. The demand side interpretation emphasizes how growth in the other sectors causes a proportionate increase in demand for CI services. Evidence for this model would come from growth not just in jobs and commodities, as in the 'economic sector model', but in new types of jobs and new sorts of commodities and services, not because of operational expenditure multipliers, but due to their role in the adoption, retention and absorption of new ideas and technologies. CCI would create new industries and market niches and would stabilize and develop extant industries. Without such continued investment, aggregate economic growth would suffer. This is the opposite of the 'welfare model', in which economic growth suffers when there is such continued investment in CCI.

4) The **innovation model** does not characterize CCI as an industry per se, but rather as an element of the innovation system of the whole economy and being similar to the 'welfare model' but places the creative industries as a higher-order system in the economic system, similar to models proposed for the effect of science, education and technology in the national innovation system. The creative industries, in this view, originate and coordinate change in the knowledge base of the economy.

CCI in that case have crucial, not marginal, policy significance and could be better understood as a kind of industrial entrepreneurship operating on the consumer side of the economy. In this case we are dealing with an evolutionary model of the creative industries which derive their economic value from the facilitation of economic evolution and the process of innovation (Potts et al 2007). There are cases of changes in contemporary business models by new uses of the Internet, the ''culturization'' of the economy, as in design-led innovation, new industrial applications of games technologies (gamification) and the impact of creativity and user-led innovations in mobile media. Culture is indeed a public good but for **dynamic** and **not static** reasons. Potts & Cunningham (2008) summarize the factors influencing the growth in the creative industries as: (1) rising affluence, which shifts aggregate expenditure toward the creative industries, as their income elasticity is greater than unity; (2) the related rise in human capital, which permits greater specialization; (3) the growth in ICT, which is the technology base of the creative industries; and (4) globalization, as access to global markets both in demand and factor mobility. This outline of policy implications suggests the need for a new theory for CI. The creative industries have dynamic and not just static economic value because they contribute to the process of economic growth and development over and above their contribution to culture and society. This distinction is important, as cultural policy, which is traditionally based on the 'welfare model', may require some critical retooling to adapt to what appears to be a combination of several approaches.

2) CCI as 'social network markets'. Instead of defining CCI as part of an industrial classification model, they should be seen as being based on the creative nature of inputs and the intellectual property as outputs. Therefore it might be appropriate to use a new market-based definition. For example, markets in which demand and supply operate in, and are defined by, complex social networks.

After analysing the ESSnet report and attempts to fit culture-based production into an industrial classification and the problems of forcing an existing statistical classification system of economic activities (NACE), structural business statistics (SBS), goods and services (CPA) classifications, employment (ISCO) classifications and expenditure (COICOP) classifications, the idea of 'social network markets' proposed by Australian cultural economists Potts, Cunningham, Hartley and Ormerod (2008) provides the missing perspective.

Consumer choice on one hand relies purely on the decisions of others where predominate network effects on other consumers act like the autonomous rational agents of neoclassical theory and select purely on the attributes of the product. Almost every market will have elements of both. In mature markets theoretically most consumers have already learned and fixed their preferences. CCI are dominated by networks and the 'economics' of creative industries is therefore the economics of networks. **CCI could be defined as the set of agents in a market characterized by the adoption of novel ideas within social networks for production and consumption.** In this view CCI are not the subsidized arts; although such sectors are routinely incorporated (e.g., performing or fine arts or heritage). They are also not the cultural industries; although again, there is some significant overlap (e.g., fashion, media, and music). Nor are they firms alone since cultural and educational agencies are active players. Rather the CIs are the subset of commodities and services over which consumers do not have well established decision rules for choice (and so must learn them) or where the 'use value' is novelty itself (Caves 2000; Potts et al 2008).

This theory raises the question of how the 'social network markets' approach would fit technically into existing classifications, however it seems a potentially appropriate way of describing CCI when thinking of culture-based entrepreneurial processes.

Conclusions

1. The concept of creative industries emerged primarily as a policy discourse. Historically the term cultural industries has been used in cultural analysis and policy for many years. From the 1990s it has been joined by another version: creative industries. Since then there have been debates about its utility and implications for research, criticism, and creative practice. Therefore it is important to distinguish an academic approach and differences grounded on evidence from relevant policy reports. It seems that with the literature review of this paper it becomes clearer that several commonly used statements sound more like popular talk, however useful ideas come from both sides.

2. The literature presents an optimistic and critical side of creative industries and is seems that both sides have valid points. It is intriguing to see how this new vision of CCI will turn out with currently employed business models.

3. CCI represent a group of very different culture related industries, from the highly capital-intensive to the more labour-intensive and artisanal, through to highly commercial sectors. The "pure" arts sectors are enabled largely by public subsidy. Cultural industry enterprises demonstrate new business models and can no longer be assumed as secondary to the "real" economy where durable, "useful" goods are manufactured.

4. Creative industries are associated with the 'digital culture' and 'making a business of information'. This is related to the economic importance of the concepts of innovation and social networks. Only with the Internet and digitalization is there the possibility of change in the cultural industries ecosystem, where cultural industries are the 'core' subsets of the creative industries in what is known as the "concentric circles" approach.

5. Cultural industries are institutions which employ not very standard modes of production to produce and disseminate symbols in the form of cultural goods and services generally, and not exclusively, as commodities. Creativity is a 'core' input (e.g., the visual arts would be seen as a "core," but advertising would be seen as more "peripheral" as it combines creative inputs with other inputs). Creative industries involve concepts such as Intellectual property (and author rights), Creative economy, Experience economy, Audio-visual industries, Knowledge industries, Content industries, Entertainment industries, Imagination industries and Media industries. Industry classifications of CCI are not easily applicable and have to fit with traditional views of supply-demand dynamics, while the classification of commodities and markets are more appropriate. Symbol value creation is linked to

social networks where values of acceptance and appreciation are created by the network itself. The literature represents a discourse of what to include and what not include in CCI, namely some argue that software, games and electronic publishing inflates measures of CCI and question the exclusion of heritage, tourism, entertainment and sport. Over time the CCI membership dispute is likely to be solved by international organizations, such as the EC, which organizes economic and other statistics through EUROSTAT. Similarly there are shortcomings of NACE and SBS classification systems to capture culture-based enterprises. To reflect reality these nomenclatures require the adoption of a richer taxonomy of cultural sub-categories.

6. Key policy decisions are increasingly carried out at an international level and ESSnet Culture activities and UNDP are showing such an approach. At the same time the cultural industries have become more and more significant in local urban and social policy as a means of regenerating economies and providing competitive advantage over other cities and regions.

7. Cultural industries have moved closer to the centre of the economic action in many countries and across much of the world. CCI companies can no longer be seen as secondary to the "real" economy where durable, "useful" goods are manufactured. The recent global financial crisis in 2009-2011 prompted the emergence of creative economies as an attractive and potentially viable alternative to classical growth strategies. Promising to generate sustainable economic growth through the creation of jobs and the innovation of trade, creative industries can simultaneously occupy a central role in promoting and maintaining cultural diversity, social inclusion and environmental sustainability. The effects are thus two-fold, delivering both economic and socio-cultural benefits.

8. Cunningham's **four models** theory of CCI provides a broader understanding of their impact on society which is not only the production of goods and services, but also their influence as culture processes of innovation, competitiveness and social wellness as key elements of social capital.

9. Symbol value creation is linked to social networks where values of acceptance and appreciation are created by the network itself. Since the current industry classifications of CCI are not a good fit with the traditional supply-demand dynamics of commodities, capital and markets, describing CCI with social markets theory is worthy of further research.

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CROSS-BORDER LABOUR MOBILITY AS A NEW CHALLENGE FOR ECONOMIC AND BUSINESS DEVELOPMENT

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Abstract

New business challenges and future economic growth are noticeably affected by the international mobility of people, particularly in the conditions of unfavourable demographic situation in the majority of the European countries. The paper focuses on examining cross-border labour mobility between the neighbouring countries looking for the answer to the question whether cross-border labour mobility can pursue win-win expectations of increasing international labour movement after the EU eastward enlargement. The aim of the paper is to outline differences in the socio-demographic and employment characteristics of Estonian people who have worked in a neighbouring country – Finland and Sweden (East-West mobility) and Latvia and Russia (East-East mobility). In a broader context the paper tries to provide some new empirical evidence based knowledge of possible differences in determinants of the East-West and East-East cross-border labour flows. The results of the study show that the consequences of cross-border labour mobility are twofold. Cross-border labour mobility can support economic development of both source and target country but also generate some threats of brain waste taking into account the sharp increase of lower-skilled jobs of people who are working in economically well-developed neighbouring countries. In order to achieve the expected win-win situation of the increasing international labour mobility, policy measures that reduce possible skill mismatches and brain waste and create favourable preconditions for effective skills exchange and return migration should be further elaborated and implemented.

Key words: *geographic labour mobility, neighbouring countries, cross-country labour flows, Estonia*

JEL codes: J61, O57, R23, P52

Introduction

New business challenges and future economic growth are noticeably affected by the international mobility of people, particularly in the conditions of unfavourable demographic situation in the majority of the European countries. With the enlargement of the EU in 2004 and the gradual opening of labour markets to foreign workers, different forms of international labour movement besides permanent migration have received increasing attention. Non-permanent migration includes temporary, repeated, circular and contract migration, and also long-distance commuting between countries.

Cross-border labour mobility is an increasingly common form of international mobility of labour encouraged by the EU enlargement and free movement of labour. At the same time, research on cross-border labour mobility, including commuting, at the EU level has been rather scarce so far. Therefore our paper focuses on examining cross-border labour mobility looking for an answer to the question whether labour mobility can pursue win-win expectations of increasing international labour movement after the EU eastward enlargement. The aim of the paper is to outline differences in the socio-demographic and

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employment characteristics of Estonian people who have worked in a neighbouring country – Finland, Sweden, Latvia and/or Russia.

International migration, especially labour outflows, is a hot topic for Estonia – a small EU Member State with a population of about 1.3 million. Since joining the EU, the yearly out-migration figures in Estonia have more than doubled compared to 2004, reaching 6,214 in 2011 and already 10,871 in 2012 (Statistics Estonia, 2013). With around 50% of migrants moving there each year, neighbouring country Finland is the most popular destination for Estonian migrants. Besides increasing migration numbers, Estonia is a country where the number of cross-border commuters per 1,000 inhabitants is one of the highest in the EU, reaching 15.8 (MKW Wirtschaftsforschung: 2009). The high level of cross-border commuting and increasing migration numbers signal that the country's institutions have to profoundly monitor international labour mobility in order to elaborate and implement policy measures that reduce permanent labour outflows and also attract labour force with a range of knowledge, skills and new networks' connections in order to benefit from the free movement of labour in the long run.

The empirical part of the paper relies on data from CV Keskus (CV Centre) – an online job portal bringing together jobseekers and vacant job posts. This database makes it possible to examine the main socio-demographic characteristics (e.g. age, gender, education, language skills) and job characteristics (occupations, duration of employment) of Estonian people who have worked in a neighbouring country – Finland, Sweden, Latvia or Russia. The former two countries are among the wealthiest states in the EU, whereas the latter two are post-Soviet states. The study outlines possible differences in the socio-demographic and job-related characteristics of people who have worked in Finland and Sweden (this is referred to as East-West mobility) compared to people who have worked in Latvia and Russia (this is referred to as East-East mobility) implementing descriptive statistics and logistic regression models.

The paper is the first attempt to monitor Estonian labour flows to four neighbouring countries – Finland, Latvia, Sweden and Russia based on the CV Keskus database. In a broader context the novelty of the paper is to provide some new empirical evidence based knowledge of possible differences in determinants of the East-West and East-East cross-border labour flows. We suppose that additional knowledge about cross-border labour movement and its determinants provides valuable information for elaborating policy measures that can support sustainable development and competitiveness of countries' economies.

Framework for analysing cross-border labour mobility

Cross-border labour mobility, especially migration, has been a hot research topic for decades and with numerous strands. Sjaastad (1962) established what has later been termed the "human capital theory of migration," a framework under which the decision to migrate is considered an investment in an individual's human capital, taking into account the costs and benefits of the act of migration. Some years later Lee (1966) formulated a general framework for migration analysis, distinguishing between mainly social or economic push and pull factors in origin and destination regions, institutional or physical barriers to migration and personal factors affecting the decision to migrate. Lee's framework for studying migration processes includes inter-regional macroeconomic disparities, as well as individual characteristics of geographically mobile people. Departing from an individual framework, Mincer (1978) further looked at migration decisions in the family context. Going ahead, Massey (1990) argued that migration analysis should include the individual, household and community level information, the latter being connected to macroeconomic disparities between regions in income and employment levels. Although Lee (1966) and Massey (1990) already noted the importance of pre-existing networks in the country of destination, this aspect of migration has become a strand of research on its own, as migrant networks in the destination country lower the costs of moving abroad for new migrants. Following Roy's (1951) discussion that was developed into a model by Borjas (1987), the question of the positive and

negative selectivity of immigrant workers has become an important field in migration research focusing on examining possible impact of several determinants on migration processes. Recent literature has further looked at the magnetic effects of several welfare benefits; for example, Borjas (1999) found evidence from the US that generous benefits attracted more immigrants with lower education.

Following literature about general framework for understanding migration processes, numerous empirical studies have been conducted focusing several perspectives of international mobility of people. Jennisen (2005) showed that GDP per capita has a positive and unemployment rate a negative effect on net international migration in the EU. The young, male, single and more educated people from urban areas are more likely to migrate (e.g. Zaiceva & Zimmermann, 2008; European Commission, 2008). Delbecq and Waldorf (2010) show that pre-existing communities in the destination country are the most important predictor in East-West labour movements. These results confirm the findings of Pedersen et al. (2004), who found distance (both physical and cultural) between the source and destination country and pre-existing networks in the destination country to have a significant effect on migration decisions. Evidence about the effects of welfare benefits from the EU is controversial. De Giorgi and Pellizzari (2009) found that greater welfare benefits act as a magnet for immigrants as include higher wages and lower unemployment rates. Giulietti et al. (2011) find no significant effects of unemployment benefit systems on immigration for EU migrants, although some significant effects for non-EU migrants.

Commuting literature has mainly focused on intra-regional (e.g. rural-urban commuting) movements or, linked to our analysis, on specific border regions (e.g. Gottholmseder & Theurl, 2011; Greve & Rydberg, 2003). To our knowledge, analyses of cross-border commuting at EU level are scarce. Based on European Labour Force Survey data, Huber (2011) shows that, compared to non-commuters, cross-border commuters are more often male workers with medium level education who are more likely to be employed in manufacturing or construction and less likely in non-market services. Comparing EU12-to-EU15 (East-West mobility) with EU15-to-EU15 commuters (West-West mobility), Huber and Nowotny (2008) show that the former group has a larger share of young people (aged 20–29) with medium education levels who are more represented among construction, machine operating and agricultural occupations. The results mainly indicate a negative selectivity of workers in EU12 (new member states after the EU eastward enlargement) to EU15 the so-called old member states) flows. High-skilled workers primarily commute between EU15 countries and low-skilled between EU12 countries or from EU12 to EU15 (MKW, 2009).

Empirical evidence for Estonia shows that after joining the EU, people with university degrees are significantly less likely to emigrate and people with primary education most likely to do so (Anniste, et al., 2012a and 2012b). In addition, the majority of emigrants in 2007 were non-specialists and there were several times more manual workers compared to professionals and managers that left Estonia (Eesti Pank, 2008). The European Commission reports show that commuting between Estonia and Finland takes place weekly or even monthly rather than daily (MKW, Wirtschaftsforschung, 2009). National labour market experts highlighted construction and agriculture as important fields of activity for Estonian workers in Finland.

Data and methodology

The paper provides a brief insight into some aspects of cross-border labour mobility focusing on examining labour mobility in the EU, including movements between old member states (EU15) and the new member states (EU12) that joined the EU in 2004 or after. We are looking answer on the research question whether different destination regions of labour flows (East-West and East-East flows) are characterised by differences in socio-demographic and job-related characteristics of mobile workers.

The empirical part of the paper bases on the CV Keskus (CV Centre) database. CV Market Group (CV Keskus) is the largest jobseeker database in the Baltic States. The database includes information about the

socio-demographic characteristics and employment history of jobseekers. CV Keskus data enables us to analyse cross-border movements of workers as CVs include information about the past five jobs.

Our analysis bases on CVs that were updated between December 2004 and January 2010. People with multiple jobs in abroad are considered more than once in this database. Our initial sample size is nearly 10 000 observations. But after cleaning the database taking into account availability of information about socio- demographic and occupational characteristics of mobile people, the number of observations that include cross-border labour mobility cases from Estonia to its neighbouring countries (Finland, Sweden, Latvia and Russia) is 8456: 83.8% belong to East-West flows (71.2% in Finland; 12.6% in Sweden) and 16.2% belong to East-East *flows* (12.7% in Russia and 3.5% in Latvia).

Based on the CV Keskus database which includes information of the past five jobs on mobile people, we cannot clearly distinguish between past commuters and long-term and short-term migrants. Around 25% of the cases declared in the CV-s show that the duration of jobs in abroad lasted for up to three months and around 2% of the cases show that duration of jobs lasted in a neighbouring country for at least ten years. Thus, in the majority cases, the duration of jobs of mobile people lasted between four months and ten years.

We are aware that the database has several shortcomings that present limitations for conducting an empirical analysis. First, it might not be representative of the population of mobile workers as some occupational fields (e.g. medical workers) may be under represented. Jobs abroad have also been categorized using a special approach, which sometimes makes them difficult to group into larger categories (e.g. sectors). The data include demographic information about each person – year of birth, education (with years of obtaining different levels of education reported), language skills, marital status and number of children but this information is not presented in all cases and the people present this information in their CV-s according to their self-understanding and self-perceptions. We cannot correctly use data about marital status and children of jobseekers because these variables are not always linked to a year of marrying or ages of children as well as to previous job posts. The same applies to language skills. English language skills could be regarded as a proxy for capabilities of people who have worked in Estonia's neighbouring countries, and therefore, we include these skills in our analysis. Although the data does not necessarily consists of information about ethnicity, we use mother tongue as a proxy for this. We are aware that mother tongue is not always fully related to ethnicity.

In order to characterize labour flows between Estonia and its neighbouring countries we provide some descriptive information about socio-demographic and job-related characteristics of Estonian people who worked in a neighbouring country. We also estimate two logistic regression models to enlarge the results of the descriptive analysis and to test whether the socio-demographic and job related characteristics of the mobile Estonian people are statistically different in the case the East-West and East-East labour flows.

The estimated logistic regressions are models are as follows:

$$\log \frac{p(Y_i = 1)}{1 - p(Y_i = 1)} = \beta_0 + \sum_{k=1}^{K} \beta_k X_{ik} + u_i \, , \tag{1}$$

where
$p(Y_i = 1)$ is the probability that an individual i = 1, …, n worked in Finland or Sweden (East-West cross-border mobility) and $1 - p(Y_i = 1)$ is the probability that an individual i = 1, … n worked in Latvia or Russia (East-East mobility);
X_{ik} are explanatory variables that contain socio-demographic (age, gender, education, mother tongue) and job-related (occupations, job durations) characteristics for individual i ($k = 1, 1, … K, K$ – the number of explanatory variables). All explanatory variables are categorical.

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The number of observations considered by the estimation of the logistics regressions is 5273. Due to some missing information, the number of initially observed cross-border mobility cases somewhat declined.

The logistic models look at the odds ratios of East-West flows (to Finland and Sweden) compared to East-East flows (to Latvia and Russia). We consider the odds ratio as a measure of effect size describing the strength of association between the outcome (dependent variable) and an explanatory variable. The odds ratio represents the odds that an outcome (in our case East-West mobility) will occur if a certain characteristic of an individual is present, compared to the odds of the outcome occurring in the absence of that characteristic. The difference between the two models is that the first model regresses only to socio-demographic variables, the second additionally controls for the individuals' job-related characteristics.

Although our analysis offers only a basic insight into a rather unique database of Estonian jobseekers CV-s, we try to offer some broader contribution to research about cross border labour mobility dealing with East-West and East-East labour flows. From this perspective, Estonia offers an interesting case as it neighbours with wealthy Nordic countries (Finland and Estonia) and post-socialist Eastern-European (Russia and Latvia) countries.

Cross-border labour mobility at glance: who is moving from Estonia in order to work in a neighbouring country?

Table 1 presents descriptive information about socio-economic characteristics of Estonian people who worked in neighbouring countries. This information bases on the self-reported data of the past five jobs of the jobseekers presented in their CV-s and made public through the CV Keskus database. Ethnicity (mother tongues is used for a proxy) and gender of cross-border workers show some differences, when comparing East-West (working in Finland and/or Sweden) and East-East labour (working in Russia and/or Latvia) flows from Estonia. The former group is clearly dominated by males and Estonians. Workers in Latvia and Russia have predominantly been non-Estonians, and male workers show only a slight majority.

The majority of mobile people are young (25 years and below). Finland have attracted somewhat more male workers aged 36 and above compared to other countries. Data presented in Table 1 also indicate that labour flows from Estonia to Finland and Sweden are clearly characterised by lower shares of highly educated people than labour flows to Latvia and Russia. Even though there is a greater share of highly educated female workers, the rates fall far behind those of Latvia and Russia. Labour flows to Finland and Sweden are dominated by people with secondary and vocational education. In addition, while people with primary education make up the smallest group in other countries, there have been more Estonian workers with primary education in Finland than workers with a higher education.

The results of descriptive overview of CV Keskus data about labour flows from Estonia to its neighbouring countries confirm the findings of Huber and Nowotny (2008) that younger age groups are more mobile and East-West labour flows are most likely to have medium levels of education. The descriptive information also shows that there are no remarkable differences between East-East and East-West flows in terms of age groups.

We also analysed mobility on the Estonian people to the neighbouring countries according occupations. The job posts mentioned in the CV are classified relying on the occupation categories of the U.S. The number of different job posts mentioned in the CV-s consists of 24 occupations (see also Kaska and Paas, 2013) and these are aggregated to the 5 main occupation categories in this part of the analysis (Table 2). The East-West labour flows are in most cases concerned with lower-skilled occupations (e.g. construction, maintenance, transport, production). In the majority of cases, East-East labour flows concern managers and professionals, but also sales and office posts. These results are also consistent with previous empirical findings (MKW Wirtschaftsforschung, 2009; Huber & Nowotny, 2008) that East-West

flows in the EU are characterised by a high share of low-skilled workers, whereas high-skilled workers move between EU15 (West-West mobility) or EU12 countries (East-East mobility).

Table 1

Shares of Estonian people by some socio-demographic characteristics working in a neighbouring country, %

		Latvia	Russia	Finland	Sweden	Total
Gender (male)		52.0	54.8	70.3	64.2	66.9
Ethnicity (mother tongue)	Estonian	26.3	11.8	62.8	54.3	54.0
	Other	48.0	68.2	11.3	16.9	20.5
	Unknown	25.7	20.0	25.9	28.8	25.5
Age	15-20	19.3	21.3	20.8	20.0	20.7
	21-25	36.8	40.1	30.8	37.7	33.1
	26-30	19.3	18.8	17.1	18.5	17.5
	31-35	9.8	9.1	10.5	9.2	10.2
	over 36	14.8	10.7	20.8	14.6	18.5
Education	Primary	4.4	3.4	8.7	6.6	7.6
	Secondary	29.4	28.0	45.1	41.2	41.9
	Vocational	18.6	18.0	28.4	28.0	26.7
	Higher	32.4	37.3	7.3	12.0	12.6
	Unknown	15.2	13.3	10.5	12.2	11.2
Number of mobile people		296	1 070	6 019	1 071	8 456
Share, %		3.5	12.7	71.2	12.6	100

Source: CV Keskus data, authors' calculations.

Table 2

Shares of aggregated groups of occupations of Estonian workers in a neighbouring country, %

	Latvia	Russia	Finland	Sweden	Total
Management, Professional, and Related Occupations	39.9	39.3	9.9	13.6	15.2
Service Occupations	11.8	9.9	6.9	11.8	8.1
Sales and Office Occupations	25.0	18.6	12.7	18.7	14.6
Agriculture, Construction, and Maintenance Occupations	9.8	17.5	49.9	40.6	43.3
Manufacturing, Production, Transport	13.5	14.7	20.6	15.3	18.8

Source: CV Keskus data, authors' calculations.

We also analyse how long jobs in neighbouring countries have lasted (Table 3). It is worth noting that job posts in Latvia and Russia lasted, on average, twice as long as in Finland and Sweden. In all four destination countries the largest share of durations falls between 4 and 12 months. For East-West flows

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we can say that shorter job durations are dominant. However, for East-East labour flows seasonal (up to 3 months) posts are most seldom. Over a third of the people who worked in Russia or Latvia worked for more than two years on their most previous job post in those countries. The same figures for Finland and Sweden fall below 20%. We can conclude that job-related characteristics indicate that East-West flows are rather concerned with lower-skilled and short-term occupations that are often seasonal.

Table 3

Share of average duration of jobs of Estonian people in neighbouring countries, %

Duration (months)	Latvia	Russia	Finland	Sweden	Total
…-3	13.2	9.3	27.4	24.3	24.2
4-12	28.7	24.8	36.8	40.1	35.4
13-24	21.3	19.4	17.1	16.8	17.6
25-48	17.9	21.7	13.4	11.4	14.3
49-…	18.9	24.8	5.3	7.4	8.5

Source: CV Keskus data, authors' calculations.

In order to test whether there are statistically significant differences between the East-West and East-East cross-border flows according to the socio-demographic and job-related characteristics of the Estonian people, we estimate two logistic regression models. Table 4 reports the odds ratios from the two models along with robust standard errors below them in brackets. Our study outlines possible differences in the socio-demographic and job-related characteristics (age, gender, education, occupations, etc.) of people who have worked in Finland and Sweden (East-West mobility) compared to people who have worked in Latvia and Russia (East-East mobility) implementing descriptive statistics and logistic regression models.

Table 4

Odds ratios from logistic regressions comparing East-West to East-East labour flows from Estonia

	Model 1	Model 2
Male	1.521***	0.960
	(0.178)	(0.137)
Ethnic minorities	0.060***	0.061***
	(0.007)	(0.008)
Age 15-20	(Reference group)	(Reference group)
Age 21-25	1.126	1.136
	(0.194)	(0.204)
Age 26-30	1.108	1.079
	(0.210)	(0.213)
Age 31-35	0.978	0.958
	(0.216)	(0.222)
Age 36-…	1.307	1.359
	(0.261)	(0.287)

	Model 1	Model 2
Primary education	(Reference group)	(Reference group)
Secondary education	0.716	0.750
	(0.147)	(0.157)
Vocational education	0.839	0.892
	(0.178)	(0.195)
Higher education	0.130***	0.180***
	(0.029)	(0.042)
After joining EU	5.927***	4.040***
	(0.681)	(0.606)
English skills	1.102	1.193
	(0.133)	(0.153)
Managers and professionals	-	(Reference group)
Service	-	2.152***
	-	(0.454)
Sales and Office work	-	1.427
	-	(0.260)
Natural resources, construction, maintenance	-	5.783***
	-	(0.899)
Production, transport, materials	-	5.711***
	-	(1.019)
Duration up to 3 months	-	(Reference group)
Duration 4-12 months	-	0.630**
	-	(0.110)
Duration 13-24 months	-	0.472***
	-	(0.092)
Duration 25-48 months	-	0.521**
	-	(0.109)
Duration over 48 months	-	0.375***
	-	(0.092)
Constant	8.660***	8.060***
	(2.150)	(2.669)
Number of observations	5273	5273
Akaike information criterion	2465.458	2286.785

Dependent variable equals 1 in case of East-West mobility and 0 in case of East-East mobility.
*** denotes significance at 5% level.

Source: CV Keskus data, authors' calculations.

The first model includes socio-demographic variables and a dummy variable indicating whether working abroad took place before or after joining the EU. Model 2 includes job-related characteristics

(occupations, durations). Both models look at labour flows after 1991 (i.e. after Estonia regained independence). Excluding the younger age groups (below 25) from the analysis, to provide a higher probability that workers have obtained their highest level of education, has very little effect on the results; these results are not reported in the table below.

Empirical results that rely on the Model 1 are generally in line with results from the descriptive analysis. Men have been 1.5 times more likely to work in Finland or Sweden than in Latvia or Russia. Minorities, however, work about 17 (1/0.06) times less likely in Finland and Sweden. Results do not show significant differences between East-East and East-West flows in the age groups of workers. People with higher education are 7.7 (1/0.130) times less likely to follow the pattern of East-West cross-border labour mobility compared to East-East mobility. When controlling for job-related characteristics in Model 2, the odds ratio is reduced to 5.6 (1/0.180), but it still confirms that East-West labour flows are as a rule characterised by less educated workers than East-East flows. More importantly, grouped job categories explain gender differences resulting in an insignificant estimate for the gender variable in Model 2. This indicates that the occupational choice between genders is not random. The statistical significance of the dummy variable for the period of starting working abroad indicates in both models that after Estonia joined the EU, East-West labour flows have increased more than East-East flows.

Occupation groups show the strongest positive effects of jobs for Sweden and Finland in such fields as natural resources, construction, production and transport compared to other fields. Thus, the results from Model 2 confirm that East-East labour flows are more likely to comprise high-skilled workers. Job posts in Sweden and Finland show a significantly lower tendency for posts to last more than 3 months compared to posts in Latvia and Russia. As durations increase the odds ratios get smaller indicating a higher probability of working in Latvia or Russia for longer periods. There is a clear tendency for Estonian people to work on seasonal or short-term job posts in Finland and Sweden (East-West mobility). East-East cross-border labour flows are more long-term compared to the less educated and short-term East-West labour flows.

Conclusion and discussion

We suppose that knowledge based on empirical analysis of cross-border labour mobility provide valuable information for elaborating future policy measures that support economic and business development of countries. Therefore the focus of the paper has been on the examining of cross-border labour mobility between the neighbouring countries looking for the answer to the question whether cross-border labour mobility can pursue win-win expectations of increasing international labour mobility. We analysed possible differences between East-East and East-West labour flows observing main socio-economic and job-related characteristics of Estonian people who have worked in neighbouring countries.

The empirical results of the study have confirmed that different destination regions – the wealthier countries of Finland and Sweden (East –West flows) on the one hand and the post-socialist countries of Latvia and Russia (East-East flows) on the other – have attracted workers with different socio-demographic and job-related characteristics. The results of the study show that ethnicity and higher education are important determinants in explaining differences in East-West and East-East cross-border labour flows. Minorities and people with higher education have been less likely to work in Finland or Sweden. Younger people have been more mobile in the case of both East-East and East-West flows and there are no statistically significant differences in age groups between the two groups of neighbouring countries. The results of the study also indicate that East-East and East-West flows do not differ on the basis of gender once job categories are controlled for.

East-West labour flows are statistically significantly more likely to be characterised by lower-educated workers in fields such as construction, agriculture, manufacturing and production and customer service. East-East flows are more evenly distributed between managerial professions and more likely to

be characterised by occupations that require higher education. In addition, labour flows to wealthier neighbouring countries are characterised by significantly shorter durations of job posts. More than 60% of people involved in cross-border labour mobility worked in wealthier neighbouring countries for less than a year. Our results are consistent with previous empirical studies of cross-border labour flows (Huber 2011; MKW Wirtschaftsforschung 2009) indicating that international labour mobility in the case of Estonia as a small country with post-socialist path-dependence follows similar patterns compared to cross-border labour flows between larger and also richer countries and regions.

The results of the study allow us to argue that the possible consequences of cross-border labour mobility are twofold. On the one hand, cross-border labour mobility may support the economic development of both source and target country. For instance close proximity of wealthy neighbouring countries (like Finland and Sweden) provides opportunities for Estonian workers to significantly increase their income and to avoid unemployment, particularly in the rural areas, and thereby diminishes pressure on the Estonian social system. The neighbouring countries Latvia and Russia mainly attracted better educated and well qualified Estonian workers, who got new challenges for developing their skills and obtaining experience of working in a new business environment. As a rule, such workers also earned salaries above the Estonian average thereby creating good preconditions for some new consumption demand in Estonia. Cross-border labour mobility also provides possibilities to create new business networks and to get new working skills and experience that can be useful for continuing working career after returning to home country. Thus, in that sense cross-border labour mobility has a positive impact on the economic development of both source and target countries. But one the other hand, cross-border labour mobility provides some concern of brain waste taking into account the sharp increase of lower-skilled jobs of Estonian people who are working in economically well-developed neighbouring countries Sweden and Finland. People who are working in economically more developed countries have often jobs that are below their qualifications.

In conclusion, to achieve the expected win-win situation of the increasing international labour mobility, policy measures that reduce possible skill mismatches and brain waste and create favourable preconditions for effective skills exchange and return migration should be further elaborated and implemented. The packages of socio-economic policy measures should beside others include comprehensive and supportive information for potential return migrants about possible working and living conditions in home countries and regions, advisory services that support adjustment of all family members in new working and living environment, working places for spouses, suitable conditions for children in kindergartens and schools, language support for children and spouses if necessary, psychological services, etc.

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GEORGIA: ENTREPRENEURIAL ECONOMY – ENTREPRENEURSHIP EDUCATION

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Abstract

Entrepreneurship and innovation are basics of firms' and countries' competitiveness, economic development, and economic growth. Entrepreneurial economy roots in entrepreneurship education. In modern societies the role, function and mission of universities have been changed dramatically. With their traditional function of teaching / training and R&D, universities have to take the lead in the knowledge / technology transfer process. The best organization form to realize new mission is University Business Incubator model (UBI). UBIs operate as a bridge between entrepreneurial economy and entrepreneurship education. The article analyses entrepreneurship characteristics of Georgian economy and current situation on UBIs. The road to future actions are proposed.

Key words: *entrepreneurial economy, entrepreneurship education, university business incubator, Georgia*

JEL code: A20

Introduction

The World Bank sent the clear message to the government of Georgia, "The central challenge today for the government of Georgia is to find sources of long-run economic growth, particular through private sector development" (Fostering, 2013; p. 15). Georgia's economy is largely private sector economy. In 2011 the share of non-state enterprises was 99.3% of all registered enterprises (Entrepreneurship in Georgia, 2012). In this case, private sector development as a goal of the government policy has the only meaning – the shift to entrepreneurial innovative economy.

The array of surveys concerning doing business in Georgia shows that on business side there is a high unsatisfied demand for educated and skilled workforce, while on another side – education system that works "for itself" producing and supplying graduates without market-oriented skills. Besides the serious reform in education, the situation demands the creation of effective link between business and academic institutions. This function of being a bridge between education system and businesses, can be done by University Business Incubators (UBIs).UBI is a channel though which education can be directly transfer to business.

The importance of UBIs is widely recognized. In 2013 the first globally University Incubator Benchmark (UBI Index) was developed. Global index is used to benchmark performance and best practices of University Business Incubators (http://ubiindex.com/global-top-list-2013/).

The establishment of the UBIs is not a simple process and requires a complex analysis and research. Numerous factors (such as general business environment and SME sector in the country, quality of education and business education, existed links between business and academic communities, government special programs on business incubators and small business support, readiness of university and their students and their ambitions, etc.) should be discussed before making the decision.

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The aim of the article is to analyse the entrepreneurial characteristics of Georgian economy and to build background for further development of entrepreneurial economy and entrepreneurship education through one channel – University Business Incubators. The research includes brief overview in regard to UBIs in the country. Based on international experience, the foundations of UBIs and the road to further actions are defined.

The study applied both approaches – qualitative in some parts and quantitative in the others. The qualitative approach was used to collect data from surveys, interviews, study reports, statistics data.

Entrepreneurial economy in developing countries: particularities

Theories that are dealing with entrepreneurship come mainly from three different disciplines: psychology, sociology, and economics. Psychologists interested in identifying the personal characteristics of entrepreneurs. Sociologists have been looking into behavioral aspects of the entrepreneurial personality. Economists look at the effect of entrepreneurship on economic development, or, in other words, on application of growth theories within the entrepreneurial context.

At the center of the entrepreneurial activity or entrepreneurial process is an individual, an entrepreneur, who acts as the economic factor that creates new value through three ways: combining the factors of production, exploitation of opportunities, and risk taken. Therefore, the entrepreneur should be able to (1) identify market opportunity (or gap left in the market); (2) lead, direct or manage the process; (3) acquire the necessary resources (e.g. money, people, materials, knowledge and skills) (Hassid and Komselis, 2007; p. 40-43).

The literature distinguishes between *necessity-driven entrepreneurship* and *opportunity-driven entrepreneurship* (Kelley, Singer, Herrington; 2012) or the similar, *entrepreneurship "of need"* and *entrepreneurship "of opportunity"* (Hassid and Komselis, 2007; p. 46). Behind the last is the force that pushes the entrepreneur to undertake risk because of financial reasons or might also stem from a need to achieve something like fulfill one's dreams, ambitions, or to be successful. As for *entrepreneurship "of need"* which is more common in transition and developing countries, entrepreneurial activities result from a variety of reasons, for instance, employment discrimination, that make an individual become self-employed. Self-employment is the only choice that remains for the individual to reverse the financial situation under which he or she suffers.

Entrepreneurial activities is very closed and may be measured by innovative activities. Innovation is a complex system that can take many diversified forms, including commercialization of science and technology as well as the development and implementation of new ideas more generally, as in the form of organizational change or inventing new ways of doing things (Napier, Serger, Hansson, 2004; p. 28).

Therefore, for a society that is looking to be entrepreneurial and to experience economic growth through entrepreneurial activity, it is important to cultivate people's entrepreneurial culture or propensity. The background is created by entrepreneurship oriented education.

Entrepreneurship in Georgia

Evaluation of entrepreneur/innovative activities in Georgia is based on surveys. The last international survey was conducted by the World Bank. The 2012 World Bank Entrepreneurship Survey, that covers 300 firms between 2 and 10 years old. Evaluating *"introducing new products or services in the previous three years"* (product innovation), only 7 percent of Georgian respondents indicated that they had. No products or services were new to the world markets and around 50 percent of products or services were new to the Georgian market. For Georgian enterprises the most common innovation was the use of new methods of production, and the least common were innovations in logistics, supply chain, delivery or distribution of inputs, products, or services (Fostering, 2013; p. 37). Because the vast majority of the

goods and services produced by the Georgian firms were the same or modification of existing products, there was no innovation in terms of new market creation. More than 90 percent of surveyed firms in Georgia sell to local or regional markets; and they sell 75 percent of their total turnover on local or regional markets. Only 11 percent of businesses sell internationally but about half of their total products. More than 90 percent of Georgian firms surveyed had no research and development (R&D) expenditures in the previous five years and did not plan them in the next years. (Fostering, 2013; p. 28, p. 30).

Despite the fact, that nowadays entrepreneurship and innovation are a big issue for Georgian economy, we can be quite optimistic because the country has a solid base for future entrepreneurship development in terms of human resources: long tradition of higher education including business education, an army of self-employed, and numerous small and medium enterprises (SMEs).

It should be underlined once again, in developing countries like Georgia, where the wealth distribution is highly unequal and unemployment is high, most part of micro and small businesses are established in order to earn some income and to fight poverty rather than to exploit opportunities.

Labor statistics depicts the stable situation in the labor market in terms of employment and unemployment (Table 1). In other words, despite the successful FDI policy and impressive GDP growth in 2006-2007 (9.4% and 12.3%, respectively), and the 2010-2011 recovery (6.3% and 7.2%, respectively), with about 7% in 2012 (GeoStat), there is still a limited pool of job opportunities available.

Table 1

Employment and unemployment in Georgia

	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Employed, thousand persons	1744.6	1747.3	1704.3	1601.9	1656.1	1628.1	1664.2	1724.0
Unemployed, thousand persons	279.3	274.5	261.0	315.8	335.6	316.9	295.1	305.1
Unemployment rate, percentage	13.8	13.6	13.3	16.5	16.9	16.3	15.1	15.0

Source: Geostat
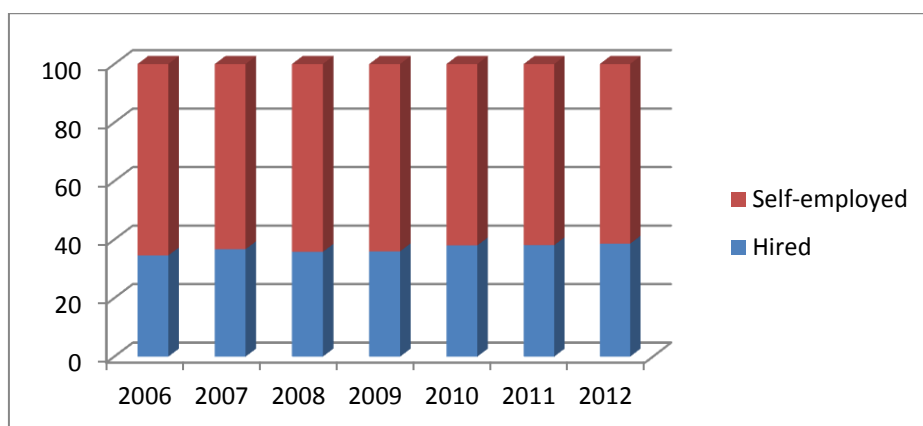
Source: Geostat

Fig. 1. **Distribution of employed**

This "jobless growth" or "paradox of growth" causes, first of all, high self-employment which the department of statistics considers as employment (Figure 1). Specifically, at least from 2006 (and there is no reason to expect that the situation was different before) the share of self-employed was higher than hired or more than a half of all employed were self-employed. This fact means that an entrepreneurial mindset exists in Georgia. The older population (60 years and above) is more engaged in self-employment (27 percent of all) while group of 40-60 age old that includes the most active part labor force, is the largest – about 42 percent (Geostat).

Another survey proves that Georgians have a strong entrepreneurial spirit: around 92 percent of surveyed individuals said they would like to be self-employed, and roughly 51 percent believed it would be feasible in the next year (Natsvlishvili, 2011). Therefore, in Georgia the only reason for self-employment and entrepreneurship is the alternative to be unemployed! Weak labor market causes the numerous sector of micro and small enterprises (Figure 2). Even till now there is no legal definition of SMEs, the new Tax Code of Georgia which entered into force in 2011, stipulates a new specification of businesses in Georgia as: micro, small, medium, and large based on workforce and annual turnover output (Tax Code of Georgia; p. 115-117).
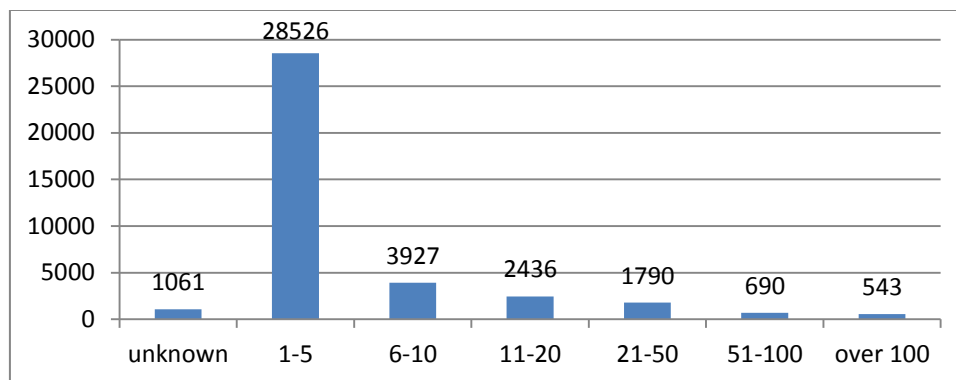
Source: Geostat

Fig. 2. **The number of enterprises by number of employees (2011)**

Despite SMEs constitute a considerable number of business enterprises in Georgia (in 2011 more than 96%), an inadequate growing of SMEs quality relevant to SMEs number, should be emphasized specially. In other words, SMEs have constituted an insignificant segment of Georgian economy according to their contribution to the main macroeconomic indicators – turnover, output, value added, national income, and even employment (Table 2).

Table 2

The share of SMEs in main macroeconomic indicators, percent

	2008	2009	2010	2011
Registered enterprises	95.6	95.0	95.7	96.0
Turnover	12.3	15.6	16.1	19.9
Output	14.3	18.5	18.4	17.3
Value added	14.6	18.7	19.3	21.8
Employment	37.5	39.6	41.2	43.4

Source: Author's compilation and calculation based on data of GeoStat

Thus, small business development and growth would be achieved only through encouraging firms to entrepreneurial/innovative activities. Georgia society has to realize the existing opportunities in terms of self-employed people and numerous SMEs, and has to work out the specific polices to improve effectiveness and efficiency of this sector of economy. One of the related dimensions of the policy should be the further reform in education system.

Entrepreneurship education

Despite the serious reform in education, a skills gap between the labor force and the needs of real economy, still exists in Georgia (Papiashvili, Doghonadze, 2009; Papiashvili, 2010). Respondents of numerous surveys also prove this fact. Particular, *The Global Competitiveness Report 2010-2011* indicates "an inadequately educated workforce" as the most problematic factors for doing business in Georgia with 19.9% (The Global Competitiveness Report 2010-2011, p. 162). In the next year report this factor was ranked on the second place with 13.4% (The Global Competitiveness Report 2011-2012, p. 182). Situation did not change in the past 2013. In The Report "inadequately educated workforce" is ranked again on the second placed with 13.4% (The Global Competitiveness Report 2012-2013, p. 174). The last survey of International Financial Corporation shows the similar picture – uneducated workforce was among the most serious problems faced by businesses in Georgia (Georgia Business; 2012). According to *The 2012 World Bank Entrepreneurship Survey* stakeholders cited inadequate skills as a key hindrance to developing local industry (Fostering, 2013, p. 58).

The further reform in Georgian education system is a topic for future research, and this article focuses on possible links or a bridge between real business and academic education institutions. As international experience shows, University Business Incubators (UBIs) can play this role. Nowadays, UBIs attracts attention of business communities and public in different countries but not in Georgia. Leading Georgian universities both state (Tbilisi State University, Georgian Technical University, Tbilisi State Medical University, Ilia State University, the others) and private (Free University of Tbilisi, Caucasus University, International Black Sea University, Georgian University, Georgian-American University, the others) have established training and research centers, special labs and institutions, business clubs, business competition and conferences, the like through which they connect local business and communities. But none of them has got UBI as a part of organization structure. Just some experience exists, for instance, Georgian Technical University in 1999 participated in an international project "Research of and opportunities of creation of small business incubator" (www.gtu.edu.ge). In 2009 three-year Adjara Economic Development Project started in Batumi and local university, Batumi Shota Rustaveli University, participated in BI (http://www.bbi.ge/en/).

Unfortunately, the programs and projects on further reform of higher education do not include establishment of UBIs in the country (Country Implementation, 2011).

In fact, the situation with UBIs does not go as a surprise because even "typical" business incubators (BIs) are rarely in Georgia (Papiashvili, 2011). Moreover, summarizing Georgia's experience of BIs/UBIs establishment and operation, it should be said that all of them were (1) founded and financed by international organizations; (2) focused on support to small and particular group of population such as temporary displaced persons, women, minorities, etc.; (3) part of short-run programs or projects; (4) not be included into Georgian national strategy of business development and SMEs support; (5) not widely launched to public and business community.

Go ahead: Foundations of University Business Incubator

In modern society role and mission of universities have been changed dramatically. Nowadays with their traditional functions of teaching / training and R&D, they have to take the lead in the knowledge /

technology transfer process (Marques, 2009; p. 124). This new function might be realized through University Business Incubator model. In this way, the gap between university and industry can be bridged.

Worldwide many universities are operators and promoters of UBIs as well as they are vital participants in setting up and running incubators (Huffman,& Quigley; 2002); Etzkowitz, 2002; Rowe, n/d); Etzkowitz, Webster, *et al*, 2000; Hong Kim, 2010). In other words, uuniversity incubators provide two services to their clients: incubation-related services, and university-related services (Mian, 1996). The university-related services include a number of diversified services to new entrepreneurs and established companies, including shared office space, photocopiers, fax, security and receptionist services; plan development; counseling on starting a business; consulting services related to accounting and bookkeeping, marketing, finance, strategic planning, operating management, site search, etc.; government contracting; student interns for business projects; collaboration with faculty staffs and students, other. Even simple but so important for business services such as filling documents for registration a firm or sales tax application, or the documents for bank may be provided by University Business Incubators (http://www.iup.edu/page.aspx?id=128618).

Such cooperation between BIs and, usually, local university is very important and extremely beneficial for both sides (Factors Determining, 2006; p. 32-35). This is because being connected to a university allows the BI to have access to new ideas, technology and sometimes, to laboratory space they may not have had otherwise. Special opportunity to business is an access to a high trained workforce. Another advantage for BI to be linked to the university is the opportunity to attract potential new tenant companies. On another side, within the business incubator university students are able to work and to gather experience that is very important for their future job perspectives.

Because University Business Incubators usually focus on newly started companies run by students or newly graduates from the university, the students become a part of creative and stimulating environment. UBIs get students to be more interested in entrepreneurship and helps them to develop and commercialize their business ideas through educating the students in the field of entrepreneurship and business start-up development; giving business advices to the students with all kinds of business innovations (Bathula , Karia, Abbott, 2011; p. 4). When the students have a business idea that they would like to develop or are discussing about how to start own company, the business incubator is the place experienced counseling could be shared. It does not matter what idea is about if it's a product or service. Students are able to free of charge get confidential counseling and guidance and the business incubator staff always tries to give them advice which can help to take students and their ideas forward. UBIs have large network of other useful organizations as well as different professional business partners to guide students. Besides, many universities during semesters arrange lectures and seminars concerning different matters in the field of entrepreneurship and business development. These lectures are delivered by invited guest speakers who are the experts in the specific fields.

Special importance for local communities and businesses have technology incubators which have a large field to identifying, creating and commercializing intellectual property (Kitagawa & Robertson; 2012; Rowe, n/d).

Comparisons of "typical" BI and UBI shows that UBIs are established to provide support to new knowledge-based venture through commercialising university research by transferring of scientific and technological knowledge from universities to companies. UBIs usually have materiel and human resources that are expensive and not available to small businesses. As a result, a new type of university is forming – entrepreneurial university or the third generation of BI has been born (Marques, 2009).

To check the hypothesis about importance of UBIs, face-to-face interviews with key persons were conducted in January-February of 2014. Twelve professor and associate professor of education, social sciences, business administration, and law faculties of six Georgian universities (International Black Sea University, Ivane Javakhishvili Tbilisi State University, Gori State Teaching University, Guram Tavartkiladze Teaching University, Georgian Technical University, Free university of Tbilisi) were asked opinion questions. They proved the assumption that in Georgia the affiliation with the university, faculties,

students and local businesses is very weak (with mean score 1,875 while the standard 5-point scale was applied when 1 – doesn't exist; 2 is weak; 3 is moderate; 4 is high; 5 is very high). But the role of business incubators (BIs) in boosting domestic economy was evaluated very moderately (2-3 mean score, when 1 – not important at all, 2 – moderately important, 3 – important, 4 – very important, 5 – extremely important). Most respondents believed that the function/mission of a university business incubator (UBI), serving as a bridge between local businesses and education institutions is very important. Ranking the services provided by UBIs, the respondents evaluate with the highest rank marketing/management services provided by UBIs (mean score 4.5). Very important is also training opportunities for entrepreneurs (mean score 4.375). Next are consultancy, direct finance/fund raising, acquisition of business contacts (4,125 mean score).

Conclusions

In knowledge-based economy entrepreneurship and innovation are recognized as one of the crucial components of firms' and countries' competitiveness, economic development, and economic growth. Entrepreneurial economy roots in education system. Thus, the role, function and mission of universities in modern societies have been changed dramatically. With their traditional function of teaching / training and R&D, universities have to take the lead in the knowledge / technology transfer process. The best organization form to realize this new function and mission is University Business Incubator model. UBIs operate as a bridge between entrepreneurial economy and entrepreneurship education.

The importance of BIs/UBIs for national economies, local businesses and communities, universities are widely recognized but not in Georgia. Unfortunately, even leading Georgian universities both state and private have not had UBIs as a part of their permanent organizational structure.

What should be done in such a situation? First of all, academicians have to attract attention of Georgian community, businesses and government to BI/UBI problem through:

1) analysis of international practice on advantages/disadvantages of BIs/UBIs;
2) launching of advantages of UBIs for all stakeholders as well as warning against possible difficulties;
3) research of perspective of establishment of UBIs in Georgia;
4) encouraging businesses and universities to establish BIs/UBIs by promoting incubation idea;
5) special government programs to support startups, financing, and management of the BIs/UBIs;
6) international support providing with related projects and grants.

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FINANCIALIZATION IN TRANSITION:
A CRITICAL ANALYSIS FROM THE PERSPECTIVE
OF INTERNATIONAL POLITICAL ECONOMY

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Abstract

The paper presented below intends to investigate how structural reforms applied in the transition processes of the centrally planned economies from Central and Eastern Europe into to market economies promoted their financialization. According to Epstein (2002) financialization "*refers to the increasing importance of financial markets, financial motives, financial institutions and financial elites in the operations of the economy and its governing institutions, both at the national and international levels*". Its origin dates back to the reforms carried out in several countries during the last years of the 1970 decade, beginning a process of profound structural change. Lapavitsas (2009), states that the expansion of the financial instruments, more sophisticated means of communication and the progress in global economic integration provided the opportunity to agents engaged in the financial sector to get high returns made in the process of circulation of capital, to the detriment of other sectors. Thus, financialization represents a structural shift in the global economy in which the financial sector gains a greater influence on the overall economy.

In addition, it is argued that this process of financialization of the CEE should be analyzed in the context of global-historical trends and that external agents played a key role in the determination of the direction and policies applied.

Key words: *Transition; financialization; International Political Economy; Structural reforms*

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Introduction

The demise of the Union of Soviet Socialist Republic is, in many respects, one of the most important economic, social and political phenomena of the twentieth century. This event not only produced a diametric shift in the balance of power relations at the international level, but also led to the emergence of 15 new states representing, of course, 15 new national economies. However, the change was not limited only to the number of countries that were part of the state, but also to all those who were under its sphere of influence. Thus, the last decade of the previous century has witnessed the greatest simultaneous political, economic and social reconfiguration of which human history has ever noticed.

In this scenario of global structural changes (and, in a large extent, also as a cause and consequence of it) the fall of the USSR caused the conclusion of the Cold War. Both conditions allowed the advance of the new ruling political and economic doctrine, the neoliberalism, over many regions of the world (Anderson, 2003; Dragos and Evans, 2009). Among these regions were included those states that emerged or recovered its sovereignty after the collapse of the USSR. In the field of

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economic history, this is the period widely referred as the beginning of the transition, during which most of the former centrally planned economies engaged in deep transformation to become market economies.

Nonetheless, it is worth to ask what the features of this transition policies and objectives were. After the fall of the Soviet Union there have been numerous scientific works on the causes of this collapse, and the transition and evolution of formerly centrally planned economies from Central and Eastern Europe (CEE). However, the majority and the most influential of the works in the economic field have been made from an orthodox neoliberal theoretical perspective (Shields, 2012). It can be pointed that these works have at least two major limitations: first, they intend to explain and analyze the fall of the regimes focusing mainly on national or regional approach, regardless of the influence of the global context and the international trends. In second place, connected to the previous argument, their analysis of transition processes is extremely ahistorical. That is, they do not consider the characteristics, goals and instruments of the transition as a product of a particular moment in the history of economic thought and the development of the global economy, but as the only possible and universal alternative.

In this context, the aim of the present paper is to question these two conceptions arguing that the financialization of the global economy and the advance of neoliberalism, considered as global-historical processes, are critical to understand the evolution and features of transition. In other words, it is argued that under the political framework of neoliberal policies, the former centrally planned economies from Central and Eastern Europe became highly financialized, and this feature was the leading force in the process of transition. In this sense, as Gabor (2012: 228) points out that "the early period [of transition] could be read as a first stage in the financialization of the CEE economies [...]".

Therefore, in order to meet the proposed objectives, the research is developed from the perspective and methodology of Critical International Political Economy. It uses a multidisciplinary approach that includes contributions from political economy, sociology, anthropology, social history and political science (Shields, 2012; O'Brien, 2010). To develop the different levels of analysis quantitative and qualitative techniques are used. For quantitative data the sources used are macroeconomic indicators from public and private databases and statistical series. For qualitative analyses economic policy and regulations issues will be addressed.

It is considered that this research can make a valuable contribution to the critical analysis of the transition undertaken by the CEE economies. In addition, it is expected to be helpful to understanding their current situations. To do this, in the next section the theoretical framework of transition and neoliberalism will be analyzed. After that, in the empirical section, the reforms implemented by the CEE will be discussed and the evolution of the main macroeconomic aggregates and their implications will be displayed. Finally, conclusions will be presented.

Discussing Financialization and Neoliberalism

Financialization is a concept that is still under development and has been explained and interpreted in different ways from different perspectives and even different disciplines. During the recent years a large body of literature has been developed mentioning it, sometimes not explicitly or using other similar terms. However, despite the heterogeneity of the debate, if there is consensus that this is a phenomenon that belongs to the political economy and is precisely from this field which have been made and most of the major theoretical contributions.

The american sociologist Greta Krippner (2005) gives a valuable discussion of the history of the term, summarizing the initial discussion and addressing several of the most influential definitions[2]. Following her exposition, it comes out that some authors used the term to emphasize the ascendancy of shareholders (*"shareholder value orientation"*) as a transforming element in the governance and corporate behavior (Fruod et al, 2000; Lazonick and O'Sullivan, 2000; Crotty, 2003). Other scholars used this term to refer to a new financial system model led by capital markets rather than banks (Phillips, 2002). Meanwhile, some researchers suggest that financialization implies the constitution of a political and economic international power wielded by a new global financial bourgeoisie (Dumenil and Levy, 2004; Epstein and Jayadev, 2005). Probably, the largest group of authors refers to financialization as a new pattern of accumulation in which profits are produced through financial channels rather than through the production and trade of tangible goods (Arrighi, 1994; Aglietta, 2000; Boyer, 2000; Krippner, 2005; Lavioe, 2008).

Lapavitsas (2009, 2011, 2013), Sotckhammer (2010) and Palley (2007), meanwhile, linked this concept to a process of structural change that has developed over the past four decades, which has been a shift in the relationship between financial and industrial capital. As a summary, Van Treeck (2009) makes an interesting contribution systematizing and categorizing the main contributions of this debate. In his view, there are two large groups of positions among the authors who have addressed the issue. On one side are those who perform what he called "firm-centered analyzes". Those authors explain the nature, characteristics and dynamics of financialization taking business units and their respective behaviors as their independent variable. On the other hand, Van Treeck notes that there are those researchers focused on structural aspects analysis. That is, these authors explain the emergence, evolution and consequences of financialization as a process involving several sectors and taking economic and social aggregated variables rather than analyzing individual cases.

Summarizing, the current research follows the definition of Epstein (2002), for whom financialization "refers to the increasing importance of financial markets, financial motives, financial institutions and financial elites in the operations of the economy and its governing institutions, both at the national and international levels". Its origin dates back to the reforms carried out in several countries during the last years of the 1970 decade, beginning a process of profound structural change. According to Lapavitsas (2009), since then, the expansion of the financial instruments, more sophisticated means of communication and the progress in global economic integration provided the opportunity to agents engaged in the financial sector to get high returns made in the process of circulation of capital, to the detriment of other sectors.

As already stated, it is considered that financialization represents a structural change in the relations of production and interests arising from it. But financialization cannot be fully understood and explained ignoring its links with the neoliberal political doctrine. In fact, both are understood as different aspects of the same process. While financialization is associated with structural changes in the global economy and changes between sectors that compose it, neoliberalism addresses the institutional and political transformations. In this regard, following the principles of political economy, which derives the international political economy, it is argued that the economic and the political phenomena cannot be separated in their analysis in order to achieve their full understanding.

Regarding the conceptualization of neoliberalism, there is no official document that formalizes its guidelines (Williamson, 1990, Brenta, 2002). However, it is possible to identify a storyline originated in "The road to Serfdom", published in 1944 by Friedrich Hayek, which has laid the foundation for later conceptualizations (Anderson, 2003). Since then, this doctrine has had a long development, but its success as a global hegemonic model came with the fall of the USSR. In the context of the unipolar world that emerged after the Cold War Now, the freedom of action of the peripheral countries became much more restricted and the aim of the new global power was to take over their economies. There

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[2] For a further development, see Erturk et al. (2008).

were two groups of countries that, from the late 1980s and early 1990s, came to be under the neoliberal political influence. On one hand, there were the third world countries, which were burdened by their stagnation and external debts. On the other hand, there were the newly independent republics formerly under centrally planned model, that since the beginning of the 1990´s were incorporated into the capitalist world.

The roadmap to carry out this process of transitions and convergences is reflected in the so-called "Washington Consensus". In this regard, the implementation of structural reforms promoted by neoliberal economic policies is the crystallization of the domination of financial interests over other economic sectors in developed countries, mainly in the United States. In this context, it is possible to identify a set of policy instruments orientated on the consolidation of this dominion in the new countries, on which by various economic and political actors who have their headquarters in Washington reached "consensus". These actors were the Congress of the United States, the executive branch of the U.S. government, the international financial institutions (particularly the IMF and WB), the agencies of the U.S. federal government, the Federal Reserve, the U.S. Treasury Department and major neoliberal "think tanks".

Concretely, the Washington Consensus agenda prescribed policies focused on macroeconomic stabilization, economic opening with respect to both trade and foreign investment, and market expansion at the expense of state´s attributions. It was underpinned in three main concepts: Liberalization, Deregulation and Privatization. In order to meet these goals, the program included ten specific policy recommendations. They were: I. Fiscal discipline; II. Prioritization of public spending; III. Tax reform; IV. Interest rates liberalization; V Exchange rates liberalization; VI. Trade liberalization; VII. Liberalization of foreign direct investment; VIII. Privatization of state enterprises; IX Deregulations and greater flexibility; X Legal security for property rights.

In brief, the goal of the Washington Consensus policies was to harmonize the economic relations of emerging economies and the new capitalist economies with the economy of the United States, new global hegemonic power. Financialization, liberalization and deregulation of national financial and goods markets would open a stage of endless possibilities of making profits for major U.S. operators who will advance over these new territories.

With the beginning of the transition the Washington Consensus policies were applied with almost no exceptions in all the former centrally planned economies. Gabor analyzes the role of theoretical debate and the influence of international institutions as determinants of the framework for the diagnosis and implementation of economic policy prescriptions in the transition economies. In her words "The deployment of the excess demand narrative structures policy options in three interrelated domains, excluding characteristics of the productive system that would have radically altered the policy agenda. It contributed to a qualitative shift in the relationship between the financial and the productive sector that increasingly resembled the changes in the U.S. economy described by Crotty (2003), in which impatient finance abandoned its commitment to long-term financing of manufacturing activity, forcing a change in the behavior of large non-financial corporations" (Gabor 2012: 238). In her analysis, the application of economic policies associated with the macroeconomic diagnosis of excess demand, such as the theoretical framework of the WC did, was the main factor in promoting the financialization of transition economies. In turn, Gabor highlights the role of the IMF and the respective central banks of each country in this process: "Formerly planned economies offer an interesting terrain to explore how narratives about macroeconomic stability map onto processes of financialization. Since neoliberal approaches to economic management assigned the central bank a key role in reconstituting the economic space in the "first stage of transition," the excess demand narrative was crucial for translating the priorities financialized capitalism […]".

Empirical analysis on transition

After the collapse of the USSR, a total of 28 countries undertook their processes of political social and economic transformation. As mentioned above, most of them have done it under the neoliberal paradigm. Table 1 shows a summary of the main reforms implemented in the context of liberalization and deregulation of markets and reforms in the financial sector framework.

Table 1

Summary of main structural reforms in transition economies

Country	Liberalization and deregulation					Financial sector		
	Current account conver-tibility	Controls on inward direct invest-ment	Interest rate libera-lization	Exchange rate regime	Wage regula-tion	Capital adequacy ratio	Deposit insu-rance system	Private pension funds
Albania	full	no	full	floating	No	12%	yes	yes
Armenia	full	no	full	floating	No	12%	yes	no
Azerbaijan	full	no	full	managed float	No	12%	yes	no
Belarus	limited	yes	limited de facto	managed float	Yes	8%	yes	no
Bosnia and Herzegovina	full	yes	full	currency board pegged to euro	No	12%	yes	no
Bulgaria	full	no	full	currency board	Yes	12%	yes	yes
Croatia	full	no	full	managed float	No	10%	yes	yes
Estonia	full	no	full	Eurozone	No	10%	yes	yes
FYR Macedonia	full	yes	full	de facto fixed to euro	No	8%	yes	yes
Georgia	full	no	full	managed float	No	12%	no	yes
Hungary	full	no	full	floating	No	8%	yes	yes
Kazakhstan	full	yes	full	pegged to US dollar	No	12%	yes	yes
Kyrgyz Republic	full	no	full	managed float	No	12%	yes	yes
Latvia	full	no	full	Eurozone	No	8%	yes	yes
Lithuania	full	no	full	currency bo-ard in ERM II	No	8%	yes	yes

Country	Liberalization and deregulation					Financial sector		
	Current account conver-tibility	Controls on inward direct invest-ment	Interest rate libera-lization	Exchange rate regime	Wage regula-tion	Capital adequacy ratio	Deposit insu-rance system	Private pension funds
Moldova	full	no	full	managed float	No	12%	yes	yes
Mongolia	full	no	full	managed float	No	17% (2006)	yes	no
Montenegro	full	no	full	unilateral euroization	No	10%	yes	no
Poland	full	no	full	floating	No	8%	yes	yes
Romania	full	no	full	managed float	Yes	12%	yes	yes
Russia	full	yes	full	managed float	No	10-11%	yes	yes
Serbia	full	no	full	managed float	No	8%	yes	yes
Slovak Republic	full	no	full	Eurozone – floating	no	11%	yes	yes
Slovenia	full	no	full	euro floating	Yes	11.7% (2008)	yes	yes
Tajikistan	full	no	full	managed float	No	12%	yes	no
Turkmenistan	limited	no	limited de jure	fixed	Yes	10%	no	no
Ukraine	full	no	full	managed float	No	10%	yes	yes
Uzbekistan	limited de facto	yes	limited de jure	crawling peg	Yes	10%	yes	no

Source: author's construction based on European Bank for Reconstruction and Development.

As noted, with the exception of a few countries (Belarus, Turkmenistan and Uzbekistan), all other applied the reforms contained on the Washington Consensus's agenda. Among them, it can be highlighted the liberalization of interest rates, in order to keep them positives and to attract foreign capital; the current account convertibility, allowing free flow of capital to and from abroad; the redefinition of the exchange rate, seeking to make it more suitable to the financial interests, the deregulation of labor market and foreign investment; and finally, the development of a very flexible financial system, highly attractive to foreign firms operating in the sector.

Moreover, the beginning of the transition showed common patterns for all countries that applied neoliberal structural reforms. The first and most evident effect was a sharp drop in the output (Campos and Coricelli, 2002). Since the beginning of the transition until its lowest point the average GDP in Central and Eastern Europe (CEE) (Figure 1) suffered a decrease of 28 percent, considerably lower than in the countries Baltic (43 percent). Even worse was the situation of the other countries that were part of the USSR (OFSU –

excluding the Baltic´s). There GDP fell 54 percent and the crisis was longer: the product evolution reached its minimum in Central and Eastern Europe, in 1993; in the Baltic countries, in 1994, and OFSU, in 1998.

Despite the beginning of the recovery cycle from those years on, most countries failed to reach the pre-transition levels until the next decade. In 1998, six years after starting the reforms, the countries from Central and Eastern Europe had recovered at least 90 percent of its pre-transition production level, while figures for the Baltic countries and OFSU were 70 and 60 percent, respectively.
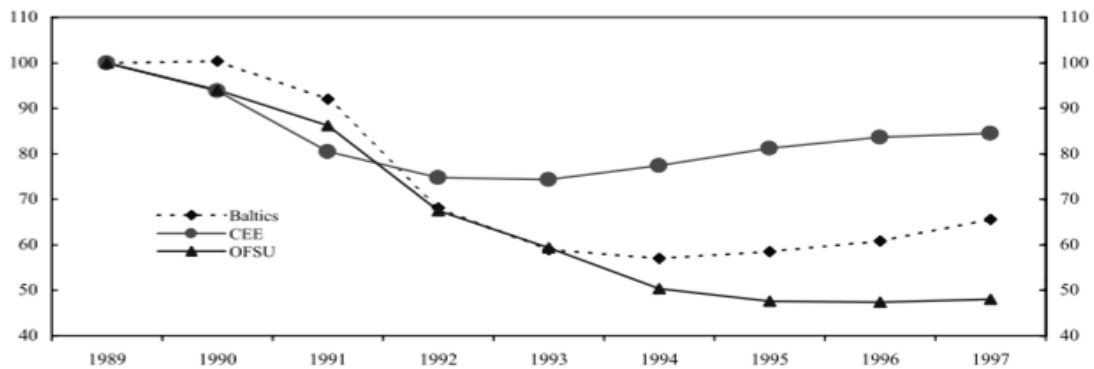
Source: author's construction based on FMI.

Fig. 1. **Evolution real GDP (1989=100)**

On the monetary side, Fischer and Sahay (2000) noted that most countries began the transition process with "excess liquidity" and they "needed" for price and exchange regime liberalization. These measures were consistently applied. Under these circumstances, hyperinflation became a central element during the early stages of the transition, in what some scholars and protagonists called "shock therapy" (Klein, 2007). This contributed decisively to dismantle all previous economic and social relations, giving the possibility to build the new economic model on a *blank space*.
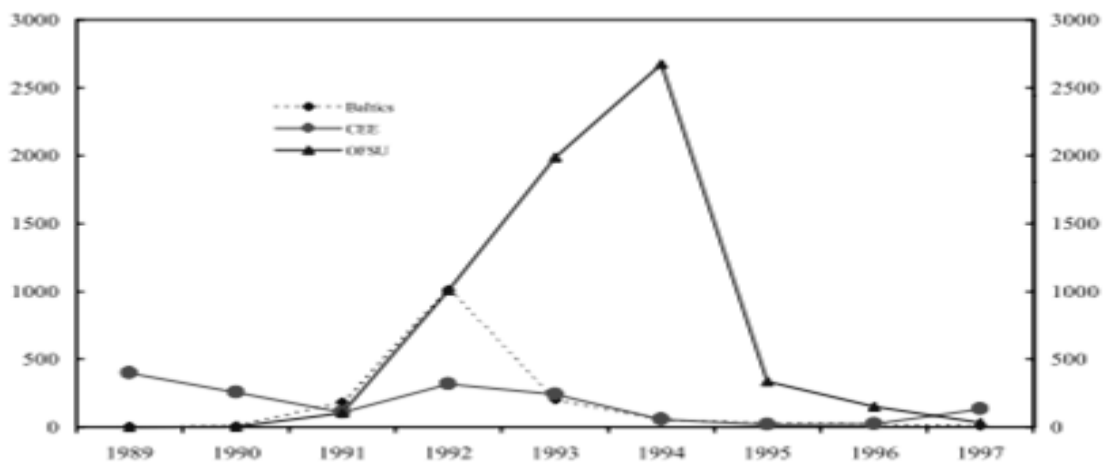
Source: author's construction based on FMI.

Fig. 2. **Average annual inflation**

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Now, once we have presented a very brief summary of the reforms applied is time to analyze its consequences.

The first effect can be observed is that, since the implementation of economic and institutional reforms, the gross national savings have dropped significantly. As shown in Figure 3, for the CIS countries[3], it went from 36% of GDP to 27.5%, i.e., falling approximately by a quarter. This drop is even more patent in the case of CEE countries[4], where the gross national savings decreased from 24% to 16% of GDP, falling by a third.
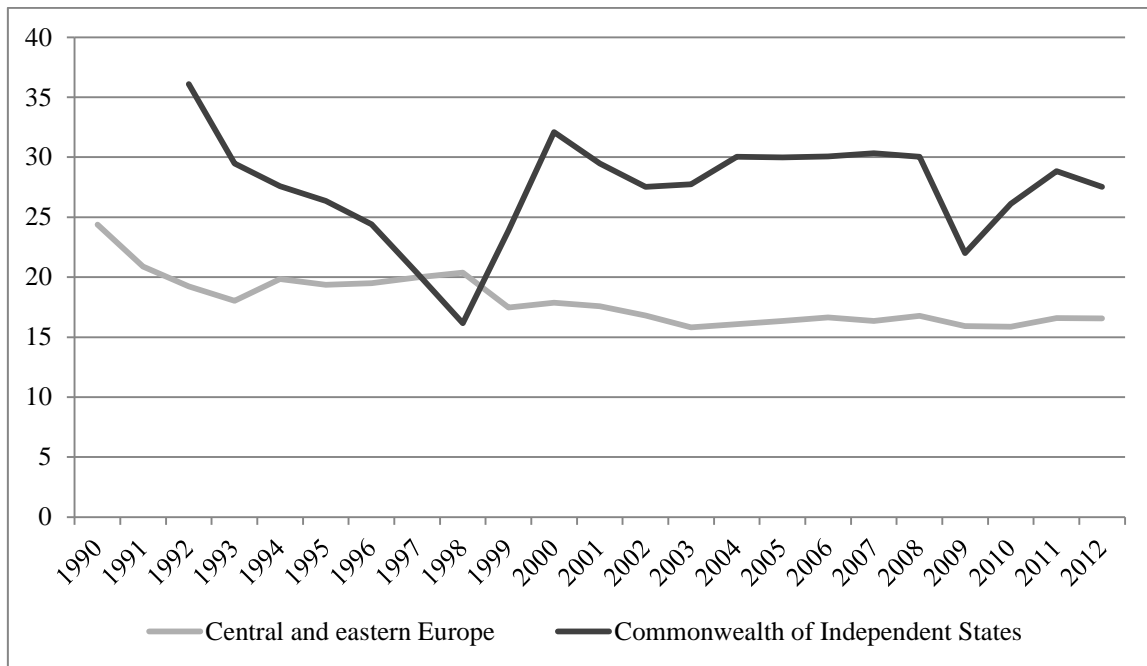
Source: author's construction based on EBRD, IMF, BM.

Fig. 3. **Gross national savings as % of GDP**

The second aspect to consider, especially for the countries of CEE, is the sharp increase in external debt, which doubled between 1990 and 2009. After a slight improvement between 2010 and 2011, it has resumed its upward trend, which shows that these economies begin to be seriously indebted to the rest of the world, including international financial institutions such as the IMF and conditioning its domestic economic situation.

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[3] The countries belonging to Commonwealth of Independent States are: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. Even though Georgia is not a member of the CIS, is included in this group due to geographical and economic reasons.

[4] The countries belonging to the Central and Eastern Europe group are: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, Kosovo, Latvia, Lithuania, FYR Macedonia, Montenegro, Poland, Romania and Serbia.
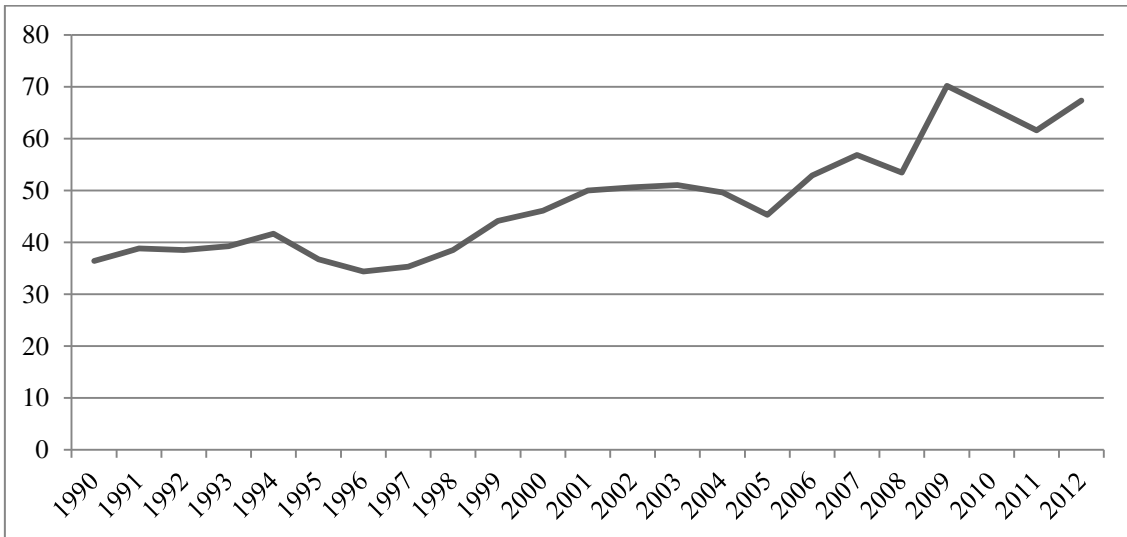
Source: author's construction based on EBRD, IMF, BM.

Fig. 4. **Evolution of External Debt CEE (as % of GDP)**

Simultaneously, it can be seen that the drop in gross national saving and increasing external debt has coincided with a structural deficit in the current account. This coincides with the argument of Epstein (2001) who stated that the financialization of the national economies favors sustaining greater and more lasting current account deficits.
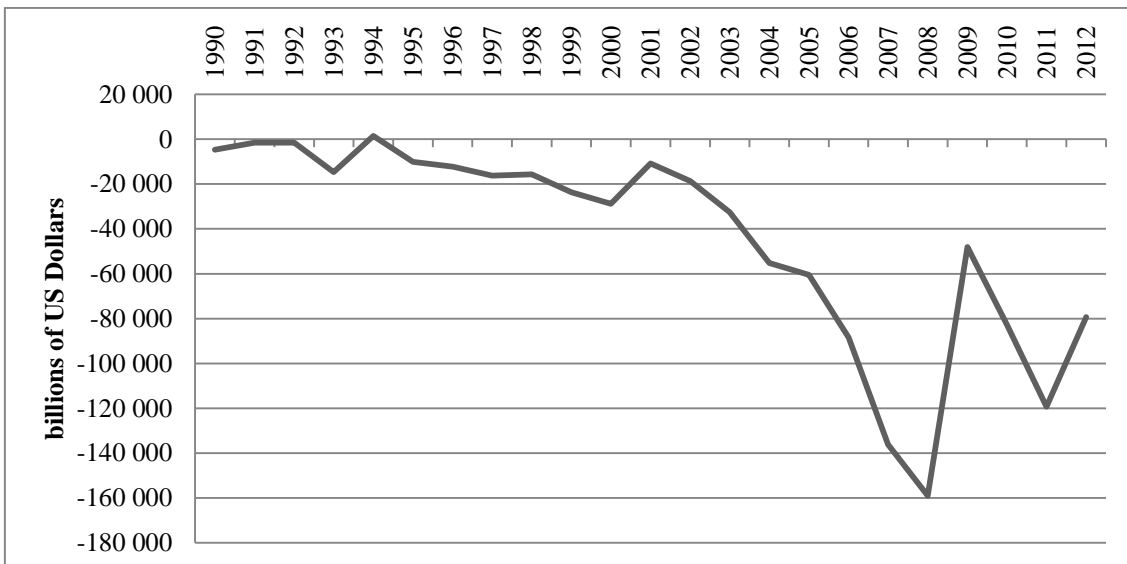
Source: author's construction based on EBRD, IMF, BM.

Fig. 5. **Current account balance CEE**

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Finally, Figure 6 shows a snapshot of the financialization of CEE economies. There is possible to observe that the growth of GDP at current prices was accompanied by the increase in external debt and current account deficit. In other words, the external debt was essential in promoting economic growth and, given the fall in gross national savings, much of it was destined to finance consumption. The inverse relationship between savings and debt, and between growth and current account balance, show that the CEE economies have financialised from 1990 onwards, a process in which the structural reforms implemented within the framework of the Washington Consensus have been the main cause.
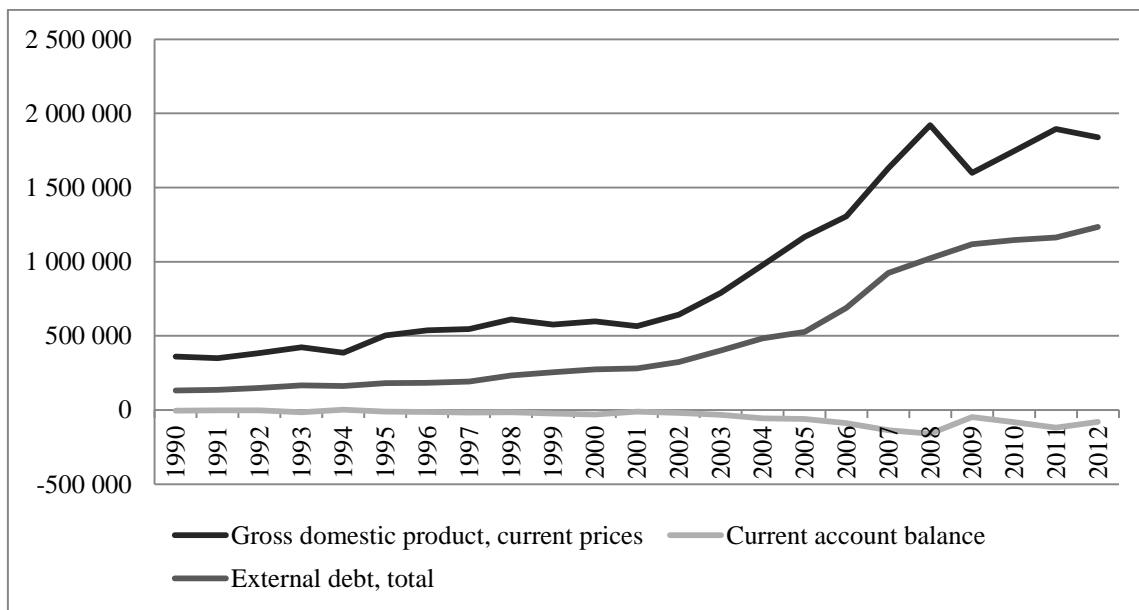
Source: author's construction based on EBRD, IMF, BM.

Fig. 6. **Financialization CEE (in billions of US Dollars, at current prices)**

Conclusions

1. The article shows that the orthodox and mainstream explanations on the collapse of European centrally planned economies and the subsequent analysis of their transitions have serious theoretical limitations. The main one is that their analyses are notoriously ahistorical and they don´t not take sufficiently into consideration the influence of the global context. The structural reforms in CEE included a set of policies that were in line with the hegemonic model and paradigms of the particular time when this process began, and it was developed following the prevailing trends in the global context. Besides, the transition was not just an individual process of the countries that undertook it, but external actors such as the IMF or the agents involved in the Washington Consensus played a key role in determining the direction taken. Thus, diagnosis, prescription and therapy were directly related to the interests, needs and goals of global financial agents.

2. These specific set of structural reforms applied favored the financialization of CEE economies. As it was shown, since the transition started, these economies became increasingly indebted, saving capacity of households was reduced and most of the external debt is used to finance consumption. The main finding is that in such economies economic growth is highly dependent on the domestic and

foreign debt. In other words, indebtedness is not a tangential resource but a key factor for promoting economic growth.

3. The main consequence is that due to these features, financialization increases the exposure of CEE economies to external shocks by two channels: commercial and, in particular, financial. This can be confirmed by deep impact that the international financial crisis of 2008-2009 had over CEE economies and their unstable and slow recovery since then.

4. Further research is recommended on how financialization in CEE affected specific micro and macroeconomic variables such as employment/unemployment, real wages, financial and non-financial corporate income and public spending, among other, both at the national and the regional levels.

5. In addition to that, developing comparative analysis in future research could be very valuable to determine the degree of financialization of the CEE economies compared to other regions and blocks in the world.

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LATVIAN PENSION SYSTEM: CALIBRATION BY CRISIS

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Abstract

The aim of the author was to identify and to study the social and economic factors that are currently shaping Latvian pension system and how these factors had been affected by crisis in short and long term. The author outlines the following major factors influencing Latvian pension system:

- depopulation due to both natural decrease and to massive emigration are leading to increase of old dependency ratio;
- income gap between Latvia and Western Europe: pre-accession expectations of Latvian people concerning rapid shrinking of the income gap between "new" and "old" Europe after joining the EU have not materialized;
- globalisation of labour market allows Latvians to use job opportunities abroad, and quite often their choice is motivated also by the reasons of better social guarantees in host countries;
- globalisation of financial market and volatility of financial instruments make the assets accumulated in pillar private pension funds very vulnerable to the risk of devaluation;
- high unemployment rates affect pension system in three ways – 1) large numbers of unemployment benefit recipients complicates discharging obligations to existing pensioners; 2) unemployed persons make small or none contributions to their own future pensions; 3) future pensions are reduced for all future pensioners including those having full employment through the mechanism of pension capital valorization;
- shadow economy causes considerable distortions in pension schemes: the undeclared work results in lower contributions gathered from the working population, and affects both present and future pensioners;
- low level of confidence that Latvian people credit to the state pension system increases the demand for pension reform.

Key words: *pension systems, public pension, crisis*

JEL codes: H55, H75, J32

Introduction

Pension systems and their participants are functioning in a complex and constantly developing socio-economic environment and have to tune themselves for those ever-changing conditions. Major systemic shocks like the recent crisis are serving as a very indicative test calibration of the overall security of a pension system and performance of its separate design elements. The aim of the author was to identify and to study the social and economic factors that are currently shaping Latvian pension 'terrain' (depopulation, globalisation of labour and financial markets, employment, public perceptions); how these factors had been effected by the crisis in short and long term; what participants of the pension system suffered most; and what lessons should be learnt and what measures should be taken in order to make Latvian pension system more secure. The author studies

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the statistical data from national (Central Statistical Bureau of Latvia, State Social Security Agency) and international (Eurostat) sources, publications of other researchers and examines changes in pension legislation driven by crisis.

Research results and discussion

1. Latvian pension system: design and participants

Pension system in Latvia has undergone cardinal reforms in 1996-2001 under the then mainstream paradigm of a) introducing of three-pillar systems; b) close linking the benefits to contributions, i.e. defined-contribution instead of defined-benefit schemes; and c) privatisation of public pensions via mandatory participation in private pension funds. These reforms were generally designed and supported by the World Bank and were adopted practically without wide debates in public space. After 2001, only minor amendments have been introduced.

Currently, the design of Latvian pension system is made up of two mandatory and one voluntary pillars. The first pillar pension benefit is earned by insured individuals by "directing" part of their social insurance contributions to the personalised notional pension capital account. No actual money transfer takes place, this capital exists only as a record in State Social Insurance Agency database, and the whole scheme is known as NDC: notional (or, in another abbreviation expansion, also 'non-financial') defined-contribution. The pension value is the sum of notional capital at retirement divided by the projected life expectancy at retirement age. In the case of early retirement that is allowed two years prior to official retirement age, the premature pension benefit makes 50% of an ordinary calculation (was 80% before July 1, 2009).

The accrued notional capital is annually valorised (uprated) in line with increase in the covered wage bill. These annual indices imitate the role of interest rates in funded schemes. When the total amount of wages on a nationwide scale drops below the last year figure – the interest rate is negative, and all prospective pensioners will suffer lower pensions. This mechanism was incorporated into the system in order to maintain financial sustainability in the times when the cardinality of cohorts entering the labour market is lower than the cardinality of cohorts retiring from the labour market, and it was anticipated that the constant growth in wage rates and labour productivity would neutralise the effect of decreasing working population and the index therefore would manage to remain above 1. Massive emigration, accompanied by wage-cuts and sharp rise in unemployment in the crisis years resulted in negative pension capital indexation in three successive years 2009-2011, and the average amount of a newly-awarded pension benefit dropped by 15% in the first quarter of 2012 compared to the first quarter of 2009.

The second pillar benefit is earned by insured individuals by directing part of their social insurance contributions to the private pension fund chosen by the person among 7 private asset managers offering 23 pension plans grouped into 'active', 'balanced' and 'conservative' depending on the investment strategy. In this pillar, actual money transfer from the state's special budget, accumulating the social insurance contributions, to pension funds occurs, and the insured person acquires a certain number of pension plan shares with each such transfer. Pension funds are investing the money into different financial instruments aiming to increase the net asset value per share and are receiving remuneration of 1.15-1.70% of total asset value per year, the administration cost being deducted from participants' contributions. At the time of retirement the accumulated capital made of the insured's contributions plus accrued interest is converted into monthly benefit either by adding it to the person's first-pillar NDC with further transforming into annuity according to above described rules, or by purchasing a life pension insurance policy from the insurance company. However, the second option is practically not in use now, since the only two insurance companies offering those policies require the applicant to have at least

4,500 EUR (AAS "SEB Dzīvības apdrošināšana") or even 5,000 EUR (ERGO Life Insurance SE Latvijas filiāle) accumulated in a second pillar pension fund (VSAA, 2013a). Very few of Latvian residents have managed to accumulate such money: as on 31/12/2012 the average accumulated capital was 1,223.47 EUR and even those with the longest possible record (11 years of participation) had in average 1,863.58 EUR (VSAA, 2013b).

Although the second pillar was mandatory only for those born after 01/07/1971, in practice the vast majority of all born in between 02/07/1951 and 30/06/1971 who had right to join the pillar voluntarily have exercised this right.

Taken together, mandatory social insurance contributions to the first and the second pillar make 20% of the insured person's gross wage. The proportion between the first and the second pillar was 18% + 2% respectively in 2001-2006 and in 2009-2012, 16% + 4% respectively in 2007 and in 2013-2014, 12% + 8% respectively in 2008 (it was the year with the highest share of the private pillar).

The third pillar is voluntary, any person can make contributions to a private pension fund: five asset managers offer 18 pension plans, and then convert the accumulated capital into annuity. However, this pillar is not yet widespread among Latvian residents; many of those who used to join the pillar then became inactive and quit paying contributions.

Having described the design of the system, once can notice that Latvian pension system has three major participants (Bela B., 2013):
1. State (legislative and executive bodies).
2. Private pension funds (mandatory and voluntary).
3. Population covered by social insurance schemes.

As a rule, the first two are viewed when studying the effects of crisis on pension system. The author of this article is paying the main attention to the third participant: what price the crisis years did take and still are taking from "a-man-in-the-street" pension. She distinguishes three subgroups within this group: 1) those retired before the beginning of crisis; 2) those went on pension during the crisis years; 3) future pensioners that are now in preretirement age. The effect of crisis shows up in different ways, as the role of certain socio-economic factors varies between those subgroups significantly. Thus, the next step is to determine those factors and look how they were influenced by crisis.

2. Socio-economic environment of pension system in Latvia

Pension systems exist in a constantly changing environment of social and economic realities. Like in natural environments, some factors are much more constant over time creating a sort of terrain, while others are changing, cyclically or following other patterns; some factors can suddenly descend like a hurricane and cause numerous, but quite quickly neutralisable consequences, while others operate stealthily, and their effect is detected after a long time, when it is already difficult to fight with. Governments can influence some factors, but can only adapt to others. As natural systems, pension systems are not isolated from each other and explicitly or indirectly interact with neighbouring counterparts. Pension systems are a relatively young variant of people's efforts tailored to address specified social risks of modern societies. There are plenty of interesting papers published in scientific journals focusing on private pension funds performance, models and strategies – see, for example a recent article by Latvian authors on market model for private pension savings elaborated for 5 countries – Finland, Estonia, Latvia, Lithuania and Poland (Arefjevs I. and Lindemane M., 2014). However, very few are devoted to pay-as-you-go public pension systems. In Latvia, however, private funded II and III pillar pensions are not yet playing any significant roles, and will not play in the nearest decade, as people's accumulations in these funds are very low as was shown above. Thus, the below proposed list of major factors influencing Latvian pension system is compiled by the author based on the different sources and is not pretending to omnitude.

Wolfgang Scholz, an expert from International Labour Organization already in 2001 had warned social policy-makers in Latvia that "social protection systems, while being nested into the structures and dynamics of societies, are exposed to adverse "exogenous" impacts and, not at all surprising, may themselves metamorphose into reasons for societal problems". He outlined two fundamental factors on which social policy (and pension policy as its integral part) is conditional: ageing – which is characteristic to whole Europe, as well as to other developed countries, – and income gap between Eastern and Western Europe, which is of extreme importance to Latvia and other post-communist countries (Scholz W., 2002). With the accession of Latvia to the EU, "national welfare state is confronted with a European economy and increasingly European labour market. The frequently highlighted focus of European deepening in social processes challenges the traditional welfare state policies" (Schubert K., Hegelich S. and Bazant U., 2009). Pension system is financed from the contributions of insured population, and is, therefore, closely linked to changes in the numbers of taxpayers not relating to pure demographical ones, but having structural nature, like employment and shadow economy levels. Moreover, as shown by American authors specialising in financial analysis, international comparison proves, that social trust matters (Aggarwal R. and Goodell J.W., 2012), so this factor should definitely be taken into account.

The factors are listed in the order of their importance: the most influencing first. One may argue that it is a bad idea to put the political factor in the very end of the list, the author's reason is that the uninterrupted rule of right-wing parties during the last 20 years, that did not waver even in crisis years, makes Latvian social policy course remaining very stable and not subject to serious changes.

2.1. Demographical factors: depopulation due to emigration and ageing is leading to increase of old dependency ratio

A steady increase in life expectancy accompanied with the falling fertility rates impact upon demographic ageing, as the absolute number and the relative importance of the population of older persons continues to grow. The process of ageing is characteristic to all European countries, and today Latvian figures (see below in Table 1) are lower than EU average, but the speed of ageing is increasing. In Latvian case, the natural decrease of population is aggravated by emigration. Only in 2011 30,380 persons emigrated from Latvia, and what is more important, 55% of these emigrants were aged 20 – 39 years (Eurostat, 2014b) while in overall age structure this age groups make 27.8% of Latvian population (CSP, 2014).

Table 1

Ageing of Latvian population in 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Median age of population	39.3	39.5	39.8	39.9	40.2	40.8	41.4	41.8	42.1
Proportion of population aged 60 years and more	22.2	22.4	22.5	22.6	23.0	23.6	24.1	24.6	24.9
Old dependency ratio (population 60 and over to population 20-59 years)	40.3	40.7	40.5	40.5	41.0	42.2	43.2	44.0	44.6

Source: Eurostat 2014a.

The crisis brought sharp growth of unemployment and massive wage-cuts, spurring economically active people seek for jobs in other countries. As this age group is not only economically, but also reproductively active, Latvia lost not only present but also future taxpayers.

The increased speed of ageing caused Latvian legislators to raise the official pensionable age from 62 to 65 years. The gradual increase have started in this year (2014) and will be completed by 2025.

2.2. Income gap between Latvia and Western Europe

Pre-accession expectations of Latvian people concerning rapid shrinking of the income gap between "new" and "old" Europe after joining the EU have not materialised, so Latvians are "losing touch to their own development potential" (Scholz W., 2002). Crisis years with dramatic fall in GDP have moved the expected point of convergence even more away from today. The Table 2 below provides comparative figures of living standards in 'Old Europe' (average EU-15) and Latvia.

Table 2

GDP per capita (in thousands PPS – purchasing power standard units)

	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
EU-15	23.6	24.5	25.4	26.6	27.9	27.8	26.0	26.9	27.6	28.0
Latvia	9.1	10.1	11.1	12.5	14.3	14.6	12.7	13.5	15.1	16.4
LV / EU-15	38.6%	41.2%	43.7%	47.0%	51.3%	52.5%	48.8%	50.2%	54.7%	58.6%

Source: Eurostat 2014c.

Although the relative well-being of Latvian people is steadily increasing (except for 2009) and nowadays it is significantly better than 10 years ago, it is still below 2/3 of average Western European level, that makes those countries very attractive destinations of emigration.

2.3. Globalisation processes

Latvian pension system was designed in mid 1990s, when the country was to a much lower extent included into global economic and financial markets. It was tailored for a country, where people do not move abroad for work and pension funds are investing into domestic economy. The crisis has demonstrated that the pension system was not prepared enough to the risks brought by globalisation:

- Globalisation of labour market allows Latvians to use job opportunities abroad, and quite often their choice is motivated also by the reasons of better social guarantees in host countries: the emigrants are leaving their home country not only because of better job opportunities and living conditions, but also to indemnify themselves against poverty in old age by subscribing to Western pension schemes.
- Globalisation of financial market and volatility of financial instruments make the assets accumulated in 2nd and 3rd pillar private pension funds very vulnerable to the risk of devaluation. The majority of Latvian pension funds assets are invested abroad and are highly dependent on foreign market fluctuations and during the crisis years suffered drastic contractions of share values. Before crisis the nominal share values were growing, but consumer prices were growing even faster, leading to factual devaluation of assets.

Small national economies are very vulnerable to global economic and financial crises, while the ability of nation states to intervene in the market processes is decreasing and the room for manoeuvre to regulate pension systems is shrinking. The author has examined this factor more thoroughly in her earlier paper (see Rajevska O., 2012).

2.4. (Un)Employment

High unemployment rates affect pension systems in three ways – firstly, paying out unemployment benefits to larger numbers of recipients depletes social budget thus complicating discharging obligations to existing pensioners; secondly, the unemployed persons make small or none contributions to their own future pensions; thirdly, Latvian pension formula automatically reduces future pensions for all future pensioners (even those having full employment and paying all taxes) through the mechanism of pension capital valorisation (indexation). Thus, the rise of unemployment in crisis years affected pension perspectives of all groups of population.

In the 2008-09 crisis millions of workers around the world were losing their income opportunities in both the formal and the informal economies. Unemployment level in Latvia, that was lower than EU averages before crisis, sharply increased in 2009 and, especially, in 2010.

Table 3

Annual average unemployment and employment rates in Latvia, 2007-2013

	2007	2008	2009	2010	2011	2012	2013
Unemployment rate	6.1	7.7	17.5	19.5	16.2	15.0	11.9
Employment rate (15 to 64 years)	68.3	68.6	60.9	59.3	60.8	63.0	n/a

Source: Eurostat 2014d.

However, the specialists stress that the unemployment rate "is a poor indicator of the problem. Unemployment is an artificially defined, bureaucratic term, often a plaything for politics and/or statistics. It may be shown to be improving when employment is actually decreasing or vice versa. The true indicator is the employment ratio, the proportion of employed in the working-age generation" (Augusztinovics, 2006). According to Eurostat data, employment rates in the population of ages 15-64 years in 2012 (last available data) equalled to 63.0. Turning the figure inside out, it could be said that approximately 35 percent of the active-age population is presently not employed. Some of them are still at school, some already in retirement, but these two groups combined can certainly be not responsible for the large proportion of those without employment. Some are actually working in the shadow labour market.

The European Trade Union Confederation (ETUC) urges to distinguish the "demographic dependency ratio" and the "economic dependency ratio", and not to overestimate the former at the expense of the latter. "For pay-as-you-go systems, only the "economic" ratio is decisive, namely the number of people who are working, and who are therefore financing such a system, but also the increase in productivity and generated GDP, which must have positive repercussions on the quality of employment and wages. This ultimately means that faced with this challenge, it is vital to concentrate on the struggle for "more and better jobs" and more widely on increasing the rate of employment" ETUC, 2010).

2.5. Shadow economy

The shadow economy is a part of everyday life almost everywhere, and can be divided into two parts. Estimations show that about two-thirds is undeclared work — where workers and businesses do not declare their wages to the government to avoid taxes or documentation. The other one-third comes from underreporting – most underreporting occurs in cash-based businesses, such as small shops, bars and taxicabs that only report part of their income in order to avoid some of the tax burden.

The pension systems are affected mainly by the first type – the undeclared work resulting in lower contributions gathered from the working population, which in its turn causes both less funds available for paying out benefits to current pensioners and lower future defined-contribution pension benefits to these

undeclared workers when they retire. Saving money draws people into this other economy, especially during an economic downturn (Schneider F., 2013a).

Table 4

Size of the Shadow Economy in 2005 – 2013 (in % of GDP)

	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Latvia	29.5	29.0	27.5	26.5	27.1	27.3	26.5	26.1	25.5
EU-27 average	21.5	20.8	19.9	19.1	19.8	19.6	19.2	18.9	18.4

Source: Schneider F., 2013b.

The share of shadow economy in Latvia is generally decreasing even faster than average European indicator, in 2009 all EU member states faced increase of shadow economy proportion. However, Latvian figure is 5th highest in EU (worse indices can be found in Bulgaria, Romania, Lithuania and Estonia).
The undeclared work results in lower contributions gathered from the working population, and affects both present and future pensioners in the same manner as high unemployment discussed above.

2.6. Trust in safe pension provision

No pension system can be sustainable if the people do not have trust in its safety and adequacy. Numerous data of public opinion polls show quite low level of confidence that Latvian people credit to the state pension system and perceive high degree of injustice in the country, those indicators are worsening in lean years.

There were six waves of Flash Eurobarometer poll "Monitoring the social impact on the crisis: public perceptions in the European Union" that took place in June and December 2009, March, May and October 2010 and the last one in December 2011 (Eurobarometer, 2012), the results of the last one have been just published in April 2012. One of the questions of the polls was formulated to evaluate the respondents' level of concern about whether their income in old age will be sufficient to live in dignity. The respondents were requested to express their opinion on a scale of 1 to 10, where 1 means „Not worried at all" and 10 means „Very worried". Latvians were maintaining high level of concern above EU average throughout the whole period with the highest rate of worried respondents observed in March 2010 (68% compared to 52% EU average). However, during the last wave the opinion of Latvians (58% of worried respondents) was just slightly more negative than EU average (57%).

Another series of Eurobarometer surveys dealing with pensions were three waves of Special Eurobarometer polls named "Social climate", conducted in May-June 2009, June 2010 and June 2011 (Eurobarometer, 2011). Respondents have been asked to judge their own feelings of quality of life relating to the area in which they live, as well as commenting on the general situation. Healthcare, employment, housing, general social concerns and the economic situation have all been considered. A group of questions focused on social protection and contained questions on health care provision, pensions, unemployment benefits, etc. Again, the majority of Latvian respondents (82% in 2011) rated the situation with pension provision as 'bad' (compared to 53% EU average value).

This low level of public credit into state pension system does not motivate people to honestly pay taxes and social insurance contributions, keeping share of underreported wages quite high.

2.7. Political terrain

One should mention the uninterrupted rule of right-wing political parties in the parliament during the last 20 years, very influential bankers' lobby, weak trade unions and strong role of international actors:

European supra-national institutions, International Monetary Fund and the World Bank, that are altogether shaping the design of social policy in Latvia, including pension policy. During the crisis years, the politicians put the screw on social budget expenditures: indexation of pensions was frozen for four years in 2009-2012. Early retirement benefit was set as 50% of 'normal' pension instead of 80%. Supplements for pre-reform years of service cancelled for newly awarded pensions from 2012. The government has also tried to cut all pensions by 10% (and even by 70% – those of working pensioners) in 2009, but the Constitutional Court abrogated this law, and the already withheld money were returned to pensioners. Minimum pension amount has not been revised since 2006 and is set as low as 70.43 EUR. The split of social insurance contributions between the first and the second pillars, as already mentioned above, was reassessed in favour of the former, in order to ensure payments to existing pensioners. The minimum vesting period was increased from 10 to 15 years (with further increase to 20 years in 2020) accompanied by the described above increase of pensionable age.

The majority of the examined crisis consequences relate mainly to future pensioners that are now in preretirement age at the stage of accumulation their pension capital in both NDC and funded pillars. Those who were already on retirement – suffered less, since their benefits remained the same. Even freezing of indexation did not matter too much: the pre-crisis indexation formula was based on inflation rate and increase in insured wages, but during the crisis years the prices almost did not grow while the wages even went down. As concerns the second group – those taking retirement during 2009-2012 – the observed trend was "the later the worse". The luckiest were those who retired in the first half of 2009, when high valorisation indices for notional pension capital were in force. In the next three consecutive years valorisation indices fell below 1, so newly retired pensioners started to receive lower remunerations for the same amount of contributions (see Rajevska, 2013, for further details).

Conclusions and recommendations

1. No pension system in the world is immune from the global financial and economic crises. The governments have limited capacity to influence many of the above-mentioned factors directly.
2. The most important factors shaping the performance of Latvian pension system are: depopulation, income gap between Latvia and Western European countries, globalisation of labour and financial markets, high levels of unemployment and significant share of shadow economy, and low social trust.
3. The major crisis consequence for Latvian pension system lies in acceleration of population ageing due to massive emigration of younger cohorts seeking for jobs in Western Europe.
4. The long-term effects of nationwide wage-bill decrease during crises years due to low employment rates and wage-cuts shall be felt by future pensioners, who are now in their forties and early fifties.
5. Sharp decline in private pension funds yields in 2008 combined with relatively low yields compared to high inflation rates in earlier years discouraged public trust in second and third pillar pension plans, with many participants stopped making voluntary contributions.
6. Pension system in Latvia lacks credibility among its participants, its non-transparency does not motivate employees and employers pay social contributions honestly. This, in turn, makes the system even less sustainable in long run.
7. New reforms are needed to restore the people's confidence in state pensions.
8. There are suitable mechanisms and instruments for mitigating the undesirable effects on present and future pensioners by introducing and re-arranging specific elements of pension system design: raising of minimum pension levels, introducing of flat demogrant component, fair indexation rules, correction of notional pension capital valorisation formula in order not to allow melting of the already accumulated capitals; setting upper limits for pension funds administrative costs, etc. In general, more equitable and solidary approach to public pensions should prevail for making the system robust to economic shocks.

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FOREIGN EXCHANGE RISK MANAGEMENT IN NON-FINANCIAL COMPANIES: CASE OF THE BALTIC STATES

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Abstract

The aim of this study is to examine the foreign exchange rate exposure of domestic corporations in the Baltic States. The study shows that companies in the Baltic States tend not to manage their foreign exchange risk properly and some of the companies are thus exposed to significant losses due to fluctuations in currency exchange rates. The VaR estimates are proposed and evaluated as a method to measure the position that is necessary to hedge.

Key words: *foreign exchange risk, risk measuring and exposure, VaR methods, non-financial companies*

JEL codes: G32, F31

Introduction

Since mid-2008, foreign exchange markets have become more volatile due to the financial crisis in 2008 and the currency wars. Generally, risk contribution from unhedged currency exposures could be higher than it used to be in the past. For this reason foreign exchange risk management may be more of a priority than ever.

Nowadays companies face the challenge of evaluating the potential loss of transactions, especially in light of the recent financial crisis that showed what can happen as a result of poor risk management policy. Value-at-Risk (VaR) holds a special place in the risk management - it is used almost everywhere. VaR is particularly important because it is used to calculate the market risk component of regulatory capital under the Basel Committee and it is one of the most applied risk measure in investment portfolio theory, financial control and financial reporting as well. In this paper the authors have applied VaR methods for non-financial companies' foreign exchange exposure measurement.

As a misleading VaR estimate can lead to bad judgement on foreign exchange exposure and, consequently, to bad risk management, there is a need for an examination of VaR applications in the context of Baltic non-financial companies. The measure of foreign exchange exposure lies in the variety of difficulties. First of all, there is no single unambiguous method of risk assessment, as different methods may produce different results. Secondly, each method has its own faults.

The **object** of this research is foreign exchange risk measurement and management for the Baltic States companies.

The **purpose** of this research is by analysing different issues relating to the measurement and management of foreign exchange exposure to propose Baltic companies better ways to manage their outstanding currency positions.

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To achieve the purpose the following **tasks** were conducted:
1. Analysis of the theoretical aspects of the measuring and managing currency exposure.
2. Analysis of Baltic companies' financial reports data to clarify risk management activities.
3. Clarifying firms' attitudes towards foreign exchange risk management in the Baltic States.
4. Estimating different VaR methods to measure foreign exchange exposure.
5. Development of recommendation how Baltic companies should manage their outstanding currency positions.

The **research methodology** used in this paper is generally accepted qualitative and quantitative **methods of economic research,** including Value-at-Risk (VaR) methods to measure risks for different horizons and by testing different observation periods of open positions. The paper starts with a literature review in order to highlight the difficulties faced by non-financial companies in identifying, measuring and managing foreign exchange risk. The analysis conducted in this paper is based on companies' financial reports' data and statistics, and certain empirical studies. The data set is based on firms that were publicly listed on NASDAQ OMX Baltic Stock Exchange Main list. Baltic Regulated market is the primary market of the NASDAQ OMX Baltic exchanges, which is regulated under EU directives and is under the supervision of the national FSA. The listing requirements are based on European standards and EU directives, and intended for companies that are well established. The regulatory demands on the regulated market are higher than on First North. The Baltic Main List is a line-up of all blue-chip companies listed on the Tallinn, Riga and Vilnius stock exchanges. To be eligible for inclusion, a company must have 3 years of operating history, an established financial position, market cap of not less than EUR 4 million, with reporting according to the International Financial Reporting Standards, and a free float equal or greater than the minimum of 25% of market cap and EUR 10 million. The Baltic Secondary List comprises companies that do not meet quantitative admission requirements (free float, capitalization). The admission requirements are not as strict compared with those of the Baltic Main List. The authors have chosen for research companies listed in main list for the period spanning 2008 to 2013, excluding financial companies-banks. There were 34 companies listed on NASDAQ OMX Baltic exchanges main list in 2013, including a bank (Šiauliu bankas). Over the analysed period some companies have left the main list (as Trigon Property Development, Sanitas) others have joined (Lietuvos energijos, LESTO, Linas agro) as a result 33 companies were chosen for analysis. The data were taken from the Nasdaq website.

Research results and discussion

1. Literature review and hypotheses

1.1. Exposure measurement

Nevertheless that the appropriateness of value-at-risk (VaR) methodology as a risk measure has been questioned in variety of studies and surveys (Bawa, V. 1978; Pedersen C. and Satchell S., 1998; Artzner, P. et al. 1999; Dowd. K, 2002; Gallati R., 2003) it is still the most popular risk assessment tool (Jorion, P. 2001, 2006; Bao, Y., Lee, T.-H. and B. Saltoglu, 2004; Pritsker, M. 1997, 2001). As proposed by the Basle Committee on Banking Supervision, banks are now allowed to calculate capital requirements for their trading books and other involved risks based on a VaR concept (Basle, 1995) and (Basle, 1996 (a, b)) and in Basel committee VaR is recognized as the most comprehensive benchmark for risk measurement.

The VaR concept has emerged as the most prominent measure of downside market risk. It places an upper bound on losses in the sense that these can exceed the VaR threshold with only a small target probability, typically chosen between 1% and 5%. The VaR can be used to measure potential foreign exchange exposure by calculating possible losses from unhedged positions. VaR is an estimate of the worst

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possible loss (i.e., the decrease in the market value of a foreign exchange position) a position could suffer over a given time horizon, under normal market conditions (defined by a given level of confidence). The VaR measure of exchange rate risk is used by companies to estimate the exposure of a foreign exchange position resulting from a company's activities over a certain time period under normal conditions.

The VaR calculation depends on 3 parameters:

- The holding period, i.e., the length of time over which the foreign exchange position is planned to be held. The typical holding period is 1 day for financial institutions, but as in this research we analysed non-financial companies the holding period starts from 1 month to 12 months.
- The confidence level at which the estimate is planned to be made. The usual confidence levels are 99 percent and 95 percent.
- The unit of currency to be used for the denomination of the VaR.

VaR can be estimated either parametrically (for example, variance-covariance VaR or delta-gamma VaR) or nonparametrically (for example, historical VaR or resampled VaR). Nonparametric methods of VaR estimation are discussed in N. Markovich (2007) and S. Y. Novak (2011). Literature analysis reveals that VaR estimation results vary widely depending on the methodology and that no VaR model is adequate in all situations (Kuester, Mittnik and Paolella, 2006). In this paper the authors are testing following VaR methods: historical, delta approximation method and GARCH.

For practical implementation of Value-at-Risk methods the authors used M. Taqqu and B. Bradley (2001), P. Jorion (2001) and P. Embrechts, A. McNeil and R. Frey (2005) works.

Practical VaR measure implementation assumes a statistical model for the data. Different underlying models lead to different VaR estimates. Our first hypothesis concerns the robustness of VaR methods towards underlying models, whereas the second hypothesis states that in general VaR methods can be successfully used to measure potential foreign exchange exposure.

H1: VaR methods of risk assessment give similar results.

H2: VaR can be effectively used to measure the part of the currency position that should be hedged.

1.2. Risk management

The scope of the exchange rate risk management literature is very broad. Modern finance and economics have been concerned with the effects of changes in exchange rates on returns and cash flows of corporations (Aggarwal R. & Harper J., 2010). Companies' managers are often challenging with dilemma of choosing between the tasks of increased profits and reduced exchange losses. Moreover, reducing one kind of exposure, for example translation, might lead to an increase in another kind of exposure, for example transaction exposure, and vice versa. These and similar questions demonstrate the need for a coherent and effective strategy (Allayannis et al. 2001; Froot et al. 1993; Bartov E. and Bodnar G., 1994).

In general all management strategies can be divided into two big groups: internal and external strategies. The internal strategy includes all the techniques that do not require external parties, whereas external hedging strategy deals mainly with financial contracts such as futures, forwards, options and swaps. When choosing between different types of hedging, manager must compare costs, taxes, effects on accounting conventions and regulation. As external hedging instruments companies prefer to use OTC instruments (forward, swaps, and options) rather than exchange traded instruments such as futures (Bodnar G. & Gebhardt G., 1998). Companies also prefer to use the simplest hedging instruments, mostly using forward agreements instead of options and swaps (Bodnar G., Marston R. and Hayt G., 1998; Batten et. al. 1993). Mostly external hedging strategies are used by companies with foreign sales, in contrast, the percentage of firms with no foreign sales that use foreign currency derivatives is rather small (Allayannis G. & Weston J., 2001).

Our third hypothesis concerns the hedging techniques that are most popular within the Baltic States companies.

H3: Baltic companies are mostly using internal hedging techniques.

2. Empirical Results

2.1. Exposure measurement

There are different methods of VaR estimation. In the paper we used three estimation methods – historical, delta approximation method and GARCH. In VaR estimation by historical method data are sorted in ascending order and $\alpha \cdot n^{th}$ observation, where α is VaR significance level, is taken as an estimate of VaR. The main advantages of the method are that it does not make any assumptions on distribution function of the data and is easy to calculate. In delta approximation method it is assumed that the data are normally distributed with estimated mean and variance parameters. The VaR estimate equals the α – quantile of the normal distribution with relevant parameters. GARCH estimation method is based on assumption that data are taken from GARCH(q,p) process, that is (Bera A. and Higgins M., 1993)

$$x_t = \mu_t + \sigma_t \varepsilon_t , \tag{1}$$

$$\sigma_t^2 = \alpha_0 + \alpha_1 x_{t-1}^2 + \cdots + \alpha_q x_{t-q}^2 + \beta_1 \sigma_{t-1}^2 + \cdots + \beta_p \sigma_{t-p}^2 . \tag{2}$$

In the paper GARCH(1,1) process specification was used.

As mentioned above VaR risk measure depends on several factors such as confidence level and outstanding position's holding period. Tables 1-3 show that VaR estimates by historical, delta and GARCH methods give very similar VaR results and so estimation method is less important for VaR estimation than parameters such as significance level and holding period. VaR values are greater for longer holding periods and bigger significance levels.

For estimation of foreign exchange risk we've used monthly exchange rates published by the Bank of Latvia for period from January 1999 (introduction of the euro) to January 2014.

Table 1

**Estimated VaR for a position of 1 currency unit of foreign currency in EUR
for various currencies, holding periods and confidence level 90%**

Significance level	90%					
	BYR	PLN	RUB	SEK	UAH	USD
1 month						
VaR historical	0.000%	-0.771%	-0.042%	-0.259%	-0.300%	-1.873%
VaR delta	-0.004%	-0.834%	-0.054%	-0.285%	-0.368%	-2.258%
VaR GARCH	-0.001%	-0.706%	-0.072%	-0.248%	-0.203%	-1.305%
3 months						
VaR historical	0.000%	-1.158%	-0.066%	-0.422%	-0.482%	-2.679%
VaR delta	-0.005%	-1.432%	-0.085%	-0.495%	-0.582%	-3.818%
VaR GARCH	-0.001%	-1.303%	-0.108%	-0.456%	-0.346%	-2.317%
6 months						
VaR historical	0.000%	-1.424%	-0.091%	-0.718%	-0.528%	-5.232%
VaR delta	-0.006%	-2.008%	-0.109%	-0.699%	-0.748%	-5.274%
VaR GARCH	-0.003%	-1.917%	-0.130%	-0.669%	-0.508%	-3.422%
12 months						
VaR historical	0.000%	-1.658%	-0.108%	-1.127%	-0.535%	-4.696%
VaR delta	-0.007%	-2.805%	-0.133%	-0.989%	-0.915%	-7.219%
VaR GARCH	-0.004%	-2.754%	-0.149%	-0.965%	-0.805%	-5.240%

Source: authors' calculations based on monthly exchange rates published by the Bank of Latvia.

Table 2

**Estimated VaR for a position of 1 currency unit of foreign currency in EUR
for various currencies, holding periods and confidence level 95%**

Significance level	95%					
	BYR	PLN	RUB	SEK	UAH	USD
1 month						
VaR historical	0.000%	-0.916%	-0.053%	-0.364%	-0.416%	-2.868%
VaR delta	-0.004%	-1.064%	-0.071%	-0.364%	-0.481%	-2.896%
VaR GARCH	-0.001%	-0.901%	-0.094%	-0.316%	-0.271%	-1.683%
3 months						
VaR historical	-0.001%	-1.634%	-0.074%	-0.531%	-0.539%	-4.969%
VaR delta	-0.006%	-1.818%	-0.114%	-0.628%	-0.770%	-4.896%
VaR GARCH	-0.002%	-1.655%	-0.142%	-0.579%	-0.473%	-2.994%
6 months						
VaR historical	-0.001%	-2.176%	-0.114%	-0.796%	-0.760%	-5.814%
VaR delta	-0.007%	-2.538%	-0.149%	-0.884%	-1.007%	-6.763%
VaR GARCH	-0.003%	-2.423%	-0.175%	-0.846%	-0.708%	-4.428%
12 months						
VaR historical	-0.006%	-2.525%	-0.126%	-1.398%	-0.716%	-6.242%
VaR delta	-0.007%	-3.522%	-0.188%	-1.241%	-1.272%	-9.255%
VaR GARCH	-0.005%	-3.459%	-0.208%	-1.211%	-1.136%	-6.782%

Source: authors' calculations based on monthly exchange rates published by the Bank of Latvia.

Table 3

**Estimated VaR for a position of 1 currency unit of foreign currency in EUR
for various currencies, holding periods and confidence level 99%**

Significance level	99%					
	BYR	PLN	RUB	SEK	UAH	USD
1 month						
VaR historical	-0.001%	-1.321%	-0.083%	-0.458%	-0.526%	-5.283%
VaR delta	-0.005%	-1.489%	-0.102%	-0.510%	-0.687%	-4.078%
VaR GARCH	-0.001%	-1.262%	-0.134%	-0.443%	-0.396%	-2.385%
3 months						
VaR historical	-0.007%	-2.379%	-0.146%	-0.621%	-0.609%	-7.893%
VaR delta	-0.007%	-2.524%	-0.166%	-0.873%	-1.111%	-6.874%
VaR GARCH	-0.002%	-2.300%	-0.205%	-0.805%	-0.707%	-4.246%
6 months						
VaR historical	-0.008%	-3.002%	-0.150%	-0.815%	-0.979%	-10.148%
VaR delta	-0.007%	-3.496%	-0.221%	-1.221%	-1.471%	-9.468%
VaR GARCH	-0.004%	-3.342%	-0.256%	-1.168%	-1.071%	-6.277%
12 months						
VaR historical	-0.008%	-3.780%	-0.147%	-1.506%	-0.922%	-7.879%
VaR delta	-0.008%	-4.802%	-0.288%	-1.698%	-1.897%	-12.908%
VaR GARCH	-0.006%	-4.718%	-0.314%	-1.658%	-1.720%	-9.582%

Source: authors' calculations based on monthly exchange rates published by the Bank of Latvia.

From tables 1-3 it is seen that expected losses from outstanding positions vary for different currencies. To compare results of the table for different currencies one has to multiply the estimate by the EUR/currency exchange rate to get loss from the position of 1 EUR. Table 4 shows the VaR estimates for positions in foreign currency that is equivalent to 1 EUR. It is seen that BYR has the greatest estimated risk, while RUB has the smallest risk. Although UAH was less risky than SEK and PLN as estimated by historical VaR, VaR delta and GARCH methods showed that it could be as risky as PLN and more risky than SEK. Although generally different VaR estimates give similar risk estimates they may vary.

Table 4

**Estimated VaR for a position in foreign currency equivalent to 1 EUR
in % for various currencies and confidence level 95%**

	BYR	**PLN**	**RUB**	**SEK**	**UAH**	**USD**
12 months						
VaR historical	-83.302%	-10.726%	-6.031%	-12.375%	-8.325%	-8.437%
VaR delta	-95.835%	-14.966%	-8.992%	-10.987%	-14.783%	-12.509%
VaR GARCH	-61.875%	-14.696%	-9.952%	-10.723%	-13.202%	-9.167%

Source: authors' calculations based on monthly exchange rates published by the Bank of Latvia.

Analysis results show that a company can suffer significant losses due to changes in foreign exchange rates if its outstanding currency positions are not hedged. From 33 companies listed on NASDAQ OMX Baltic Stock Exchange Main list and have significant open currency positions are firms that are using external risk management strategies and such that only internal ones. Conducted analysis shows that estimated by VaR methods loss from unhedged foreign currency positions for several Baltic companies could be relatively large and shows the need for managing the risk. Although VaR methods may sometimes give imprecise results for longer periods, they give rather good approximations of the losses in shorter periods.

2.2. Risk management

A lot of Baltic companies are not using active risk management due to the impossibility of measurement, considering currency exposure measurement too complex. Unfortunately, this is true as in small companies as in bigger ones. In reality, risk measurement is not so complicated task, as companies could use as qualitative (the risk matrix) as quantitative (VaR) analyses and could use consulting firms at the last.

The authors have analysed 33 Baltic companies and only 5 of them (Linas Agro Group, Arco Vara, Olympic Entertainment Group, SAF Tehnika AS, Tallink grupp) are using external strategy of risk management or at least consider to use it, while the majority of companies prefer internal techniques.

The authors have developed the main "step by step" hedging strategy plan used by our companies. Only if it's not possible to hedge risk by the 1 step strategy company goes to the 2 step and so on.

  I. First of all, companies are using *internal hedging* techniques:
      First step – all companies are trying to sign contracts in EUR or other currencies hardly pegged to the euro (such as LTL and LVL (before 2014)). This is so called "invoicing in the home currency" strategy.
      Second step – to match assets and liabilities in EUR or currencies hardly pegged to the euro;
      Third step – to net open foreign currency positions in currencies other than EUR, for example USD, UAH, PLN, RUB, SEK, NOK. (AS Silvano Fashion Group, Tallink grupp, TEO LT, Utenos Trikotažas, SAF Tehnika AS, Premia Foods AS, Olympic Entertainment Group, Olainfarm, Grindeks and others).
      Forth step – to limit open positions.
  II. Secondly, some Baltic companies are using *external hedging* techniques, mostly Forward rate agreements and Swaps.

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Many Baltic companies' refrain from active management of their foreign exchange exposure, even though they understand that exchange rate fluctuations can affect their earnings and value. They make this decision for a number of reasons that the authors concluded as from financial reports analysis as from interviewing some small and middle companies, which are not listed in Main list:

1. Insignificance of foreign exchange risk, due to the assets and liabilities denomination in EUR or currencies hardly pegged to the euro; therefore they are treated as items free of foreign currency risk (almost 20 companies listed in Main list aren't using any risk management strategies).
2. Companies' managers do not understand why and how to manage foreign exchange exposure, considering financial derivatives as speculative or they argue that such financial manipulations lie outside the firm's field of expertise (mostly in the smaller companies, especially operating in local markets).
3. Denying any exchange risk because it does all its business in home currency (mostly in the smaller companies, especially operating in local markets).
4. Considering that matching is a sufficient hedge for a firm, by covering imports or exports transactions, and foreign subsidiaries finance in local currencies (the most popular for companies that operate in different currencies).

Conclusions, proposals, recommendations

1. Conducted empirical analysis shows that VaR estimates by historical, delta and GARCH methods give very similar VaR results confirming our first hypothesis H1: VaR methods of risk assessment give similar results.
2. Empirical analysis confirms that estimation method is less important for VaR calculation than parameters such as significance level and holding period. VaR values are greater for longer holding periods and at higher significance levels.
3. Empirical analysis of the most-widely used currencies in the Baltic States confirms that more liquid currencies have smaller foreign exchange exposure comparing with not so commonly used. For example, BYR has the greatest estimated risk, while RUB has the smallest risk. Although UAH was less risky than SEK and PLN as estimated by historical VaR, VaR delta and GARCH methods showed that it could be as risky as PLN and more risky than SEK. Although generally different VaR estimates give similar risk estimates they may vary.
4. Estimation of possible losses for open currency positions in different companies that operates with other currencies than EUR and LTL and comparing with factual losses in 2011 and 2012, allows the authors confirm the second hypothesis H2: VaR can be used to measure the part of the currency position that should be hedged.
5. Conducted analysis shows that loss from unhedged foreign currency positions, as estimated by VaR methods, for several Baltic companies could be relatively large and shows the need for managing the risks. Although VaR methods may sometimes give imprecise results for longer periods, they give rather good approximations of the losses in shorter periods.
6. Baltic companies listed on NASDAQ OMX Baltic Stock Exchange Main list are not using active risk management mostly due to the insignificance of foreign exchange risk, due to the assets and liabilities denomination in EUR or currencies hardly pegged to the euro; therefore they are treated as items free of foreign currency risk.
7. The authors have analysed 33 Baltic companies and only 5 of them (Linas Agro Group, Arco Vara, Olympic Entertainment Group, SAF Tehnika AS, Tallink grupp) are using external strategy of risk management or at least consider to use it, while the majority of companies prefer internal techniques.

This finding confirms the third hypothesis H3: Baltic companies are mostly using internal hedging techniques.

8. Additional reason for passive risk management is too expensive cost of implementing a currency hedge (transaction costs + interest rate differential between currencies) versus the expected risk contribution from unhedged currency risk.

9. Some of our companies' managers consider that the risk contribution from unhedged currency exposure is relatively low.

10. The analysis of the Baltic companies' foreign exchange exposure management practice shows that our companies are more passive than active. Companies' analysis has highlighted that generally managers in the Baltic countries do not seek to manage currency risk at all, especially smaller ones, mostly because of the lack of knowledge how to manage risk at all.

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DUE DILIGENCE IN MERGERS AND ACQUISITIONS
IN EMERGING MARKETS – EVALUATED RISK FACTORS
FROM THE ACADEMIC AND PRACTICAL VIEW

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Abstract

The obviously ever increasing number of corporate acquisitions in recent decades has widened and improved the general knowledge and awareness of due diligence for both the industry and research. In the current challenging business environment, acquisitions face higher degree of risk profiles, especially cross-border acquisitions in the emerging markets. Conducting a thorough due diligence investigation in the context of an acquisition is more important now than ever.

In a meta-analysis this paper researches the key risk factors in the acquisition process and their assessment within a "due diligence" audit. The starting point is the research of academic findings which basically concentrate on common approaches considering financial, legal, commercial, and some other issues in domestic acquisitions and in developed countries. In contrast, this paper considers risk factors in cross-border and emerging markets transactions. Secondly, a number of consultancies publish studies based on surveys on this topic which reflect typical risk factors consisting of i. e. regulatory issues, political factors, and litigation history etc. which may lead to commercial and reputational impediments in cross-border acquisitions. The task of the paper is to match the academic and practical view in order to give a more complete understanding of risk factors to be covered in due diligence audit.

The outcome statement is that compared to the academic view of conducting due diligence, the practitioner's experience point to the fact that due diligence scope needs to be suited to the dynamics of the markets. The comparison calls for a different, a more integrated system of due diligence and shows herein the research deficit.

The originality of the paper is given by unique meta analysis of the acquisition "due diligence" literature and the selected consultant studies from anonymized practical experience based on insider information. The outcome is a compendium of evaluated risk factors which need to be included in each "due diligence" audit in the pre-acquisition phase.

Key words: *due diligence, emerging markets, mergers and acquisitions, risk, investment*

JEL codes: G32, G34

Introduction

The topic of mergers & acquisitions (M&A) has been increasingly investigated in the literature in the last two decades (Hitt et al., 2009) in response to the rise in M&A activities as well as the increasing complexity of such transactions themselves (Gaughan, 2007). Mergers & acquisitions (M&As), in the broad sense, may imply a number of different transactions ranging from the purchase and sales of undertakings, concentration between undertakings, alliances, cooperation and joint ventures to the formation of companies (Wirtz, 2012, p. 12). Schuler & Jackson (2001) argue that using a broad definition of M&A can lead to confusion and misunderstanding as it entails everything from pure mergers

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to strategic alliance. In this paper the definition of M&A will be used in a narrower sense, as acquisition, as the purchase of shares or assets on another company to achieve full managerial and operational influence. Acquiring a company abroad can be motivated by the wish of entering foreign market and establish strong position very quickly. It enables the drawing on complementary knowledge and differing market prospective of the acquired company and enable a realization of synergetic potentials (Gole & Hilger, 2009, p. 42). However, acquiring a company is risky, especially against the background that the information of the targets business is beyond the reach of acquirer and he relies on assumptions about the state of the business (Schweiger et al., 1998, p. 15). At this point, an information asymmetry occurs as the acquirer does not get reliable information about the target company to carry out thorough evaluation and determine the price. In line with the literature, the term information risk is used to describe the uncertainty surrounding information relevant to the acquirers valuations and expectations for future economic development (Wangerin, 2011). The main challenge for the acquirer is to obtain adequate information about the target company's business. Even if the acquirer gets information in the acquisition process, there will be information buried within the target firm's bookkeeping and records, and thus difficult to find and consider in the evaluation efforts. The acquirer can make a better risk assessment about the economic benefits of a potential M&A, when there more precise private information exists. Information risk also arises due to uncertainty about how the combined entity will generate future cash flows after the acquisition is completed. The situation in cross border acquisitions is even more risky since there is a higher information asymmetry between companies from different countries (Firstbrook, 2008, p. 2).

In a M&A transaction, due diligence serves the acquirer to overcome the information asymmetry. "Due diligence" is an investigation or audit of a potential investment serving as a confirmation of all material circumstances related to a transaction. "The basic function of M&A due diligence is to assess the benefits and the liabilities of a proposed acquisition by inquiring into all relevant aspects of the past, present, and predictable future of the business to be purchased. Those making this assessment should focus on risk" (Lajoux et al., 2011, p. 7). Due diligence comprises of detailed investigation and risk assessment in wide area of the targets specifications, either quantifiable or non-quantifiable (Angwin, 2001, p. 33; Hopkins, 1999, p. 233; Knecht et al., 2007, p. 425). Due diligence is used to describe the process of acquiring objective and reliable information on acquisition target prior to the specific event. This method is generally accepted method of risk assessment in the M&A market. From the legal perspective, due diligence is described as "due care" and used essentially to prevent damages and/or possible harm to either party involved in transaction or business decision (Angwin, 2001, p. 33). The result of due diligence is used to provide an acquirer with enough basic information about a target to pave the way for an informed decision about whether to pursue the acquisition aims and give indications about the price and other negotiation terms. The final purpose is to give confidence to the acquirer that they fully understand and evaluate risks of associated with the target company (Angwin, 2001, p. 37) and consider those in the acquisition contract. Considering the thorough evaluation, due diligence can influence the final success or failure of cross border acquisition, and substantiate possible legal claims.

The Scope of Due Diligence

The scope of due diligence is supposed to cover all material aspects of the acquisition target's operation, consisting of intense document review and analysis, questions and answers session with management, and often an evaluation of physical plant and operations (Gole et al., 2009, p. 89). The scope of the due diligence has broadened in the past years as the business complexity and globalization tendencies have increased (McDonald et al., 2005, p. 4). Usually the acquirer audits beyond the provided annual report data and engages audit experts in order to do further investigation steps and validate main assumptions and receive a clear risk profile of the target firm.

The most frequently examined areas in the due diligence are the financial, legal (corporate law) and management and personnel quality and capabilities (Harvey et al., 1995, Angwin, 2001, Gomes et al., 2013). Cullinan et al. (2004) states the fact that due diligence mostly verifies the target's financial statements rather than evaluating the strategic logic and other sub-factors which are important for realizing acquisition value. Due diligence process mostly conforms with the perspective of organizational learning theory (Barkema et al., 2008; Shimizu et al., 2004), more precisely the exploratory learning (March, 1991). According to that perspective, the company learns with each acquisition and can transfer this learning effect to the subsequent acquisitions. With the repetition acquirer gains experience and confidence as their knowledge regarding routines improves. The challenge in acquisition process is that the acquisition process is far more complex than the operating business, such as manufacturing, pricing, distribution etc.. Other common and more general risks relate to the existence and valuation of the assets and liabilities in the financial statement and litigation and claims against the target company.

The Academical approach

In general, the traditional "due diligence" approach considers legal, financial and commercial issues and is carried out by legal and accounting advisors (Angwin, 2001; Belian, 2009; Epstein, 2005). There is an interconnecting idea between these three issues graphically visualized in Figure 1, considering the typical areas mentioned in the academic literature about the due diligence audit.
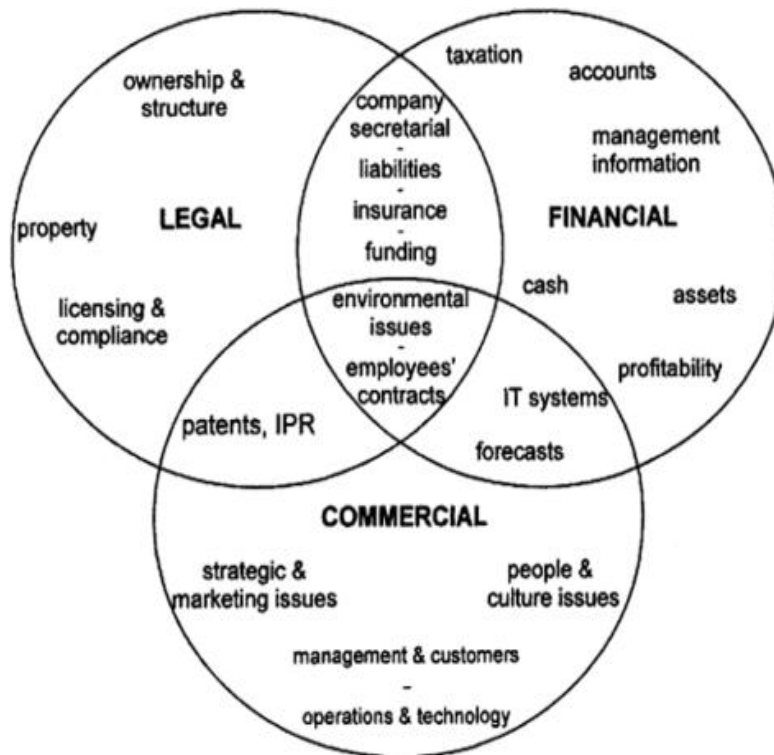
Source: Own Illustration based on different sources (Angwin, 2001, Belian, 2011, Meier, 2011).

Fig. 1. **Traditional Approach Due Diligence**

Before the new century, the traditional due diligence process has been primarily focused on tangible assets or documents relative to the operations of the company resulting in a "mechanical verification" of legal, accounting, and tax matters (Harvey et al., 1995). Their approach is divided in intangible (i.e. quality of leadership, personal retention etc.) and tangible assets (i.e. market share, related parties etc.). Berens et al. (2011) theoretically consider further topics than the traditional approach. However, additional areas are all combined with the financial and legal outcome without considering the critical areas which often have led to failure of the acquisitions. There seems to be a pattern emerging from both research and experience that intangible issues such as culture and change are critical to success. Some research even identifies "irrational" influences on post-merger integration. The predominant focus of due diligence remains financial and legal although the track record of M&A deals points to shortcomings in the traditional due-diligence approach (McGrady, 2005).

The research scope comprises further of the secondary consideration of intangible assets gained from survey of members of due diligence practitioners considering audit of macro-environment, production, management, marketing, and information systems. In recent years the operational complexity in companies has increased due to internationalization substantially. The companies implemented integrated supply chain management systems, logistics operations which must work real-time and across the borders and use extensive subcontracting and different manufacturing partners (Knecht & Calenbuhr, 2007). This trends have also found their place in the due diligence approach. The newer scientific work covers beneath the merely used financial and legal issues, topics as supply-chain management, sub-supplier network and assessment of employees, benefits, environmental issues and intellectual property (McGrady, 2005). Firstbrook (2007) findings is that the cross-border M&As include greatest risks within cultural, regulatory or competitive environment spheres, but concrete scientific research concentrated on due diligence proceedings on this issues, with exception of the cultural aspects, is still rare. The nature of the local environment and its nationality (for example, government policies or strong unions) may have a bearing on the ability of acquirers to implement practices during post-merger integration, such as changes in salary and benefits, recruiting, turnover, and labour relations. A stronger legal and institutional environment in the target country leads to increased transaction cost for cross-border deals. This issue coincides with regulatory changes in countries with a strong legal and institutional environment, which may make access to markets for firms from countries with weak legal and institutional environments more difficult (Feito-Ruiz et al., 2011).

The literature review consisted of computerized and manual queries of published research reports. The databases used were Proquest, Science Direct, Scopus, Elsevier. The keywords used were due diligence, merger, acquisition, risk factor. Given that literature sources were limited, the review includes qualitative and quantitative studies. Further research consisted of screening of the bibliographies, textbooks and conference working papers with internet search machines. A total of 42 empirical studies, relevant to due diligence audit in M&A were found and considered in this paper. In the meta-analysis the evaluated risk factors were consolidated into four different approaches:

a. Choice of strategic partner;
b. Intangible Factors and Knowledge Management;
c. Financial issues and acquisition price;
d. Macro and environmental issues.

The single issues of each approach are summarized as follows:

Table 1

Summary of Evaluated Risk Factors relevant for due diligence audit in the M&A process

Evaluated Risk Factors	Selected Research
Choice of the Strategic Partner	
Strategic Fit Organizational Fit	Gomes et al. (2013, p. 13); Fustec et al. (2011, p. 496), Cullinan et al. (2009); Firstbrook (2007, p. 53); McGrady (2005, p. 14); Gleich et al. (2010, p. 6); Epstein (2005, p. 40); Perry (2004, p. 16); McDonald (2005, p. 3); Angwin et al. (2001, p. 35); Child et al. (2001); Adolph et al. (2006); Zademach et al. (2009, p. 771), Lee (1996, p. 31)
IT Environment and Compatibility	Fustec et al. (2011, p. 496), Kissin (1990, p. 53); Harvey et al. (1995, p. 16); Mehler (2009, p. 17); Morrison et al.(2008, p. 26)
Cultural Fit	Hitt (2009, p. 8); Fustec et al. (2011, p. 496), Firstbrook (2008, p. 2); Lodorfos (2006, p. 1407); McGrady (2005, p. 22); Shimizu (2004, p. 325); Very et al. (2001, p. 20); Marks et al. (2001, p. 83), Schuler et al. (2001),
Acquisition Experience of the acquirer	Mukherji (2013, p. 41); Barkema et al. (2008, p. 595); Haleblian et al. (2006, p. 368); Shimizu (2004, p. 324); King et al. (2004, p. 190); Very et al. (2001, p. 25)
Intangible Factors and Knowledge Management	
Business Capabilities	Haspeslagh et al. (1991, p. 323); Morisson (2008, p. 27); Galpin et al. (2007, p. 233); Ahammad et al. (2013, p. 4); Bertrandt (2012, p. 417)
Technological Competence	Hitt (2009, p. 6); Bertrandt (2006, p. 418), Epstein (2005, p. 40); Rossi et al. (2011, p. 67); (Junni, 2001, p. 6)
Management Resources	Hitt (2009, p. 5); Marks & Mirvis (2001, p.84); Harvey & Lusch (1995, p. 14)
Market Position	Haspeslagh et al. (1991, p. 323); Harvey et al. (1995, p. 14); Perry (2004, p. 16); Bertrandt (2012, p. 417); Cullinan et al. (2009, p. 4);
HR Resources	Mukherji (2013, p. 41); Fustec et al. (2011, p. 496), McGrady (2005, p. 19); Weber et al. (2010, p. 209); Lodorfos (2006, p. 1408);
HR Retention factor	Krug et al. (1998) in Shimizu (2004, p. 329); Perry (2004, p. 18); Lemieux et al. (2013 p. 1420)
Financial Factors, Acquisition Price	
Financial Issues (balance sheet, asset evaluation, debt, cash-flow generation)	Gleich et al. (2010, p. 23); Knecht et al. (2007, p. 423); Epstein (2005, p. 40); Harvey et al. (1995, p. 16); Marks & Mirvis (2001, p. 84)
Evaluation and Acquisition Price Premium	Gomes et al. (2013, p. 19); Malhotra et al. (2013, p. 271); Kim et al (2011, p. 27), Hitt, et al (2004, p. 3); King (2004, p. 190)
Macro-Factors	
Environmental Issues	Harvey et al. (1995, p. 11); Knecht et al. (2007, p. 423)
Political and Regulatory Factors	Carbonara et al. (2009, p. 95); Very et al. (2001, p. 15); Harvey et al. (1995, p. 12), Hopkins (1999, p. 233)
Differences in legal and tax system	Kissin et al. (1990, p. 53); Haspeslagh et al. (1991, p. 325); Very et al. (2001, p. 15); Firstbrook (2007, p. 53); Hopkins (1999, p. 233)
Corporate Governance Factors	Knecht et al. (2007, p. 429); Rossi et al. (2004, p. 298); Bertrandt (2012, p. 417)
Corruption, Bribery, Related Parties Issues	Knecht et al. (2007, p. 428); Rossi (2004, p. 298)

Source: Own creation based on meta-analysis.

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Practical point of view

In general, the potential rewards from acquiring in emerging markets are undeniable, but the risk profile of cross border acquisitions is rather higher than in domestic transactions (Firstbrook, 2008). Especially the information risk is higher as the acquirer does not get reliable information about the target company to carry out thorough risk assessment. Thus, companies engage M&A consultants on regular basis for best practice solutions according to the experience and feedbacks gained with their customers (Poushali, 2009). This research paper includes fifteen market surveys that were carried out by renowned M&A advisors of multinational companies. The selection was according to the relevance concerning risk factors in the cross-border M&A. The surveys are focused on large, transnational transactions considering the view of top management in the acquiring companies regarding the success and failure of the acquisition. The questions answered consider original purpose of the acquisition, what areas the pre-acquisition analysis has considered, what synergies were expected and achieved and which problems occurred in the post-integration phase. Moreover, how the acquisition performed relative to plan and expectations.

Although the consulting studies are insightful, they have the weakness of not describing in detail. The analytical results tend to be presented cursory, perhaps to save the confidentiality and proprietary information. The majority of consulting literature use interview technique to look for factors which are mainly simplified and apply for large number of M&As. Further weakness is the lack of classification of the M&A type. The studies analyzed mostly consider acquisitions undertaken to increase size and expand geographically or to expand own product lines in the same or related industries. These transactions have readily understandable motivations and appear more likely to succeed than other those are intended to move firms into completely new product areas or to expand the use of new, speculative ventures. Table 2 summarizes the fifteen studies and figures out the main risk areas or failure potentials identified in cross-border M&A transactions. Preliminary impression?? NOT SCIENTIFIC EXPRESSION??? is that the most risk factors were considered in the academic research. Selectively considered studies which have identified certain risk areas, no deeply covered in the academic research show the research gap.

Kroll Advisors interviewed 50 practitioners with broad experience in M&As in emerging markets concluded that conducting "due diligence" on targets in emerging markets requires a different approach and that the acquirers have adapted their approach to emerging & frontier markets, opting instead to increase the traditional approach with concentrating on legal and tax issues (Kroll Advisors, 2012). In the focus stands the inter-play between commercial and reputational issues and their implications on the M&As in emerging markets. This is especially the case in jurisdictions and sectors where the government involvement in its role as a regulator, undisclosed ultimate beneficial owner in the target company , a client or a supplier, a provider of infrastructure or a competitor. Compared to the traditional view of conducting due diligence, the survey from the M&A practitioners points to the fact that the due diligence approach needs to be suited to the dynamics of the markets which have been summarized by Glapion (2012):

- overlap between public and private sector requires combined commercial and reputational due diligence in order to uncover potential implications of the interconnections;
- questionable information quality need to be supplemented with "on-the-ground" research;
- ambiguous regulatory environment or lack of legal framework require plan scenarios for unforeseen events.

Table 2

Selected Results from the Business Consulting Literature on Mergers and Acquisitions

Evaluated Risk Factors	Selected Research
Choice of the Strategic Partner	
Strategic Fit Organizational Fit	BCG Consulting (2012); Accenture (2009); Mercer Consulting et al. (2008); GE Capital (2004); Roland Berger (2011)
IT Environment and Compatibility	Grant Thornton (2004); Roland Berger (2011)
Supply Chain Management, procurement, production and other operational issues	McKinsey (2010); Clifford Chance (2012); Grant Thornton (2004)
Cultural Fit	Deloitte (2009); Baker & McKenzie (2013); Mercer Consulting et al. (2008); McKinsey (2004)
Acquisition Experience of the acquirer	McKinsey (2004); GE Capital (2012)
Intangible Factors and Knowledge Management	
Business Capabilities	BCG Consulting (2012); GE Capital (2004); Roland Berger (2011)
Technological Competence	McKinsey (2010); Ernst & Young (2012); Grant Thornton (2004); Grant Thornton (2004)
Management Resources	BCG Consulting (2012); Clifford Chance (2012); Grant Thornton (2004)
Market Position	Mercer Consulting et al. (2008)
HR Resources and HR retention factor	Deloitte (2009); BCG Consulting (2012); Mercer Consulting et al. (2008)
Intellectual Property	AT Kearney (2010); Grant Thornton (2004);
Financial Factors, Acquisition Price	
Financial Issues (balance sheet, asset evaluation, debt, cash-flow generation)	BCG Consulting (2012); Kroll Advisors (2012); Clifford Chance (2012); McKinsey (2004); Grant Thornton (2004)
Evaluation and Acquisition Price Premium	BCG Consulting (2012); Clifford Chance (2012); AT Kearney (2007); McKinsey (2004)
Currency fluctuation, Asset price volatility	Clifford Chance (2012)
Macro-Factors	
Environmental Issues	Ernst & Young (2012); World Bank Group Intl. Finance Corporation (2009); Grant Thornton (2004)
Political and Regulatory Factors	Ernst & Young (2012); Kroll Advisors (2012); Clifford Chance (2012); World Bank Group Intl. Finance Corporation (2011); Deloitte (2009); Baker & McKenzie (2013); Mercer Consulting et al. (2008); Mercer Consulting et al. (2008)

Evaluated Risk Factors	Selected Research
Differences in legal and tax system	Ernst & Young (2012); Clifford Chance (2012); World Bank Group Intl. Finance Corporation (2009); AT Kearney (2007); Baker & McKenzie (2013); Accenture (2009); Mercer Consulting et al. (2008); Grant Thornton (2004)
Corporate Governance Factors, company related standards	AT Kearney (2010); Deloitte (2009); Baker & McKenzie (2013); Mercer Consulting et al. (2008)
Reputational risks: Corruption, Bribery, Related Parties Issues	Kroll Advisors (2012); Deloitte (2009)
Local Network	AT Kearney (2010), Deloitte (2009)

Source: Own creation based on review of consultancy studies

Deloitte (2012) carried out a survey consisting of interviews with key executives of acquiring companies and researched that managing compliance and integrity-related risks in emerging markets. Their results show the main concern for many companies is compliance and integrity-related risks in emerging markets which have had increased over the last two years. The survey participants have reported of the need to more thoroughly analyze to gain real insight into the political and regulatory environment, as well as its impact on to operation's and financial issues. A special topic is related with corruption, bribery and fraud, changeable regulatory situation as well as the implications of interaction with state-owned or state-controlled entities. This implicates further investigation questions than those found in the traditional due diligence approach:

- impact of the regulatory changes on commercial success of the business;
- level of government interference or influence on the business;
- conflict of interests in the supply chain;
- steering board and their political career or exposure;
- appetite for bribery in this region/sector and the compliance issues with prevailing legislation and the acquirers reputation.

This implies further investigation needs than those found in the traditional view and these uncertainties demand a thorough approach to scenario planning i.e. for currency and asset price volatility and the acquisition needs to be stress-tested for i.e. changes in political leadership, withdrawal of government subsidies.

The consistency of consulting literature with academic results

Summing up, the surveys show tolerable gap between the practical and scientific approach. Business studies focus on overcoming the practical obstacles in the acquisition process. They consider the deal execution as the crucial success criteria, and some studies identified the affect of the financial success measured by the company's stock price performance or operating performance. McKinsey, BCG and other consultancies believe that the best ingredient of successful acquisition is acquirer's strategic focus combined with acquisition that complements their own business capabilities. The second most mentioned ingredient of successful acquisition is the cultural and organizational fit – mainly in the post-integration phase. The retention of the key employees of the acquired company is seen as very valuable at both approaches. The third ingredient of a successful acquisition is the evaluation and the price premium, which is mainly based on risk adaptation from due diligence findings. The fourth ingredient are soft factors, i.e. regulatory, political changes, corporate governance, corruption and fraud, etc.. The main

source of the "new risks" is regulation (corporate governance) and trade regulation as the result of sharpened global competition. The globalization tendencies impose more complex business activities and open up new risk potentials which need to be considered in the due diligence proceedings. Further soft aspect is the assessment of economic and political framework of the host country and the probability of changes in that environment which may influence the business model of the acquired entity. As the political institutions tend to be weak in emerging markets, and power often lies in the hands of an elite, thus, the acquirer may face a changeable and unpredictable operating environment. The reputational risk is a topic which has not at all being researched by the academicians.

In the newer consulting studies, risk factors like reputational issues, integrity risks arising from money laundering, and conflict of interest or business relationships, are often mentioned. These risk factors are not considered in the academic work until now. This is proposed to be a research field in the future.
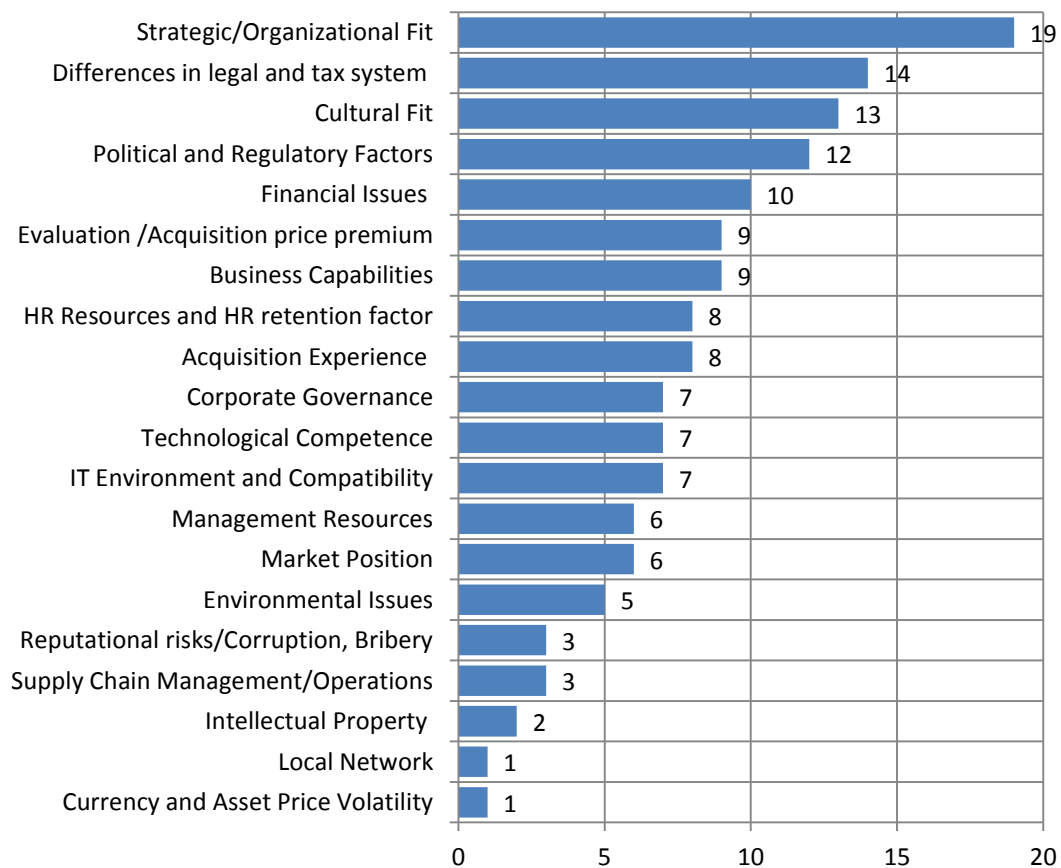
Source: Own creation.

Fig. 2. **The frequency of the evaluated risk factors in the acquisition process**

Figure 2 shows the frequency of the evaluated risk factors gathered by the review of academic and consultancy work. The Strategic and Organizational fit seems to be the most important areas in the pre-

acquisition process. Further risks are in the legal and tax area, mainly implied through differences within jurisdiction environment, where the acquisition takes place.

Conclusions, proposals, recommendations

The literature research shows no comprehensive study which considers the full range of factors to be considered in pre-acquisition evaluation within the due diligence process. Thus, this thesis is the novelty as it considers all of the identified factors and their impact on the acquisition performance.

Academicians and business consultants find much to agree: strategic fit, organizational fit, HR factors, evaluation topics, are crucial in the due diligence proceedings. An extensive "due diligence" when executing M&A transaction, either in developed or emerging markets, is indispensible. At that point, the traditional, in the literature mostly researched due diligence approach partially falls short as it concentrates largely on very tangible risks i.e. as the financial, legal or operational issues, and only partially on intangible risks, reputational issues, political changes, etc. A further shortfall in the current literature is insufficiency in covering the current necessary pre-acquisition needs of the acquirer in emerging market, as this transaction differs from those in developed markets.

The academic studies often dig deeper and adopt long-term perspective than those undertaken in the business world, which generally take a more "how to" approach. However, the level of "due diligence" is being impacted by variety of issues conducted during the acquisition process. Harvey et al. (1995) categorize the issues in as time restrictions, cost constraints, and situational factors. Under time restriction it is often the case that the effective examination of the target acquisition – beyond the major financial, legal, tax and future sales projections – does not occur. Finally, situational factors for performing a limited due diligence is most notably with cross-border acquisitions and hostile takeovers because the competitive nature of bidding for a company has required or has not allowed full scope due diligence.

As the considered surveys show, acquirer need to consider using consistent and scalable process for assessing such typical risks across acquiring in the emerging markets. That means placing the same importance to reputational due diligence as on legal, financial, operational, and other traditional due diligence. The move to the next level of performing due diligence requires more enhancing than replacing traditional due diligence activities. The due diligence scope will be longer but they will be forward-looking and more post merger oriented. On the other side, the "new" risk fields are almost all non-quantifiable and the more they have been assessed, the more difficult is to determine the quantitative impact. The nature of the local environment and its nationality (for example, government policies or strong unions) may have a bearing on the ability of acquirers to implement practices during post-merger integration, such as changes in salary and benefits, recruiting, turnover, and labor relations. A stronger legal and institutional environment in the target country leads to increased transaction cost for cross-border deals. This issue coincides with regulatory changes in countries with a strong legal and institutional environment, which may make access to markets for firms from countries with weak legal and institutional environments more difficult. However, each M&A has own "personality" and thus, the applicability of the expanded due diligence process may wary from one situation to the next.

The results lead to suggestion of improving the transfer from the best practice of consultancies to the scientific work due to more openness of the facts from M&As. An important factor is the input from experienced executives from acquirers and their advisers in M&As in emerging markets. As it is often difficult to ensure the transfer from the practical to theoretical knowledge and vice versa, an integrated approach is likely to develop with a growing amount of experience in growing frequency of M&As in the emerging markets and the nature and scope of the due diligence process need to be examined in light of these new trends. This will help to ensure that the M&As deal intelligence gets wider scope of the risk assessment methods and finally improve the success rates in cross-border acquisitions.

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ANALYZING SECONDARY PROFESSIONAL EDUCATION SYSTEMS IN KURZEME AND ZEMGALE REGIONS: INSTITUTIONS AND LABOR MARKET DEMAND

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Abstract

It is widely argued that improvement in professional (vocational) education systems has to be a part of the policy aiming at reducing high levels of structural unemployment in Latvia. The aim of this paper is to analyze professional education systems in Kurzeme and Zemgale regions to assess their responsiveness to regional development priorities and labor market demand. The analysis is done both from the supply side: considering professional education programs on offer and from the demand side: considering the incentives of the students and prospective graduates of the program. The author finds that supply of professional education is broadly consistent with regional development priorities. However, some improvements would help increase the quality of supply and alter incentives for students to obtain professional education – the author provides several recommendations to achieve these goals.

Key words: *professional education systems, structural unemployment, regional development*

JEL codes: I20, I21, I25

Introduction

Many commentators have expressed concern about the high level of structural unemployment in Latvian labor market. For example, the Bank of Latvia argues that the improvement in Latvian labor market statistics, showing that Latvia has had one of the fastest employment growth rates in the EU, has, on the whole, been driven by the creation of jobs in Riga and in the vicinity of big cities. On the other hand in the regions, the number of jobs has not grown or has grown much slower. The high level of unemployment has been typical for some regions since the nineties. These enclaves of unemployment could be helped by structural policies, which could include a special program for facilitating employment. Such a program should be targeted on particular districts and developed locally, taking into account specific local conditions (Krasnopjorovs, O., 2013). Participation in professional education is widely considered to be a necessary part of such programs. Even if a substantial part of the unemployment increase can be explained by cyclical fluctuations (see e.g. Anosova, et. al. 2013) professional education may improve the prospects for employment for residents of the most disadvantaged regions.

The role of professional education (often referred to as vocational education and training – VET) has also been emphasized in European policymaking. In 2002 the Copenhagen declaration launched a process aimed at improving the performance, quality and attractiveness of vocational education and training (VET) through enhanced cooperation at the European level. The process is based on the mutually agreed priorities that are reviewed periodically. More recently, these objectives have been reiterated in the Bruges communiqué (European Commission, 2010) , which, among other goals, declared that European

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education and training systems must be adaptable to labor market dynamics and ensure the provision of tailored and easily accessible continuing training.

While academic orthodoxy in international education and development field has been dismissive of VET's possible contribution, especially in development (McGrath, 2012) there has recently been a revival of interest in this concept for at least two reasons. Firstly, it is regarded as a suitable means of promoting economic growth. Secondly, it is seen as a potentially powerful tool for fostering social inclusion (Nilsson, 2010).

The difficulty of identifying the effect of VET on economic growth is in part due to the fact that it is substitutable with general education and probably has similar effects. The effects of vocational education on human capital accumulation and labor market outcomes have been studied both in emerging markets e.g. Indonesia (Newhouse and Suryadarma, 2011), Botswana (Mupimpila and Narayana, 2009) as well as advanced economies e.g. United Kingdom (McIntosh, 2005), and Sweden (Ljundberg and Nilsson, 2009). Vocational education can be considered as a tool for improving social inclusion not only because it improves labor market outcomes, but also because it can help students from disadvantaged backgrounds to transition to other forms of post-secondary education (Nilsson, 2010).

Eichhorst et. al. (2012) suggest three types of vocational systems: school-based education, a dual system in which school-based education is combined with firm-based training, and informal training. They find clear indications that VET is a valued alternative beyond the core of general education, while the dual system tends to be more effective than school-based VET. This paper focuses primarily on the first and second types of VET. The design of the VET system has also been used to explain divergence in labor market dynamics in France and Germany (see e.g. Cahuc, et. al. 2013). The analysis of VET systems in Latvia or the Baltic countries in general however, has been scarce – a notable example was the work by West (2013), who provides a broad overview of VET systems in the region.

The aim of this paper is to analyze secondary professional education systems in Kurzeme and Zemgale in order to assess how adaptable they are to labor market demand for specialists with secondary professional education in these regions. The focus of this paper is on programs targeted for young adults, who have just completed lower secondary education. In the aftermath of the financial crisis in Latvia and in Europe, this is a particularly high risk group since the crisis has significantly lowered the chances of young people to successfully complete a school to work transition (see e.g. Choudhry, et. al. 2012).

This paper is based on the results of surveys[2] and interviews with students, lecturers involved in professional education and entrepreneurs in Kurzeme and Zemgale regions. The surveys were conducted within the project "Research[3] on the Responsiveness of Professional Education to the Needs of the Labor Market, Development of the Model of Cooperation and Organizing Training for Internship Managers". This paper considers several problems in the operation of professional education institutions and further progress of their graduates in the labor market. The most pressing issue is the decline in the number of students in professional education due to the low prestige of professional education. In addition, graduates of professional education programs often end up working in different profession from the originally intended one. An overview of the results and an analysis of these problems are provided in the next section.

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[2] The survey of students, teachers, graduates and employers was developed by: Biruta Sloka, Ināra Kantāne, Ilze Buligina, Ginta Tora, Juris Dzelme, Svetlana Saksonova, Irina Bausova, Pēteris Tora, Iluta Skrūzkalne. The purpose of the survey was to establish how active is the cooperation with professional education institutions, what are the existing and potential forms of cooperation, how do the programs correspond to the demand of the labor market and municipal governments.

[3] The project "Research on the Responsiveness of Professional Education to the Needs of the Labour Market, Development of the Model of Cooperation and Organizing Training for Internship Managers" was implemented as part of the project LLIV-265 co-financed by the Latvia-Lithuania cross border cooperation programme 2007-2013, researchers: Ilze Buligina, Biruta Sloka, Juris Dzelme, Ginta Tora, Ināra Kantāne, Svetlana Saksonova.

Research results and discussion

1. Supply of professional education

Several state institutions in Latvia have formulated priorities for professional education on both the national and local levels. For example, the Ministry of Economy urged expanding secondary professional education in the training of specialists in the fields of: agriculture, metalworking, machinery and related industries, as well as operators for industrial equipment and machinery, and specialists for particular service industries – information processing, hospitality, tourism and restaurant services, etc. It was also argued that industries that are related to exports of services or goods have to be prioritized and that by 2020 the demand for professions with secondary professional qualifications will rise by 6 percent compared to 2011 (Ministry of Economy, 2012a, 2012b).

The regional development plan of Kurzeme region defines the following priorities:

- To stimulate and diversify regional economy and develop manufacturing;
- To improve multimodal transportation and infrastructure potential in the region;
- To invest in human resources and develop a culture of innovation;
- To create a high quality living space, protect and preserve the environment and facilitate the development of remote regions (Kurzeme Regional Development Agency, 2004).

Traditionally, the cities in Kurzeme region have specialized in the following industries: Ventspils – oil and chemical product refining, information technologies; Liepāja – metalworking and textiles; Saldus – manufacturing of construction materials and road construction; Kuldīga – woodworking, forestry (producing timber); Talsi – fish farming and forestry (also timber related).

The report prepared by the Institute of Economics in the Latvian Academy of Sciences "Perspectives and Directions for Economic Development of Latvian regions in 2010-2011" in addition to the previously mentioned industries specifies other economic industries with development potential in the Kurzeme region – renewable energy resources, wind energy, geothermal energy and space technologies (Institute of Economics, 2010).

The choice of professional education programs offered in Kurzeme region is sufficiently wide and overall corresponds to the regional development priorities and priority industries. Available programs include timber processing (Cīrava Professional secondary school as well as Kuldīga Technology and tourism professional secondary school), textiles, metalworking, ICT technologies offered by Liepāja State Technical College, etc.) and others. Surveys of professional education participants and the analysis of supply of professional education institutions indicate that the most popular professions in Kurzeme region are:

- Specialists in food services (offered by six out of eight professional education institutions);
- Car mechanic (offered by five out of eight professional education institutions);
- Technicians for IT systems, customer service specialists, hospitality services specialist (offered by three out of eight professional education institutions).

This is explained by the fact that mastering these professions provides the graduates with opportunities to work in the service industries which may be less sensitive to the business cycle making graduate employment therefore more secure. In the interviews representatives of professional education institutions have argued that they analyze the composition and dynamics of labor market demand and that the graduates of their institutions have a high probability of finding a job, especially in industries where professional education is needed the most. Taking into account

the demographic situation and changes in the labor market, the supply of professional education has to be elastic and be able to react to changes in the labor market. Professional education institutions in Kurzeme region also take into account the opinions of Latvian industry associations in designing their curricula and other matters.

The priorities for regional development in Zemgale are agriculture, food processing, timber processing and forestry, metalworking and machinery, chemical industry, textiles, logistics and transit, as well as creative industries and tourism (Zemgale Planning Region, 2008). Based on the existing resources in Jelgava and the speed of its development its specialization is as follows (Jelgava City Council, 2012):

- A center of knowledge, technology and innovation with a developed economy and specialization in food processing, timber processing, machinery and metalworking industries;
- A center of education, culture, tourism and sports with a higher education institution of European significance, a center for vocational and further education of regional significance, internationally and nationally important cultural and sports objects and activities;
- An internationally and nationally significant logistics centre in the European transport network – TEN-T base network, included in road and railway networks providing a high degree of mobility.

Zemgale region and the city of Jelgava have a similar situation with a sufficiently broad choice of professional education programs, which broadly correspond to the regional priorities and priority industries. In accordance with the specialization of the city and priority industries determined by the Zemgale region, the premier professional education institution in Zemgale – Jelgava Technical College allows programs in the following professions: machinery and metalworking, food manufacturing, construction and light manufacturing, timber processing, information technologies, etc.

2. Demand for professional education

Demand for professional education can be evaluated from the viewpoints of two key stakeholders in the system – the students who participate in the system to get a job, and the employers who are interested in the system in order to secure a stable supply of skilled labor (the lack of such supply is often cited by entrepreneurs as a factor limiting sustainability of their businesses).

The number of employed individuals in Kurzeme region's labor market has grown somewhat in 2012. According to the revised data of the Central Statistical Bureau (taking into account the results of the 2011 population census), in 2012 the total number of employed individuals in Kurzeme has increased by 5.3 thousand compared to 2011 (see Table 1 and Figure 1).

However, employment did not grow equally in every industry. Indeed for some industries it fell. Thus, for example, the amount of people employed in education fell by 0.5 thousand (driven perhaps in part by unfavorable demographic trends), in state administration, defense and compulsory social insurance (a consequence of ongoing wage restraint in the government sector) – by 0.7 thousand, in transportation, storage, as well as information and communication services – by 1.3 thousand and in finance, insurance, and administrative services as well as real estate – by 0.8 thousand. The latter may have been a significant driver of this category for obvious reasons of ongoing weakness on the housing market. On the other hand, such priority industries for the region as manufacturing and energy, as well as industries that serve daily needs of their consumers (healthcare, retail trade, accommodation and food services) have experienced growth in employment – by 6.5 thousand in the priority industries and by 2.1 thousand in others. This would suggest that regional priorities have been determined appropriately.

Table 1

Employment by Type of Economic Activity 2010 – 2012, thousands of persons

NACE Economic Activity	2010	2011	2012
Agriculture, Forestry and Fishing (A)	17.7	14.6	14.6
Manufacturing, Energy (B-E)	26.5	19.0	24.6
Construction (F)	10.0	9.1	10.0
Trade, Accommodation and Food Service Activities (G, I)	19.1	16.7	16.9
Transportation, Storage, ICT Services (H, J)	11.0	10.5	9.2
Finance, Insurance, Scientific, Administrative, and Real Estate Activities (K-N)	9.4	9.2	8.4
Public Administration and Defense, Compulsory Social Security	8.6	6.5	6.2
Education (P)	13.8	13.9	12.4
Human Health and Social Work Activities (Q)	4.9	4.6	6.5
Other Types of Economic Activities (R-U)	4.8	4.2	4.7
Total	**125.8**	**108.3**	**113.5**

Source: Author's calculations based on the data provided by Central Statistical Bureau's database. [Online] Available at: http://www.csb.gov.lv/dati/statistikas-datubazes-28270.html [Accessed 21 June 2013].
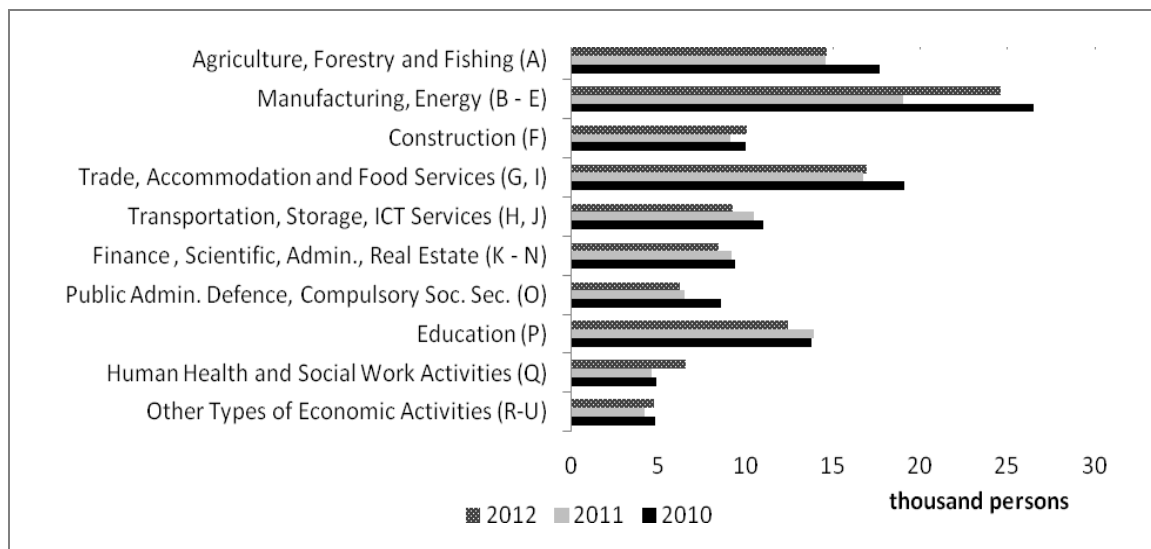
Source: Author's calculations based on the data provided by Central Statistical Bureau's database. [Online] Available at: http://www.csb.gov.lv/dati/statistikas-datubazes-28270.html [Accessed 21 June 2013].

Fig. 1. **Employment by Type of Economic Activity 2010 – 2012, thousands of persons**

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The impact of the economic crisis, of course, remains visible when one considers a broader perspective – comparing employment in 2010 with the employment in 2011. In many cases the latter was smaller than the former. This is explained by the fact that the economy in Kurzeme region is extremely dependent on a limited number of cyclically sensitive industries. There is also a danger of a series of traditional sectors (agriculture, fish farming, and heavy manufacturing) being in secular decline. A secular decline trend features a low level of entrepreneurial activity, a large number of bankrupt small and medium enterprises, and low level of cooperation within the industry together with migration of skilled labor to other countries. As evidence countering the secular decline hypothesis, one can consider Table 2 and Figure 2, which shows that the average employment in Kurzeme has increased both in small and larger firms.

Overall, one can conclude then that the evidence of sustainability of labor demand for professional education is mixed, as one would expect given the large economic crisis from which Latvia is currently recovering. Priority industries do have the potential to become the driving force of regional economic growth, but only when there are sufficient expectations of increase in demand to motivate expansion or even just continued activity. Nevertheless the fact that businesses continue to express interest in improving the quality of professional education allows one to be cautiously optimistic.

Table 2

Employment by firm size in Kurzeme region and Latvia in 2011 and 2012, thousand persons

	2011				2012			
	1-9	**10-49**	**50-249**	**250+**	**1-9**	**10-49**	**50-249**	**250+**
Kurzeme	12.1	20.9	23.3	19.1	12.2	21.8	24.4	19.0
Latvia	135.8	183.3	201.2	264.1	151.2	192.6	207.5	269.2

Source: Author's calculations based on the report by Central Statistical Bureau "Labour costs in 2012". [Online] Available at: http://www.csb.gov.lv/sites/default/files/publikacijas/nr_19_darbaspeka_izmaksas_2012_13_00_lv.pdf [Accessed 9 June 2013].
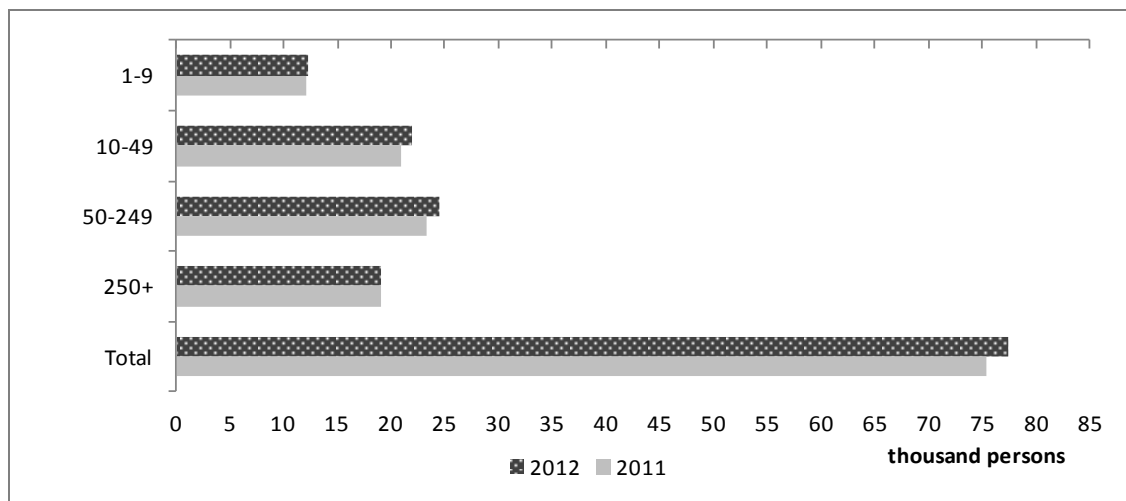
Source: Author's calculations based on the report by Central Statistical Bureau "Labour costs in 2012". [Online] Available at: http://www.csb.gov.lv/sites/default/files/publikacijas/nr_19_darbaspeka_izmaksas_2012_13_00_lv.pdf [Accessed 09 June 2013].

Fig. 2. **Employment by firm size in Kurzeme region in 2011 and 2012, thousand persons**

Turning now to the second group of stakeholders – the students themselves, surveys have uncovered two areas of improvement in the functioning of professional education systems:

First, there has been a decline in the number of students in professional secondary education programs due to the low prestige of professional education. Surveys have indicated that in absolute numbers this decline is quite dramatic from 6812 students in 2001/2002 academic year to 1950 students in 2011/2012 academic years. An approximately threefold decline in the number of students cannot be explained solely by the demographic situation, other demand factors have to play a role – including a changing preference for professional education. Young people do not seem to choose the most promising professions and due to the ongoing decline in the number of students, it is increasingly difficult to sustain programs financially. At the same time the analysis indicates that graduates should hold relatively good employment prospects taking into account the demographic factors and employment trends.

A significant factor influencing student demand for professional education is that financing for general education secondary schools depends on the number of students. Therefore, regardless of young people's preferences general education secondary schools are financially motivated to retain all those who graduate from lower secondary schools. Since they may have more opportunities to influence young people and their parents, this may exert an influence on the prestige of professional education and the number of students. Under these circumstances, professional secondary education schools can diversify their activities into raising qualifications of adults especially the unemployed adults.

One positive example of the reverse trend of increasing prestige of professional education is the city of Jelgava. According to the data of Jelgava local city government, an increase in proportion of lower secondary school graduates choosing professional secondary education has been observed since 2007/2008 (when it was 30.3 percent, compared to 39 percent now, see Figure 3).
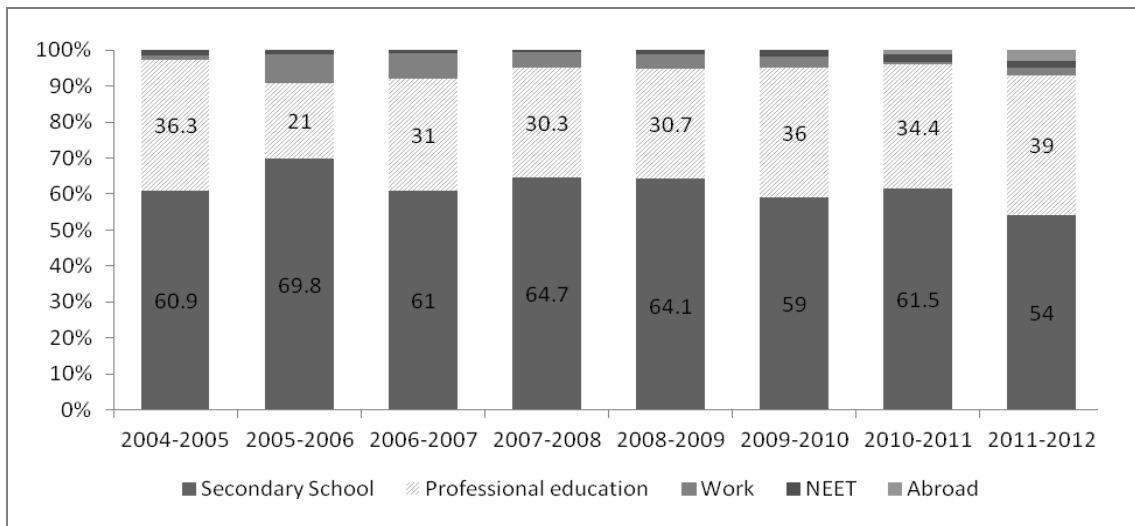
Source: Jelgava city development program 2014.-2020., description of the status quo. [Online] Available at: http://www.jelgava.lv/aktuali/lv/pasvaldibas/apstiprinata-jelgavas-pilsetas-attistiba/ [Accessed 15 June 2013].

Fig. 3. **Jelgava Student Choices after Completing Lower Secondary School Education, percent, academic year 2004/2005 – 2011/2012**

Second, graduates of professional education systems may end up working in other professions. Surveys of education system participants have indicated that the trend for graduates to work in other

professions has intensified. Results of previous surveys have shown that the weight of such graduates can be up to 42%. The main reasons for why graduates work in a different profession are:

- The possibility of finding a job (or a better paid job) in a different profession. This may be more of an evidence for imperfections in the career guidance system assuming working in a different profession turns out to be the preference of the graduate;
- The level of skills for graduates does not always meet the standards of employers.
- The level of knowledge of Latvian and other foreign languages may be weak.

Surveys confirm the readiness of graduates to work in different professions with an average score assigned to the statement "I like my chosen profession" equal to 6.46 (on a scale from 1 to 10, where 1 denotes disagreement, and 10 denotes complete agreement).

Conclusions, proposals, recommendations

This paper has reviewed professional education systems in Kurzeme and Zemgale regions. The results of the analysis suggest the following conclusions:

1. The analysis of professional education programs and interviews with staff of professional education programs have confirmed that the choice of programs in professional education (VET) systems broadly corresponds to regional priorities and their graduates should be well positioned to capture some benefits of the ongoing recovery.
2. On the demand side, however, demographics, however, as well as the lower prestige of professional education continue to cloud the outlook. If the number of students continues to fall in line with the current trends, many of the professional education institutions will need to reconsider their strategies.

Based on the analysis of regional development priorities as well as data on employment and participation in professional education systems, one can make the following recommendations:

1. It is necessary to regularly analyze changes in the labour market as well as perspectives for economic development of the region. This paper can only be a first step in this direction – a more detailed analysis is necessary that would incorporate other Latvian regions. Similarly, it is necessary to strengthen the analysis of employment patterns of graduates in order to follow changes in the labor force.
2. It is necessary to create new contracts with enterprises and industry professional associations on regularly raising qualifications of teaching staff to ensure their ability to prepare well qualified graduates of professional education system.
3. Professional education programs need to be promoted more. For example, in addition to the existing open doors days, one could create classes introducing and advertising different professions for matriculated students and their parents.
4. The positive experiences of the surveyed institutions in Kurzeme shows that it is useful to intensify cooperation with employers, involving them into improving the content of education programs and supervising the quality of implementation, thereby ensuring that professional education students become well qualified specialists, whose skills are demanded on the labor market and match regional development trends. Improving the links between employers and professional education institutions would increase the flexibility (as well as the aforementioned prestige) of professional education institutions and their ability to react to the changes in labor market and the growth of demand for graduates of professional education in the labor market.
5. It is also necessary to widen cooperation between regional professional education institutions and Latvian universities, for example by involving university academic staff in the development of

educational materials. The cooperation between universities and professional education institutions could motivate graduates to continue their education in universities, further improving their labor market chances.

6. In order to ensure quality in teaching, professional education institutions need improvements in infrastructure and equipment.

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SMARTPLS FOR THE HUMAN RESOURCES FIELD TO EVALUATE A MODEL

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Abstract

This paper describes the Partial Least Square model to test the robustness and value of the statistical evaluation. The test is to evaluate the fit of the model for a small sample. The statistical data is calculated with the SmartPLS software. SmartPLS is a tool created for statistical analysis, namely PLS – SEM (Structural Equation Model). The paper describes the advantages and disadvantages of SmartPLS and provides an argument for the use of SmartPLS in the scientific world. At the moment the use of SmartPLS in science concentrates mainly in the information technology field and the marketing area. The authors describe the use of SmartPLS for the human resources area which is a new field for SmartPLS software. The paper further describes the validity and reliability for PLS – SEM.

Key words: *SmartPLS, PLS, SEM, Model*

JEL codes: C52, M5

Introduction

This paper describes the SmartPLS method to test models. SmartPLS is a second generation SEM tool. It calculates and tests models. SmartPLS has advantages and disadvantages for research. The paper uses a model to measure social capital under consideration of the employment seeking process to demonstrate the method and to test the model. SmartPLS is a new product and mainly used in the management and information systems environment. The paper further provides a guide to use SmartPLS to explain the validation and reliability values for this construct and to compare the results from different studies.

The data for the test has been collected at the university of Ludwigshafen in Germany. The participants used an online survey platform to submit their data. The collected answers have been coded and prepared for the evaluation with the PLS model. There are 56 participants in the study. The validation and reliability has been done with the SmartPLS tool from Ringle et al[2]. The questionnaire is concerned with the use of social capital to identify an employment opportunity by employment seeking individuals on social network sites. The research focus is to determine the use of social network sites by members to identify employment opportunities. The results can be used to improve the recruiting processes of organizations and to gain more knowledge about social network sites and the difference between social network sites e.g. business and private social network sites.

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[2] Source http://www.smartpls.de

Structural Equation Model (SEM)

The Structural Equation Model provides the opportunity to measure unobservable variables with indicators. This is an important point for the social capital theory as there exist variables which needs indicators to be described. This represents a large advantage for scientific work (Haenlein & Kaplan, 2004) (Fuchs, 2011). The indicators can describe reflective and formative constructs in the model (C. M. Ringle & Sinkovics, 2009).

There exist covariance and variance based methods. SmartPLS is a variance based model. The basis for a model is a theory and hypothesis. The variables with their indicators and the hypothesis create the paths in the model. These paths and hypotheses are fundamental for the theory and the theory explains the causal mechanism. The advantage of the model is to explore the construct visibly and to simplify the research so that scientists can measure the relationship between indicators and variables to test the hypothesis (Urban & Mayerl, 2013). The danger is that the model oversimplifies and the measured data and reality is too different. That decreases the value of the model.

The data for the model can be collected with a survey or scientists can use panel data for example. The results of the model are calculated with statistical methods and predictions. That is the reason that the data has to be valid for the statistic of tests and the quality of the data is important to get a result without biases. The data is used to test the model and to confirm or disprove the hypothesis.

The model has a measurement model and a structural model. The measurement model describes the variables with their indicators. The indicators measure and describe variables if the variables are not measurable. This is a typical case in sociological and human resources related research. The variables are embedded in a theoretical frame. The indicators are measurable and provide data for immeasurable variables. The structural model describes the relationship between independent and dependent variable. The structural model provides the opportunity to test the hypothesis and to explain the causal mechanism if the model does not fail (Urban & Mayerl, 2013).
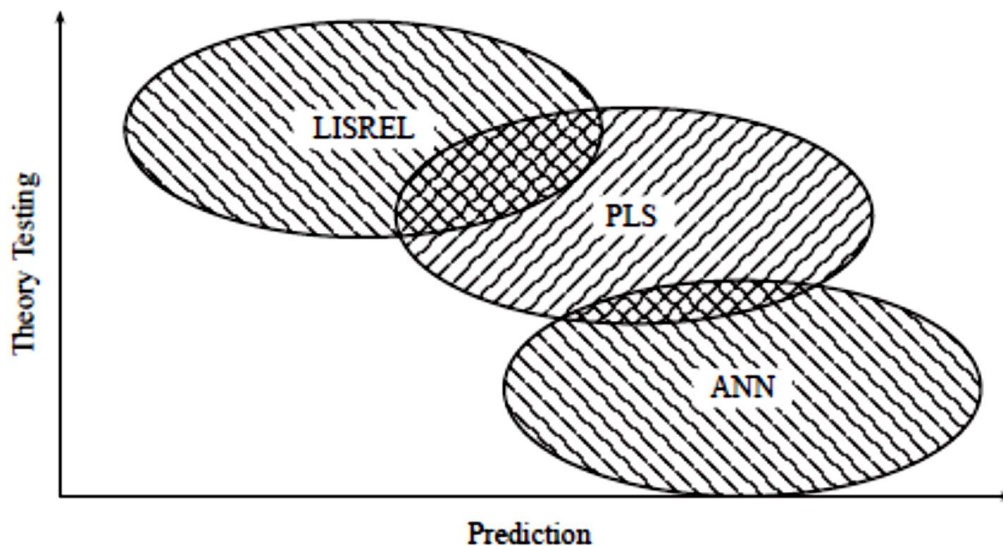
Source: (C. M. Ringle & Sinkovics, 2009)

Fig. 1. **Use of Models for the Research Purpose**

There are two kinds of measurement models. The first one is the reflective measurement model. This model measures the effect of variables on the indicator. The indicators can be switched and substituted without any compunction. There has to be a high correlation between the indicators and the indicators are founded on the same cause. The formative measurement model cannot change or substitute the indicators without compunction. These indicators influence the construct, they are cause indicators and there is only a small correlation between the indicators. The indicators have a similar effect (Fuchs, 2011) (Urban & Mayerl, 2013). Some Structural Equation Models methods do not provide the opportunity to use reflective and formative models in one model.

Models have different purposes. Some models are more useful for theory testing and other models are used for predictions. Ringle et al provide with the diagram the position of PLS methods compared with LISREL and ANN. This gives the information that PLS can be used for prediction and theory testing. There does not exist a strength in prediction and theory testing which means both kind of research is possible with PLS, for a theoretical testing research question LISREL would be a better indicator (C. M. Ringle & Sinkovics, 2009). This means different methods have different advantages and this has to be considered when choosing the of a model and software to evaluate the collected data and to test the model.

The Advantages and Disadvantages of SmartPLS Software

SmartPLS is a beneficial tool which is used in management science to calculate, create and validate models. Many articles use SmartPLS and journals accept SmartPLS as a method (C. M. Ringle & Sinkovics, 2009) (Shackman, 2013). The model explains causal mechanism and validates empirically theoretical hypotheses and applies predictive oriented measures. SmartPLS is a technique of the second SEM generation (Fuchs, 2011) (Chin, 2010).

The main area of SmartPLS is the field of Information Systems and Marketing. This is the reason to use this instrument and to test this instrument for the human resources and social capital field to open a new scientific field for SmartPLS. A study about social network sites or human resources related environments is not yet known. There are literature reviews which do not identify any study under consideration of the combination of social network sites, social capital and human resources (Hair, Sarstedt, Pieper, & Ringle, 2012) (Shackman, 2013) (C. Ringle, Sarstedt, & Straub, 2012). Therefore, this study will be a very new approach in this area of study.

Besides, SmartPLS offers the path model that is able to describe the relationship between the variables and indicators. These come as a vital important point to provide an understandable picture and support to demonstrate the results. However, the disadvantage is the complexity of the reality which could be not demonstrated perfectly in a model. There are often biases and 100% validity does not exist. Models are imperfect and incomplete because the model has to handle the complexity of the real world (Haenlein & Kaplan, 2004) (Chin, 2010). The path models refer hypothesis and the task of the model is to explain the impact of the different hypotheses on each other. The scientist tests the hypotheses and urges for the confirmed or unconfirmed hypotheses with this approach to get a result (Nitzl, 2010).

SmartPLS is software created to test models. The software provides the opportunity to draw the path model between the variables and to define the indicators to the variables. The advantage of this path modelling technique is in the smaller sample size and a lack of distributional assumptions (Fuchs, 2011) (Chin, 2010) (Hair et al., 2012). The variable for SmartPLS can be nominal, ordinal or interval scaled e.g. likert scale (Nitzl, 2010) (Fuchs, 2011) (Chin, 2010). The main point to use SmartPLS is the sample size. Some SEM need samples of at least 200 samples or more. Shackman and other authors identified studies with sample size between 51 and 274 for the PLS method for example (C. Ringle et al., 2012) (Shackman, 2013) (Hair, Ringle, & Sarstedt, 2013) (C. M. Ringle & Sinkovics, 2009) (C. M. Ringle & Sinkovics, 2009) (C. Ringle, 2004a) (Fuchs, 2011). Under consideration has to be that the number of

cases has to exceed the number of indicators or the matrix is not defined (Haenlein & Kaplan, 2004). Some author writes that PLS provides more accurate and valid results if the sample size is below 250 than other methods to test models or explain causal mechanism. The advantage is that the studies can use very specific populations. International business scientists need an instrument to build group analysis with relatively small sample sizes. The need to compare valid and accurate groups does not compute a fit statistically. Next, SmartPLS requires no distributional assumptions, other SEM assumes a normal distribution of data (C. Ringle et al., 2012) (Shackman, 2013) (C. M. Ringle & Sinkovics, 2009) (Nitzl, 2010). This gives more flexibility. The usefulness of PLS – SEM is given for explanatory research because covariance methods could not give valid or reliable results or it is not possible to use these methods for explanatory research (Hair et al., 2012).

SmartPLS has been used for exploratory research and theory development. This means SmartPLS can be used for scientific work with different objectives (see Figure 1). The main contribution of SmartPLS is the prediction and opportunity to use non-normal data (C. Ringle et al., 2012).

Furthermore, SmartPLS has the ability to use reflective and formative scales. Both can be tested with SmartPLS software and give the opportunity to use a model with reflective and formative elements easily (Shackman, 2013). Hair identified in his study that 50% of the explored models are both reflective and formative (Hair et al., 2012). This is one important difference between SmartPLS and LISREL or other SEM software, that there does not exist any restriction to use formative and reflective model in one construct (C. Ringle, 2004b) (Fuchs, 2011).

The explanatory research has the advantage that PLS has greater statistical power for detecting statistically significant relationships within other kinds of models (Shackman, 2013).

The model has formative indicators which influence the construct and has an impact on the model. These indicators should not have a large correlation with each other. The reflective indicators depend on the model and explore the result of the model. This means the outcome of the model is measured by the reflective indicators. The model to measure an social network sites for example the use by members to identify an employment opportunity has reflective and formative indicators (Haenlein & Kaplan, 2004).

A disadvantage is the evaluation of the model as the evaluation has to be done on r-squares of the different dependent and mediating variables. This makes it more difficult to compare the model with other models (Shackman, 2013). SmartPLS has to identify the reliability and validity with less statistical methods compared to covariance constructs. That is the reason to use resampling procedures e.g. bootstrapping to get information about the validity and reliability of the model. This is a disadvantage but with an increased sample size this disadvantage is not apparent (Fuchs, 2011).

The PLS path model includes two models, one model is the measurement model and the other model is the structural model. The measurement model is the outer model and the indicators are measurable to describe the variables. There has to exist a correlation between manifest variables and latent variables (Tenenhaus, Vinzi, Chatelin, & Lauro, 2005).

SmartPLS can use a wide range of variables to identify results. SmartPLS can use metric, quasi-metric, ordinal or categorical scales. This makes it very interesting to use this method to validate the model because there is a large flexibility (Hair et al., 2013). This means SmartPLS can be used for very complex models with many latent and manifest variables with different scales (C. M. Ringle & Sinkovics, 2009).

Validation and Reliability

The validation and test of reliability of path models has three stages. The first level is the quality of the measurement model, the second stage is the quality of the structural model and the last stage is a structural regression equation (Tenenhaus et al., 2005). Small parts of models can be separately fitted. This helps to evaluate SmartPLS and to fulfil the quality criteria (Urban & Mayerl, 2013).

The different stages are described below. A best fit criteria like the standardized fit index or goodness of fit for LISREL does not exist for SmartPls at the moment. This means the good fit has to be reached by testing the path coefficient and to be defined by parts of the model. The models, part of the model and paths are tested for reliability and validity. The tests use the statistical known values of a factor analysis which are described below (Nitzl, 2010) (C. Ringle, Boysen, Wende, & Will, 2006) (Hooper, Coughlan, & Mullen, 2008) (C. Ringle & Spreen, 2007).

Evaluation formative measurement model	Evaluation reflective measurement model

Evaluation structure model
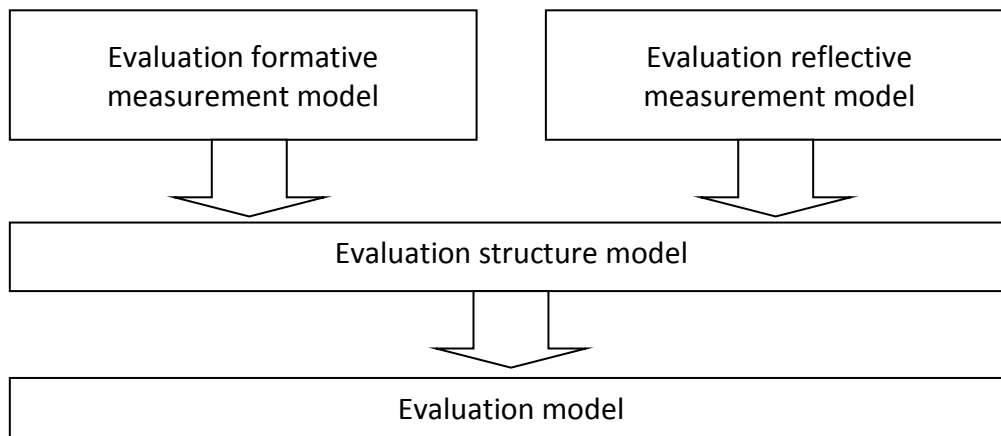
Evaluation model

Source: cf (Nitzl, 2010) (C. Ringle, 2004a)

Fig. 2. **Evaluation of a SmartPLS Model**

The robustness of the model can be tested with the bootstrapping method and gives information regarding the indicators and variables. A parametrical signification test to evaluate the model is not suitable. That difficulty is solved with a t-test. The t-Test is calculated with the bootstrapping process. The minimum value of the t-test should be larger than 1.65 to have an excellent significant value (Haenlein & Kaplan, 2004) (C. Ringle & Spreen, 2007).

With bootstrap it is possible to test the model properly. The bootstrap process provides the mean value and standard error for each path model coefficient. SmartPLS with the bootstrapping procedure further provides a t-test result for all paths. The t-test provides the confidence interval which is more valuable than the significant for a parameter (C. M. Ringle & Sinkovics, 2009).

Another opportunity to test the model is the blindfolding process. This test provides further opportunities to evaluate the model.

The Model

The model is created with hypotheses and have a formative and reflective part. This paper tests the statistical robustness, validity and reliability to evaluate the statistical value of the construct. The construct is tested with data from an online survey. The data is collected at the University of Ludwigshafen. The test procedure has been done several times and some indicators has been deleted to improve the results and to fulfil the highest standards for the scientific and statistical requirements.
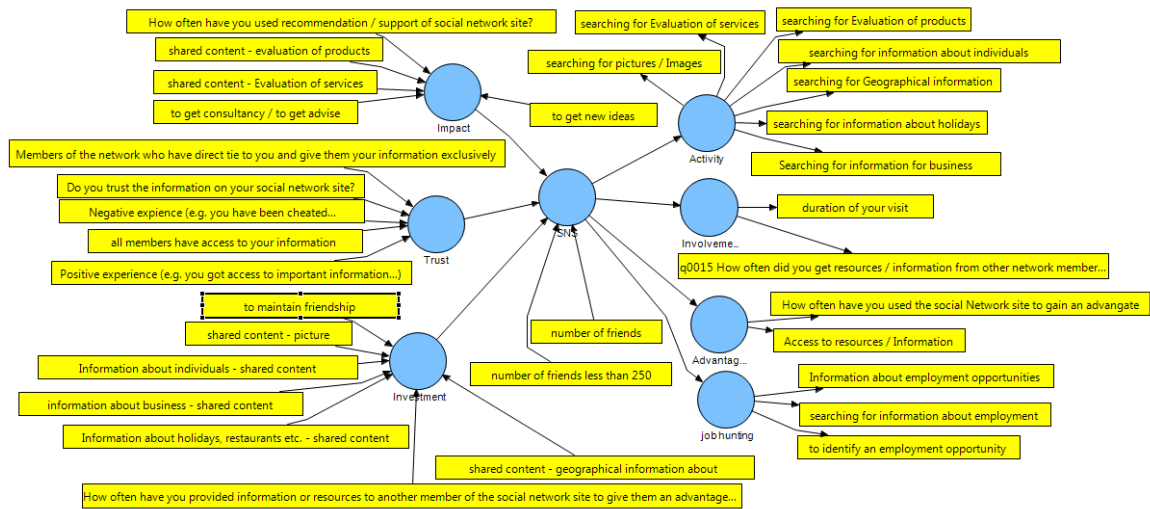
Source: Author

Fig. 3. **The model to Measure the Causal Mechanism**

Testing of the Reflective Measurement Model

The reflective model is tested on convergence validity, indicator reliability and constructs reliability. The test has to provide results and values which are statistically acceptable. If the results are not in the range then the model and indicator has to be under consideration.

The indicator reliability is given if the variance should have a minimum of 0.7 and this result confirms as a first step the significance. The outer loadings are larger than 0.7 and t-values give the indication that the indicator reliability is given. In addition is the t-value an evident for the significant too. Outer loadings with a value above 0.6 are acceptable if the convergence criteria are fulfilled. Below is the convergence criteria is described and reached. This means the indicator reliability is confirmed (Nitzl, 2010) (Fuchs, 2011) (Chin, 2010) (C. Ringle & Spreen, 2007).

The construct reliability is measured with the composite reliability. The result of this test should be between 0 and 1. Acceptable results are 0.6 or higher. A further indicator for the construct reliability can be cronbachs alpha. Cronbachs alpha should be 0.7 or more (Nitzl, 2010) (Fuchs, 2011). The results are presented in Table 2. The composite reliability is completely fulfilled, only the cronbachs alpha is twice misses 0.7 but the value is more than 0.6. This result is a weakness and has to be under consideration with a larger sample and further evaluations.

Table 1

Indicator Reliability – Outer Loadings, Mean, STDEV and t-values for the Reflective Model

Outer Loadings (Mean, STDEV, T-Values)	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)
Access to resources / Information <- Advantage / Benefit	0.7777	0.7751	0.0418	0.0418	18.5853
How often have you used the social Network site to gain an advantage <- Advantage / Benefit	0.9256	0.9253	0.0197	0.0197	46.9357
Information about employment opportunities <- job hunting	0.9506	0.9503	0.0075	0.0075	126.948
Searching for information for business <- Activity	0.6289	0.6282	0.0369	0.0369	17.0314
duration of your visit <- Involvement / Engagement	0.8748	0.8742	0.0147	0.0147	59.4341
How often did you get resources / information from other network members or did you get something back from other network member who received information / resources in the last 12 month <- Involvement / Engagement	0.8128	0.8138	0.0325	0.0325	25.0139
searching for Evaluation of products <- Activity	0.8742	0.8738	0.0149	0.0149	58.6327
searching for Evaluation of services <- Activity	0.882	0.8816	0.0179	0.0179	49.3873
searching for Geographical information <- Activity	0.796	0.7948	0.022	0.022	36.217
searching for information about employment <- Job Hunting	0.9424	0.9422	0.0094	0.0094	100.1893
searching for information about holidays <- Activity	0.79	0.7901	0.0206	0.0206	38.2622
searching for information about individuals <- Activity	0.8434	0.8421	0.0191	0.0191	44.1357
searching for pictures / Images <- Activity	0.8521	0.8514	0.0174	0.0174	49.0312
to identify an employment opportunity <- Job Hunting	0.6282	0.6208	0.0584	0.0584	10.7524

Table 2

Construct Reliability Measurement

Variable / Value	AVE	Composite Reliability	R Square	Cronbachs Alpha	Commu-nality	Redun-dancy
Activity	0.6618	0.9313	0.4187	0.9131	0.6618	0.2731
Advantage / Benefit	0.7307	0.8434	0.1619	0.6503	0.7307	0.1125
Involvement / Engagement	0.7129	0.8322	0.3333	0.6002	0.7129	0.2362
Job Hunting	0.7288	0.8865	0.3274	0.8149	0.7288	0.2268

Convergence validity describes the average variance extracted (AVE) of the selected values between 0 and 1. The acceptable result is 0.5 or higher. The figure 0.5 describes that a minimum 50% of the indicators explain the construct (Nitzl, 2010) (C. Ringle & Spreen, 2007). Table 2 shows the AVE values for the variables and all variables fulfil the requirements. This gives more flexibility for the outer loadings as mentioned above.

The discriminate validity is given. The rule for discriminate validity for the reflective model is latent variables correlation² < AVE. The AVE value is in Table 2.

Table 3

Latent Variables Discriminate Validity for Formative and Reflective Model

Latent variables correlation	Activity	Advan-tage / Benefit	Impact	Invest-ment	Involve-ment / Enga-gement	SNS	Trust	Job hunting
Activity	1	0	0	0	0	0	0	0
Advantage / Benefit	0.5912	1	0	0	0	0	0	0
Impact	0.7275	0.5706	1	0	0	0	0	0
Investment	0.7238	0.5902	0.7404	1	0	0	0	0
Involvement / Engagement	0.6564	0.6529	0.5729	0.72	1	0	0	0
SNS	0.6471	0.4024	0.6978	0.8077	0.5774	1	0	0
Trust	0.7241	0.6677	0.7343	0.7833	0.6399	0.7253	1	0
Job Hunting	0.5596	0.3485	0.5457	0.4381	0.3756	0.5722	0.557	1

The result of the reflective measurement model is positive and gives a good overview of the value of the construct and it´s robustness.

Testing the Formative Measurement Model

The validity of the formative measurement model is the indicators relevance. The value is between -1 and 1. The accepted value is 0.1 or higher (Fuchs, 2011). If the variable is not suitable and has to be deleted then the value of the measurement model is reduced and the explanation of the model decreased (C. Ringle, 2004b).

Ringle has done a study and found 93.85% of PLS studies has done bootstrapping method. This method is used to identify relationships between construct and indicator. The value should be between 1 and -1 and not 0. This will be the outer weight of the indicators and gives an indication for the significant (Nitzl, 2010) (C. Ringle et al., 2012).

Table 4

Outer Weights, Reflective Model

Outer Weights (Mean, STDEV, T-Values)	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (O/STERR)
Do you trust the information on your social network site? -> Trust	0.1532	0.1712	0.1116	0.1116	*1.373*
How often have you provided information or resources to another member of the social network site to give them an advantage in the last 12 months -> Investment	0.0212	0.0404	0.0312	0.0312	**0.679**
How often have you used recommendation / support of social network site? -> Impact	0.5362	0.5335	0.0955	0.0955	5.6146
Information about holidays, restaurants etc. - shared content -> Investment	0.4178	0.4138	0.0575	0.0575	7.2703
Information about individuals - shared content -> Investment	-0.1986	-0.203	0.0928	0.0928	2.1385
Members of the network who have a direct tie to you and give them your information exclusively -> Trust	0.6022	0.5932	0.0884	0.0884	6.8151
Negative experience (e.g. you have been cheated... -> Trust	0.3406	0.3259	0.1016	0.1016	3.3532
Positive experience (e.g. you got access to important information...) -> Trust	0.1579	0.163	0.0967	0.0967	1.6334
All members have access to your information -> Trust	0.1816	0.1786	0.0747	0.0747	2.4297
Information about business - shared content -> Investment	0.0132	0.0555	0.0435	0.0435	**0.3032**
Number of friends -> SNS	1.0046	1.0047	0.0365	0.0365	27.4884
number of friends less than 250 -> SNS	0.9682	0.9686	0.0402	0.0402	24.0981
Shared content - Evaluation of services -> Impact	-0.1148	-0.1291	0.0861	0.0861	*1.3338*
Shared content - evaluation of products -> Impact	0.6454	0.6301	0.092	0.092	7.0123
Shared content - geographical information about -> Investment	-0.2539	-0.2462	0.0839	0.0839	3.0252
Shared content - picture -> Investment	0.7176	0.7117	0.1118	0.1118	6.4192
To get consultancy / to get advise -> Impact	-0.5301	-0.5211	0.0707	0.0707	7.4952
To get new ideas -> Impact	0.2486	0.2405	0.0932	0.0932	2.6667
To maintain friendship -> Investment	0.3724	0.372	0.0645	0.0645	5.7739

Two indicators have a weak t-value but both indicators are important for the research and bold. Two more indicators are italic because their t-value gives a lower significant than the other results. The expectation for these indicators is a higher value for another population. The indicators have to be under consideration.

Multicollinearity tests the relevance of the indicators and the dependence between the indicators. If multicollinarity exists between two indicators then the indicator should be under consideration. A multicollinearitiy effect is not desirable because then the indicator is not independent. This could be a reason to delete an indicator. The results of the Multicollinearity fulfil the requirements as demonstrated in Table 5 (Nitzl, 2010) (Fuchs, 2011).

Table 5

Adjusted R² and Multicollinearity for outer weights, formative model

Variable Name Outer weights	Adjusted R²	Multicoll.
Do you trust the information on your social network site? -> Trust 18	0.734	3.7593985
Members of the network who have direct tie to you and give them your information exclusively -> Trust 22	0.615	2.5974026
Negative experience (e.g. you have been cheated... -> Trust 16	0.286	1.40056022
Positive experience (e.g. you got access to important information...) -> Trust 17	0.705	3.38983051
All members have access to your information -> Trust 23	0.399	1.66389351
How often have you provided information or resources to another member of the social network site to give them an advantage in the last 12 months -> Investment 14	0.374	1.59744409
Information about holidays, restaurants etc. - shared content -> Investment 20_7	0.503	2.01207243
Information about individuals - shared content -> Investment 20_8	0.507	2.02839757
Information about business - shared content -> Investment 20_4	0.296	1.42045455
Shared content - geographical information about -> Investment 20_6	0.565	2.29885057
Shared content - picture -> Investment 20_1	0.669	3.02114804
To maintain friendship -> Investment 11_1	0.498	1.99203187
Shared content - Evaluation of services -> Impact 20_3	0.672	3.04878049
Shared content - evaluation of products -> Impact 20_2	0.64	2.77777778
How often have you used recommendation / support of social network site? -> Impact 19	0.388	1.63398693
To get consultancy / to get advise -> Impact 11_06	0.181	1.22100122
To get new ideas -> Impact 11_07	0.323	1.47710487

The t-test should be done to test the model. The expected results are a minimum of 1.65 with 10% probability of error or larger than 1.96 with 5% probability of error. The t-test has the advantage that the significant is included in the t-test.

The discriminate validity needs a value of the latent variables correlation below 0.9 for the formative variables. This result is fulfilled and demonstrated in Table 3 (Fuchs, 2011).

Testing the Structural Model

The coefficient of determination is r² and the values between 0 and 1. The results should be above 0.19 then the coefficient is weak. Results above 0.33 are good and higher than 0.67 are excellent. The objective should be to have excellent results above 0.67. The higher the r² the better is the result (Nitzl, 2010) (C. Ringle, 2004a) (Fuchs, 2011) (Chin, 2010). The results for r² are presented in Table 2.

Path coefficients should be between 1 and -1. Coefficients should be next to 1 or -1. Results between 0.2 and -0.2 are weak. The t-value gives an indication for the significant of the path coefficients (Nitzl, 2010) (Fuchs, 2011) (Chin, 2010).

Table 6

Path Coefficient

Path coefficients	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)
Impact -> SNS	0.161	0.1571	0.0721	0.0721	2.2334
Investment -> SNS	0.551	0.5602	0.072	0.072	7.6526
SNS -> Activity	0.6471	0.65	0.0379	0.0379	17.0956
SNS -> Advantage / Benefit	0.4024	0.4039	0.0486	0.0486	8.2849
SNS -> Involvement / Engagement	0.5774	0.5808	0.0571	0.0571	10.1135
SNS -> Job Hunting	0.5722	0.5735	0.0489	0.0489	11.7088
Trust -> SNS	0.1755	0.1788	0.0577	0.0577	3.0438

Blindfolding Procedures describe the prediction of the model. The Prediction is defined as Q² and any result above 0 has a good prediction, results below 0 are not useful for a prediction. The results 0,02 or lower have a very low prediction, 0.15 or lower are on a middle level and higher than 0.35 have a high prediction for the variable (Nitzl, 2010) (C. Ringle, 2004a) (Fuchs, 2011) (C. Ringle & Spreen, 2007). The structural model has a good prediction. The results for Q² are all above 0.16 and 7 of 8 variables are above 0.35.

Table 7

Q² Values for the Model – Prediction Power

Total	Q²
Activity	0.6377
Advantage / Benefit	0.5335
Impact	0.4125
Investment	0.4361
Involvement / Engagement	0.7345
SNS	0.1693
Trust	0.5028
Job hunting	0.7193

Conclusion and Future Works

This paper successfully evaluated the model. The result is compared to get an overview. The different values have to be under consideration and the result for the model should be independent of one result. The whole picture of this paper has provided an important overview of the model and confirmed the theory. It has shown a positive effect on the model.

The next step of the authors study is to test the model with a larger sample of data to increase the reliability and validity. On the other hand, the hypothesis has to be tested to identify a causal mechanism and to explore the use of social network sites to identify employment opportunities by network members. Some results are forwarded for future evaluations of their value or to eliminate weak indicators and variables apart from analysis

SmartPLS is a valid tool to test a model and to describe complex structures. The program helps to create a model and to evaluate the model. This model has not been used in the research field of human resources under consideration of the employment seeking process before so this is a novel research undertaking creating new opportunities in this field. The flexibility of the SmartPLS software and less restricted rules enables scientists to explore causal mechanism with small samples and undistributed data.

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ONLINE MARKETING TOOLS USEFULNESS IN MANAGING CUSTOMER PURCHASE DECISION PROCESS

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Introduction

Because of the rapid development of information technology, companies systematically use online marketing tools that help influence customer purchase decision making process. Although many companies use online marketing there have been both successful and unsuccessful cases of online marketing (Rubaiyet Hasan Khan, 2013). In the past years many new online marketing tools have been brought to the online marketing tool market and have provided advertisers with new advertising and online marketing data analysis methods and possibilities. Popular websites, for example Foursquare, LinkedIn, Ask.fm, and their online marketing tools provide new marketing possibilities to businesses.

Technological advances have provided customers the possibility to gather large amount of information from lots of sources before making a purchase decision. It is possible by means of search engines, social networks and other online marketing tools. This has influenced the way how customers search for information about products. Search engine marketing has become the most important online marketing instrument nowadays (Jonathan Barnard, 2013). Several researchers have researched the impact of online consumer reviews on the purchasing decision making process (Kem Z. K. Zhang, Christy M. K. Cheung, Matthew K. O. Lee 2013).

Technology development, rapid growth of online marketing tool offerings, marketing tool diversity, and online marketing tool growing influence on purchase decision making process request to conduct systematic researches on how online marketing tools influence the purchase decision process and which online marketing tools are more useful to use to influence certain purchase decision process stages.

The aim of the study was to determine which online marketing tools available to manufacturers are more useful to use to influence the customer purchase decision making process and which tools are less useful. This is a pilot research; therefore, one of the research goals was to gather enough information about the online marketing tools to determine if there is any further research required.

To reach the aim of the study, the following tasks were set: research theoretical materials about customer purchase decision process; research theoretical materials about internet marketing tools and their categorization; conduct expert survey; conduct expert interview; conduct customer survey; based on the collected information decide on which online marketing tools are more useful to use to influence certain consumer purchase decision process, draw conclusions and make proposals on how to improve the conducted research.

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Consumer purchase decision process models

To achieve the aim of the paper first of all theoretical analysis of consumer purchase decision models was required. In the research process multiple consumer purchase decision process models were analyzed. Some of the models are mentioned below:

1. Section models. These models are based on the assumption that consumer purchase decision process can be divided into stages and arranged into sequence (P. Butler, J. Peppard, 1998);
2. Personal variable models. This model states that when analyzing consumer purchase decision process we have to take into account external variables. Scientists focus is on the decision-making mental processes such as perception, motivation, beliefs and values;
3. Formal models. The formal models have a clear structure, they are mathematically processable. Formal models can be divided into four groups (M. Jones, J. R. Bettman, 1986):
   a. Stochastic models. These models consist of two main components, from the individual models and from "laws" intended for individual behavior;
   b. Information processing models. These model are based on the assumption that the consumer's purchase decision-making process is systematically affected by external factors;
   c. Experimental and linear models. These models have a mathematical structure;
   d. Multisystem consumer choice models. These models display a broad relationship structure.

After the theoretical research about consumer purchase decision process models the following conclusions were made:
1. Stage models are used the most frequently in the researches about consumer purchase decisions processes.
2. The 5 stage model has been used by many well-known authors, for example by Philip Kotler.
3. The 5 stage model compared to other models is more straightforward and better suits our research needs. Based on previous assumptions in this research consumer purchase decision 5 stage model will be used.

First time the 5 stage model was introduced by John Dewey. The model is displayed in figure 1 and consists of following stages:
1. Problem/Need recognition. In this stage consumer has a need for product/brand. This is the first and the most important step in the consumer purchase decision process. Without the recognition of the need, a purchase cannot take place;
2. Information search. In this stage consumer is searching for information about the product/brand which will satisfy his needs;
3. Evolution of alternatives. In this stage consumer is evaluating if the product/brand will satisfy his needs;
4. Purchase decision. In this stage consumer has found the product/brand he was looking for and now is deciding how and where he will purchase it;
5. Post-purchase decision. In this stage consumer evaluates if the product/brand he bought is satisfying his needs.
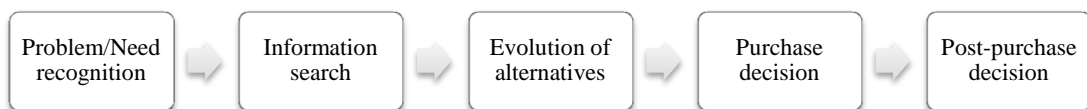

Fig. 1. **Consumer purchase decision 5 stage model**

Online marketing tool classification

To achieve the aim of the paper, theoretical research about online marketing tool classification was conducted. During the research were made conclusion that there are many different approaches how researchers classify online marketing tools. Let us look at some of the classifications. Mary Lou Roberts offers us the following classification: video marketing; banner advertising marketing; email marketing; search engine marketing; social media marketing.

Richard Gay, Alan Charlesworth, Rita Esen suggest to divide online marketing tools in the following groups: online advertising; email marketing; viral marketing; public comment sites; affiliate marketing; public relations; commercial newsletters; blogging.

Leland Harden, Bob Heyman offers us the following online marketing tool classification: Search engine marketing; viral marketing; video marketing; affiliate marketing; social media marketing; banner advertising.

After the theoretical research following conclusions were made: the most of the researchers offer similar online marketing tools classifications; the main difference between the classifications is in how many categories researchers divide them. Authors' opinion is that none of the offered classifications fully covers all online marketing tools. Authors propose their own online marketing classification which consists of 8 categories: banner advertising marketing; email marketing; social media marketing; affiliate marketing; search engine optimization; search engine advertising; mobile marketing; viral marketing.

Online marketing tool classification developed by authors is based on the previously described classifications. The proposed marketing classification covers all online marketing tools. Search engine marketing is divided into two groups considering that the search engine marketing is the most popular online communication channel in 2013 according to Zenithoptimedia data, and there is a big difference between search engine optimization and search engine advertising. Search engine optimization is the process to affect websites natural rankings in search results. Search engine advertising is a method of online advertising that shows search engine queries.

The proposed classification was used to determine which online marketing tools are more useful to influence certain consumer purchase decision process stages.

In the next section results from the expert interviews about the online marketing tool usefulness on consumer purchase decision process are summarized. The interview was developed based on the theoretical analysis of consumer purchase decision processes and the new online marketing tool classification.

The most recommended online marketing tools for usage from expert point of view

In this pilot research participated 18 respondents with practical and theoretical knowledge in the marketing. The respondents were divided into groups by 3. The research participants had to choose a manufacturing company, describe the company, answer researchers' questions and substantiate the answers.

The research questions were conducted so that in each purchase decision stage they had to achieve certain marketing goal. The questions for the respondents are listed below:

1. Problem/Need recognition. To increase the need for a product/brand, marketing goal was to introduce a new product/brand to the market;
2. Information search. To increase the products/brand awareness, the marketing goal was set to inform the consumer about a product/brand;
3. Evolution of alternatives. To increase the chance that the consumer will choose certain product/brand, the marketing goal was set to improve the products/brand reputation;

4. Purchase decision. To increase the chance that the consumer will buy certain products/brand, marketing goal was to increase the products/brand sales;
5. Post-purchase decision. To increase the amount of products/brands repeated purchases, marketing goal was to increase the amount of consumers who make repeated purchases.

The task of the first group was to choose online marketing tools that are the most useful to introduce a new product/brand to the market.

Analysis of results gave a set of conclusions: 1) The most useful online marketing tools to introduce a new product/brand to the market are banner advertising, email marketing, social media marketing, affiliate marketing, search engine advertising, mobile marketing and viral marketing; 2) Less useful online marketing tools are search engine optimization and video marketing.

After asking why respondents gave such an answer they responded that these online marketing tools were more useful when customers were familiar with the product. The customer did not know what to look for in search engines if they did not know the product. Based on the gathered information the following conclusion was made, all online marketing tools can be used to introduce a new product/brand to the market but with different usefulness in each stage.

The second group task was to inform consumer about a new product/brand. The corresponding consumer purchase decision stage was search for information. After analyzing the gathered data the following conclusions were made: 1) The most useful online marketing tools for this stage are social media marketing, affiliate marketing, search engine optimization, search engine advertising and mobile marketing; 2) Less useful tools are banner advertising and video marketing., 3) the least useful tool is email marketing. Respondents suggested that less useful are those online marketing tools which consumers use to search for information.

The third group task was to improve product/brand reputation. The corresponding consumer purchase decision stage is search for alternatives. Based on the collected data the following conclusions were made: 1) To cope with the task the most useful tools are social media marketing, search engine optimization, search engine advertising and search engine optimization; 2) Less useful tools are banner advertising marketing, email marketing, affiliate marketing, mobile marketing and video marketing; 3) The least useful tool is viral marketing.

Respondents suggested that to influence this purchase decision stage we should use online marketing tools that consumers think are more trustworthy.

The fourth group task was to increase the products/brands sales levels. The corresponding consumer purchase decision stage is purchase decision.

Based on the collected data the following conclusions were made:
1) To achieve the task the most useful online marketing tools are banner advertising marketing, email marketing, affiliate marketing, search engine optimization and mobile marketing;
2) Less useful online marketing tool is social media marketing;
3) The least useful tools are video marketing and viral marketing.

Respondents suggested that to influence consumers in this stage we should use online marketing tools that can remind consumer again about the products/brands existence. We should use tools that can inform consumers where the product/brand is available for purchase.

The fifth group goal was to increase amount of repeated purchases. The corresponding consumer purchase decision stage is post purchase decision. Based on the collected data the following conclusions were made: 1) The most useful online marketing tools to influence post purchase decision are banner advertising marketing, email marketing, social media marketing, affiliate marketing, search engine optimization and mobile marketing; 2) Less useful tool is video marketing; 3) And the least useful tools are search engine advertising and viral marketing.

Respondents suggested that to influence consumers in this stage we should use online marketing tools that can reach again the consumers that have already purchased product/brand. Collected data is summarized in table 1.

Table 1

Online marketing tools usefulness to influence purchase decision making processes from the expert point of view

	Problem/Need recognition	Information search	Evolution of alternatives	Purchase decision	Post-purchase decision	Average	Sum
Banner advertising marketing	3	2	2	3	3	**2.60**	**13**
Email marketing	3	1	2	3	3	**2.40**	**12**
Social media marketing	3	3	3	2	3	**2.80**	**14**
Affiliate **marketing**	3	3	2	3	3	**2.80**	**14**
Search engine optimization	2	3	3	3	1	**2.40**	**12**
Search engine advertising	3	3	3	3	1	**2.60**	**13**
Mobile marketing	3	3	2	3	3	**2.80**	**14**
Video marketing	2	2	2	1	2	**1.80**	**9**
Viral marketing	3	1	1	1	1	**1.40**	**7**
Average	**2.78**	**2.33**	**2.22**	**2.44**	**2.22**		
Sum	**25**	**21**	**20**	**22**	**20**		

Where: 3 – The most useful to use to influence consumer purchase decision stage; 2 – Less useful to use to influence consumer purchase decision stage; 1 – The least useful to use to influence consumer purchase decision stage; 0 – Has no influence on consumer purchase decision stage.

Source: The authors collected data from expert interviews and surveys.

In the next section results from the consumer surveys about the online marketing tool usefulness on consumer purchase decision process are summarized. The survey was developed based on the theoretical analysis of consumer purchase decision processes and the new online marketing tool classification.

The most recommended online marketing tools for usage from consumer point of view

To get more precise results about which online marketing tools to use to influence consumer purchase decision process stages a consumer survey was conducted.

To conduct the research multi stage sampling method was used. Data from Latvian republic central statistics bureau were used as the basis for respondent selection. This data was used to determine how many residents are in Latvia that use the Internet at the least once a month in age group from 15 till 74. Then the residents were divided into smaller groups: 1) Residents between 15 till 24 years of age; 2) residents between 25 till 34 years of age; 3) residents between 35 till 44 years of age; 3) residents between 45 till 54 years of age; 4) residents between 55 till 64 years of age; and 5) residents between 65 and 74 years of age. The number of respondents in each group was selected randomly depending on the number of the respondents in the group. The number of residents in each group is displayed in table 2.

Table 2

Latvian residents who use internet in 2013

	2013		
	Residents who use internet at least a week in %	**Residents**	**Residents who use internet at least a week**
15-24 years of age	98.1	218247	214100
25-34 years of age	96.4	281714	271572
35-44 years of age	86.2	275614	237579
45-54 years of age	72.6	292221	212152
55-64 years of age	50.3	258929	130241
65-74 years of age	20.5	205981	42226

Source: Latvian republic central statistics data base and authors calculations based on it.

In the age group between 15 till 24, 22 respondents were surveyed; in the age group between 25 till 34, 28 respondents were surveyed; in the age group between 35 till 44, 24 respondents were surveyed, in the age group between 45 till 54, 21 respondents were surveyed, in the age group between 55 till 64, 13 respondents were surveyed, in the age group between 65 till 74, 5 respondents were surveyed.

Respondents in each cluster had to answer questions which helped to determine which online marketing tools are more useful to influence certain consumer purchase decision stages.

The results from all groups were summarized and presented in table 3. Each group had different influence on the total results.

From the results from expert interviews and consumer surveys we can observe that the data from expert interview and consumer survey vary. From the consumer point of view banner advertising marketing is less useful to use to influence information search and evolution of alternatives. Email marketing is more useful to use to influence information search. Search engine marketing is more useful to use to influence post-purchase decisions. Mobile marketing is less useful to use to influence information search, purchase decision and post purchase decision.

Summarizing the survey and interview data authors drew a conclusion that in order to influence consumer purchase decision process stages all online marketing tools are applicable. However, analyzing data from expert interviews we can see that the most useful online marketing tools to influence all purchase decision process stages are affiliate marketing, social media marketing and mobile marketing. Whereas analysis of the consumer surveys suggests that the most useful online marketing tools to

influence all purchase decision process stages are social media marketing, search engine advertising and affiliate marketing.

Table 3

**Online marketing tools usefulness to influence purchase decision making processes
from the consumer point of view**

	Problem/Need recognition	Information search	Evolution of alternatives	Purchase decision	Post-purchase decision	Average	Sum
Banner advertising marketing	3	1	1	3	3	**2.20**	**11**
Email marketing	3	2	2	3	3	**2.60**	**13**
Social media marketing	3	3	3	2	3	**2.80**	**14**
Affiliate **marketing**	3	3	2	3	3	**2.80**	**14**
Search engine optimization	2	3	3	3	1	**2.40**	**12**
Search engine advertising	3	3	3	3	2	**2.80**	**14**
Mobile marketing	3	2	2	2	2	**2.20**	**11**
Video marketing	2	2	2	1	2	**1.80**	**9**
Viral marketing	3	1	1	1	1	**1.40**	**7**
Average	2.78	2.22	2.11	2.33	2.22		
Sum	25	20	19	21	20		

Where: 3 – The most useful to use to influence consumer purchase decision stage; 2 – Less useful to use to influence consumer purchase decision stage; 1 – The least useful to use to influence consumer purchase decision stage; 0 – Has no influence on consumer purchase decision stage.

Source: authors collected data from consumer surveys.

Conclusions

1. To influence consumer purchase decision process stages we can use all online marketing tools.
2. The usefulness of online marketing tools on consumer purchase decision process stages differs.
3. Based on the data from expert interviews we can see that the most useful online marketing tools to influence all purchase decision process stages are affiliate marketing, social media marketing and mobile marketing.
4. From the collected data from consumer survey we can see that the most useful online marketing tools to influence all purchase decision process stages are social media marketing, search engine advertising and affiliate marketing.
5. The results from expert interviews and consumer surveys we can observe that the data from expert interview and consumer survey vary.

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Proposals

1. Continuing the research researchers should separately research consumer and business market.
2. Continuing the research researchers should separately research each consumer purchase decision stage.
3. Continuing the research researchers should add more expert interviews and consumer respondents surveys to increase the representativeness of this research.
4. Companies should pay more attention to online marketing tool usefulness on different consumer purchase decision stages.

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EXPORT POTENTIAL DETERMINATION OF HIGHER EDUCATION OF THREE UNIVERSITIES OF BALTIC STATES IN THE ASPECT OF "NEW COMPETITIVENESS"

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Abstract

Higher education is one of the factors having a direct effect on the individual's ability to fulfil his or her potential in the time of globalization, which is one of the key aspects of the *„new competitiveness"*. Thus, it may be concluded that competition is enhanced by educated individuals. But the question still remains, what small economies should do, for instance the Baltic States, where the demographic situation becomes worse decreasing also the number potentially able students in the country. One of the solutions is exporting higher education. The aim of this paper is to detect the design of the export potential determining model in University of Latvia, University of Tartu and University of Vilnius. The potential is to be understood as the exporting possibilities. In order to achieve the goal of the paper, the author made several interviews and surveys, the experts being the administration of University of Latvia; secondary data was used for Tartu University and Vilnius University.

Although the author believes that the state economy policies have an influence on the export of higher education, this aspect will not be thoroughly analysed.

Key words: *new competitiveness, higher education, export potential*

JEL codes: I23, I25

Introduction

Due to globalization conditions and increasing competition the issue of competitiveness and ensuring of such has become topical. This issue is particularly important for small economies, like, for instance, Baltic States. M.F. Agnello, B.A. Olanirm, (Agnello F.M., Olanirm A.B., 2008., p. 71) J. Hartog, (Hartog J. 2000., p. 8) M. Lanskoronskis, L. Ramoniene (Lanskoronskis M., Ramoniene L., 2011., p. 127) J.S. Arthur, R.D. Hisrich, A. Cabrera (Arthur J.S., Hisrich D.R., Cabrera A., 2012., p. 502) point out that the aim of education is to create a society able to compete on an international level, ensuring the competitiveness of the state altogether, simultaneously enhancing the performance of an employee and the productivity of the economy. Educational programs improve creative thinking, team work, and risk assessment, but it still does not promise better position in the market for employees or employers, although it ensures the growth potential of the whole society. In order for potential to be employed, according to C. Beduwe, J. Planas (Beduwe C., Planas J. 2004., p. 53), higher skilled workforce must be developed to make it able to adapt to changes in the economy. The author believes the aforementioned proves that the educational system influences the state competitiveness altogether, and still the question remains as to whether the higher education may be considered a product for a global market when the state itself has no economic capacity to utilize education product.

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The aim of this article is to answer a question whether the higher education may be considered an export product for improving the international competitiveness, and what are the current positions of Baltic universities within the international education market. By analyzing the data from expert interviews, given by the management of the University of Latvia, open-ended question surveys filled in by the deans of the University of Latvia, by studying yearbooks and reports of universities, and considering theoretical aspects, the author will develop a model for determining the export potential for three universities in the Baltic states, and look at the possible scenarios for its improvement.

Defining *"New Competitiveness"* and quality in the aspect of higher education

"New competitiveness" has been defined by K. Ergazakis, K. Metaxiotis, J. Psarras, (Ergazakis K., Metaxiotis K., Psarras J. 2005, p. 6), R.L. Lattimer (Lattimer L.R. 2003., p. 1) as individual's ability to achieve maximum result from using centralized workforce and new technologies in a globalized world. According to M. Lanskoronskis, L. Ramoniene (Lanskoronskis M., Ramoniene L. 2011, p. 125), the state is able to increase competitiveness by creating a strong education system able to provide qualified workforce. Having stated this, it might be concluded that the *"new competitiveness"* is grounded in knowledge-based society where education is the key factor for being able to compete in a global market, both on macroeconomic, microeconomic and also individual level.

"New competitiveness" focuses on regionalism, thus ensuring the transfer of knowledge with cluster method. This promotes the position of a particular region in the global market. Such result may be achieved by collaboration between the field, managements and universities, as pointed out by J.M.V. Marti, B.M. Rodriguez (Marti V.M.J., Rodriguez M.B. 2006, p. 51). The author is in agreement with this opinion underlining that such collaboration would stimulate the innovative ideas, moreover – the factual realization of ideas according to the market demands that are the basis of competitiveness. Should such collaboration not exist, there is a risk that the innovations developed by universities and their institutes are impossible to commercialize and adapt to the market demands, and therefore the knowledge potential, that would improve competitiveness, is not utilized.

According to the definition of the *"new competitiveness"*, an individual is the basis for ensuring competitiveness. Furthermore, the intellectual property is knowledge, experience, technical infrastructure, contacts with clients, body of professional competence that creates the future potential income, therefore one will chose a study program with the highest potential revenue, as stated by L. Edvinsson, C. Stenfelt (Edvinsson L., Stenfelt C. 1999., p. 22), J. Hartog (Hartog J., 2000., p. 11), and in this way also the deciding on a particular university is done. International study environment and potential life experience may be the basis for choosing a university abroad despite higher costs, because the future benefits from such studies will be taken into account. The author finds that an important aspect is mentioned by N.T. Ramachandran (Ramachandran T.N., 2010, p. 550), who puts forward an issue of a long-term existence of a successful program where the potential students, in choosing the university to go to, are not fully informed that there is a long-term demand for a particular obtainable specialty. Such environment creates an increased competitiveness, both internal and external. On the basis of this it may be stated that the quality factor is important when making a choice between higher education institutions. C.Lauer (Lauer C. 2002., p.448-450) believes that it is important that students interest of the higher education keeps growing because of the market situation where the choice in favor of higher education in a particular field is stimulated by calculating the potential gains after studies. The growth in demand for higher education is mentioned by D.R. Beeman and T.W. Sharkey (Beeman R.D., Sharkey W.T., 2008, p. 147) who point out the increasing replacement of manual work with machines increases the competition over work places. And competitive states more and more often increase the number of higher education institutions – the number of young and adult students is growing. In the author's opinion, here

lies the paradox of the higher education competition; on the one hand, the competition among universities increases, as previously said, but on the other hand, also the number of students increases, because education becomes more accessible and demanded due to said reasons. This is exactly the reason, why the author of this article believes that special attention must be paid to define the quality of higher education, as it is the key factor that ensures the competitiveness of a university, both internally and externally.

Author of the article believes that a competitive education is an important tool in struggle with economic and social challenges, and that the export of higher education boosts economic development and growth of intellectual property which is an important factor in creating a knowledge-based society. Nevertheless, functions of higher education should not be confused. The author agrees with views of T.N. Ramachandran (Ramachandran T.N., 2010, p. 545), V. Belyansky and O. Saginova (Belyansky V., Saginova O., 2008., p. 347) where it is proposed that the function of higher education is not to prepare students for the existing market environment, but to encourage to adapt the body of obtained knowledge and skills to the real life situations. No university study program is able to offer to students such a body of knowledge and skills that is applicable to their careers in entirety. Therefore a particular attention must be turned to the quality of higher education. The higher the quality, the better starting position student has in the job market.

According to this, it may be stated that the export potential of higher education depends on several factors. Still, taking into account both theoretical aspects and the information gained through research, author concludes that the export potential of higher education is foremost dependent on the quality of the higher education. Nevertheless, the very definition of quality of higher education is equivocal. This is supported also by K.D. Banwet, S. Karunes, S. Sahney (Banwet D.K., Karunes S., Sahney S. 2004, p. 147), S. Akel, T.C. Melewar (Akel S., Melewar C.T., 2005, p. 50), stating that the notion of quality in higher education is problematic, because; 1) its goals are not set, 2) student's position is unclear, 3) differing perceptions of quality, 4) the aspect of student's previous experience. In order to determine the export potential of higher education more precisely, it is important to define quality of education for the purpose of this article, for, as previously mentioned, defining this notion causes disputes among researchers.

Table 1

Defining quality in higher education

Three main conditions of definition (K.D. Banwet, S. Karunes, S. Sahney)	Definition by the author	Effect on economy with regard to "New competitiveness"
1. Setting standards; Reaching the set standards;	*Quality in higher education is provided when certain standards are set in an altering environment, considering the need for specification and differences in cultures, that ensures the satisfaction of a client with the received services.*	Ensuring work force mobility
2. Possibility of specification; Aspect of cultural differences; Questioning the standards;		Ensuring state competitiveness within the global market
3. Continuous change; Satisfaction of clients		Ability to adapt the product to changes in the market

Source: created by the author, using the specified literary sources (Banwet D.K., Karunes S., Sahney S. 2004., pp. 146-147)

The author has gathered the opinions on main conditions of quality in higher education, that may be read from the Table 1. Considering the specific topic of the article, author has also pointed out the influence of the quality of higher education on state's economy in the framework of the "*new*

competitiveness". If export potential is analyzed from the viewpoint of a student, it is important to look at the offer and quality of the study program. The quality of the program may be defined according to: 1) the amount of graduates employed, 2) basic pay, 3) career possibilities, 4) satisfaction with the chosen job (Belyansky V., Saginova O. 2008, p. 346). Taking this into account, the common point in all these definitions is the assurance of satisfaction from the service received.

Thus, it is important to accommodate the range of studies to market needs. Otherwise, in long-term it may have a negative effect on the financial situation and reputation of the university. Therefore, the author believes that an effective study program review system must be created in order to ensure that the competitiveness is not increased in departments and faculties, but ensuring the education quality and compliance with market demands. This would influence the quality of studies, and the graduation from such a university would increase individual competitiveness from which an enhancement in university's competitiveness would arise.

Research results and discussion

In order to achieve the goal of the article – to answer the question whether the higher education may be considered an export product in Baltic universities, and enhance the international competitiveness; what are the current positions of the Baltic universities within the global education market, to determine challenges for the University of Latvia, University of Vilnius and the University of Tartu in the international education market, – direct interviews were made with experts from the management of the University of Latvia – Rector of the University Marcis Auzins, Chancellor of the University Gundars Berzins, the University Professor Ivars Lacis, LU professor Maris Klavins, the University Academic Department project manager Indra Dedze, the University Public Relations Department, senior marketing specialist Elina Berzina. Survey was open-ended questions to selected deans of the faculties of the University of Latvia – asoc. prof. Leonids Buligins, prof. Olgerts Nikodemus, asoc. prof. Anda Priksane, doc. Andris Sne, prof. Juris Borzovs and Nils Rostoks. In this article are analysed part of the whole survey and the questions seen in the article are following:

1. Higher education has become a mass product, how it affects the functioning of the University of Latvia now and prospects for the future?
2. Higher education has become a mass product, how it affects the functioning of the University of Latvia now and the future from financial point of view?
3. What factors do you think influence foreign students to choose the University of Latvia or the specific faculty?
4. What are the opportunities for the University to provide a separate program just for foreign students, and whether this approach would be helpful to increase the visibility of university in the international markets and to raise the quality of education?
5. What are the opportunities for your faculty provide individual study programs for foreign students only, and whether this approach would be helpful to increase the visibility of the international markets and to raise the quality of education?

Interviews and surveys took place in time period from 9th to 16th April, 2013. The choice of research method are grounded by the author with the opinion of T. Elenurum (Elenurum T., 2007, p. 309) that the quantitative data analysis may be used to enhance understanding of the research object, with condition that the research participants share an understanding of the issue, therefore in the beginning of the research qualitative data analysis is appropriate.

In the analysis of the operation of other Baltic universities, secondary data, annual and financial reports, yearbooks were used. In creation of the article, a method of denying or affirming sub-hypothesis was used in analysing the replies in interviews and surveys. Based on the factors of university

competitiveness the author of the article set the sub-hypothesis, and the denying or affirming principle was used to analyse them. Each question initially had an underlying sub-hypothesis set by the author, and the research participants answered and denied, approved or pointed out that the hypothesis cannot be denied. As mentioned before, in the analysis of the sub-hypothesis regarding the University of Vilnius and the University of Tartu secondary data was applied.

Based on the obtained information and gathered data, the author has developed a model for determining the export potential for the University of Latvia, University of Vilnius and University of Tartu.
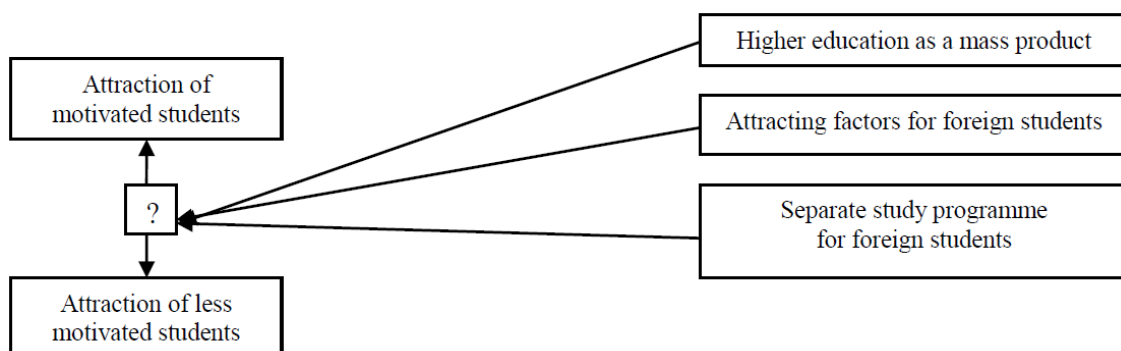
Source: image created by the author based on the obtained and analyzed information

Fig. 1. **Model for determining the export potential of education in Baltic universities**

According to Figure 1, several conclusions may be made in determining the export potential of higher education. First conclusion is that higher education has become a mass product, because, as previously mentioned, the demand for higher education is increasing. The issue remains that, taking into account that Baltic States are interested in attracting capable students for increasing the competitiveness among students, higher education as a mass product is not suitable for such purpose. Therefore, other solutions must be found for attraction of foreign students. Based on the definition of the *new competitiveness* it may be concluded that an individual is interested in the quality of higher education, therefore a question what kind of students are attracted, or what kind of signals are sent by the university to attract foreign students, is irrelevant, nevertheless, the author concludes that the signals among Baltic state universities are not to be evaluated unequivocally, in order to be able to absolutise the potential of higher education and give it a high assessment. In order to explain the model for export potential determination, it shall be divided in separate components which will be analyzed in the following sections.

### 1. „Mass production" risk in the context of higher education

Based on the previous statements, the following may be concluded: 1) the new competitiveness is strictly connected with the quality of higher education, 2) competitiveness among higher education institutions increases, 3) competitiveness among individuals increases, 4) demand for higher education increases. Discourse is provided by balancing quality and quantity, whether the turning of higher education into a mass product will influence the quality of education. In order to determine it, the sub-hypothesis is put forward.

1st sub-hypothesis: *"Turning higher education into a mass product has negative effect on the quality of studies."*
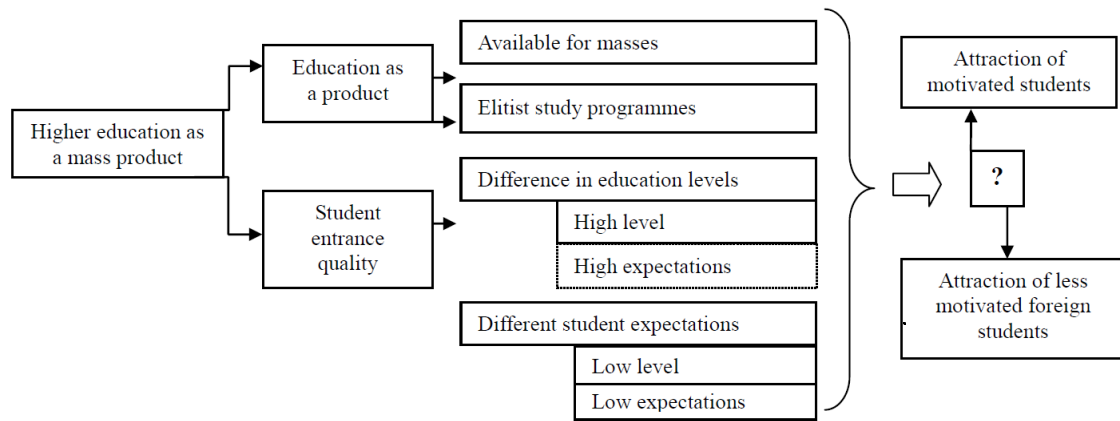
Source: image created by the author based on the literature and obtained and analysed information

Fig. 2. **Analysis of higher education as a mass product**

By analysis of figure 2 it may be concluded that the proposes sub-hypothesis cannot be denied, as supported by statistics data in Table 2.

Table 2

**The Dynamics and the Percentage Proportion of the Number of Foreign Students
at University of Latvia, at University of Tartu and at Vilnius University from 2006 to 2011**

Year	University of Latvia			University of Tartu			Vilnius University		
	Number of foreign students	Total number of students	Proportion of foreign students	Number of foreign students	Total number of students	Proportion of foreign students	Number of foreign students	Total number of students	Proportion of foreign students
2006/2007	172	24477	0.70%	686	16992	4.00%	38	24802	0.20%
2007/2008	184	22117	0.80%	630	16944	3.70%	97	24933	0.40%
2008/2009	189	22096	0.90%	666	17493	3.80%	135	24502	0.60%
2009/2010	211	22048	1.00%	707	18136	3.90%	129	23707	0.54%
2010/2011	319	19095	1.70%	687	18047	3.80%	155	22574	0.70%
2011/2012	403	17790	2.26%	545	17370	3.1%	n/a	n/a	n/a
2012/2013	540	17060	3.1%	579	16025	3.6%	n/a	n/a	n/a
2013/2014	507	15100	3.35%	n/a	15226	n/a	n/a	n/a	n/a

Note: n/a – no data available

Source: Reports of the University of Latvia from 2006 to 2010, Reports of Higher Education from Ministry of Education and Science of Latvia from 2011 to 2013, Reports of the University of Tartu from 2006 to 2011, International organization for migration European migration network „International Students in Lithuania", Vilnius, 2012, p. 27, Vilniaus universiteto veikla 2011metais, Vilniaus universitetas, 2012, p. 12.

On the basis of the statistical data summarized in Figure 2 and Table 2, it can be asserted that at the University of Latvia, at the University of Tartu, as well as at Vilnius University higher education is defined as a mass product. Therefore also student's position at the university changes, which is a

significant factor within the implementation of university strategy. Also information acquired with the help of interviews and questionnaires approves that higher education has become a mass product, and two conclusions can be drawn from this statement. Firstly education is viewed as a product, therefore a strategy on how to offer the product should be developed, besides dividing education for wide masses of students and elitist study program. Thus general higher education is provided at bachelor level, but specialization – at master level. However a significant aspect is the product price, which is not determined by the global processes, but by the purchasing capacity, thus higher education depends on the paying capacity of the students. Secondly, this issue pointed to the lacks of higher education as a mass product – the entry quality of the students: 1) students of various knowledge levels; 2) students of various expectations for the study process. If Image 3 is analyzed according to the aspect of the attraction of foreign students, universities have to set their goals in this matter. What is the student like, whom the university is willing to attract and why it is necessary for the university to attract a foreign student. If the goal for the attraction of foreign students is to raise the study quality, development of elitist study programs should be implemented, in which foreign students might study. If university needs to improve its financial condition, and if this goal has to be met in short-term, strategy for the attraction of foreign students should be implemented, which means offering education as a mass product. But it would not improve the competitiveness of the state, because as already mentioned above, the basis of the new competitiveness is the individual and its abilities to maximize the available resources. Thus attraction of efficient foreign students should be promoted. As provided in Table 2, the proportion of foreign students in the analyzed universities of the Baltic States cannot be considered significant, therefore conclusion can be made, that these universities have not acquired the reputation of "a mass product" abroad. At the same time it also points to the low popularity in the international market of education. The author would mention it as the main factor for the low proportion of foreign students, which is also approved by the executed study, which is not included in the competency of this article.

2. Factors affecting the Place of Studies chosen by Foreign Students

On the basis of the above mentioned it can be concluded that higher education as a mass product is not the most appropriate for the attraction of efficient foreign students, thus such factors should be identified that affect student's choice in favor of a particular university.

Sub-hypothesis No. 2: *"The choice of foreign students to study in a foreign university is affected by state, as well as by the offer and quality of study programs."*
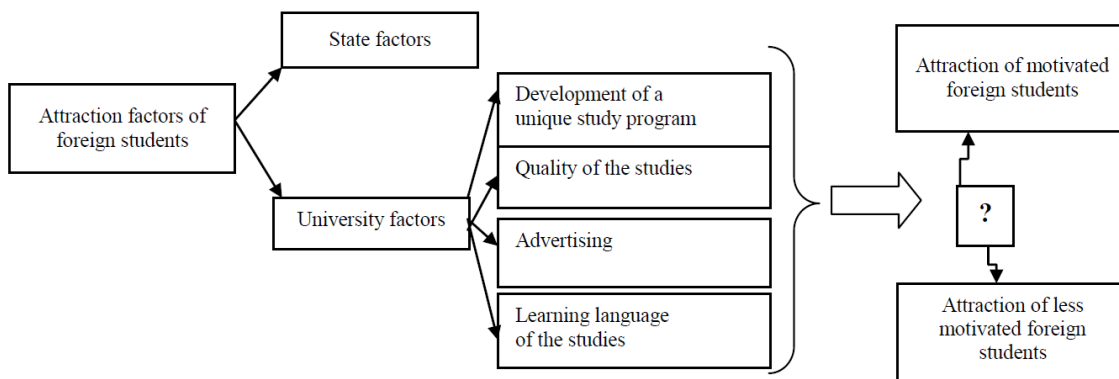
Source: developed by the author on the basis of the studied literature and interview, questionnaire

Fig. 3. **Analyses of Foreign Student Attraction**

On the basis of answers acquired during the studies, the hypothesis forwarded by the author is approved. When analyzing the attraction factors of foreign students, it can be concluded that there are two factors: 1) state factors; 2) university factors. If the state factors are analyzed, on the basis of the available information and information acquired at interviews and from questionnaires, in all cases state factors are mentioned equally: 1) EU diploma, 2) quality of education, 3) possibility of licensing the diploma, 4) factor of the particular state, 5) comparatively low living costs. (Internet resources: Study in Lithuania; Study in Estonia; Study in Latvia; information acquired at interviews; International organization for migration European migration network "International Students in Lithuania", Vilnius, 2012, p. 23-24.) But Latvia, Estonia and Lithuania as countries have objective reasons, why increasing of the flow of foreign students is delayed. These are small economies without the fields of world level innovations that would promote interest in the country and possibilities of studies that would be significant in some scientific field or professional area. Thus conclusions can be made, that attraction of foreign students to a university of a particular region depends on university factors: 1) development of unique study programs, 2) aggressive marketing, the main component of which is advertising. At the same time development of a unique study program has to provide the quality of studies, and the learning language of the studies is a foreign language.

Table 3

**Summarization of the Offer of Study Programs in Foreign Languages
at the University of Latvia, the University of Tartu, Vilnius University**

	University of Latvia	**University of Tartu**	**Vilnius University**
Level of bachelor studies	8 in English language 2 in German language (1 in French language)	2	2
Level of master studies	13 in English language 1 in German language	9	8 in English language 2 in Russian language

Source: University of Latvia homepage: http://www.lu.lv/eng/istudents/degree/study/, University of Tartu homepage: http://www.ut.ee/en/prospective-students/, Vilnius University homepage: http://www.vu.lt/en/studies/degree-students/degree-programmes

When analysing data in Table 3 about the offer of study programs in foreign languages it can be concluded that universities are interested in attracting foreign students exactly at master level. It proves that the goal is motivated foreign students, and they are higher level specialists, who promote the state competitiveness, in case they stay in the country of studies. At the same time also the local students can study at these study programs, thus improving their language skills and their competitiveness in the labor market.

But language application at universities cannot be interpreted equally, because the internal competition in Latvia is created also by the fact that state higher educational establishments are not allowed to teach studies in Russian language, while it is allowed at private higher educational establishments. Such possibility is provided in Vilnius University. The author provides that exactly in Lithuania 70% of foreign students represent CIS, basically from Belarus, Russia and Ukraine (International organization for migration European migration network „International Students in Lithuania", Vilnius, 2012, p. 27). Thus application of Russian language in the study process is comprehensible, and it creates competition with other universities in this region, at which application of Russian language in the study process is not allowed.

3. Advantages and Disadvantages of Establishing Study Programs for Foreign Students

As one of the solutions for the attraction of efficient foreign students establishment of a separate study program for foreign students is mentioned. Therefore this aspect is analyzed more widely.

Sub-hypothesis No. 3 „*Provision of study programs separately for foreign students would be useful and would increase the education quality.*"
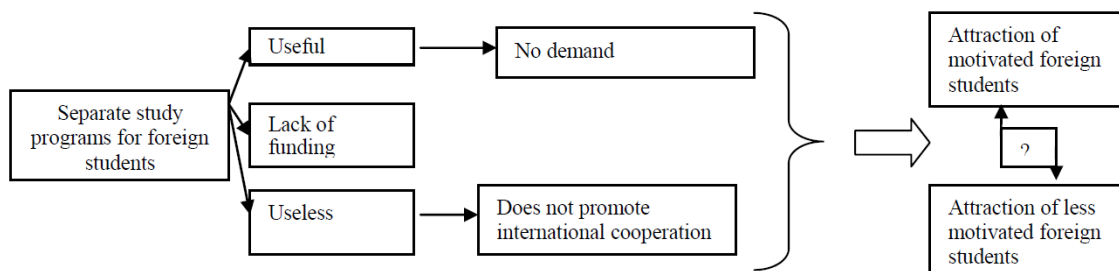
Source: developed by the author on the basis of the studied literature and interview, questionnaire

Fig. 4. **Analyses of the Provision of Study Programs separately for Foreign Students**

On the basis of the answers obtained at interviews and questionnaires the majority provided that such approach is not useful and it would not improve the quality of studies, therefore the hypothesis suggested by the author has been rejected. When analyzing the received answers it was concluded that there is the necessary capacity of the teaching staff for the provision of such approach. But at the same time for the attraction of foreign students the application of foreign languages has to be flexible. Such belief contradicts the opinion of scientists A.K. Al-Swidi, A. Harun, O.A. Igau, A.W.B.M. Kassim (Al-Swidi K.A., Harun A., Igau A.O., Kassim M.B.W.A., Tahajuddin S., 2010, p. 260), J.L. Konopa and Y.C. Kwon, (Konopa J.L., Kwon C.Y., 1993, p. 65) that the application of language within the process of creating the image is the basis for improving the export of higher education. Answers of the study pointed to the fact that exactly the application of foreign languages is a controversial matter, because in a number of answers application of Russian language was mentioned within the study process, taking into consideration the fact that this is not the official language of the EU. Thus it can be concluded that it is more beneficial to create joint study programs for local, as well as for foreign students, thus providing environment of international studies, which would improve the quality of the studies, but which would not be unequivocally due to the application of language, but due to information exchange.

The previously suggested hypothesis is rejected also by the summarized statistical data about the universities of the three studied Baltic States. None of the universities uses such solution for the attraction of foreign students, the author substantiates it with the fact that such study programs were not stated at any of the analyzed universities. Separation of foreign students from local students is not considered acceptable. Author suggests, that collegial relations with students can promote development of science university, which is the goal of all analyzed universities, because the status of a science university cannot be acquired without implementing studies and projects. From this aspect among the analyzed universities the University of Tartu has the most effective offer for foreign students, because for example in 2011 880 projects were implemented in it (annual reports of the University of Tartu from 2006 to 2011), if compared for example to the University of Latvia and its 76 projects (University of Latvia: Inovācijas. Pētniecība. Zinātne, 2013). It is a significant difference taking into consideration the abovementioned that these universities are mutually competitive, therefore the process and implementation of science projects is a significant factor for the attraction of motivated foreign

students. The abovementioned is also approved by Table 2 that was already analyzed. Undoubtedly implementation of research projects takes place also at this university, but according to the author attention should be devoted to the application of "the valley" principle (Ministry of Education and Science: Integrated Science, Studies and Business centres (Valleys), 2013). In Lithuania special attention is devoted to commercialization of science, thus cooperation between universities and the private sector is provided.

Work experience is one of the factors for increasing the competitiveness of an individual, and thus effectively applied such cooperation could be one of the scenarios for attracting motivated foreign students. Thus a positive signal is created for the attraction of motivated foreign students.

Conclusions, proposals, recommendations

In the article the export potential of higher education was analyzed form the aspect of the *"new competitiveness"*. On the basis of analyses of qualitative information the results of the study cannot be interpreted equally. But there are several conclusions that can be drawn from the implemented study and the summarized information.

1. "New competitiveness" is based on the skills and abilities of the individual. Higher education is considered as one of the indicators of the competitiveness of an individual. At the same time also competitiveness of the university depends on the competitiveness of the graduate. Competitiveness in higher education can be defined as interaction between the individual and the university.

2. The export potential of higher education depends on 1) the quality of the offered studies, 2) objective state factors, such as, geographical location, economy, state language application, which the university cannot change.

3. Attraction of foreign students to the particular university of the region depends on university factors: 1) establishment of unique study programs; 2) aggressive marketing, the most important component of which is advertising, 3) scientific, international projects. At the same time for the establishment of a unique study program quality of the studies has to be provided and foreign language has to be provided as the learning language of the studies.

4. Study programs in foreign languages do not indicate on a larger number of students, but on the capacity for enrolling foreign students and the professionalism of the teaching staff. The obtaining of these study programs among the students point to the improvement of their competitiveness in the labor market.

5. The goal of the university is to attract motivated foreign students, and already within the specialization level for master studies thus creating potentially favorable circumstances for continuing their careers at the country of studies or in cooperation with it.

When analyzing the offered study programs in foreign languages, the author concludes that they are not provided on the basis of possibilities for future cooperation or by promoting the career launching of the foreign students in the country of studies. Thus according to the author the potential of foreign students is not used for increasing competitiveness.

When continuing the study, in order to be able to approve the qualitative information studied within the article it is necessary to implement quantitative study, a survey among foreign students for precise identification of the factors that affect the choice of foreign students in favor of the particular university. And also those factors that would affect the decision of the potential employer in favor of beginning good labor relations with foreign students should be studied. On the basis of the obtained information, an export model of higher education can be developed.

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STRATEGIC MANAGEMENT OF MODERN HIGHER EDUCATION INSTITUTIONS

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Abstract

Today, increased competition between universities in terms of attracting and keeping students makes education managers reconsider their strategy aimed at identifying the elements and indicators of competitive advantage. Strategic management theories provide a basis for novel approaches to strategy development in higher education institutions. Though, they do not address all pressing issues that education managers face today. The focus of this paper is on discussing some basic principles of strategy-making in a contemporary university. The paper provides an in-depth analysis of the internal factors, which comprise a complicated educational environment of a modern university. The analysis provided in this paper is based on the academic literature review as well as on the author's professional experience in the area of educational management. It is argued that in their labours to develop and implement a number of strategies, education managers should distinguish between the corporate-level strategic goals and functional area-specific strategic goals. The goals must be set with regards to the holistic approach to managing the integrated educational environment resources. The analysis performed in this paper allows the author to conclude that the implementation of strategic initiatives aimed at achieving academic excellence and competitive advantage requires the appropriate distribution of the internal educational environment resources and external funds, the emphasis being put on providing tight collaboration throughout the organization for attaining synergy across functional areas. The paper is written with the intention of stimulating further discussion on some basic issues related to the strategic management of universities in the customer-driven education context.

Key words: *higher education institution, education manager, strategic management*
JEL code: M19

Introduction

Nowadays, European higher education institutions (HEIs) are functioning in the extremely competitive international environment; the knowledge-based society poses significant challenges to modern universities in various aspects: managerial, academic, technological, economic, etc. (Stukalina, 2010/1). Higher education is now "at the heart of the Europe 2020 Strategy and of Europe's ambition to become a smart, sustainable and inclusive economy"; it plays a central role in individual and societal progress; it influences innovation and research and "provides the highly skilled human capital that knowledge-based economies need to generate growth and prosperity" (COM(2013) 499 final). The new generations of learners, technological innovations, budgetary constraints, and economic factors have given rise to the need for re-evaluating strategies employed in higher education (Kazeroony, 2012). Besides, increased competition between higher education institutions in terms of attracting and keeping students also makes education managers reconsider their strategy aimed at identifying the elements and

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indicators of competitive advantage. According to Watson (2000), managing strategy is vital for a university, as it provides the realization of its core activities.

Strategic management theories provide a basis for novel approaches to strategy development in higher education institutions. However, they do not address all pressing issues that education managers face today. Modern universities are sophisticated multi-level organizations, and the complex pattern of various contributory factors forms the background of educational management. Developing their strategy education managers must also consider specific organisational characteristics of this sector (Tavernier, 2005). Therefore, there is the need for a thorough analysis of both traditional approaches and innovative attitudes that can be used by education managers in the context of strategy-making.

The analysis provided in this paper is based on the academic literature review dedicated to strategy-making as a central function of contemporary management. The emphasis of the paper is put on investigating the strategic background of educational management in the area of higher education. The paper provides an in-depth analysis of the internal factors, which comprise a complicated educational environment of a modern university. Some basic principles of strategy-making in a higher education institution are discussed. It is argued that in their labours to develop and implement a number of strategies, education managers should distinguish between the corporate-level strategic goals and functional area-specific strategic goals; the goals have to be set taking into consideration the holistic approach to management of the integrated educational environment resources. The analysis reported in the paper is also based upon the author's professional experience in the area of educational management.

Research results and discussion

1. Academic literature review

The academic literature review related to strategic management shows that creating an effective strategy aimed at organizational development is one of the primary tasks of modern managers. Strategy-making is concerned with formulating and applying strategies for promoting a "superior alignment between the organization and its environment and the achieving of strategic goals" (Griffin, 1990). The focus of strategic management is on the longer-term survival and development of an organization (Stoner, 1978). According to Henry (2008), an effective strategy allows managers to employ the available resources and capabilities of an organization in order to "exploit opportunities and limit threats in the external environment". As stated by Thompson & Strickland (2003), powerful execution of a powerful strategy is regarded as a formula for success in business. As said by Tabatoni & Barblan (2002), the main target of strategic management is to lead people involved in the development of the organisation and help them concentrate on the organisation's image, question its position in a new environment and ensure its ongoing growth. Strategic management provides the frame for decisions about customers and products, various resources including financial assets, organizational systems and technologies, risk, etc. (Morden, 2007).

Koontz & Weihrich (2010) define strategy as determination the main long-term goals of an organization and the implementation of sequences of actions and distribution of resources that are necessary to accomplish these objectives. Through these actions an organization creates and employs resources necessary to deliver services (products) that customers find valuable (Haberberg & Rieple, 2008). Strategy is related to understanding of both the external environment and the internal resources of an organization (Capon, 2008). Since management occurs concurrently in different organizational contexts and managers must make their decisions in various situations, the holistic approach to managing the integrated organizational resources is supposed to be an efficient approach to cope with the most significant issues related to strategy formation (Stukalina, 2013). The task of creating a strategy begins with thorough examination of the organization's internal and external situation (Thompson & Strickland,

2003). Strategy involves the whole organization (Bush & Coleman, 2000); it involves the investigation of the major initiatives taken by an organization's senior management in the best interests of its owners (Nag et al., 2007). Consequently, it requires appropriate planning and setting clear and achievable objectives. Strategic objectives, being related to a company's competitive situation, are based on an analysis of the current market situation and opportunities (Kotler, 2000).

According to Huisman & Pausits (2010), the sustainability of higher education reforms are supposed to be directly related to the level of professionalism of higher education management that has to behave proactively and entrepreneurially. As said by Watson (2000), managing strategy is supposed to be the most important thing a university does; it allows all of its main activities (teaching, research, social and economic service) to be realised. Today, the relevance of strategic management to HEIs is likely to increase as the size of public higher education relative to the private not-for-profit and for-profit sectors is decreasing in most parts of the world; besides, public universities are forced to generate revenue from non-government sources (Eastman, 2003). Strategic management in a higher education institution can be characterized as forward-thinking leading towards those institutional policies that aims for increasing the university's potential for change, a constant concern for quality along with propagation of evaluation methods and quality standards being at the heart of education managers' activities (Tabatoni, 2002). One also should bear in mind that, in higher education, strategic management must be developed with a "keen eye on the specific organisational characteristics of that sector" (Tavernier, 2005); educational management has to be with the purpose or aims of education (Bush, 2007). Strategic planning is a necessity in higher education, as universities "educate the most talented people who are best to secure the future of the next generation" (Kettunen, 2011).

As stated by Tabatoni and Barblan (2002), strategic planning in a HEI embraces all essential elements, which are central to any managerial process, such as goals, norms, resources, organizational structures, relationships within the organization, etc. In education, strategy formation aimed at school development involves evaluation of the internal resources of an academic institution, the external impacts and acknowledgement of the dominant internal culture (Fiddler, 2002), the encouragement of university cultures supportive of strategic quality efforts being a precondition of effective quality operations (Davies, 2002).

European higher education is now in a state of constant transformation (COM (2003) 58 final) as well; the pressures for modernizing higher education are apparent everywhere, and the pace of change is growing (McRoy & Gibbs, 2009). Contemporary universities must prepare their graduates for the complex and changing demands of the challenging global labour market. In addition, the expectations of students are changing: students more and more expect to choose "what they learn, how they learn and when they learn, according to their individual needs and interests" (COM(2013) 499 final). So, as stated by Kazeroony (2012), modern HEIs must not disregard the changing nature of learners. Since the Bologna Process was launched (Bologna Declaration, 1999), improving quality of higher education and developing quality assurance systems linked to establishing stakeholder confidence has been a high priority for EU countries (The European Higher Education Area in 2012: Bologna Process Implementation Report, 2012). As stated in Standards and Guidelines for Quality Assurance in the European Higher Education Area (2005), European universities must develop a policy and the related procedures for the assurance of the quality and standards of their programmes and awards; they should create and implement a strategy for the continuous enhancement of quality that must have a formal status and should also include a role for students and other stakeholders.

According to Moldovan (2012), competitive strategies in the area of higher education can be developed through quality. By means of integration of quality assurance and strategic management procedures, the university's strategy is implemented and organizational objectives are achieved (Kettunen, 2011). Quality of learning, together with responsiveness to economic needs of graduates (i.e. providing graduates with the necessary competencies), are among the issues that HEIs should carefully investigate in formulating an appropriate strategy (Kazeroony, 2012). The university's strategy may embrace those strategies, which "describe how the university plans to gain advantage over competitors and are

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differentiated by the nature of guidance in order to ensure the competitiveness of the organization" (Moldovan, 2012). Thus, market-oriented strategic planning in a higher education institution is closely related to monitoring the quality of educational services in the customer-driven education framework. Creating their strategy education managers should take into consideration both external and internal factors having impact on their operation and influencing the choice of actions and methods employed for strategic planning process (Stukalina, 2013).

2. Strategic background of educational management in a contemporary university

According to Moldovan (2012), modern universities develop and implement a number of strategies that are distinguished by the character of management practices used to guarantee the competitiveness of the educational organization, including strategies focused on a demand of the market in a certain qualification, strategies focused on quality of the study program, etc. These strategies are related to the external (e.g. the market demand) and internal (e.g. quality of study programs) factors that shape the strategic background of educational management in a HEI.

The external factors are associated with the external pressures that determine the manner, in which the internal resources of an educational organisation are managed and allocated in order to support sustainable learning process. The internal factors comprise tangible (non-human), non-tangible (human) and semi-tangible (informational) resources (Stukalina, 2008). Semi-tangible resources symbolize the intellectual capital embodied in the educational environment; they are stored as documents in both paper and electronic form (in organizational databases). In a broader sense, they represent the intellectual property (the personified intellectual capital) of a university. Therefore, the internal resources of a higher education institution are heterogeneous in nature; they embrace the integrated non-linear multi-level educational environment, which represents an academic community of people – academicians, educational managers and administration, students (Stukalina, 2010/2).

The overall management of the integrated educational environment occurs at different levels and in various functional areas of a university; it is aimed at accomplishing the organization's synergy necessary for achieving education-specific organizational goals (Figure 1).
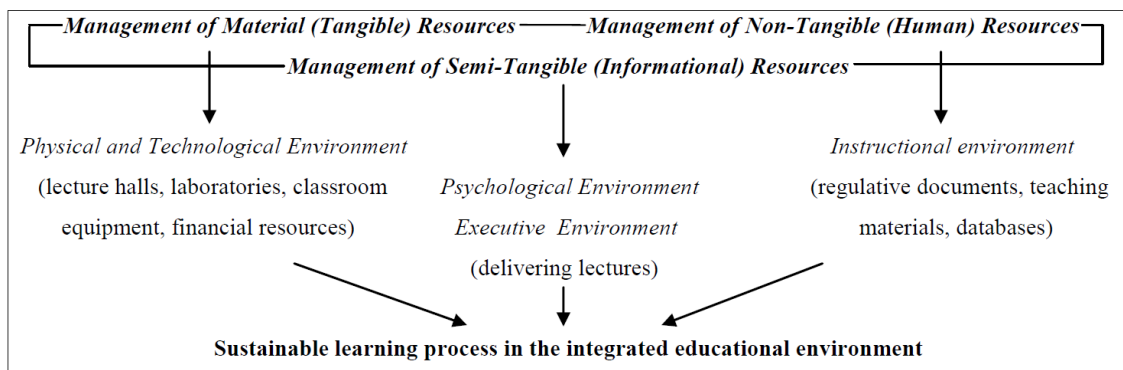
Source: author's construction based on Stukalina, 2010/2.

Fig. 1. **Management of the non-linear multi-level educational environment of a modern university**

In a complicated environment of modern educational organizations, strategy-making is not a task for senior managers only (Thompson & Strickland, 2003). Consequently, one of the basic principles of the HEI management model described above includes managing the educational environment as an integrated multi-

level system in a centralized manner, at the same time giving functional areas a certain degree of autonomy in developing and implementing different strategies related to specific organizational domains.

Other key principles may be summarized as follows.

1. Education managers should acknowledge the leading role of the embodied intellectual capital and ensure indirect participation of all university stakeholders (including students as consumers of educational services in the customer-focused context) in strategic decision-making in the framework of quality assurance practices (Stukalina, 2013).

2. Strategic decisions are made in a variety of circumstances and social situations, and managers operating at different organizational levels may develop various decision models based on their experience in education business.

3. Data required for supporting strategic decision-making are gathered throughout the integrated educational environment in the framework of an organization-wide communication system including different knowledge transfer schemes that embrace basic knowledge processes – knowledge acquisition, knowledge sharing and new knowledge creation.

4. Structured (planned) knowledge transfer schemes support decision-making at the highest level of a university; senior managers may have a variety of decision models based on their experience in education or business (Stukalina, 2010/3).

5. Strategies in a higher education institution may be initiated at different management levels:
   a) Management of tangible resources
   b) Management of non-tangible resources
   c) Management of semi-tangible resources.

3. Some basic principles of strategy-making in a modern higher education institution

So it may be reasonable to conclude that strategic management of the integrated educational environment should be approached from a holistic perspective; it embraces a variety of external and internal factors as well as their relationships and interactions.

According to Thompson & Strickland (2003), in traditional strategic management in business organizations, they distinguish between four levels of strategy-making hierarchy: corporate strategy (an overall managerial action plan), business strategy (a managerial action plan for a single line of business), functional strategy (a managerial action plan for running a functional activity within a business), and operating strategy (a managerial action plan for managing main organizational units). This theory is quite applicable to higher education organizations, though there are grounds to assume that HEIs develop their strategies on account of their specific nature. Compared to business organizations, the goals set by educational institutions are supposed to be rather immaterial, as HEIs focus more on knowledge creation, knowledge sharing and values formation, so many goals are attainable over the years (Hechanova & Cementina-Olpoc, 2013). Besides, academic organizations are also different from traditional business structures in terms of the internal hierarchy, job levels and roles in educational institutions being less differentiated (Ibid.).

With due account for the complicated nature of the educational environment, the following principles of strategy-making are supposed to be used in a modern HEI.

1. Applying the holistic approach to strategic planning: a higher education institution is regarded as a single entity comprising various integrated and interrelated subsystems, the academic strengths of the university being grounded in a wide range of organizational resources (tangible, non-tangible, semi-tangible); the resources are aimed at accomplishing academic excellence and competitive advantage.

2. Distinguishing between the following goal areas.
   1) *Corporate-level strategic goals* – strategic goals that are broad in nature and are associated with the entire educational organization as a single body; they are aimed at achieving competitive advantage.

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2) *Functional area-specific strategic goals* that arise out of the corporate-level goals; they are aimed at creating a constructive educational environment and achieving academic excellence:
  - University services and facilities (a combination of tangible, non-tangible and semi-tangible resources)
  - Education (a combination of tangible, non-tangible and semi-tangible resources)
  - Research (a combination of tangible, non-tangible and semi-tangible resources)
  - Academic staff (non-tangible resources).
3. Identifying priority goal areas in order to enhance academic excellence and organizational performance.
4. Supporting each goal area by a set of appropriate strategic initiatives and the related quality assurance procedures that are intended for enhancing educational excellence and competitive advantage.

Corporate-level strategy-making involves all available resources of an educational organization; functional area-specific strategy-making may involve combinations of resources depending on the nature of a particular domain. The highest overall priority for senior educational management is achieving competitive advantage on the worldwide higher education market that is characterized by increasing competition between public and private higher education institutions to attract international students and academic staff, research funds, etc. In consort with this priority, special emphasis should be also given to stimulating excellence in education and research, improving the quality of university services and facilities, as well as professional development of university academic staff in the context of lifelong learning.

The proposed strategic goal areas as well as a few corresponding university-wide strategic initiatives, which may be applied to support strategy-making in a higher education institution and which are aimed at maintaining and enhancing academic excellence and competitive advantage, are described in Table 1.

Table 1

Main strategic goal areas and the corresponding supportive strategic initiatives

No.	Strategic goal area	Example	Supportive strategic initiatives
1.	*Corporate-level strategic goals*		
	External focus	Maintain and enhance university overall excellence in order to be ranked among the top 100 world universities	Develop an overall long-term managerial action plan
		Cooperate with other HEIs, enterprises and interest groups for achieving academic (research) excellence and competitive advantage	Create an effective coordination mechanism in the frame of an overall action plan
	Internal focus	Cultivate a constructive and motivating educational environment aimed at achieving academic (research) excellence and competitive advantage	Develop a set of qualitative and quantitative indicators for regular educational environment evaluation

No.	Strategic goal area	Example	Supportive strategic initiatives
2.	*Functional area-specific strategic goals*		
	University services and facilities	Maintain and further develop well-run service structures and supporting infrastructure necessary for providing sustainable educational process	Implement cost-effective university infrastructure improvements
		Recruit, encourage and retain excellent attending staff for providing sufficient support to students and teachers	Develop and implement consistent recruitment procedures in the frame of an overall action plan
	Education	Provide students with a high-quality education that will supply university graduates with a wide range of multidisciplinary skills required for the knowledge-based economy	Develop and implement a long-term ICT-supported education plan in the frame of an overall action plan
	Research	Maintain and enhance excellence in research and innovation; enhance university research cooperation with partner HEIs, research centres and business	Strengthen support for research grants and collaboration in the frame of international research activities
	Academic staff	Recruit, encourage and retain first-rate academics and teachers for enhancing academic excellence and competitive advantage	Develop and implement consistent recruitment procedures in the frame of an overall action plan

Source: author's suggestions based on the academic literature review and her experience in the area of educational management.

The realization of the strategic initiatives mentioned above requires the involvement and appropriate distribution (re-distribution) of the available educational environment resources and external funds, as well as the support of education managers, administration, academic and attending staff from all functional entities (colleges, faculties, chairs, departments, etc.), not to speak of university students. Thus, the emphasis should be put on providing tight collaboration throughout the educational environment for achieving necessary synergy across functional units and across disciplinary areas. Besides, assessing progress on the strategic plan goals and strategic initiatives can be viewed as an essential pre-requisite for successful strategic management of a higher education institution (provided that suitable qualitative and quantitative indicators are used for assessing every goal in the long-term action plan).

For example, it may be done in the form of a wide-ranging evaluation of the integrated educational environment performed in the framework of quality assurance in education; it presupposes involving indirect participation of the university stakeholders (including students as consumers of educational services) in strategic decision-making, and can be regarded as one of the central quality assurance

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activities associated with the strategic management for higher school improvement (Stukalina, 2013). According to Stråhlman (2012), students' participation in quality assurance procedures helps ensure the legitimacy of the quality assurance system and its results.

Conclusions, proposals, recommendations

The analysis performed in this paper allows the author to draw a few conclusions. The following points detail a number of recommendations for senior education managers.

1. In the complicated educational environment, characterized by the internal resources integration and collaboration across the organization, managers have to use the holistic approach to creating an inclusive long-term competitive strategy aimed at organizational development; this strategy may include various "sub-strategies" in the framework of an overall action plan.
2. In the context of strategy-formation in a modern university, education managers ought to consider both external and internal factors, which influence the choice of strategic initiatives employed for continuous HEI improvement.
3. In their labours to develop and implement appropriate strategic initiatives, education managers should distinguish between the corporate-level strategic goals and functional area-specific strategic goals; it is determined by the specific nature of modern higher educational institutions.
4. The implementation of strategic initiatives aimed at achieving academic excellence and competitive advantage requires the appropriate distribution (re-distribution) of the internal educational environment resources and external funds.
5. The emphasis should be put on providing tight collaboration throughout the educational organization for attaining necessary synergy across functional areas.

The paper is written with the intention of stimulating further discussion on some basic issues related to the strategic management of modern universities in the customer-driven education context. The author hopes that whatever lessons this analysis provides will be helpful to education managers responsible for developing a strategy for a higher school improvement.

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QUANTITATIVE AND QUALITATIVE MEASUREMENT METHODS OF COMPANIES' MARKETING EFFICIENCY

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Abstract

Marketing strategy has to be responsive to volatile business and competition conditions, therefore evaluation, control, and properly chosen performance measurement methods help to keep strategy in target and show when adjustments are required. In order to make better causal links between marketing activities and financial returns to the business, various marketing metrics as measures of the impact of marketing on the whole business, provided to senior management, can and need to be used. The measurement methods used for marketing efficiency and marketing performance evaluation is the one of the major issues in strategic business planning, management, and control process, yet it is not very common for companies to share their marketing performance measurement application experience to their business through benchmarking or in other ways. Hence the authors of this research developed the conceptual matter of marketing efficiency measurement methods by reviewing the academic literature in regard to different approaches to marketing metrics, marketing efficiency, marketing effectiveness, and marketing performance. Authors attempt a critical evaluation of marketing efficiency and measurement, also to analyse marketing metrics' usage practice in companies, operating in Latvia, therefore a quantitative research was performed, a survey for marketing professionals, managers, and representatives of the industries was conducted in order to evaluate the usage of marketing metrics in Latvia. The main conclusions and proposals are drawn.

Key words: *marketing metrics, marketing efficiency, marketing effectiveness, marketing performance measurement, marketing measurement methods*

JEL code: M31

Introduction

Though increasingly more companies recognize the importance of marketing in successful business planning and progress, yet in many cases strategic marketing planning and implementation in business environment is endangered by myopic management (Jeffrey M., 2010) or lack of deliberative planning and carefully chosen and tailored set of marketing activities or tools. Myopic management originates the demands for tangible assets and financial evaluation of marketing activities and fast return on investment (ROI) or, more specifically, return on marketing investment (ROMI). Common viewpoint considers marketing as costs, although these expenses should be treated as medium-term and long-term investments; this aspect shows one of the main marketing problems – economic justification. Even if top management increases marketing investment, marketers keep struggling with delivery of tangible marketing results back to the board room. Nowadays marketers face many challenges in an increasingly complex marketplace and addressing the wide range of stakeholders – prospects,

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customers, shareholders, partners, and vendors (Gao Y., 2010). Therefore the *scientific problem* of this research is: how different marketing efficiency, effectiveness and performance aspects in companies are being evaluated, measured, and brought to attention; how determined marketers are in finding the way to justify the marketing investment? Defining the value and management of each asset is a critical task and an important step toward the improvement of the return on marketing investment (ROMI) which can and should be achieved with appropriately chosen marketing metrics and marketing efficiency measurement methods as it is then possible to evaluate whether marketing activity plays a role in driving base sales evaluation (Chain P., 2011).

During the research authors focused on different categories of marketing metrics that help to measure marketing performance and marketing efficiency, as well as on difficulties that are linked with usage of such metrics and methods, stemming from lack of knowledge or ability to substantiate to the management the need for such metric usage, thus eliminating the danger of myopic management that aims mostly on short-term goals. The task was to ground the research on Latvian companies and their practice, thus enabling a further proposition of possible options for usage of measurement methods in different industries, markets, and amount of marketing investments, also to show how relevant to business and marketing strategy it can be to measure not only tangible performance indicators, but also non-financial ones. The research has practical value – it allows to evaluate current situation, to draw suggestions for further research, and to help marketers gain more knowledge and demonstrate marketing efficiency and effectiveness to stakeholders.

1. Marketing measurement methods – marketing metrics

A metric is a performance measure that company's management should review and evaluate on regular basis in the most suitable way. Mostly marketing metrics are defined as strategically designed set of marketing measurement and evaluation methods (Table 1). Usage of marketing metrics is considered being an important part of marketing evaluation and control process (Cravens D.W. & Piercy N.F., 2003; Kumar N., 2004; Farris P.W. *et al*, 2010; Jeffrey M., 2010); metrics should be dynamic and evolve alongside business developments (McDermott M.J., 2013). Great importance lies within understanding that metric is not just another word for measure: metrics should be always relevant, precise, consistent, and sufficient for review purposes (Ambler T., 2002).

The significance of marketing metrics arises from the expectation that a company will prosper if it has a well and clear defined strategy and business model, thus marketing metrics are strategically important for progress assessment. They serve as indicators of future cash flow in the market, as well as of the current cash flow. Marketing metrics are helpful in future marketing and business plan development, by evaluating previous marketing activities and designing new ones.

Also the importance of marketing metrics and the data such metrics can provide to marketers and managers lies within cognition that nowadays marketers alter budgets from traditional to digital channels, they need to be able to determine the optimal spend across multiple channels in order to be more accountable to the top management. With the ability to measure, marketing can have an accounting value (McDermott. M.J., 2013). This factor enables marketers to translate marketing costs into associated revenue; by breaking down each marketing channel marketers can look at past returns from past marketing activities and set new goals for return on marketing investment (ROMI) they hope to achieve from going forward. When linking marketing to shareholder value and financial performance, marketers cannot afford to forget to balance indicators of past financial health – financial metrics – and indicators of potential financial health – marketing metrics (Kumar N., 2004.)

Table 1

Definitions of marketing metrics

No.	Authors	Definition
1.	Ambler T. (2000)	Market (or marketing) metrics are a range of measures of different aspects of brand strength and marketing performance with aim to align measurement (and behaviour) with strategic goals, to make marketing more accountable, and to provide diagnostic information for top management decision making.
2.	Shaw R., Merrick D. (2005)	Marketing metric is a numerical summary of observations carried out on a regular basis according to agreed standards of observation and marketing analysis.
3.	Farris P.W. *et al* (2010)	A metric is measuring system that quantifies a trend, dynamic, or characteristic. Marketers require marketing metrics in order to justify in numeric terms the financial risks, benefits of decisions, to evaluate plans, explain variances, judge performance, and identify leverage points for improvement.
4.	Gao Y. (2010)	The performance indicators that top management use (or should use) to track and assess the progress – specifically the marketing performance – of a business or business unit.
4.	Marketo, Inc. (2011)	Marketing metrics are used in a measurement system, used by marketers to track and measure the impact of all key marketing activities, both hard and soft.
5.	Kotler Ph., Keller K.L. (2012)	Marketing metrics is the set of measures that helps marketers to quantify, compare, and interpret their marketing performance.

Source: authors' summary.

Although marketing metrics are gaining more attention as an important part of marketing measurement and evaluation process, and despite contributions on the subject marketing metrics researchers (Bonoma T.V. & Clark B.K., 1988; Ambler T., 2000; Ambler T., 2002; Rust R.T. *et al,* 2004; Barwise P. & Farley J.U., 2004; Moeller L.H. & Landry E.C., 2008; Farris P.W. *et al,* 2010), the marketing performance and marketing efficiency measurement studies could be expanded by offering structured process or framework for organization of the marketing measures. Marketing metrics researchers offer various ways how to categorize these measurement methods and point out mostly used metrics (Table 2). Ambler and Riley (2000) identified the 19 most widely used metrics for internal evaluation of marketing performance and brand equity; Jeffrey M. (2010) suggests to concentrate on as few metrics as possible that capture the most value for marketing and he proposes 15 essential marketing metrics; Farris P.W. *et al* (2010) offer 11 main groups of more than 50 marketing metrics, characterized with central issues addressed by these metrics.

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Table 2

Metrics categorization by competent researchers

Researchers	Metrics categories	Main marketing metrics
Ambler T. & Riley D. (2000)	1. Consumer Intermediate	1. Awareness; perceived quality; consumer satisfaction; relevance to consumer; perceived differentiation; brand/product knowledge
	2. Consumer Behaviour	2. Number of new customers; loyalty/retention; conversions
	3. Trade Consumer	3. Customer satisfaction; number of complaints
	4. Relative to Competitor	4. Relative consumer satisfaction; perceived quality
	5. Innovation	5. Number of new products; revenue of new products; margin of new products
	6. Financial	6. Sales; gross margins; profitability
Kumar N. (2004)	1. Products	1. Relative product quality; perceived product quality; percentage of sales from new products; product profitability
	2. Brands	2. Brand awareness; brand esteem; brand loyalty; brand profitability
	3. Channels	3. Channel penetration; channel trust; channel efficiency; market share in each channel; channel profitability; shelf space
	4. Customers, segments	4. Customer satisfaction; average transaction size; customer complaints; customer acquisition costs; customer retention rate; customer profitability
	5. Markets	5. Market penetration; market share; sales growth; market profitability
Farris P.W. *et al* (2010)

Farris P.W. *et al* (2010) – continued | 1. Share of hearts, minds and markets | 1. Awareness; knowledge; hierarchy of effects; loyalty; willingness to recommend; market share; brand penetration, etc. |
	2. Margins and profits	2. Unit margin; channel margins; contribution per unit; target volume; break-even sales, etc.
	3. Product portfolio management	3. Repeat volume; penetration; cannibalization rate; brand equity; conjoint utilities; volume projections, etc.
	4. Customer profitability	4. Customers; retention rate; customer lifetime value, etc.
	5. Sales force and channel management	5. Sales; sales pipeline; markdowns; workload; compensation; sales force effectiveness; total distribution, etc.
	6. Pricing strategy	6. Price premium; reservation price; percent good value, etc.
	7. Promotion	7. Baseline sales; incremental sales; promotion lift; redemption rates, etc.
	8. Advertising media and web metrics	8. Impressions; cost per click; click-through rate; net reach; average frequency; cost per 1000 impressions, etc.
	9. Marketing and finance	9. Net profit; return on investment ROI; economic profit EVA; net present value NPV; return on marketing investment ROMI, etc.

Researchers	Metrics categories	Main marketing metrics
Jeffrey M. (2010)	–	Brand awareness; test-drive; churn; customer satisfaction; take rate; profit; net present value (NPV); internal rate of return (IRR); payback; customer lifetime value (CLV); cost per click (CPC); transaction conversion rate (TCR); return on advertising money spent (ROA); bounce rate; word of mouth (WOM).

Source: authors' summary, with reference to Ambler T. & Riley D. (2000); Kumar N. (2004); Farris P.W. et al (2010); Jeffrey M. (2010).

If we examine each marketing metric and the information it provides for company, the way such information should be treated, marketing metrics can be characterized as quantitative (hard metrics) and qualitative (soft metrics), thus authors propose following classification of metrics:

1. **Quantitative marketing measurement metrics** – evaluates tangible assets and can be more easily expressed in monetary value, count, percentage. Such metrics are: customer count, sales, gross margins, profitability, market share, penetration, net profit, economic profit EVA, net present value NPV, payback, internal rate of return IRR, impressions, cost per click CPC, net reach, baseline sales, promotion lift, customer lifetime value CLV, etc.

2. **Qualitative marketing measurement metrics** – evaluates intangible assets which over the last 40 years have become more significant as drivers of market value (Ocean Tomo, LLC, 2011). These metrics indirectly derive at value; value is not always about money, instead, it is also focused around consumer reactions. Such metrics are: loyalty, awareness, likeability, satisfaction, word of mouth WOM, willingness to search, willingness to recommend, perceived quality, etc.

There are many metrics for marketers to choose from and they must keep in mind that there is not a one "golden" metric or even a group of such metrics, suitable for all companies and all business situations. Differences in forms of marketing tools, channels and messages used and the way they have been used may make harder application of different metrics, but for better marketing management, implementation, and control authors suggest that companies should apply both quantitative, and qualitative marketing performance measurement methods with past, present, and future (desirable) performance assessment.

Kumar N. (2004) points out the corporate nature of marketing metrics as characteristic, common in large enterprises and companies by saying "Corporate marketing can influence the definition of the relevant marketing metrics at each of the five levels of business (products, brands, channels, customers, markets) and ensure that each division and country tracks, collects, and reports the appropriate metrics using a common methodology so that executives can compare data across the firm" (Kumar N., 2004). Nevertheless more recently researchers have pointed out that different metrics can be used in variously profiled companies for wide range of purposes within marketing-mix model – different media (social, print, television, etc.), marketing activities (campaigns, promotions, sponsorships, etc.), channels and so on (Farris P.W. *et al,* 2010; Smit E.G. & Neijens P.C., 2011; Flores L. & Struyk K., 2012; Bauer Marshall S., 2013; Bhattachary P. & Mehta K., 2013). Also the study of current situation in Latvia shows that such metrics are gaining increasing acknowledgement and are used even in small companies, as well as in medium firms and large enterprises, although some gaps in marketers' and executives' knowledge can be noticed.

Authors offer the readers a review of marketing efficiency, effectiveness, and marketing performance definitions and characterizations in order to gain better understanding about these different aspects of marketing management and implementation process.

Over the time marketing efficiency, effectiveness, and performance have attracted great deal of attention in academic literature and within managerial staff of companies. Marketing literature and other publications on marketing issues address these concepts in various ways (Tables 3 and 4).

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Table 3

Definitions of marketing efficiency

No.	Authors	Definition
1.	Ambler T. *et al* (2001)	The ratio of results to resources used, e.g. return on investment.
2	Shaw R., Merrick D. (2005)	Marketing efficiency is usually measured as a ratio of outputs to inputs, for example, direct mail response rate is a measure of efficiency.
3.	Gao Y. (2010)	Doing things right. Comparisons of output from marketing to input of marketing.
4.	Marketo, Inc. (2011)	Efficiency is more likely to produce questions from the CFO and other financially-oriented executives than effectiveness; efficiency marketing metrics will be no defence against efforts to prune marketing budget in difficult times.

Source: authors' summary.

As it has been pointed out in literature, marketing must focus on delivering effective efficiency: delivering greater value to customers and the corporation at lower cost (Sheth J.N. & Rajendra S.S., 2002). Both efficiency and effectiveness are critical to marketing performance.

Table 4

Definitions of marketing effectiveness

No.	Authors	Definition
1.	Ambler T. *et al* (2001)	The extent to which marketing actions have moved the company towards its goals.
2.	Ambler T. (2004)	Marketing effectiveness is the quality of how marketers go to market with the goal of optimizing their spending to achieve good results for both the short-term and long-term.
3.	Mavondo F.T. (2004)	The ability of the organisation to meet short-term goals that might positively impact financial performance such as increasing market share, increasing sales, improving gross margin, successful new product introduction.
4.	Nwokah N.G., Ahiauzu A.I. (2008)	The extent to which an organisation acquires market share over competitors, advertising and promotional share of the market.
5.	Nwokah N.G., Ahiauzu A.I. (2009)	Function of improving how marketers go to market with the goal of optimizing their marketing spend to achieve even better results for both the short-term and long-term objectives.
6.	Gao Y. (2010)	Doing the right thing. Comparisons of performance to the goals formulated from the market strategy.
7.	Pramaniak R., Prakash G. (2010)	Ration among difference between consumers price and producers price, and marketing cost.
8.	Marketo, Inc. (2011)	Effectiveness convinces sales, finance and senior management that marketing delivers quantifiable value.

Source: authors' summary based on Daukševičiūte I. et al, 2011.

Marketing performance is characterized as a multidimensional process that includes the three dimensions of effectiveness, efficiency and adaptability; the effectiveness and efficiency of an organisations' marketing activities with regard to market-related goals, such as revenues, growth, and market share (Gao Y., 2010). To understand marketing performance, multiple measures are needed because marketing performance pertains to customer acquisition and retention which is one of the main business objectives for majority of companies.

2. Research – usage of marketing metrics in companies in Latvia

In order to get an insight into marketing metrics application practice and to make observations and find coherence between other business aspects such as number of customers, marketing budget, growth rate in sales etc. in Latvian companies', in March 2014 the survey was conducted by handing the questionnaire personally by authors, as well as by sending the online questionnaire to 796 marketing specialists of Latvian companies; the major population of the research span 11 966 small, mid-sized and large businesses (Statistical Enterprise Register, 2014).

104 responses were received, a response rate of 13.1%. Representatives of companies were chosen by simple random sample method from data bases. The sample of respondents was intended as representative of full range of industrial sectors, but, as results show, some industries were covered more than others (e.g. retail, wholesale, and services, financial services, information technologies, food and drink manufacturing).

The questionnaire addressed the following core issues:
1. The characteristics of companies (industry, markets by territory, what company offers to markets and what characterizes their customers);
2. Usage of internet communication channels and social media;
3. Evaluation of importance for business managing and monitoring of 57 marketing metrics, given in no particular order; choices – very important, important, not sure, not useful, metric is not used at all;
4. The changes in customer count over the last year; the changes in marketing budget over the last year; the growth rate in sales over the last three years;
5. Marketing planning, implementation and evaluation and managing personnel (marketing activities are planned for what period of time; how often marketing audit is performed; who is planning marketing activities in company?)

Main trends and information derived from the survey – 34% of all respondents represented large companies (characterized as companies with more than 250 employees); 27% – mid-sized (50-249 employees); 24% – small businesses (10-49 employees), and 14% represented micro-businesses (up to 9 employees). The most represented industries in the research are trade and services (31%) and financial services (16%). 47% of respondents offer customers both products, and services; 54% deals with both business, and private customers. The most common internet communication channels are company's web page (32%) and Facebook (23%); 15% of Latvian companies use Twitter, but 3% said that they do not use none of internet communication channels.

Given the possibility to choose more than one option, respondents indicated that most of the companies operate in Latvia (32%); only in capital Riga operate 15% of respondents; Europe – 18%; CIS countries – 14%; 11% of the respondent companies operate in global markets (most of them are global companies with franchises or agencies in Latvia); 3% – Asia; 7% are running their businesses in regions of Latvia, majority of them are micro-companies. These results allow to conclude that companies in Latvia are operating in different markets, they are adaptive to different scopes and thus the need for marketing efficiency measurement methods should be apprehended.

Research clearly shows the importance for companies in Latvia to measure mainly financial performance, more concentrating on tangible assets like customers, net profit, return on sales, etc. (Figure 1). From marketing metrics that measure intangible performance measures, highly evaluated is customer satisfaction – correlation exists between service culture in Latvia overall as customer service is widely appreciated and encouraged (e.g. every year March is Services Awareness month), thus it is widely acknowledged that the best service companies in Latvia tend to thrive and gain better reputation which leads to better sales, greater market share, superior net profit, and other critical to businesses sets of measures. Study also indicates that companies in Latvia tend to assess customers' willingness to search and willingness to recommend – two metrics that are also linked with brand and/or new product development possibilities, present and future cash flows. These metrics can tell a company much about the attitudes of its customers and whether its position in the market is defensible against pressure from competitors; if customer is satisfied with a product, customer is more likely going to recommend it to friends, relatives, and colleagues, thus increasing the competitive advantage of a company (Farris P.W. *et al,* 2010).
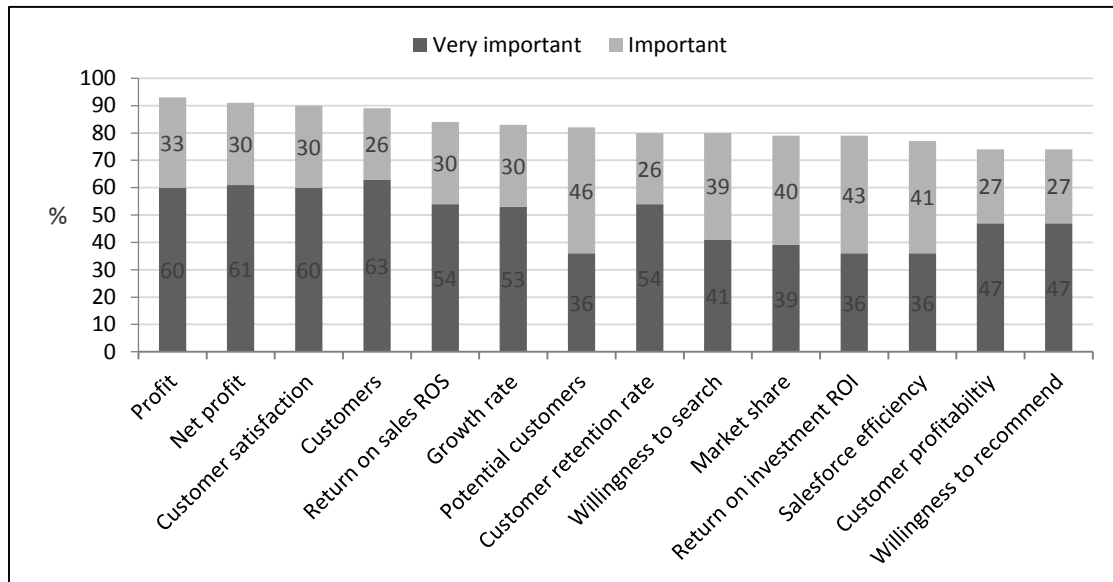
Source: according to the results of the survey carried out by the authors in March 2014.

Fig. 1. **Marked out as most widely used marketing metrics in Latvian companies**

Regarding social presence via various internet communication channels and tools, it can be assumed that companies acknowledge the need for social presence, but not so many of them evaluate the financial value added to business from usage of such communication, for example, the impact of word of mouth (WOM); nevertheless this aspect may be addressed in further studies. There are elements of the marketing and communications mix that do provide rich customer-level data and return on investment. Social media programs are highly targeted, measurable, and effective, but company should not rest of marketing tools just because they seemingly do not provide return on investment. As study shows, many companies in Latvia focus on different social and internet platforms as their marketing communication tools, but not so many companies realizes the importance of social presence, and therefore it is not measured in any way.

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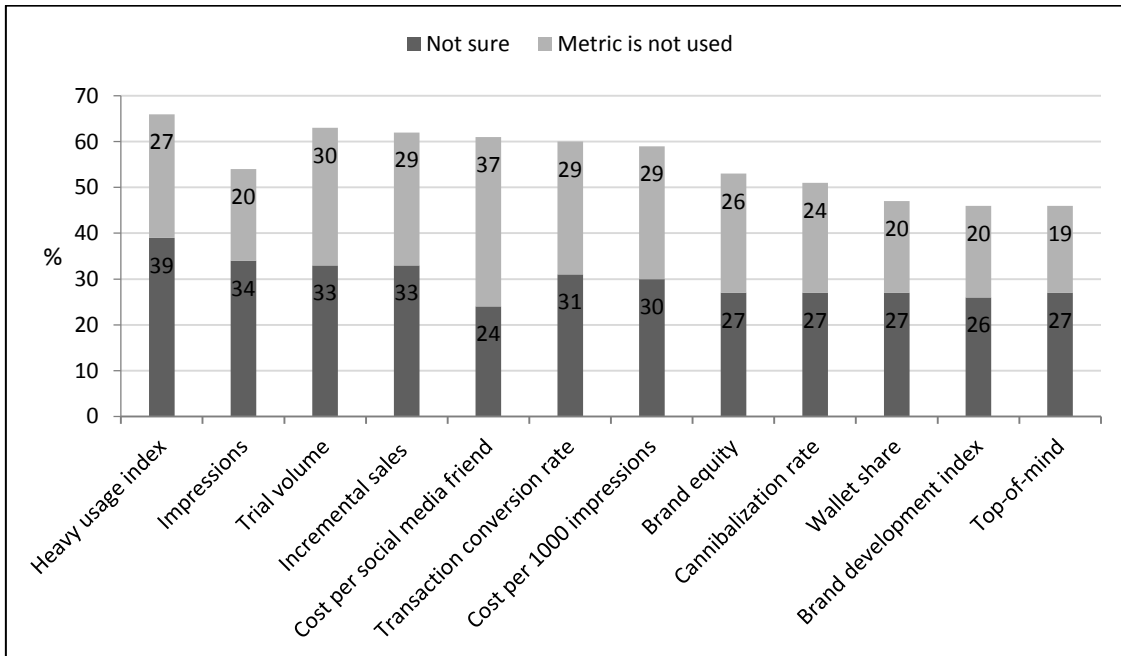
Source: according to the results of the survey carried out by the authors of the article in March 2014.

Fig. 2. **Marked out as most confusing marketing metrics for Latvian companies**

Figure 2 shows the most confusing marketing metrics for Latvian marketing specialists, managers and executives, these metrics are not used in companies at all or respondents have indicated that they are not sure whether such metric is important for their marketing performance assessment. The real problem might be that most companies struggle to draw conclusions from positive results in intangible asset studies from their market to their businesses.
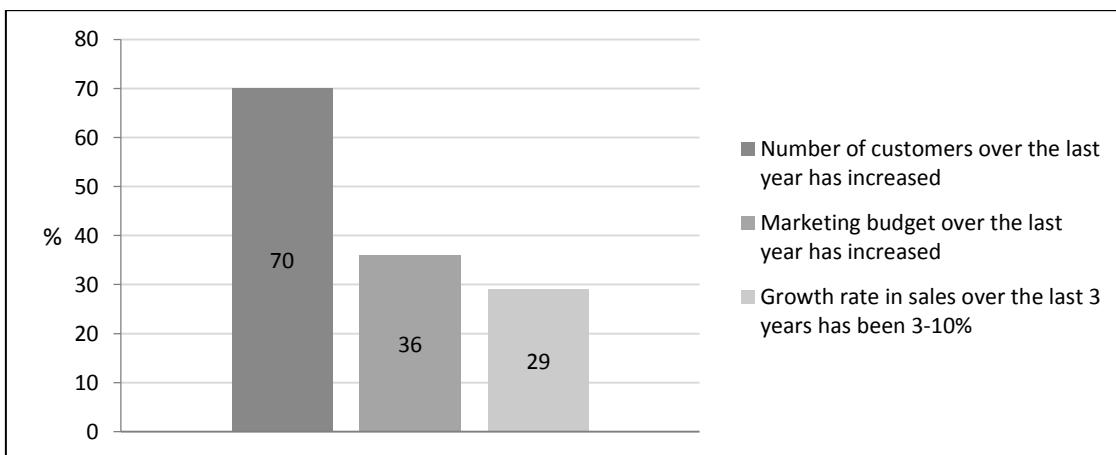
Source: according to the results of the survey carried out by the authors of the article in March 2014.

Fig. 3. **The coherence between number of customers, growth rate in sales and marketing budget**

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Marketing efficiency and company performance may be assessed better if marketing metrics complement traditional financial metrics. Particularly, marketing metrics can work as leading indicators of problems, opportunities, and future financial performance. Study shows that in 70% respondent companies over the last year have acquired more customers and thus have the opportunity to gain better competitive advantage, but at the same time marketing budget has not been aligned to the expanding customer base, leading marketers to work with larger customer scope with the same or not equally increased budget. Figure 3 shows the percentage of the best business performances and the link between marketing budget and growth rate in sales in Latvian companies. The coherence between these indicators may be treated as marketing specialists' ability to spend less and create greater value; as well as their inability to substantiate need for increased budget.

Following questions (marketing activities are planned for what period of time; how often marketing audit is performed; who is planning marketing activities in company?) gave authors better insight into Latvian companies' overall marketing planning, implementation and control process, and the results cannot be evaluated as very unambiguous and reposeful. As study shows, marketing activities in Latvian companies are mainly being planned for short and medium term:

- 52% of companies are planning their marketing activities ahead for up to 1 year period;
- 24% indicated that their plans run as far as for period of 1-3 years;
- 2% of all responses showed long-term strategic marketing orientation by thinking marketing activities ahead for 5 year period;
- 22% of the companies which participated in this study indicate somewhat insufficient strategic business thinking by answering that they do not make any specific plans for marketing activities for certain period of time at all.

In volatile market conditions it might be harder to make detailed plans for every marketing activity, but if company does not have any marketing objectives and milestones set before it for at least near future, such marketing implementation process can be valuated as following "qué será, será" (from Spanish – whatever will be, will be) principle: "Come what may, and then we will see what to do with that"; companies with this mind-set are rather market followers than market leaders. Of course, different business and market orientations, specific companies' characteristics that might not require marketing activity planning in advance cannot be eliminated, nevertheless the abovementioned percentage (22%) of companies which do not plan marketing activities can be considered being high.

From strategic perspective, marketing control is also one of the most critical functions a company must perform; thus significant for overall marketing efficiency and effectiveness evaluation is marketing audit – a generally accepted, comprehensive, systematic, independent, and periodic method of evaluation and a control mechanism of marketing performance (Kotler Ph., 1967); marketing audit helps to evaluate past marketing performance, to eliminate unnecessary, losses causing activities with goal to tailor the most appropriately suited future activities in order to gain customer appreciation and overall competitive advantage. The study shows results as follows:

- 17% of Latvian companies carry out marketing audit more than once per year;
- 20% of companies perform marketing audit once in 1-3 years;
- 4% audit their marketing less than once in 3 years;
- 59% of Latvian companies do not perform marketing audit at all.

The study indicates, marketing audit as necessary and useful method for performance and efficiency evaluation is mainly used in large and mid-sized companies; this fact can be explained with corporate, balanced, and polished business strategy which requires certain extent to which assessment in company must be performed. Yet 59% of companies (thus they do use marketing metrics) seemingly do not tie value and information gathered from marketing metric usage with strategic overall marketing performance evaluation.

Multiple choice question "Who is planning marketing activities in your company?" gathered 169 answers from 104 companies. 39% of answers indicate that marketing activity planning function is given to CMO (chief marketing officer) or marketing specialist; 25% suggest CEO; 17% – other personnel within company; 9% of companies' answers mention CFO, business manager. 5% of answers indicate that in some cases in marketing activity planning process outsourced personnel is involved; 5% suggest that marketing activities are not being planned at all. This shows that mainly marketing function is given to marketing personnel, yet in many cases CMOs or marketing specialists cannot make marketing activity planning decisions on their own – CEOs are involved too. Smaller companies might not have marketing department, thus marketing function is divided between other employees or even outsourced. This can be considered as lack of strategic planning because it is quite hard to delegate specific marketing function to someone who is not well-informed and competent about marketing process, business goals, company itself etc.
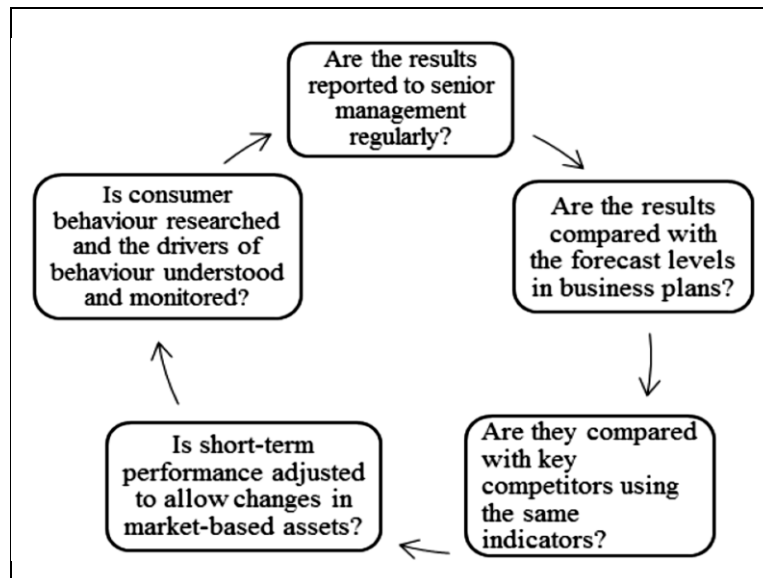
Source: authors' proposal with reference to Ambler T., 2000.

Fig. 4. **Questions for assessing adequacy of marketing performance
and efficiency measurement methods**

The major questions to be frequently asked in order to assess the marketing performance and efficiency are given in figure 4. Marketing specialists and CMOs must have clear answers to these questions, analyzing such aspects frequently and systematically. It will help to choose adequately marketing metrics that can work for indicating and treating issues that endanger the overall health of business.

This study was an expedient first stage for further research as it gave a substantial insight into current situation in Latvia – how marketing metrics tend to be used in Latvian companies, as well as showed significant links between marketing metrics' application and marketing planning, implementation, and overall management process. Based on gathered data, ongoing research phases may be developed in a particularly corresponding way. Research also can be considered as important tool for raising overall awareness about marketing metrics between marketing specialists in Latvian firms – as authors via

questionnaire proposed for companies to assess 57 different marketing metrics, many of them as a result were marked out as less known, authors hope this marketing specialists' obscurity at some point will encourage them to inquire more information and current knowledge about marketing metrics and bring more value to their businesses.

Conclusions and proposals

Based on the conducted research, the authors make the following **conclusions**:
1. Usage of marketing metrics is considered being an important part of marketing evaluation and control process and it is important to understand that marketing metric is not just another word for measure: metrics should be always relevant, precise, consistent, and sufficient for review and analysis purposes for companies in order to gain better understanding about markets, customers, business and value drivers.
2. In order to evaluate the overall marketing performance, a multidimensional set of marketing metrics is required, including both financial and non-financial measures that address both marketing inputs and outputs. These measures need to be evaluated against both internal and external (if possible) benchmarks, adjusted for the effects brought forward from past and carried forward for future periods.
3. Marketing metrics are gaining more attention in academic circles, yet marketing performance and marketing efficiency measurement studies could be expanded by offering structured process or framework for organization of the marketing metrics application.
4. The evaluation of marketing efficiency, effectiveness and performance is no longer an option, but a necessity in majority of companies in Latvia. Although companies tend to more focus on measuring financial performance, there can be observed a tendency of endeavours to measure previously unmeasured aspects of marketing performance, such as formed customer attitudes, beliefs and willingness to recommend or search.
5. Marketing efficiency and company performance may be assessed better if marketing metrics complement traditional financial metrics. Particularly, marketing metrics can work as leading indicators of problems, opportunities, and future financial performance.
6. When measuring and evaluating marketing performance, three different perspectives need to be taken into account: efficiency, effectiveness, and adaptability. The contribution of marketing on overall business performance and shareholder value can be evaluated in terms of five levels of impact: the company, customer, market, financial and shareholder. All of these approaches and levels of measurement need to be incorporated in marketing performance measurement system.

Based on the conducted research, the authors offer the following **proposals**:
1. Future research must be conducted; it should focus on methodological base of calculations of marketing metrics, as well as specific empirical investigation of marketing effectiveness and efficiency in Latvian companies must be carried out by implementation of in-depth interviews and more specifically adapted survey.
2. By following study and communication with respondents from Latvian companies would ensure that overall level of awareness about marketing metrics and opportunities they offer to businesses and the value they can create is raised.
3. Authors suggest Latvian companies to develop a comprehensive set of marketing performance metrics, adjusted to their current situation in market and with strategic view into the future; all factors that impact business performance should be taken into consideration and some important questions have to be frequently asked in order to assess the marketing performance measurement adequacy.

4. Authors acknowledge that there are country-specific differences in the use of marketing metrics (e.g. what works in USA, doesn't work in Latvia); therefore, through further research a framework of marketing metrics, suitable for Latvian enterprises, should be developed.
5. Although majority of factors of marketing efficiency and performance need to be carefully considered, the final selection of marketing metrics, most suitable for Latvian businesses, need to be adjusted according to the specific corporate context.

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CUSTOMER MOTIVES TO PARTICIPATE
AS PRESUMPTION FOR SERVICE CO-CREATION[1]

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Abstract

In the article the customer motives to participate are explored as one of the presumptions for co-creation. The research raises problematic questions: what motives of customer participation in service co-creation are identified? What are the roles of customer participation in service co-creation? What structure of motives are revealed by customer experiences? The aim of the article is to identify customer motives to participate as a presumption for service co-creation. Research methods: the analysis of literature; customer opinion survey with open-ended question; content analysis.

The paper presents the results of the research carried out from March 1st to April 19th, 2013, in northern and central Lithuania, responding to the open-ended question "What should motive you to participate in service co-creation"? The results revealed the structure of customer perceived participation motives in co-creation in the sectors of public catering, auto repair and beauty service providers. The participants of the research reflected their own experiences mostly and talked about participation as a situation which was managed by the service provider. The results of the empirical research indicate that motives of participation in co-creation are related to the customer perceived dimensions of service quality, price and emotion. They also confirm that the defined participation motives are more individual than common and are related to the assumed role by a person in service delivery process.

Key words: *co-creation, motives, customer participation*

JEL code: M31

Introduction

Service co-creation is unique experience of customers and service providers that opens up the new sources of competitive advantage for companies. The underlying logic of today's value argues that value is not embedded in an organization output but defined by and co-created with the customers (Prahalad and Ramaswamy, 2004; Vargo and Lusch, 2004, 2008). According to Anderson and Narus (1990), Anderson et al. (1993), Wang et al. (2004), companies view customers as partners in value creation and are willing to retain mutually beneficial relations with them. In general, the marketing concept of value co-creation concept provides a shift from an organization and product-centric position to a more balanced view of organizations and customers interacting and co-creating value with each other.

It is defined that customer participation in service co-creation can be achieved by motivating customers. The identification of motives that encourage customers to participate in co-creation enables the company to predict customer preferences, manage customer participation and help customers

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purposefully get involved in the process of value creation (Mills and Morris, 1986; Bowen, 1986; Rodie and Kleine, 2000; Bettencourt et al., 2002; Grissemann and Stokburger-Sauer, 2012). The variety of motives of customer participation in the service co-creation was dealt by Larsen and Greenfort (2009), Dur and Sol (2010), Zwass (2010), Djelassi and Decoopman (2013) and other.

However, there is not much empirical research found explaining what motivates customers in co-creation. Motivation to participate is explained according to the different theoretical approaches: expectations, control-of-reinforcement, goal-based resource-based view, social exchange and self-determination theory (according to Füller, 2010; Bridoux et al., 2011; Roberts et al., 2013 etc.). The groups of motives of customer participation and the contexts are analysed by Hars and Ou (2001), Meuter et al. (2005), Füller (2006, 2010), Hoyer et al. (2010), Bosson and Nilsson (2011), Bridoux et al. (2011), Lehrer et al. (2012), Pearce and Coughlan (2012), Occhiocupo and Friess (2013), Roberts et al. (2013), Roser et al. (2013). The roles of participated customers are described in the research of Chen et al. (1998), Chan et al. (2010), Nuttavuthisit (2010), Moeller et al. (2013). However, there is still an open question how the customers themselves find what motivates them to participate and involves into the co-creation process.

In the research the motives to participate are explored as one of presumptions for co-creation. The research raises problematic questions: what motives of customer participation in service co-creation are identified? What are the roles of customer participation in service co-creation? What structure of motives are revealed by customer experiences?

The aim of this article is to identify customer motives to participate as a presumption for service co-creation. The following objectives were solved: 1) the potential motives of customer participation in co-creation have been identified; 2) the types of customer roles explaining customer motivation to participate in co-creation have been characterised; 3) based on the empirical results, the structure of customer perceived participation motives in co-creation has been identified. The research methods to achieve the aim of the research were as follows: the analysis of scientific literature; the customer opinion survey with open-ended questions; the content analysis of answers to the open-ended questions.

The research was carried out from March 1ˢᵗ to April 19ᵗʰ, 2013, in northern and central Lithuania. A web-based form of questionnaire was prepared and thus 69 percent of data was received. In order to ensure the greater representativeness of the sample 31 percent of paper questionnaires were distributed. The research involved 1631 respondents, of them 506 the customers of cafés and restaurants, 697 people involved in the beauty services, and 428 customers of companies providing auto repair services. The research involved more urban citizens (81.0 percent), male (64.4 percent), people with higher education (45.7 percent), and respondents with middle-incomes (46.4 percent). The characteristics of the sample correspond the general characteristics of clients of service sectors and show that the research sample is suitable for analysis of customer participation motives in service co-creation and their perceived value of participation. The main questions of the whole quantitative research were as follows: What benefits are perceived by clients while participating in co-creation processes, and what costs stop the active participation of customers? At the end of questionnaire there was an open-ended question: What should motivate you to participate in service co-creation? The content analysis results of respondents' answers to the open-ended question are presented in the article.

The analysis of responses to the open-ended question is carried out in accordance with the following methodological provisions: (1) social reality is perceived and interpreted individually; (2) each individual creates reality actively on the basis of personal experience; (3) the social reality is different for different individuals, but it is shared through interaction with others (according to Berger, Luckmann, 1999; Cropley, 2002; Walliman, 2006). This choice has enabled researchers to identify and analyse customer participation motives more deeply, as exactly qualitative approach empowers researchers to understand the situation through the researcher's sight (Mariampolski, 2001). The research data were processed by using the content method that revealed what the recorded narratives of participants mean. The analysis was carried out by distinguishing the key text units, splitting up them into smaller parts, and then dividing

them into categories. When analysing the categories, the sub-categories were identified, their content and interrelations were characterized (according to Cropley, 2002; Denscombe, 2010).

The results of qualitative research reveal the structure of customer perceived participation motives in the sectors of public catering, auto repair and beauty service providers. Participants of the research, when expressing their opinion about the motives involving them in co-creation, mostly reflect their own experiences, and talk about participation as a situation which is managed by the service provider. The results of empirical research indicate that motives of participation in co-creation are related to customer perceived dimensions of service quality, price, and emotion. They also confirm that the defined participation motives are more individual than common, and also related to assumed role by a person in service delivery process.

1. Motives of Customer Participation as Presumption for Co-Creation

The paper points out the presumption that a motive is a multicomponent discriminating action cause determined by the inward of a person, appeared in the personality level, but are dependable on the extrinsic stimuli. The companies, verifying the identification of customer participation motives can provide customers with satisfactory proposals, encourage them to participate in co-creation, strengthen relationships with relationship–oriented customers and create a *win-win* situation (Kambil et al., 1999; Grönroos, 2006).

The researchers agree that customer motivation to participate is a multicomponent variable phenomenon. There are no universal motives that equally encourage customers to participate (Vargo et al., 2008; Larsen and Greenfort, 2009; O'Cass and Ngo, 2012; Ngo et al., 2013 etc.). The motives, for which the whole is the motivation to participate, are "internal and/or external forces that lead to initiation, direction, intensity, and persistence of behaviour" (Vallerand, 2004, p. 428), and they are not constant: they vary in the changing circumstances (Kim et al., 2013). The customers also differ in the level of motivation and orientation (Raddick et al., 2010; Turnhout et al., 2010; Grissemann and Stokburger–Sauer, 2012). Therefore, the researchers, dealing with motivation, differently classify customer participation motives.

Füller (2010) presents 10 categories of motives to participate: essentially playful task, curiosity, self-efficacy, skill development, information seeking, recognition (visibility), community support, finding new friends, personal needs (frustration), and compensation (financial reward). Zwass (2010) showed 19 motives to participate in co-creation, ranking them from the most altruistic (e.g. desire to contribute) to economic (e.g. financial rewards). Occhiocupo and Friess (2013) claim that the relevant motives to participate are recognition, self-expression, relationship creation and skill development.

In order to clarify the classification of motives to participate, the principle separation of motives between customer inner interest to participate and outer need to control / increase service quality becomes possible (according to Hars and Ou, 2001; Meuter et al., 2005; Raciti et al., 2013). In this case, the group of intrinsic motives includes winning, prestige, personal growth, self-determination, altruism and common identity / identification with the community. The intrinsic motivation to participate generally arises from the person's need to feel competent dealing with others, and make satisfied with own knowledge and skills. The extrinsic motivated customers, according to Hars and Ou (2001), "get rewarded creating the welfare to others". It is likely that these customers will spend more time improving overall service, will add more challenge and will stay long term active co-creation participants.

The group of extrinsic motives includes discounts, time saving, future income, self-marketing, peer recognition, client self-esteem reinforcement. When company applies noticeable and easily communicable measures for extrinsic customer motivation to participate, it quickly and easily

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achieves a high level of customer participation. However, the extrinsic motivation to participate as presumption for co-creation is met with scepticism. For instance, Zwass (2010) claims that: "for those customers who are motivated basically on the monetary affairs, co-creation is a closed book". Larsen and Greenfort (2009) think that with the applied financial customer motivation to participate, promotion comes together with the risk to establish superficial co-creation, which does not contribute to a closer relationship with customer.

The extrinsically motivated customers often consider the participation as the investment that will create future income. Hars and Ou (2001) define the following income categories: (1) tangible financial benefits to the use of particular services or products; (2) intellectual capital growth; (3) self-marketing. Immaterial income is directly related to the position of customer's status in the society. When a participated customer is recognized by the same social status people (peers), his ambitions to gain good reputation, to be respectable, to become an opinion leader are satisfied. Larsen and Greenfort (2009), citing Frederiksen and Jeppesen (2006), claim that recognition of the peers and opinion leadership are strong extrinsic motives that may completely replace and even surpass the financial reward as co-creation stimulus. According to Djelassi and Decoopman (2013), extrinsic recognition and feeling of pride are the most significant participation motives. Customer recognition from the company that owns the user's favourite/popular brands will be much more valuable and stronger motivators than an unknown service provider.

It is noticed that dividing motives to participate into intrinsic and extrinsic groups does not explain the reason why customers participate surrounded by others (being members of the community). Dealing with this issue the typology of motives to participate can be defined considering the place of motive nature as well as the customer orientation, when particular motive types are related to the financial, social, hedonistic and altruistic participation value.

In the view of Bridoux et al. (2011), all people according to their participation orientation can be attributed to either egoists (self-oriented), or mutual inter-actors (other people-oriented). In this case the motives to participate, relating participation to the place of motive nature, can be divided in four types: (1) financial motives (self-oriented – extrinsic); (2) social motives (other people-oriented – extrinsic); (3) hedonic motives (self-oriented — intrinsic); (4) altruistic motives (other people-oriented – intrinsic) (see Table 1).

Table 1

Typology of Motives to Participate: Sociability Aspect

	Self-Oriented	**Other People-Oriented**
Extrinsic	*Utilitarian motives*: material reward, e.g., money, goods	*Social motives*: image, status, recognition, when 'the ideas are expressed', leadership
Intrinsic	*Hedonic (or technical) motives*: interest, learning, pleasure	*Psychological (or altruistic) motives*: belonging to a group, helping others

Source: authors' construction based on LSE Enterprise (2009, p. 17); Hoyer et al. (2010); Occhiocupo and Friess (2013).

Extrinsic utilitarian motive type includes not only the financial rewards or share of the profit, participation benefit, such as time saving, but also involves, according to Hoyer et al. (2010), intellectual property gained during the participation process. *Social participation motives* in the public participating aspect mean for a customer improved reputation, social respect and stronger relationship with the like-minded people (Nambisan and Baron, 2009 cited in Occhiocupo and Friess,

2013). The motive of identification with the community applies for this type as well, which is identified by Hars and Ou (2001) with personal need to belong to the group described by Maslow: participating in co-creation customers recognize themselves as part of the community, therefore they relate their goals with community goals and contribute with their knowledge, if they can interact with other like-minded individuals.

The third motive type – *hedonic motives* (Hoyer et al., 2010) – includes the participating customer sense of fun, playful activity, and pure knowledge, which is gained taking part through co-creation activities. These are called by Occhiocupo and Friess (2013) as technical (*know how*) participation motives. *Psychological motive* type is difficult to operationalize. This type includes already mentioned recognition, self-pride, reputation in the eyes of others; however it is also attributed to such motives as altruism and volunteerism. Altruism is usually explained by the desire to enhance personal well-being for other people. In the case of customer participation in the service altruism is understood like doing something for others and receiving the particular costs (time, energy, etc.) (Hars and Ou, 2001). According to Dur and Sol (2010), altruism namely has a positive effect on the level of customer participation and affects as an efficient mean of customer commitment to put more efforts in co-creation process.

Applying this four-typed participation typology, the correlation highlights: (1) between the extrinsic utilitarian participation motives and the customer orientation to the participation goal; (2) and between the hedonic participation motives and the customer orientation to the participation experience. Utilitarian participation motives are directly oriented to the customer experienced tangible benefit and result, what, as Füller (2010) claims, are separated by the customers from the participation activity. Under the influence of this motive group the customers participate selectively, seeking for the purposeful and interesting content activity and clear business benefits.

Whilst the base of hedonic and psychological motives is customer emotions and experiences gained through the participation activities (according to Pearce and Coughlan, 2012; Roberts et al. (2013). This type of motives stimulates the customers to participate for long. There is the ritualized orientation to the service process, and the interest occurs in the service tools and context (Hoffman and Novak, 1996, cited in Füller, 2010). The customers affected by this type of motives are characterized as unfocused continued participation, various orientations, need to have a good time and need to experience pleasure in order to accumulate experience of participation. For such customers the participation is valuable for its activities, but not for the outcomes (Occhiocupo and Friess, 2013) (see Figure 1).
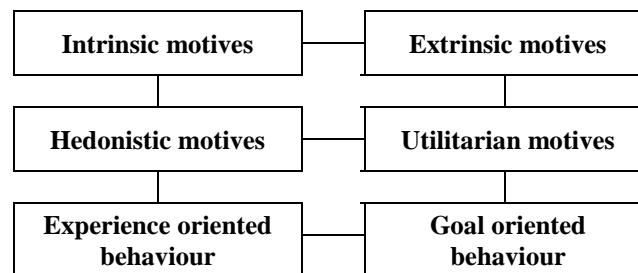
Source: authors' construction.

Fig. 1. **Comparison of Different Motive Types**

However, structuring the types of motives to participate through the theoretical approach, it cannot be disagreed with Occhiocupo and Friess (2013) who claim that in reality most customers are affected by the complex of motives of many different combinations, including intrinsic (e.g. joy and altruism), as well as

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extrinsic ones (e.g. recognition, reputation), or even completely extrinsic (e.g. reward, personal career perspectives) motives. Therefore, if companies seek for competitive advantage over co-creation, they need to use different ways of customer motivation. Each of them has specific reasons. The more motives company can respond, the more attractive and more persuasive proposal for co-creation will be.

2. Dichotomy Aspects of Customer Participation Roles

It is possible to identify customer participation motives through their perceived and accepted roles in the service process. Moeller et al. (2013) points out the types of customer roles according to the perceptible benefits, which stimulate to behave one way or another, as: (1) bargain-hunting independent; (2) comprehensive help seeker; (3) engaged problem solver; (4) technology-savvy networker; (5) self-reliant customizer. The customers of the first type are characterized by the preconceived motivation to seek for economic benefits, the second type – by a wish to develop skills undertaking to the service provider or consulting others, the third type customers find the service provider as the main problem solver, the forth type often interact with other customers in the nets opposite to the service provider, whilst the fifth type customers are ready to cooperate individualizing the service themselves. Performing their roles most customers (except engaged problem solvers) passively participate in acting activities with a service provider. The customers of the bargain-hunting independent role get the most economic benefits, whilst the customers of comprehensive help seeker and engaged problem solver roles improve their personal skills the most.

Chan et al. (2010) classify the customer participation roles through the dichotomy principle. Having made a decision to participate a customer can involve into *businessman-friend* or *leader-inferior* interaction. The interaction approach is determined by the customer's social communication practice, recognized cultural values, customer's social status, other role realization experiences.

The customers tend to individualism avoid an active contact with service provider, they basically prefer financial reward, which has to be proportional to their participation input. Such customers are ready to accept a businessman's role. They do not care about relation creation and do not value what saves their time during service consumption. They contribute to the service process control. Namely, the customer of businessman's role approach is oriented to the instrumental values and tangible individual benefit. Whereas the people of collective value orientation take the priority of the common interests, better realize their relations with other people, more value communication harmony. It is noticed that friendship approach is characterized by cooperative actions and care for common dealings. According to Malhotra et al. (1994), the customers performing the friend's role positively assess the main co-creation component – high *touch* with service company personnel.

Leader-inferior interaction is based on the relationship approach. Chan et al. (2010) claims that the customers of *higher power distance culture* think they are superior to service company employees; therefore they can define the interaction degree and distance themselves. According to Joiner (2001) cited in Chan et al. (2010), such customers get less benefits participating in the service process. They understand participation as situation decreasing wanted inequality between them and company employees. The customers of *lower power distance* feel more comfortable in the environment which enables to create. Besides, they negatively react to the loss of power in decision making, what affects on their cultural standards and perceptible right to have opinion about the decisions.

The aspect of the internalization level of the role is relevant for recognition of customer participation motives. Moeller et al. (2013) points out that it is necessary to notice when a participating customer learns the role and when the role realization requires more customer's efforts. Learning the role involves: (1) the challenge level (e.g. lack of information, lack of experience) and (2) personal skills to carry out the role development through the personal resources finding the

potential means to overcome challenges (e.g. search for information about the service on the Internet, web analysis about the service providers, studying the manuals, consultations with the experienced customers and other analogous service providers). The role-play activities mean receiving services (e.g. seeking for advice, receiving instructions) and economic benefits (e.g. lower costs), what reflect imagined benefits and main activities initiated by the customers in order to realize these benefits. As Moeller et al. (2013) claims, the general learning the role unfolds what customers are tending to do in order to create service value in relation to different service offerings.

3. Links between Customer Participation and Service Co-Creation

According to Prebensen et al. (2013), the customer participation motives are concurrent part of co-creation management. The researchers claim that there are always customers, who want to discover themselves, accept new roles, start acting in other social worlds, strengthen their identity and form their image. Companies benefit from recognizing what the main customer motives are and purposefully manage participation process, helping the customers become not calculating the economic benefits, but creative and independent service value co-producers, gaining exceptional status in the context of competitive ability improvement activities in a company.

In Nuttavuthisit (2010) publication the typology of four categories of customer participation in co-creation practice is presented: *participation-for-self, creation-for-self, participation-for-others* and *creation-for-others* (see Figure 2). It explains how customer motivation in co-creation changes from the primary customer involvement into participation using the resources provided by a company for the benefits for-self (i.e. participation-for-self) to the further involvement to satisfy oneself (i.e. creation-for-self) what requires to be more confident in the company, the community, and sharing the good qualities with others.

For others

COMMUNALITY	*CAUSE*
IV	III
Creation-for-Others	**Participation-for-Others**

Creation ···································· Participation

COMPLEMENT	*CHOICE*
II	I
Creation-for-Self	**Participation-for-Self**
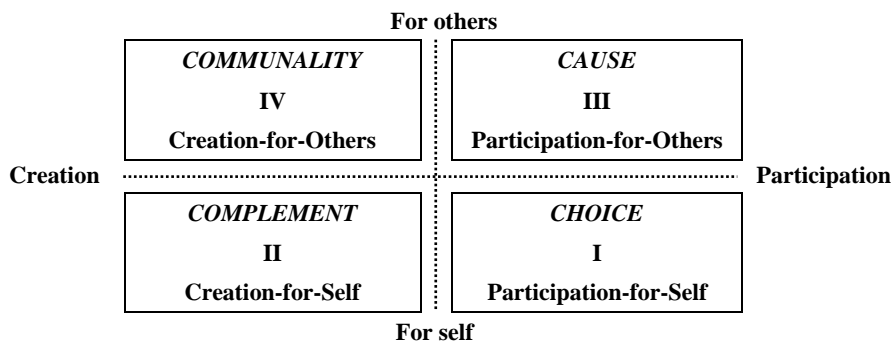
For self

Source: Nuttavuthisit (2010, p. 318).

Fig. 2. **Typology of co-creative practices**

Personal co-creation dimension. *Participation-for-self* is a practice performing when a customer becomes very close to a company and can reach exactly what he wants – the specific desire or decrease time and energy costs. It corresponds with the *intrinsic self-oriented customer* group. The customers, belonging to this co-creation practice category, are involved into the offered activity alternatives of a company, when they are differentiated, convenience and reduce costs, and this is perceived as a counterweight to the risk, that may be incurred due to non-standardized

malfunctioning products, loss of self-confidence, the inability to perform new tasks and the need to put in extra effort to reach out and learn new information.

The other practice – *creation-for-self* – is based on the *do-it-yourself* culture, which encourages people to find their niche. These customers want to be heard rather than talk. They like to create value themselves and use their knowledge and skills themselves, which are complemented by a company. E.g., a customer makes transactions, whilst a company only facilitates. Thus, a proactive role of the customer and his ability to learn and co-create value is developed as well as the next involvement into co-creation process is promoted. This practice directly correlates with the *extrinsic other people-oriented* motive type.

Public co-creation dimension. *Participating for others* customers actively bound to the resources provided by a company to benefit others, e.g. sharing information with other people. Thus, the goal is reached – to provide value to the other recipients, who tend to accept positive as well as negative information due to free and sincere its transmission and therefore can easier make decision to buy, what corresponds the *other people-oriented altruistic participation motives*.

Creation-for-others matches the *intrinsic other people-oriented motives*. This co-creation practice is especially practiced in advanced companies for its quick and inexpensive interactions, what are ensured by information communication technologies. Individuals initiate, do and share with others through online communities, involving people with similar goals and interests. This participation does not generally require for direct social interaction with the provider's representative, therefore customers do not experience discomfort learning to perform or accept the necessary roles in participation.

Creating-for-others customers work in partnership in order to create and share the content – news, ideas among themselves and in the external society. In this co-creation practice any personal approach and contribution are recognized, as well as targeted support and promotion the further development of the customers' creativity are delivered. The groups creating-for-others can differ from very small and simple to bigger and more intensive, directing collective efforts to the common interests. Having considered the tendencies of society development because of the ICT progress, it is the most promising co-creation support paradigm, to which it is worth to invest for any sector companies thinking about their competitive ability and perspectives. However it is necessary to notice that it is not self-service sector, communicating and collaborating with the customers, what has been proved by the empirical research results.

Research results and discussion

607 respondents responded to the open-ended question of the questionnaire: *What should motive you to participate in service co-creation?* 354 of them assessed their motives in the beauty centre / hairdresser's, 154 – in the car repair centre / garage, 97 – in the catering / café sector service. Most of the open responses are laconic, consisting of one to three words, such as: *money, lower prices, discounts*, therefore resist deeper content analysis. Having assessed the content of the responses the presumption can be made that the most often mentioned participation motive of material benefit is understood unambiguous and is directly related to the customer's ambition to get lower price for the needed service. It is unfolded in the two *Price* categories: *Discount and Lower Price*, which contents are closely related.

The content of subcategories *Faster Service, Customer's Time Saving, Customer Survey* belonging to the category of *Quality* shows that the respondents understand the participation in service and co-creation as the traditional service quality assurance and recognize the motives to participate as tangible benefits from the service providers, when they properly control service quality. It is noticed that the subcategories of the topic, such as: *Attention to Customer Opinion, Conditions*

to Share the Own Opinion, Personnel Professionalism confirm that customer participation in the service is influenced by the extrinsic motives as well as the intrinsic ones, such as the status recognition, opportunities to express their views, the need to teach others, satisfaction of being important, what has decoded leader's role dimension in the social interaction.

The richest in the content topic is *Emotion*, what confirms that participating in the service customers experience individual and very different emotions. Their range is wide, because emotions related to the decision to participate in the service are determined by the different motives. Maybe that is why the responses of individual customers and the emotional experiences of participation are characterized broader, e.g.: *As a customer I like to say what I want, to receive an advice on how to do better and to get greater result* (a woman, 35, customer of a hairdresser's); *For everyone it is interesting, but perhaps he or she dare not ask, think that interfere will appear bothersome <...>, then customer will be relaxed* (a man, 50, customer of a garage); *That the cafe personnel take my comments not as criticism but as a desire to help, in order to better service and food quality to others* (a woman, 41, customer of a café). In these and other replies the participation motives, such as learning / cognitive interest, status recognition, hedonism, ambition to help others, a clear customer as a participating friend's role dimension have been recognized. The structure of the participation motives, defined their topics, categories and contents are shown in Table 2.

Table 2

Customer Perceived Participation Motives (Results of *content* analysis)

Topic	Category	Participation Motives
PRICE	Lower price	*Economic benefit*
	Discount	
QUALITY	Faster service	*Status Recognition Possibility to share the own opinion Personal development*
	Time saving	
	Survey of customer opinion	
EMOTION	Knowledge / understanding of technical growth	–
	Attention delight	
	Lack of knowledge and technical process understanding	
	Lack of interactions experience in participation	
	Prohibition to participate	
	Unresponse to customer initiative	
	Disrespect for the participating customer	
	Negative company management approach to customer participation	

Carrying out the content analysis unexpected discovery for the researchers was plenty of customer demotivating to participate in service co-creation situations. Although it was asked of the motives, the respondents gave their responses on why they do not participate in co-creation. Having made the content analysis of such responses, six categories were formed out revealing the reason for not participating in co-creation. The content of two categories identifies the personal customer's attitude why he avoids participating. It is *lack of knowledge / technical process understanding* and *lack of experience to interact in participation.*

The lack of knowledge and technical process understanding as a barrier to participate was emphasized especially in the car repair service, mostly by women*: I do not have enough knowledge to participate in car repair work, I think there may be more harm than use* (a woman, 27, customer of a garage); *I think if I have more experience in this field, then I could express my opinion* (a woman, 51, customer of a garage). The respondents also point out the lack of experience in communication / interaction with service providers as one of demotivators: *In fact, I do not think I should interfere in work of masters in the beauty service provision* (a man, 46, customer of a hairdresser's); *If I knew more in this area, I could participate more* active (I need more knowledge there) (a man, 21, customer of a hairdresser's). Such attitude is common in men's questionnaires filled about cafes and beauty centres / hairdresser's services.

Though customer participation and service co-creation are presumption for company's further competitive ability condition and higher service value creation, however, according to the respondents, company's staff behaviour is one of the participation demotivators. This statement is confirmed by the content of four categories. The customers as well as service company personnel lack of experience and wish to involve into interaction with a customer for co-creation. The customers claim: It is necessary <...> *for specialists to communicate with me, ask for my opinion, advice, response* (a woman, 38, customer of a cafe); *I miss warmer, kinder service, open communicating specialists, helpful staff, wish to interact* (a woman, 29, customer of a hairdresser's).

In the respect of customer motivation, it is significantly worse practice, when service provider stops the customer's initiative, does not pay attention to the positive offers, and disrespectfully behave with open for participation person. The content of the categories, such as *Prohibition to participate, Disregard of customer's initiative, Disrespect to participating customer* reveal negative respondent experiences, ignoring their activeness: *Personally I do not like those who are trying to get rid of a client as soon as possible, because you feel as they are trying to do the jobs anyhow and do not want the customer to see it (a man, 33, customer of a garage); Often people imagine themselves familiar with everything and do not want to hear anything. As regards garage service, it would be nice that the personnel do not show dissatisfaction about the customers, who want to participate in car repair works or even observe what is going on* (a man, 29, customer of a garage). *I miss staff enthusiasm and good mood, they must understand that they are not always right and I miss more positive attitude to the customer, who is not interest to deflate them* (a woman, 51, customer of a café). Much worse co-creation perspective is revealed by another customer's opinion: *things for service staff go in one ear and out of another. And the owners of cafes do not pay attention to the staff remarks about the customers' complaints. So it is a vicious circle* (a man, 33, customer of a café), which absolutely demotivates and stops customers from the participation.

Having considered the results of the empirical research it is noticed that customer perceived intrinsic participation motives are identical to the defined by the researchers (Hars and Ou, 2001; Meuter et al., 2005; Raciti et al., 2013 and others). The experiences of the respondents confirm that they are involved into participation because of the inner interest to obtain economic benefit, outer stimulus to create higher customization level, to perform higher service process and final result control.

In the case of catering, beauty centres, car repair sector services it was not estimated that the customers had high intrinsic motivation level, positively influencing on the active involvement into

the participation of services, creativity, innovation offers, co-creation, as it is claimed in the works of Lehrer et al. (2012), Bosson and Nilsson (2011). The respondents do not have or recognise participation motives formed by extrinsic social interaction, such as belonging to a group, helping others, altruistic performance incentives. Their participation experiences show that participating the roles of a manager or quality controller are performed most often (Joiner, 2001; Moeller et al., 2013).

According to the research results it can be claimed that the reasons of extrinsic motive absent hide in the service provider side: company managers and employees have negative attitude to the active customer participation in the service, to the service improvement and co-creation, what stops the intrinsic customer motivation to participate and co-create for others (Nuttavuthisit, 2010). These results have two approaches: the professional specificity and closeness to customer participation in the chosen sectors (especially in car repair service), and the Lithuanian as post-Soviet situation, where free social interaction has not been formed between service provider and customer. Despite 20 years of experience in competitive free-market conditions a customer gets no attention and disrespect for his opinion and initiatives. The provisions of changing the ways and means in the context of co-creation promotion are the questions of new research.

Conclusions

1. The customer motives to participate in service co-creation are sorted into intrinsic and extrinsic ones. Hence participation motives are linked to intrinsic and extrinsic, tangible and intangible, social, psychological and economic reasons to perform an active role in service. In summary it can be claimed that motivation to participate in co-creation can be explained by different customer roles that express internal customer reasons. The scientific literature confirms that there is the connection between the motives and roles of participation in service co-creation. The typology of customer participation in co-creation consists of different types of customer roles, especially oriented to the outer, social interaction and benefit others.
2. The personalized opinions of customers reveal that motives of participation in co-creation are related to customer perceived dimensions of service quality, price, and emotion. The participation motives indicated by respondents of the research are only individual and related to accepted role by a person in service delivery process.
3. It can be argued that in order to customer participation as a presumption for service co-creation each company needs to influence on its customers purposefully according to their individually perceived motives, by encouraging to assume roles that enhance their conscious participation in co-creation as a presumption to increase company competitiveness. However it is relevant for a company to change the opinion of the participating customer, to encourage his activity and wish to improve service quality not only for themselves, but for others, too.

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HUMAN RESOURCE RECRUITMENT AND SELECTION APPROACHES IN PUBLIC SECTOR: CASE OF LATVIA

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Abstract

Public sector HR recruitment and selection has its own particular features. There are specific rules and statutes that regulate requirements for public sector organisations' occupations. In the framework of this research, authors pay attention to an important tool of HR recruitment process such as job advertisement. Job advertisement is a tool that needs to be properly developed as it affects HR recruitment and selection process success, employer brand development, and further performance of the organisation.

The authors study theoretical aspects of HR recruitment and selection approaches using monographic research method and examine content and structure of public sector job advertisements in Latvia. Based on primary and secondary statistical data analysis the authors revealed several advantages and disadvantages of the public sector organisations' job advertisements. The design, structure and content of some job advertisements are quite weak and unclear. Certain doubts exist whether job advertisement creators understand and plan HR recruitment and selection activities.

The authors propose to use Analytic Hierarchy Process to make job advertisement creation rational in order to make HR selection and recruitment process in public sector organisations more effective and efficient.

Key words: *Human Resource Recruitment and Selection, Public Sector*

JEL codes: M51, Z18

Introduction

Human Resource (HR) recruitment and selection is an important process for any organisation. In terms of productivity and sustainability of the organisation, it is important to pay attention on potential employees, searching for necessary specialists and selecting the best suitable one for the organisation. HR recruitment and selection presumes several typical activities which should be realized, however, each organisation depending on its culture and vacant job positions creates its own framework and pipeline for HR recruitment and selection activities.

In frames of this research authors pay attention on such an important tool of HR recruitment process implementation as job advertisement. This tool is essential as it connects external and internal environment of organisation. Job advertisements fulfil a function of communication and relationship creation with organisation stakeholder – potential organisation employees. Therefore, the key idea of the research is pay attention on the responsible attitude towards job advertisement design and content development.

The issue 'unemployment amongst youth in Latvian and some other European countries' is relevant especially during economic recovering period. Aging society and emigration tendencies

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force organisations to put a lot of effort to establish bases for the sustainable future. The situation on labour market makes to *fight* for specialists. Based on previous pilot studies, it was defined that one part of young Latvian university students and graduates rather choose privet organisation to work for, another part is mostly interested on challenging job at high and well paid position whether in public or private sector. Youth is future HR of organisations and their stakeholder. In frame of socially responsible organisations it is useful to establish good relationships with potential employees, therefore organisation should lead HR recruitment process attractive for external environment as further on it can make easier the selection process between the most suitable responded candidates. HR selection is crucial edging point as it reflects on relationship creating with potential employees and employee branding maintenance through the external environment as well as organisations tasks and strategy fulfilment.

The research question is 'What are the main characteristics of Latvian public sector organisations' job advertisements?' This analysis will show the main pros and cons of the chosen job advertisements development framework at Latvian public sector organisations. The tasks of the study are: describe possible frameworks of HR recruitment and selection approaches; make the introduction analysis of the HR recruitment and selection process of the Latvian public sector organisations; identify general parts of public organisations' job advertisements; compare the profile of potential public sector employees and Latvian public sector organisations' requirement to the potential employees. Methods implemented: statistical data analysis and discussion, information synthesis and comparison, monographic research, Analytic Hierarchy Process, deduction and induction.

The outcome of the research can be the ground for the further researches on the common topic. The findings can be applied by public sector organisations as the instructions or guidelines for the better job advertisements' design and content development to better attract new and especially young employees. The question of the appropriate public sector organisations job advertisement design necessity and importance for the qualitative and long lasting HR selection could be further discussed.

As the sources of information were used some state statistical data and reports, scientific literature (books and articles), published job advertisements of public sector organisations, and previous unpublished authors studies' results.

Research results and discussion

1. HR Recruitment and Selection framework

The theoretical part of the study is based on monographic research method, when the historical theoretical bases of HR recruitment and selection approaches are identified and described; all observed approaches are compared.

In frames of this research authors take the consideration that HR recruitment and selection is one undevided process. HR recruitment and selection has been developed as the separate activity that is important for both science and life. After 1920 the number of organisations in the USA, that has developed their own HR recruitment and selection principles to organise more effective flow of the HR recruitment and selection activities and productivity, increased. (Boitmane I., 2008) In 1960s HR recruitment and selection become more focused as that was time of economic boom and the level of unemployment was relatively low (Bloisi W., 2006). Boitmane (2008) outlines that there is a need of HR selection process management in Latvia that has been actualised already at the 1990s.

Analysing *HR Recruitment and Selection* definitions given by different authors from 1989 till 2012 authors identify the key terms that characterise this process outlining the most frequently used words, terms (Lundy O. & Cowling A., 2003; Cooper D. et al., 2003; Graham H.T. & Bennett R., 2003; Kehre

M., 2004; French W.L., 2007; Boitmane I., 2008; Ešenvalde I., 2008; Vorončuka I., 2009; Dombrovska L.R., 2009; Raphael M.A., 2009; Dessler G., 2010; Werner S. et al., 2012):

- Candidate;
- Organisation;
- Job;
- Choose/ chose/ decision;
- Selection procedure;
- More suitable for the position;
- Requirements;
- Norms and regulations.

Cascio V.F. (1989) defined the objective of the assessment an selection programme as candidate identification by 'score high on selection measures that purport to assess knowledge, skills, abilities, or other characteristics that are critical for job performance' (Snell S. & Bohlander G., 2001). Summing up the key words identified authors created the brief description of the HR recruitment and selection process. HR recruitment and selection is a process of organisation's choose the most suitable candidate for the vacant position according to the job requirements taking into the account specific norms and regulation during the selection procedure.

Examining mentioned definitions and descriptions by the 21st century authors, it is possible to highlight some preparing activities before starting communication with possible candidates for the vacant position; they are:

- Enquire actual employment principles, conditions, acts and regulations;
- Realize culture and strategy of the organisation;
- Have a job description;
- Identify the competences and criteria of the candidates' assessment considering a job description.

Table 1 is designed to examine what kind of HR recruitment and selection components are specially outlined by different authors throughout the historical development of the HR recruitment and selection. HR recruitment and selection process activities are listed in the logical sequence as they can be implemented. By the frequency of each activity outlining by different authors from 2001 till 2012, the rating of the most essential HR recruitment and selection can be made. This list includes:

- Applications / documents review;
- Selection tests/ testing;
- Selection interviews;
- Decision making on offering job position to the exact candidate.

However, to receive applications some other processes should be done before namely job advertisement creation. Even detailed job description development is specifically outlined as HR recruitment and selection process element only by one author (Boitmane I., 2008), this is one of the important part of preparation for job advertisement creation.

Special attention should be paid on moral and legislative framework of the process. Farnham (2010) outlines that 'yet almost every HR decision and issue poses ethical questions, since they deal with people issues covering recruitment and selection'.

Table 1

HR Recruitment and Selection process components

No.	Activity / author	Dessler (2001)	Cooper et al. (2003)	Graham & Bennett (2003)	Lundy & Cowling (2003)	Kehre (2004)	French (2007)	Boitmane (2008)	Ešenvalde (2008)	Dombrovska (2009)	Raphael (2009)	Vorončuka (2009)	Werner et al. (2012)	Total
1.	Detailed job description development							✓						1
2.	Candidates' Evaluation standards/ methods determination		✓	✓										2
3.	*Applications / documents review*			✓	✓	✓	✓	✓	✓	✓		✓	✓	9
4.	Candidate experience examination	✓											✓	2
5.	*Selection tests/ testing*	✓			✓	✓	✓	✓	✓	✓		✓	✓	9
6.	*Selection interviews*	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	10
7.	Other selection activities							✓	✓	✓				3
8.	Experience checking	✓												1
9.	References collection / checking / evaluation	✓		✓	✓	✓		✓				✓	✓	7
10.	Candidates assessment		✓								✓		✓	3
11.	*Decision making on offering job position to the exact candidate*	✓	✓	✓		✓			✓	✓	✓	✓	✓	9
12.	Medical / physical check				✓		✓					✓		3
13.	Recruitment and selection process evaluation / analysis									✓		✓		2

HR recruitment and selection is one of the HR management activities that do not have the constant nature. It is connected to the HR retention and HR planning on the operative level, when sometimes is not realized as the important element of the HR strategic management as well as one of the core activities in organisation's future successful existence. Implementing HR recruitment and selection employers responsible for this process need to realize that all activities have the highest connection to the ethics, and other social regulations. 'Nowadays successful management

and administration cannot be imagined without ethical principles and basic values consideration, that usually already are highlighted in professional codes of ethics of certain the business areas' (Milts A., 1998) also in the public sector. Also they need admit that this is period of time when employer brand can affect the outcome of the process as well as this process itself can affect the employer brand. HR recruitment and selection is based on internal and external communication, evaluation technics and decision making, relations creation and maintenance with organisation potential employees.

2. Structure and content of Latvian public sector organizations' job advertisements

For the empirical study job advertisements with vacancies in general government were collected at the period of time from December 9th till 10th 2013. It is possible to find this kind of advertisements published at WEB at: State Employment Agency, CV MARKET, Latvian Journal (*Latvijas Vēstnenis*), Latvian Journal portal 'About the Law and the State' („*Par likumu un valsti*"), CV-Online. In total there are 194 job advertisements, applied filter: 'State and public administration' (CV-Online, 2013). Only 73 (sample number) job advertisements on vacancies from fields like administration, finances and law (namely Accountant, Administration Rapporteur, Administrative Coordinator, Auditor, Customer Service Specialist, Department Manager, Deputy Director/ Manager, Director, Employment Organizer, Finance Analyst, Inspector, Judge, Lawyer, Legal Adviser, Legal Counsel, Manager, PR specialist, Project Management, Senior officer, The Chief Clerk, The Chief Finance Analyst, The Chief Lawyer, The Chief Legal Counsel, The Chief Procurement Specialist, The Chief Specialist) were selected for the further analysis (the percentage ratio is displayed in Figure 1).

Almost all selected job advertisements origin is the official publication "Latvian Journal". The biggest part of the advertisements could not be included; because they cannot be generalized (they are too specific): Assistant (6 advertisements), Associated professor (6), Docent (25 advertisements; 31 vacancies), Docent in professional studies (4), Expert (1), Leading researcher (17; 32), Lector (17; 18), Professor (13), Ranger (1), Researcher (17; 41), Scientific assistant (7; 13), Senior expert (7); 117 advertisements in total. As the result the main requirements for the candidates were identified and analysed, the characteristic of the advertisements' structure was created.

Analysis of the job advertisements' structure showed that the biggest part of the employers design their job advertisements quite similar (Figure 2). For each defined element of the job advertisement were given 1 point. The content of 69.86% job advertisements is the following:

- Name of employer;
- Introduction text and / or employer description;
- Name of vacant position;
- Requirements for an applicant;
- Job responsibilities / occupation objectives;
- Documents required for application;
- Application instructions / competition description;
- Working hours and place.

The sequent of the particular elements sometimes differ, e.g., some employers start with requirements for an applicant and then mention job responsibilities or describe occupation objectives, some – place these statements vice versa.
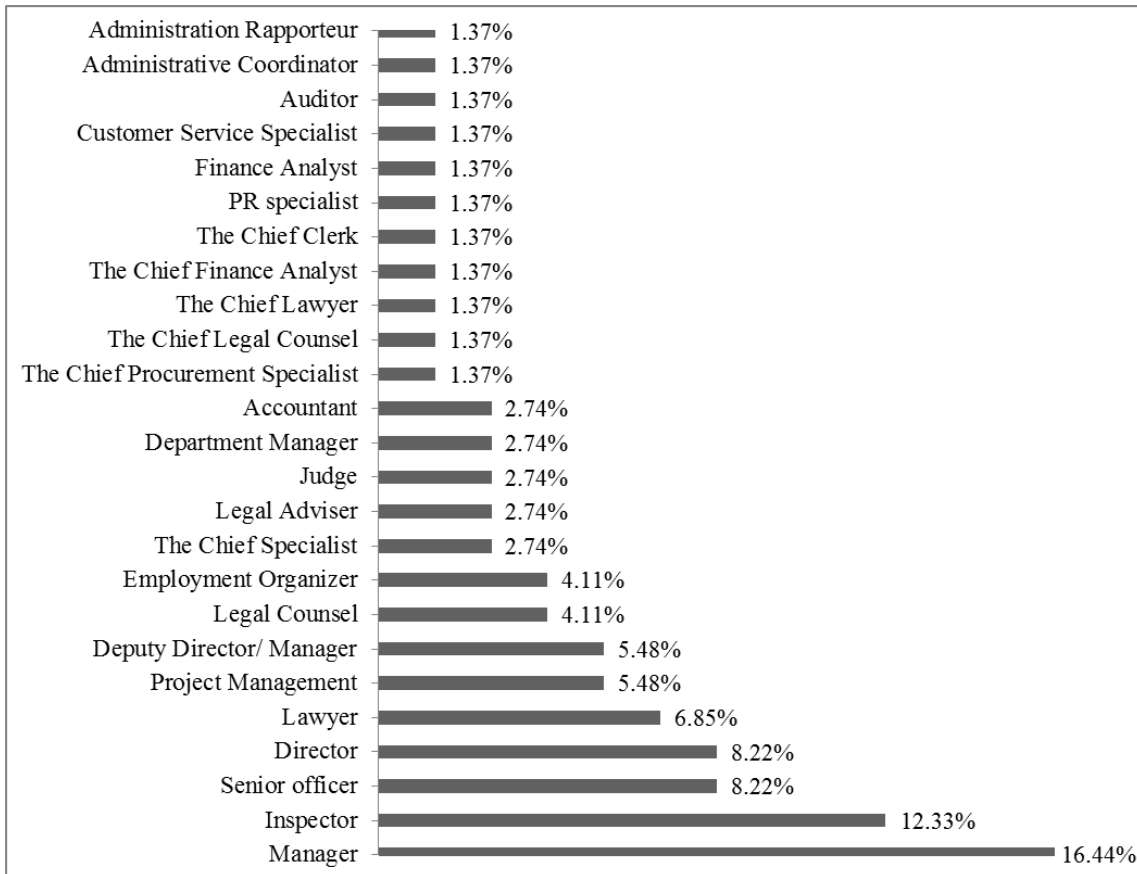
Source: author's construction based on analysed job advertisements.

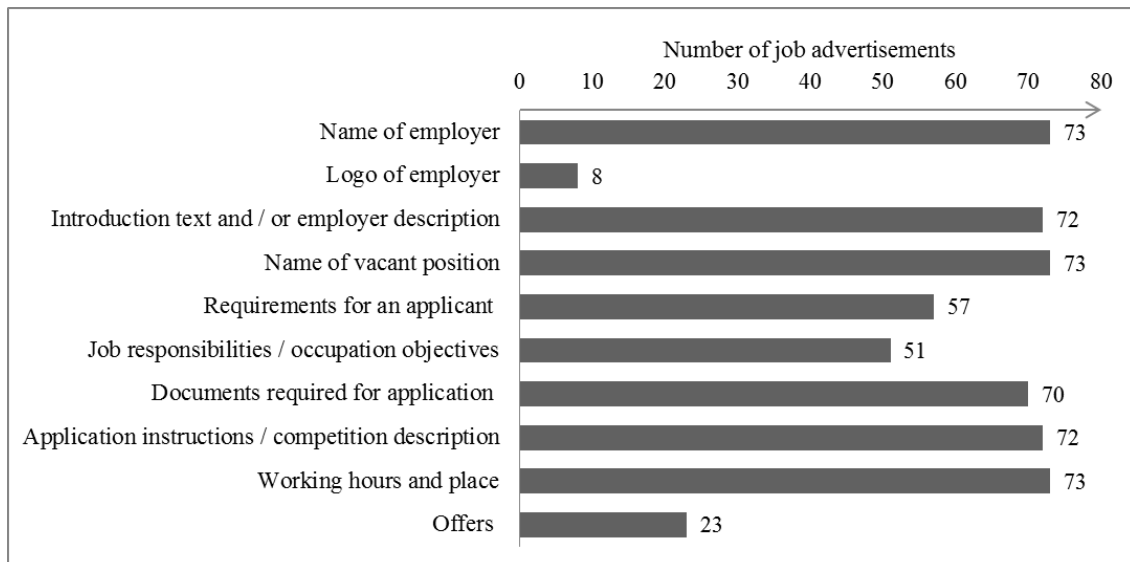Fig. 1. **Vacancies presented at the job advertisements analysed**

Sometimes the name of the position is given twice – at the heading and then at the introduction text; and sometimes it is specified at the introduction text. This approach can be both good and bad approach. For example, the heading of the advertisement states 'Manager', some people will read this advertisement, because they are looking for a manager job, however, managers positions could be too specific. Job seekers could react negatively after starting to read advertisement under heading 'Manager' and become disappointed after a second realizing that the employer needs a manager of a Legal Department with related education and experience. Thus, it is important to think about the exact definition of the offered position at the header part, e.g., highlight the key word graphically.

In the introduction text some employers are creative. They impress their spirit and outline the feature, when others write just formal statements as, e.g., 'Organisation X is searching for a new employee to fill the vacant position of accountant'. Application instructions are mentioned more often than full competition description. However, full competition procedure description is valuable information for applicants, as they can be ready for exact selection activities and are able to plan their own time and evaluate other job opportunities and offers. Depending on template used working hours and place are mentioned at the beginning or at the end, or mentioned twice – at the beginning and at the end.

Number of job advertisements

Name of employer		73
Logo of employer		8
Introduction text and / or employer description		72
Name of vacant position		73
Requirements for an applicant		57
Job responsibilities / occupation objectives		51
Documents required for application		70
Application instructions / competition description		72
Working hours and place		73
Offers		23

Source: author's construction based on analysed job advertisements.

Fig. 2. **Structure of job advertisements analysed**

Authors pay attention on not so popular part of the analysed of descriptions as 'Offers'. It is applied only by 31.51% employers; however, it is not less significant as other parts. Offers part presents some benefits and features that employee can receive in return for his/her work for the particular organisation on the particular position. Therefore, it could be the part that will attract potential employee attention and can have the important role for the decision making process (i.e., candidate will decide, if he/she will apply for the position right after reading the 'Offers' part). Of course, if employer cannot offer something attractive, e.g., high salary, broad benefits package, opportunities for further professional development and career growth, it would be better to skip the 'Offers' part to not to scare potential candidates for the position.

There are some job advertisements from institutions of high educations that have poor content. They do not include any information on the part of 'requirements for the applicants' neither on 'job responsibilities' part assuming that potential applicants know what kind of work is offered. These advertisements do not have 'offers' part as well.

Design of the majority of the job advertisements analysed is standardised: heading part, body and footer part with contacts. 10.96% of employers put their logos at the header part. This is useful if logo is unique and good remembering as well as well-known publicly and has good associations (i.e., if the organisation have a positive employer brand). In case of public sector organisations in Latvia few employers can use logos in their job advertisements as an advantage. Mainly all of advertisements' body parts were constructed using bullet points; however each bullet point could be expressed as long 2 or 3 lines sentence with brackets. This form of writing is not reader-friendly.

The rational structure of the job advertisement can help attract suitable candidate for the job position. Job advertisement needs to be defined the same as other advertisement of the organisation. Job advertisement is a written communication tool that needs to send the right message to the target audience. Therefore, the job advertisements analysed cannot be characterized as ideal according to the structure. It is hard to evaluate them properly, because the reasons of using or not using the exact possible parts of the job advertisement are not known. The conclusion that can be done on this stage is the following – public

sector employers use standardized approach creating job advertisements. Some employers highlight the uniqueness and modernity of the organisation; they have their own style of expressing requirements and describing organisation itself. Job advertisements of these organisations are memorable.

Additionally authors can note that some advertisements were not enough correct in terms of discrimination. Job advertisements are in Latvian, Latvian language propose gender differences of names of occupation. However, 47.95% positions still were written only in male forms, when other job advertisements proposed a vacancy for both male and female representatives of the occupation. However, this detail sometimes was noticed only in the introduction text, position in the heading was defined in male anyway. Sometimes even the same employer's advertisements were different – some of them propose positions only for male candidates, sometimes for both male and female. So, it is not something usual, Latvian employers still cannot accustom to correct language usage that can affect their employer brand and number of applicants and potential employers.

Besides the job advertisements' structure, the content was analysed. The next section is based on the 'requirements for the applicant' part detailed analysis and attempt to describe the possibility of the potential suitable candidates existent on Latvian labour market.

3. Comparison of potential public sector employees and public sector organisations' requirements to them in Latvia

The created rating of the most required qualification shows the necessity of employees' skills, education and abilities to be able to find job in public sector. Additionally statistical data is overviewed to describe the current situation on labour market.

78.08% of the analysed job advertisements have a requirements part. The usual requirements part structure is:

- Education field and level;
- Work experience;
- Computer skills and competences;
- Languages knowledge;
- Other skills, abilities and competences;
- Driving license necessity;
- References.

However, there are examples of job advertisements (47.95%) that have references to the law that include some occupational requirements (31 times – State Civil Service Law; 2 – Judiciary Law; 1 – Public Procurement Law; 1 – State Revenue Service Law). So, there are some requirements that are not listed directly at the job advertisements requirements part.

Analysing requirements to the education level and field it was defined that the most popular is higher education in law sciences (Figure 3). The second popular required education is higher education in economics, finances or accounting. So, at the research period the most required professionals for the public sector vacant positions were alumni of the law, economics, finances and accounting programmes. Besides the majority of specialists required to be with higher education, however, there are two positions that require only secondary education.

Work experience in public sector is also required or is an advantage of the applicants. The length of work experience varies from 1 to 5 years.

There are not too specific requirements in computer skills and competences. The majority of the offered in the job advertisements analysed positions require people with good skills in MS Office programmes and regular Internet usage skills.

Offered positions require languages knowledge:

- Good English language knowledge (oral and written) required in 26.03% of advertisements;

- Excellent Latvian language knowledge (oral and writing) – 19.18%;
- Foreign language(s) knowledge (level and exact languages are not defined) – 16.44%;
- Good Russian language knowledge – 12.33%;
- English language knowledge (for communication) – 6.85%.
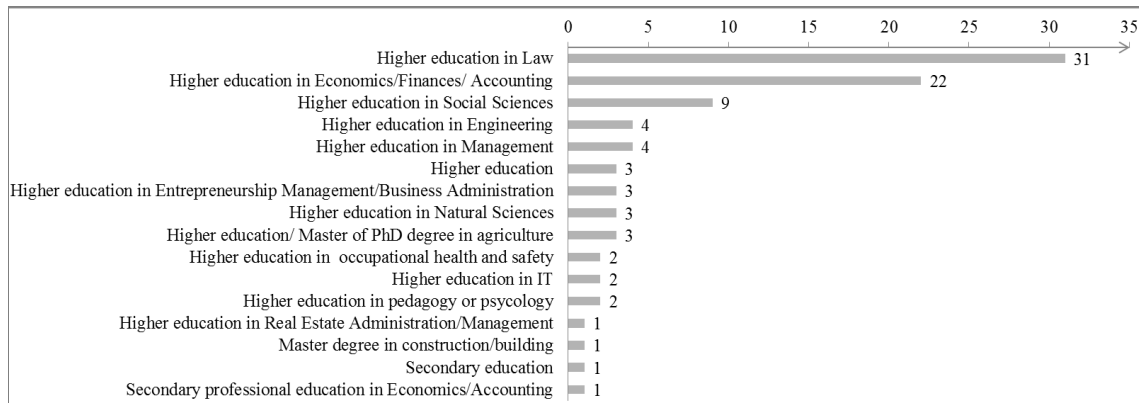
Source: author's construction based on analysed job advertisements.

Fig. 3. **Number of job advertisements that mention exact education level at the requirements part**

This part of requirements showed that job advertisements creators actually are not too specific in defining required language knowledge level. This fact can be explained by the lack of understanding what kind of language and its level is needed fulfilling job tasks of the exact occupation, if it is not regulated by law or other normative acts. Also it can be caused by unprofessional task fulfilment of HR selection specialists that do not plan how exact requirements will be checked or evaluated therefore do not mention exact data. However, there is a variant that job advertisement creators wanted to have the biggest pool of applicants as languages knowledge has smaller importance for the exact occupation than other qualifications and competences.

Other skills that are mentioned in more than in 10% of the job advertisement analysed are:
- Good communication and collaboration skills (in 32.88% of job advertisements);
- Sense of responsibility / high level of responsibility (24.66%);
- Analytical skills (19.18%);
- Accuracy (16.44%);
- Ability to plan/organize own activity independently (13.70%);
- Ability to form arguments (oral and written) – 10.96%;
- Ability to work independently (10.96%);
- Ability to take initiative (10.96%).

Mentioned skills and abilities are hard to be tested at the first step of selection, e.g.., screening applications and documents. However, it is possible to enquire if there are needed people on labour market by education level. Authors checked the availability of job seekers with higher education by the 3rd quarter of 2013 – there are about 22 200 this kind of people. Population: Latvian permanent residents, private households that on the reporting period are 15-74 years old. Sample range is 24 128 households from 2007. Data was collected applying International Labour Organization's developed methodology. Confidence interval is from 77.97 till 102.03, and level of confidence α= 0.05. Standard error is 6.14. (LR Centrālā statistikas pārvalde, 2014) Therefore the criteria, that are important to select the most suitable candidate, should be defined clear. People need to be filtered and selected accurately, however, before job

seekers need to pay attention on the created job advertisements that in many cases are not properly developed by design and content.

4. Rational approach to job advertisements design and development

Sometimes HR specialists do not know what to write at job advertisements and how to structure the information. The weak attempts of this kind of specialists are demonstrated at the job advertisements analysed. Therefore, authors would like to propose one applicable method that can help HR selection specialists for many activities during HR recruitment and selection process (Rouyendegh B.D. & Erkan T.E., 2012) including the job advertisement creation.

Authors describe Analytic Hierarchy Process (AHP) method (Saaty T.L., 1980) to propose the method for the rational identification of requirements for the candidate designing the job advertisement. AHP method is based on rational decision making, evaluating the range of the alternatives by the criteria ranged by their importance (Asamoah D. et al., 2012). These preferences between alternatives are reached making pair-wise comparisons (Coyle G., 2004). The relative importance is determined using Saaty created nine point scale, where 1 – equal, 3 – moderate, 5 – strong, 7 – very strong, 9 – extreme level, 2, 4, 6, and 8 – the intermediate values (Coyle G., 2004).

Applying AHP it is important to follow the exact steps and make consequent calculations. Vahidnia et al. (2009) define some consequent steps of the process:

- Describing the unstructured problem;
- Detailed criteria and alternatives;
- Pair wise comparisons among decision elements;
- Using the eigenvalue method to predict the relative weights of the decision elements;
- Computing the consistency properties of the matrix;
- Collecting the weighted decision elements.

The problem is clear – difficulty in choosing the most relevant requirement to the applicants pretending on the vacant position in a public sector organisation. In the certain case creating the job advertisements the first step is definition of alternatives requirements or groups of requirements to the candidate for the vacant position. Here job advertisement creators should be aware of the exact occupation job description. The list of requirements can be detailed and exact (e.g. mentioning levels of needed language knowledge and a computer program usage). The second step is definition of the criteria that can be used for each alternative requirement evaluation. These criteria could be associated with significance of the requirement for (Ilgen D.R. & Hollenbeck J.R, 1991):

- Daily job tasks fulfilment;
- Regular job tasks fulfilment;
- Periodical job tasks fulfilment;
- Extraordinary job tasks fulfilment.

Requirements could be grouped by following criteria: physical, psychological, socially-psychological and specific or professional (Vīksna A., 1999). Of course each organisation can set their own specific criteria that could be associated with psychological environment of the personnel, organisational culture and values, strategic development of the organisation. Perhaps, these criteria can be applied for comparison of the requirements group (education: secondary, secondary professional, higher (bachelor, master, doctor degree)), when criteria associated with job tasks fulfilment are better to apply them for more specific and concrete requirements of each group.

'The next step is the calculation of a list of the relative weights, importance, or value' (Coyle G., 2004), of the set criteria, or so called eigenvector, first of all for the set criteria. Based on ranged criteria and alternatives the decision matrixes are created (Simões da Silva A.C. et al., 2010). The decision matrix

of evaluation of the criteria with respect to the alternative requirements is calculated. 'In order to obtain the numerical values of ratings, a comparison matrix between the rating intensity levels was built. Through this matrix, the relative importance among levels of intensity was found, calculating the self-vector that represents the "performance" for each intensity level'. (Simões da Silva A.C. et al., 2010). Then some calculations follow. The needed ratios and meanings are (Saaty T.L., 1980, 2001; Asamoah D. et al., 2012):

- The consistency index (1);
- The Random [Consistency] index (RI), which is taken from Saaty's table "The Reference Values of RI for Different Values of n";
- The Consistency Ratio (2);
- The number of alternatives (n);
- Result of the Selected Criteria Pair-wise Comparison Matrix (λmax) and Eigenvector (row averages, x) multiplication (λ$_{max}$x).

$$CI = \frac{(\lambda_{max}x - n)}{(n - 1)} \qquad (1)$$

$$CR = \frac{CI}{RI} \qquad (2)$$

'The final step is each normalized alternative score multiplication by the corresponding normalized criteria weight. Afterwards the results for all of the alternative criteria are summed up.' (Lapiņa I. et al., 2013)
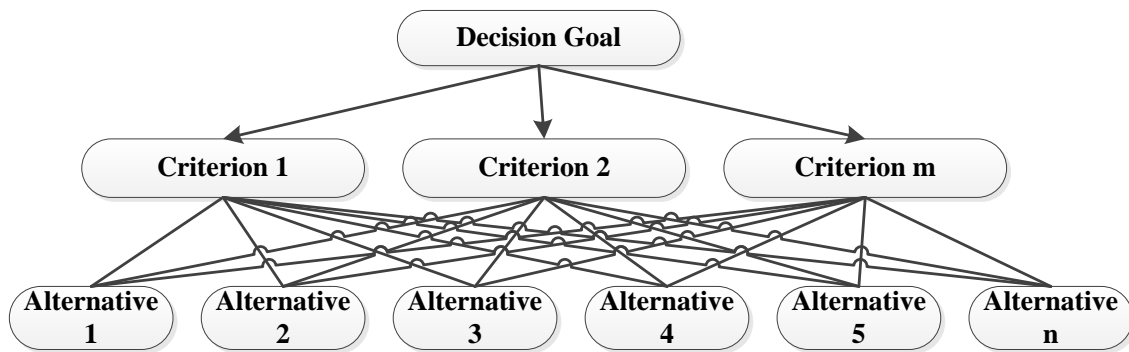
Source: author's construction based on Rouyendegh & Erkan (2012).

Fig. 1. **Hierarchy for a three-level Multi-Criteria Decision-Making problem**

The requirements that have the highest summed score by each criterion are those that needed to be included in the developing job advertisement. The general scheme of the AHP can be described by three major blocks – alternatives, criteria of the alternative evaluation and decision goal (

Fig. **1**). At the top of the hierarchy is decision goal that is a solution of the stated problem.

AHP is applied to identify the most suitable candidate amongst the applicant for the vacant position. This method is useful for rational decision making; however, there are some warnings that need to be emphasized. Evaluation of criteria and alternatives is fulfilled by experts; therefore experts need to be chosen appropriately. Perhaps, it could be time consuming process as the

evaluation needs to be implemented preparing a job advertisement for each vacant position, therefore there is a risk that some organisations would refuse to implement AHP for the proper job advertisement development. One more warning concerning experts' involvement into the process is the fact that experts are people, and people even professional rational beings are emotional creatures. This fact can affect the results of the evaluation process. For example, results of the Tsyganok et al. (2012) experiment 'confirm the presumption that un-der large expert numbers competence of individual experts does not matter significantly and can be neglected, but if the number of experts in a group is relatively small, expert competence should always be taken into consideration'. To reduce the risk of slightly insignificant evaluation results collection, organisations should involve experts into the evaluation process as much as possible.

The issue on the choice of the most appropriate and significant requirements to the candidates of a vacant position can be solved using such a rational decision making tool as Analytic Hierarchy Process. However, it asks several activities fulfilment that can cause the unpopularity among public sector organisations.

Conclusions, proposals, recommendations

After reaching the research objective, the authors made several conclusions concerning the situation with job advertisement, an HR selection and recruitment tool, its usage and development issues in public sector organisations.

1. The more concrete and target audience oriented job advertisement can make HR selection process easier, effective and efficient. Job advertisements will attract only the most suitable candidates; therefore, HR specialists will not be overloaded by appropriate application search and selection from the huge amount of unappropriated ones and will have time for fulfilment of other tasks.

2. There are some legislative regulations, which should be taken into account when recruiting and selecting public sector staff. The public sector job advertisements are publicly available at many job search portals, however, the first publication is made via the Latvian Journal and then they are automatically spread via others job search engines in Latvia as well as one of the most popular among young specialists – *www.cv.lv*.

3. Public sector organisations use the typical standard form for job advertisement design, which has its own advantages and disadvantages reviewed in the paper, e.g., Latvian public sector organisations' job advertisements are not specific or concrete enough. Young specialists on the Latvian labour market prefer the opposite that can be a cause of youth's disinclination to apply for the offered public organisation vacancies. Just a handful of employers highlight the uniqueness and modernity of the organisation by their own style of expressing requirements and describing the organisation itself. Job advertisements of this kind of organisations are quite memorable.

4. The expectations and real situation on the labour market were compared and the possible case of professional match was described. The result of this analysis can be used afterwards by public service organisations in order to improve the quality of job advertisement design to attract more suitable candidates for open positions.

5. HR selection specialists need to realise that the requirements in job advertisements need to be chosen rationally. Some formal documents and law can dictate some exact requirements, however some of them can be chosen according to special needs of the organisation (e.g., taking the working style and type of temper of current employees that will work together with a new employee into account). To identify the necessity of some abilities and skills of the employee the *Analytic Hierarchy Process* can be used. Besides that, HR selection specialists should know how to assess or check the required level of knowledge, skill or ability of candidates before publishing a job advertisement.

This research is a part of the more extensive research on HR recruitment and selection within the public sector. At this stage it is possible to make some proposals for further analysis and application.

1. Public sector organisations' HR specialists need to be educated and trained on each step of HR recruitment and selection and particularly on job advertisement creation and development.
2. To examine if the public sector organisations' set requirements for potential employees are realistic, the deep analysis of current job seekers should be implemented. It is possible to apply analysis of the job seekers' CV registered on some famous Latvian career portals like *www.cv.lv*.

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THE HIGH QUALITY BUSINESS SCHOOL ACADEMIC TEACHER OF THE 21ST CENTURY – POLISH STUDENTS' PERSPECTIVE

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Abstract

The literature shows that the success and competence of future managers depend on the quality of their academic teachers. Moreover high quality study requires high quality lecturing/teaching that creates an environment in which deep learning outcomes are made possible for students. The aim was to identify the characteristics of the academic teacher working at business schools, according to the expectations of Polish students from a 21st century perspective. A qualitative survey design was used in the form of a letter questionnaire. 144 second-year bachelor students of Gdańsk University from the Faculty of Management were asked to list a maximum of five, most preferred characteristics, and to comment their answers. Finally, 109 students participated in the study, and 471 characteristics were proposed, analyzed and put into five categories, like: tangibles (T), reliability (Rel), responsiveness (Res), assurance (A) and empathy (E). Content analysis and Pareto-Lorenzo analysis was used and the most preferable characteristics were identified. The conclusions, proposals and recommendations were presented. The academic teacher has to be well prepared and teach in an interesting, innovative way with a use of modern techniques and methods. Very important is to apply not only the lecture-style methods but also on-the job teaching, project-based teaching, team work-based teaching, action teaching, experiential teaching, small groups teaching, case studies, simulations, e-teaching, and even volunteering teaching. Nor without the signifcance are coaching and mentoring and the features referring to the style of teaching, like charisma, creativity, passion, and engagement, which characterise good managers and business leaders.

Key words: *quality, academic teacher, business school*

JEL code: I21

Introduction

An ongoing debate about the future direction of management education is evident in the recent literature. Concerns about management education are broad in scope and include the preparedness of business school graduates for managerial and professional positions (Maellaro R. & Whittington J.L., 2012; Somers M.J., Passerini K., Parhankangas A. & Casal J., 2014). The transition from life as a student to the world of work in the business environment is not always easy. Graduates have to adapt to a new managerial roles when they enter the job market, applying their theoretical knowledge to a work-related context (Gerken M., Rienties B., Giesbers B. & Könings K.D., 2012). Companies expect business graduates to be prepared in terms of their expectations. However there are doubts about the business schools' ability to prepare future managers with the skills needed to function at an executive level in

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business environment. Graduates are seen as not fully prepared to address the complex, interdisciplinary problems characteristic of management practice (Mintzberg H., 2004). It is not new that the variety of managerial skills, including the interpersonal ones and knowledge are needed at initial stage of running an enterprise and also later during the development stage. They are needed at the beginning of their careers and later, in a daily work. What is interesting the practice and literature show that the success and competence of future managers depend on different factors and among them is the quality of their academic teachers (Chong S. & Ho P., 2009). From that reason high quality education at business schools or at business administration or management faculties of the universities is a demanding and complex task (Wiśniewska M., 2007; Grudowski P., 2011). What's more, a high quality study requires high quality lecturing/teaching that creates an environment in which deep learning outcomes are made possible for students (Villardi Q.B. & Vergara S.C., 2013). It requires high-skilled, flexible and experienced academic staff who use innovative teaching methods, cooperates with business entities and properly prepares students to perform their future managerial tasks. Nowadays, the business management teacher's role goes well beyond giving information (Harden R.M. & Crosby J., 2000). N. Logothesis (2005) by characterizing the attitude of a good university teacher, sees him or her at the same time as a teacher, a consultant, a guide, an advisor, and as an educational service provider. Regarding above and having in mind that some of the academic teachers' features like honesty, ethics, personal culture affect students attitudes (Payan J., Reardon J. & McCorkle D.E., 2010), nor without the significance at business schools are: excellent manners of the teachers, diligence, having high requirements and the treatment of her or his profession with passion and commitment (Chepujnoska V., 2009).

Based on this, it seems to be important, as the aim of the research, to identify the characteristics of the academic teacher working at business schools, according to the expectations of Polish students from a 21st century perspective. To resolve the research problem a qualitative survey design was used, which is the most preferable and normally appropriate for studies that seek to gain an insight into the nature of a particular phenomenon (Chiresche R., 2011). A letter questionnaire was sent via e-portal (student-portal) to 144 second-year bachelor students of Gdańsk University, from the Faculty of Management, who were participants of an obligatory lecture titled "Quality management" (the first task of the research). They were asked to list a maximum of five, most preferred characteristics of a high quality business school academic teacher of the 21st century. The question was: what should a high quality business school academic teacher of the 21st century be like? The students were asked also to comment their answers. As literature shows, the letter questionnaire as the free writing instrument has been successfully used in similar studies focused on effective and ineffective features of lecturers (Chiresche R., 2011; Barnes B.D. & Lock G., 2010; Wright P.N., 2005). Finally, 109 students participated in the study, and 471 characteristics were proposed. Content analysis was used in data analysis. The proposals were first analysed by listing all the features identified by the respondents (the second task). The features were grouped by similarities into 32 characteristics and put into five categories adopted from A. Parasuraman, V.A. Zeithaml and L.L. Berry (1988), as follows: tangibles (T), reliability (Rel), responsiveness (Res), assurance (A) and empathy (E) (the third task), where:

- Tangibles means the appearance of: physical facilities, academic staff, equipment, communication material;
- Reliability is the ability to perform the promised educational service dependably and accurately;
- Responsiveness means willingness to help students and provide prompt educational service;
- Assurance means teacher's knowledge and courtesy and his or her ability to inspire trust and confidence;
- Empathy means a combination of access (approachability and ease of contact); communication (keeping students informed in a language they understand and listening to them); understanding the student (making an effort to know the students and their needs).

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The characteristics were listed in a descending order, referring to the number of indications (the fourth task). The Pareto-Lorenzo analysis was used to select those with a higher impact on the quality of teaching, according to the 80-20 rule (Oakland J.S., 1989) (the fifth task). Based on that the conclusions, proposals and suggestions referring to the future solutions were presented (sixth task).

Research results and discussion

As the results showed (see table 1), the most preferable characteristics of a high quality Polish business school academic teacher of the 21st century were: "teaches in an interesting, innovative way" (A), "knows and uses different innovative techniques during teaching and communicating with students" (Res), "objective and fair" (A), "forgiving and tolerant" (E), "likes students and is open to their individual needs" (E), "communicative" (E), "competent and professional" (A), "sense of humour" (E), "knowledge and scientific degree" (A), "the ability to broaden professional knowledge systematically through continuous learning" (A), "authority and charisma" (A), "practical knowledge and experience based on current contacts with business entities" (A), "helps students and cooperates with them" (Res), "conscientious" (Rel), "passion and commitment" (Rel), "punctual" (Rel), "creative during the lecture" (A), "flexible in the choice of subject and teaching methods" (Res), "motivating and inspiring" (Res). Moreover, regarding the above results and overall indications, it can be noted that the most preferred characteristics are those connected with assurance (44% of indications), then with empathy (26.1% of indications), with responsiveness (15.5%) and with reliability (14%) (see Figure 1).

Table 1

Characteristics of the high quality business school academic teacher in the following categories: tangibles (T), reliability (Rel), responsiveness (Res), assurance (A) and empathy (E): the number of indications (N)

| Characteristics and their categories	N	N(cum)	%	%(cum)
1. Teaches in an interesting, innovative way – A	46	46	9.8	9.8
2. Knows and uses different innovative techniques during teaching and communicating with students – Res	38	84	8.1	17.9
3. Objective and fair – A	34	118	7.2	25.1
4. Forgiving and tolerant – E	30	148	6.4	31.5
5. Likes students and is open to their individual needs – E	26	174	5.5	37
6. Communicative – E	23	197	4.9	41.9
7. Competent and professional – A	21	218	4.5	46.4
8. Sense of humour – E	20	238	4.3	50.7
9. Knowledge and scientific degree – A	19	257	4.0	54.7
10. The ability to broaden professional knowledge systematically through continuous learning – A	18	275	3.8	58.5
11. Authority and charisma – A	15	290	3.2	61.7
12. Practical knowledge and experience based on current contacts with business entities – A	15	305	3.2	64.9

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Characteristics and their categories	N	N(cum)	%	%(cum)
13. Helps students and cooperates with them – Res	15	320	3.2	68.1
14. Conscientious – Rel	14	334	3.0	71.1
15. Passion and commitment- Rel	11	345	2.3	73.4
16. Punctual – Rel	11	356	2.3	75.7
17. Creative during the lecture – A	10	366	2.1	77.8
18. Flexible in the choice of subject and teaching methods – Res	10	376	2.1	79.9
19. Motivating and inspiring – Res	10	386	2.1	82
20. Good contact with the youth – E	9	395	1.9	83.9
21. Energetic, well-organized – Rel	9	404	1.9	85.8
22. Demanding and assertive – Rel	9	413	1.9	87.7
23. Intelligent – A	8	421	1.7	89.4
24. Available – E	8	429	1.7	91.1
25. Consequent – Rel	8	437	1.7	92.8
26. Good mannered – A	7	444	1.5	94.3
27. Patient – E	7	451	1.5	95.8
28. Respects students – A	7	458	1.5	97.3
29. Honest and ethical – A	5	463	1.1	98.4
30. Good diction – Rel	4	467	0. 8	99.2
31. Knows foreign languages – A	2	469	0.4	99.6
32. Nice look and appearance – T	2	471	0.4	100

Source: authors' calculations based on own study.
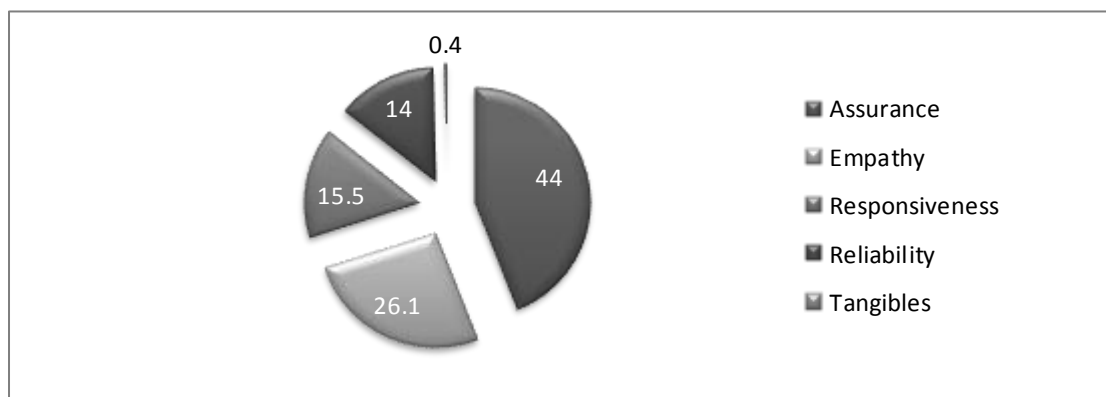
Source: authors' construction based on own study.

Fig. 1. **The most preferred categories of the characteristics of business school academic teacher (%)**

As can be seen among the hard characteristics of the business school academic teacher assurance, responsiveness and reliability seem to be the most important from the perspective of the students' needs. They expect from the academic teacher to be well prepared, to teach in an interesting and innovative way. That makes them motivated and involved in the process of learning. If the teacher is properly prepared, explains the aim of the lecture, uses case studies, illustrates the lecture with real examples, invites students to discuss and to ask the questions, is enthusiastic and engaged in what he or she is doing, the lecturing is resulting in good learning experience. Very important are also modern techniques and teaching methods used during teaching and communicating with students. They appreciate e-learning, webinars, e-conferences, simulation exercises, class discussions referring the real business or economy problems, gamifications (using management games), case studies based on current experience of Polish companies and on success stories and class presentations. They are expecting and waiting for meetings with top managers, with company owners. Very attractive are also the visits in the companies, in the institutions, where students may observe top managers and operational managers in action and can study and analyse different processes realisation and supervision. In general, students want to cooperate with and learn from well-skilled teachers, willing to learn, open to new ways of teaching, and see them as advisors and mentors. Students appreciate the teachers who are not afraid of new techniques, who participate in business meetings or moderate business discussions and have the ability to broaden their professional knowledge systematically through continuous learning. From that reason the most preferable are teachers who not only take part in scientific conferences, seminars but who also collaborate with business environment as consultants, experts or auditors or are simply real managers. This makes the teachers are perceived as trustworthy and very competent in the certain subject area.

It also emerged from the study that objectivity and fairness are the crucial qualities of the business school academic teacher, as well as his or her tolerance, sense of humour, friendliness, which appeared as very important when assessing and working with students, considering their different skills and abilities, related to their individual needs and capabilities. For students it is valuable not only to be assessed but also to be directed, motivated and encouraged. They want see the teacher almost as the business leader who not only asks the questions, allocates the task and assesses its realization, but also communicates with students, discusses results, makes students feel valued and motivated, builds interpersonal relations among students, gives handouts, directions and instructions.

High quality business school academic teachers in the opinion of students are those who engage young people. Very important is an active cooperation, like teacher's involvement in organizing and conducting the scientific students' teams i.e. students' business clubs, or in organizing the internships competitions, based on the collaboration with potential employer. Nor without significance are also qualities such as punctuality and conscientiousness, demonstrating that an academic teacher respects students and treats them seriously. Creativity during the lecture and flexibility in the choice of the subject and of the teaching methods depending on the course of lectures or classes are perceived as the proofs of teacher's skills, of business experience and practical knowledge and as ability to be open to current students' needs and expectations. It is also an evidence that the business school academic teacher is not afraid of sudden changes and new challenges.

Conclusions, proposals, recommendations

Concluding, among the hard characteristics of the business school academic teacher of the 21st century, assurance, responsiveness and reliability, as proposed by A. Parasuraman, V.A. Zeithaml

and L.L. Berry (1988) are the most important from the perspective of the Polish students' needs. The crucial ones seem to be:

1. In assurance category: teaches in an interesting, innovative way, objectivity and fairness, competency and professionalism, knowledge and scientific degree, the ability to broaden professional knowledge systematically through continuous learning, authority and charisma, practical knowledge and experience based on current contacts with business entities, and creativity during the lecture;
2. In responsiveness category: knowing and using different innovative techniques during teaching and communicating with students, helping students and cooperating with them, flexibility in the choice of the subject and of the teaching methods;
3. In reliability category: conscientious, passion, commitment and punctuality.

Among the soft characteristics, like empathy, the critical qualities are as follows: forgiving and tolerant, likes students and is open to their individual needs, communicative abilities and sense of humour. Tangibles, the second soft category, represented only by nice look and appearance of the business school academic teacher is not important.

Regarding the results of the research one can conclude that:

1. Polish business schools students need well educated, creative teachers with authority and charisma based on their real, professional knowledge and practical experience derived from the current cooperation with business institutions.
2. Students need real managers or real advisors as the teachers and they prefer teacher who leads them;
3. Students appreciate active, innovative teachers who use different, modern methods, allowing them to resolve the interesting problems referring to current business environment.
4. The most expected teaching methods are: e-learning, webinars, e-conferences, simulation exercises, class discussions referring the real business or economy problems, gamifications, case studies, success stories, class presentations, meetings with top managers, with company owners, visits in the companies, in the institutions, managers and operational managers in action observations, processes realisation and supervision observations, competitions and internships arranged by their teachers.

Taking above into consideration one can propose and recommend that:

1. There is a need for close and active collaboration of business management faculties at Polish universities and/or business schools with regional business councils, business clubs, chambers, with companies' representatives and with the representatives of future employers;
2. There is a need to educate students in the art and craft of management. It will not be possible without the close and current relations with business environment, mainly in the subjects like: operational management, marketing, quality management, environmental management, risk management, investments, but not only;
3. There is a need for students to learn from action and from reflection based on that, not only from analysis and thinking (Mintzberg H., 2004);
4. There is a need for business school students become not only knowledgeable about business, about the organization and its structure but also be educated in the spirit of management, for they usually don't feel the organization and their processes;
5. Business school students are willing to learn, they want to be active and to develop their knowledge based on the business experience;
6. Real-world experience need to be an integral component of an academic program, of an academic lecture, to provide students with the opportunity to develop not only work skills but also an understanding of the workplace (Gerken M., Rienties B., Giesbers B. & Könings K.D., 2012);
7. Work-based teaching seems to be the critical feature of business the academic teacher. It has to be different for each student, regarding his or her capabilities.

To sum up, in the business schools, in the learning process for developing the knowledge and skills of future managers a high quality academic teacher of the 21st century from the perspective of Polish students' needs has to be prepared and ready to apply not only the lecture-style methods but also on-the job teaching, project-based teaching, team work-based teaching, action teaching, experiential teaching, small groups teaching, case studies, simulations teaching, e-teaching, and even volunteering teaching, when working with students outside of the normal framework of teaching hours. Nor without the signifcance seem to be coaching and mentoring.

Nowadays traditional approaches in young managers education at business schools and at universities with management faculties in Poland are not enough, and a broad range of innovative methods used by the teachers is required. Very important features of the academic teacher are those which simply characterise good managers and business leaders, like competence, professionalism, business experience and knowledge, willingness to help, charisma, creativity, passion, and commitment.

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INTERNATIONAL JOINT VENTURE PERFORMANCE MEASUREMENT AND DEVELOPMENT STRATEGY IN CHINA – AN EXPLORATORY STUDY OF SINO-SWEDISH JOINT VENTURES

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Abstract

The purpose of this paper is to enrich theoretical knowledge of international joint ventures, and specifically make a research on performance and development strategy of Swedish joint ventures in China. The research methodology starts with reviewing prior literatures on dynamic capabilities and use this theory to do a case study on one Sino-Swedish joint venture, Shandong Lingong Construction Machinery Co., Ltd (SDLG) established in 2006. Swedish VOLVO CE jointed with SDLG. We describe that how dynamic capabilities influence firms' performance and help managers formulate and implement strategies. Most scholars have made empirical researches on IJVs of American companies in China. On the contrary, this paper studies the performance of Swedish joint ventures in China. Different from prior strategic management theories, such as Michael Porter's "Five Forces", the resource-based view of strategy, strategic conflict approach, the most new theory of dynamic capabilities is aimed to build and adjust firms' competencies and successfully sustain their performance while external environment is changing rapidly. The findings suggest that dynamic capabilities helps a firm sense opportunities in a changing circumstances, and seize them by redistributing existing assets and competencies. Managers of firms should cultivate their strategic insight to sense the change of relational complements in the marketplace. Intangible assets also have a great impact on the performance of the company. And building capabilities are necessary to close the performance and opportunities gap from the leadership model. The findings can be to some extent usefully applied to joint ventures in China.

Key words: *international joint venture, performance, measurement, strategy, Sino-Swedish*

JEL codes: M16, M31

Introduction

In the wave of economic globalization, international joint ventures (IJVs) have emerged and developed rapidly in the world. Since the reform and opening up, China has attracted a substantial amount of foreign direct investment (FDI) from other countries. One of the most preferred ways to enter Chinese market remains joint ventures (JVs). IJVs as organizational entities formed and controlled by local and foreign firms are one of the most significant ways for expansion of international firms. IJVs can contribute to cost saving, risk sharing, knowledge transferring, new technology acquiring. The structure

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of IJV is also more hierarchically, coordination and information processing cost are lower. Therefore, IJVs account for a large number of the firms in many countries in order to gain the required resources (Schrooten, 2009). Two entities benefit mutually, but also have many conflicts and take more risks. So many scholars has paid great attention to the performance and development strategy of IJVs, and already made a substantial number of relevant researches. This paper mainly uses dynamic capabilities framework to make a case study of one Sino-Swedish joint venture called Shandong Lingong Construction Machinery Co., Ltd (SDLG). We analyse SDLG's success and problems, then learn from its experience and put forward suggestions to solve these problems.

SDLG founded in 1972, which is located in Linyi Shangdong Province. Its industrial park covers the area of 1.5 million square meters with more than 2800 employees. In 2006, SDLG established membership with VOLVO Group, one of the first 5 manufacture bases in the world. The main products are wheel loader, excavator, road roller, and backhoe loader. VOLVO assists SDLG in learning the experience of management and technical support from the tiptop enterprises all over the world. This step strongly promoted SDLG's internationalization progress. In October 2007, VOLVO Construction Equipment signed an agreement concerning additional investment with SDLG so that SDLG's productivity is greatly boosted from original 15000 units to 30000 units. It also boosts VOLVO's internalization process and achieve its aim – "being strong and larger".

In this paper, we propose dynamic capabilities framework to make a comprehensive analysis. Dynamic capabilities provide a new perspective that it stresses intangible assets besides financial-statement assets. Management is required to distribute resources both inside and outside the company. The capabilities build a global system of vertical specialization and co-specialization work, which helps to develop and sustain alignment capabilities of asset which make collaborating companies create a joint solution to international business problems. Managers of both VOLVO CE and SDLG cleverly sense potential win-win opportunities between them in a competitive market. They make use of this chance to cooperate with each other and mutually gain benefits. Their successful collaboration gives a typical example to other Chinese and Swedish firms so that they can seek proper opportunities and learn from their business model. Some problems may exist to impact enterprises' performance and development. We take VOLVO and SDLG for example, facing their different management views, culture, brands and other issues, they adopt new brand strategy, enhance their cultural understanding and interaction. This paper is mainly to study improving the performance of international joint ventures, making sensible strategic choice by seizing excellent opportunities and redistributing resources while external environment is changing. We hope this research can to some extent enrich theory of international joint venture and strategy management. Further researches can seek some useful information from this paper.

Research results and discussion

The analysis thinks about how to promote international joint ventures' performance and help managers make better development strategies. Organizations involved are regarded as units of analysis for the present study. Researcher Robert K. Yin defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clear evident, and in which multiple sources of evidence are used (Yin, 1984). We use Yin's exploratory theory method; this study is based on existing theories such as dynamic capabilities to do a case study that explores the performance and development strategy of IJVs. We analyse data collected from VOLVO CE and Shandong Lingong Construction Machinery Co. Ltd (SDLG). We carefully study Chinese construction machinery industry, and why VOLVO and SDLG can do a good job of collaboration. We recognize their internal and external environment, their strength and weakness, and their effort to get out of trouble. We advanced dynamic capabilities framework which seems a most innovative and comprehensive approach to analyse modern corporation. The aim of this

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paper is to make proper development strategies, increase firm's sales volume, and achieve better performance, sustain organization's survival.

1. The opportunities of China construction machinery industry

Construction machinery refers to equipment and machinery used in different engineering fields for example in construction, water, road, power, port, mine and national defence. We believe construction machinery industry of China will continue to grow steadily due to a number of structural drivers, including a continued rise in FAI (particularly in energy projects, real estate development and infrastructure), ongoing urbanization and continued growth in demand for construction and machinery exports.

In the basis of the China Construction Machinery Industry Yearbook and the China Construction Machinery Association (CCMA), the overall revenue of China-based construction machinery manufactures increased from RMB 56 bn in 2001 to RMB 552.6 bn in 2012. In the light of the 12th Five-year plan for China's construction machinery, demand for construction machinery in China is expected to reach about RMB900bn by 2015, representing a CARG of 16.5% for 2010-15. In 2H11 after the slowdown in sales, this CCMA forecast may seem further away, however, we believe it can still be achieved, especially if Chinese machinery makers make a progress overseas.
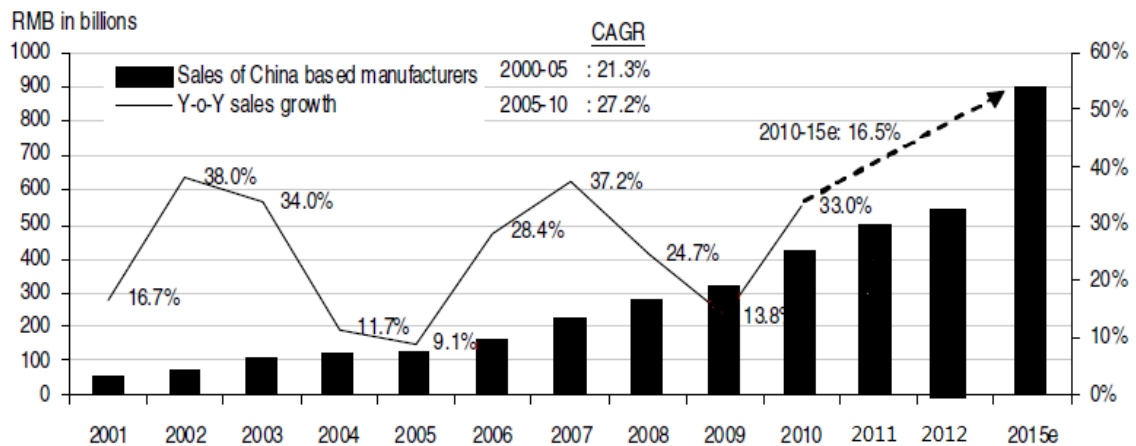
Source: 2001 to 2012 data from the China Construction Machinery Industry Yearbook; 2010 data from CCMA.

Fig. 1. **Revenue growth of China-based construction machinery manufactures
(Anderson Chow, 2012)**

In the 12th Five-Year Plan, the central government set a goal for China's construction machinery industry to more than double its exports, from USD10.3bn in 2010 to USD20-25bn by 2015. To realize this growth, we think Chinese manufacturers are required to improve in terms of product quality, global brand recognition and technology, while sustaining price competitiveness. To speed up the global expansion, Chinese manufacturers are active in acquiring European machinery business. These company manoeuvres offer them a short-cut to establish international distribution channels, strengthen their technological know-how and create an overseas manufacturing base. However, this strategy also carries M&A risks. They need to make large upfront investment, and manage labor forces with different corporate cultures, set distribution channels and provide financial leases as a payment method in overseas markets.

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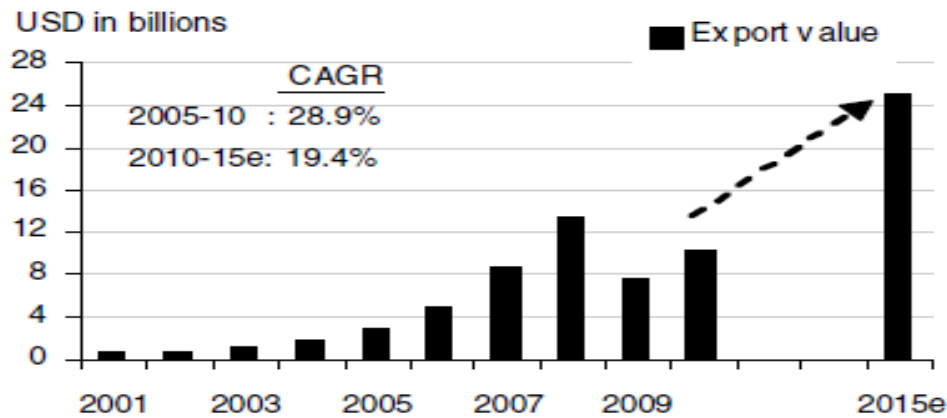
Source: 2001 to 2009 data from the China Construction Machinery Industry Yearbook; 2010 data from CCMA.

Fig. 2. **Export value construction machinery from China-based manufacturers**
(Anderson Chow, 2012)

Expected in 2017, China's construction machinery industry will achieve 17 percent revenue growth, exports will increase by 25%.

2. Sino-Swedish joint venture

It is known to all that Sweden is the home country for many world-class multinational companies (MNC), For example, VOLVO, ABB, Tetra Pack, IKEA and Saab among others. These MNCs have been given opportunities to Sweden so that it can play an active part in the world business market. And these MNCs have also promoted bilateral trade relations to a new phase. Nowadays, more than 100 Swedish firms are engaging in Chinese market, which leads to the fact China becomes a Sweden's largest trade partner in Asia.

Apart from the relations of Sino-Swedish trade, Chinese government put forward a "going out strategy". This strategy is aimed to encourage overseas investments. China has abundant resources, broad market, cheap labor, which attracts Swedish organizations and entrepreneurs to invest in it. So this paper we select one typical Sino-Swedish joint venture to study its performance and development strategy based on dynamic capabilities theory.

3. Volvo and SDLG

After VOLVO Construction Equipment (Volvo CE) enter the Chinese market, 10 years later, it has extended their market leading position in excavator and wheel loader sales with its sister brand SDLG. In the year-to-date October 2012, brands of VOLVO and SDLG invoiced 36,455 machines scaled in units, giving the firm a ranking 13.7% share of the world's biggest construction equipment market.

HOW do VOLVO and SDLG make efforts to improve their performance?

They greatly focus on customers' needs in China which leads to the leading position. And they invest extensively in new products, production, design and distribution. More new products launched that pander to the special Chinese customers' needs. Most of the rise in demand is from VOLVO CE and SDLG's capability to provide complimentary machines which appeal to the widest customer base. The strong mid-sized VOLVO L105 wheel loader was beyond the veil at Bauma China. It is a machine which

has the capability to change attachments easily and adapt rapidly to various tasks. It also has fast cycle times, high digging forces and provides wonderful fuel economy in applications for example in small-scale excavation, trenching, agricultural, road construction and landscaping. With adjusted new products for the market of China, VOLVO CE and SDLG have been recognized due to their revolutionary methods during 2012. Both of them win the Red Star Design award and the title of "Best employer in the Chinese construction equipment industry".

SDLG has set up National Technology Center and Postdoctoral Station, and taken on the National "863" Project and multiple scientific research subjects by the guidance of VOLVO technical experts. It has achieved more than 50 national patents. The firm maintains excellent cooperation relationships with main universities and scientific institutions in China, and established an open and efficient system on technical cooperation and innovation. With the full support of VOLVO in technology, personnel training and supply, SDLG has successfully copied four models of VOLVO excavators（14T, 21T, 24T and 29T）which have the new brand name "SDLG". This has greatly enriched SDLG's excavator product line.

SDLG has a perfect quality assurance system; it has got the ISO9001 quality management system certificate, "Export Products Quality License" and "Import/ Export Enterprise Qualification Certification".

What is their development strategy?

Benoit Rimaz, President of Volvo Construction Equipment (China) said that they will keep on the dual-brand strategy of VOLVO and SDLG, and support the development of SDLG overseas market for further. SDLG in the past often sells medium-end or low construction equipment, which makes complementary advantages for Volvo CE's strategy that sells high-end products together with higher prices. "We have two strong brands to meet customer needs. Thanks to the complementary products offered by Volvo and SDLG-branded machines we have become a leading player in China," said Olney.

SDLG has paid close attention on emerging markets and overseas development. They have offices in North Africa, Russia, Mid-East, Brazil and South Asia. Their products have been sold to more than 50 countries. In Nov. 27. 2012, VOLVO CE built a base of production in Sao Paulo, Brazil. Olney points out that SDLG has made progress since enlarging Brazilian market began in 2009. SDLG is in a significant position by market share and export volume in the South American country of Chinese brands.

Cultural differences may lead to process losses and suboptimal financial performance, diverse cultural perspectives may contribute to the identification of innovative IJV strategies and practices that, in turn, promote organizational learning and innovation (Nielsen, 2009). Executives of SDLG and VOLVO insist on respecting, understanding, learning from each other. Many scholars have recognised trust is also a key factor in improving the performance of IJVs. The chairman of VOLVO said "We completely trust the managers' work and their past operation is very successful. We sit together to make a plan and formulate and implement the strategy, which is beneficial to both of us." Foreign investors are used to trust contracts, but Chinese people emphasize informal relationships and the development of trust between partners. The reason for this is the weak property rights laws and an uncertain and dynamic institutional environment (Qiu, 2005).At the same time, in order to promote better technical exchanges between the two companies, SDLG set up a temporary integration office, responsible for daily communicating and coordinating between Volvo Group and Shandong Machinery Co., ltd.. At present, this is a very successful model.

4. Dynamic capabilities

Dynamic capabilities have a definition of "the capacity to renew competencies in order to achieve congruence with the changing business environment" by "adapting, integrating, and reconfiguring internal and external organization skills, resources, and functional competencies" (Teece, 1997).

Dynamic capabilities are the ability to sustain firm's competitive advantage by seizing opportunities, while finding some changes in the market. We argue that the competitive advantage of companies depends on its organizational and managerial processes, modelled by its (specific) position of asset, and the available path.

In order to manage well, make quality development strategies and get high performance, managers need a profound understanding of industry dynamics and firm capabilities. In this paper, we adopt a conceptual framework which will assist executives in leading their firms in fiercely competitive global markets.

Intangible assets become more important in enterprise management. They are a very economical asset class in general, with strong implication for building and sustaining competitive advantage at the firm level. One intangible asset of great importance is a company's business model for a given market, i.e., the structure of a firm's value proposition to its customers (Chesbrough & Rosenbloom, 2002; Teece, 2010) and business design will provide a solution to customers. Innovations of business model are important to be successful in unstable markets where pricing models and traditional revenue cannot be applicable. It requires and allows business model innovation. And complements play a vital role in technology management and business development strategies. Business model choice, proper organizational design and ecosystem management are needed to maximize value capture in the scope of these ecosystems.

As a result of these changes in economy, companies are required to use a more comprehensive insight of the competitive environment. This broader view should include not only suppliers and buyers but also local market for staffs who are skills and not completely mobile internationally, universities which is accessible to high educated talents, the legal system and financial institutions. All of them should be taken into consideration of domestic political condition. Figure 3 shows these elements and interaction.
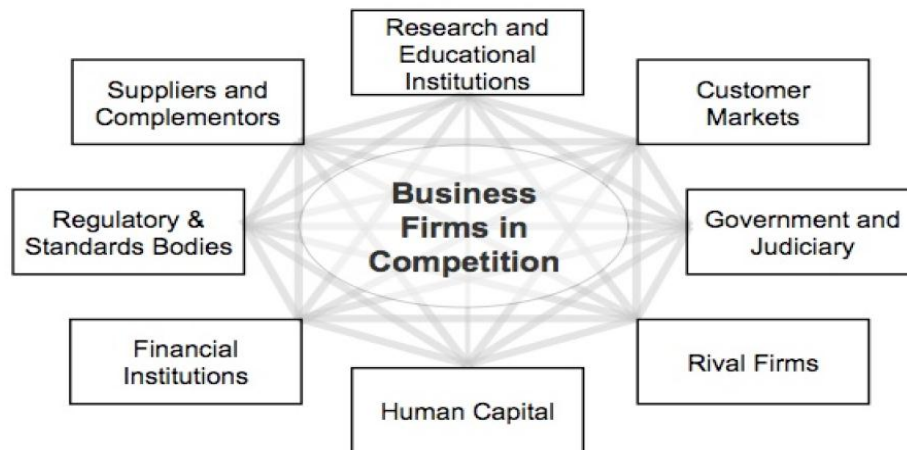
Source: Teece, 2011, Dynamic Capabilities: A Framework for profitability

Fig. 3. **The Broader Business Ecosystem (Teece, 2011)**

The dynamic capabilities framework was established to include all these new factors of competitive analysis. This framework is possible to have an impact on firm performance, and it will gradually develop into an interdisciplinary theoretic of modern corporation. Dynamic capabilities can be divided into three activities: (1) sensing: identify and assess the change and opportunities; (2) seizing: utilization of resources to seize an opportunities and to capture value by doing so. (3) transforming: constantly updated.

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When markets and technologies change, these three activities and adjustments are needed if the company wants to sustain itself (David J. T., 2011). We analyse three activities of SDLG:

Sensing: executives of VOLVO observantly sense the changing Chinese machinery market in the context of economic internationalization. It offers Volvo a good opportunity to invest in the construction machinery industry of China. Joint ventures are supposed to be a win-win situation for both partners. Foreign investors usually provide investment like money, technology or machinery while the Chinese partner offers local knowledge, land, factories and workers (Tian, 2007). Hence there are potential win-win opportunities for collaboration between them.

Seizing: On Sept. 27th, 2006. VOLVO CE invested in SDLG and increase its investment next year. SDLG continues keeping its advantage of brand in China and enlarging shares in domestic market. It facilitates VOLVO's internationalization process and increases its global influence.

Transforming: On July 9, 2008, SDLG executed the new brand strategy to set up internationalized Lingong, and "Reliability in action" made the core of value. The CEO of VOLVO said that they continue to keep SDLG's brand and implement dual brand strategy. VOLVO makes use of SDLG's advantages to provide diversified products for Chinese customers. Although brand positioning is different, they can reform a resultant force in manufacturing, R&D procurement, finance, marketing, human resource. They can get complementary advantages, reduce the waste of resources, share the scale effect.

Conclusions, proposals, recommendations

Our findings indicate that dynamic capabilities is closely related with international joint ventures' performance and strategic management. When international joint ventures operate in a more dynamic environment, the contribution of capability exploitation and upgrading to international joint venture performance is stronger. Dynamic capabilities enable firms to create, deploy, and protect the intangible assets that sustain excellent long-run business performance. Our findings show companies with strong dynamic capabilities are intensely entrepreneurial. They not only adapt to business ecosystem, but also shape them through innovation and collaboration with other corporations. We also suggest that managers should have a comprehensive insight of the changing environment where they must compete. IJV performance can be improved by three activities (sensing, seizing, transforming) of dynamic capabilities. Managers of SDLG should sense the change of marketplace and seize the opportunities to keep its competitive advantage. SDLG can learn from the leadership model, it is an integrated method to pay close attention to both the formulation and execution of strategies. Apart from SDLG, joint ventures in China even all over the world can be benefited from dynamic capabilities theory. The paper's contribution to the discipline is that we provide a new theoretic framework-dynamic capabilities based on existing theory and experience to improve the performance of international joint venture, and explores suggestions on improvement of firms.

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PERSPECTIVES ON GOVERNMENTAL MANAGEMENT ACCOUNTING IN CHINA

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Abstract

Governmental management accounting (GMA) is a less studied area in the literature because of its complexity and close dependence on national legislations and policies. This is particularly true for developing countries such as China. This paper studies the current GMA practices in China at the local municipality level. It first introduces the concept, roles and functions of GMA. Then through a survey it presents and discusses the current situation, various problems and limitations in the implementation of GMA in China. It is found that insufficient recognition of the GMA value by the government, inappropriate internal economic environment, a mismatch between financial and management accounting systems, inadequate knowledge and skills of GMA, and dependence on national legislations and policies are the main obstacles in the implementation of GMA in China. At the end of the paper conclusions are made and suggestions for further development of GMA are also listed.

Key words: *government, GMA, limitation, development, China*

JEL code: M41, M48

Introduction

Governmental Management Accounting (GMA), whose main users are various government departments or other non-profit organizations, aims at supervising and utilizing public resources (Chan et al., 2001; Zhang, 2009). As a power-concentrated bureaucratic organization, a government allocates diverse resources on behalf of the public. However, most of governmental financial activities are closely related to taxpayers who are unable to control actions of governments. This reveals that governmental activities are not under the regulation and control of the market mechanism (Wang, 2004; Duh et al., 2008; Wei, 2009; Wang and Wang, 2012). Guo (2008) points out that the function of a government is to provide public goods and services with the principle that it has to fulfil public demands. This statement reflects basic tasks and underlying movements of governmental activities, which actually is a kind of implementation of administrative power. From the perspective of government, GMA is a key subsystem of the whole information system that can offer required information to assist various government departments in planning and decision-making.

With regard to public economics, managing public fiscal resources is a public fiduciary duty of a government. GMA can allocate its objectives and resources to every financial activity, supervising fiscal practices and effectively disposing fiscal resources through the control of activities, planning, cost analysis and performance evaluation (Lu et al., 2007). In terms of public management, the function of GMA is to enhance the level of decision-making in public fiscal managerial activities, guide relevant decision-making process, and help making decisions on the basis of the management decision system,

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market mechanism and objective evaluation of performance. From accounting perspective, economic information plays a vital role in modern accounting. Since the budget accounting system of China is imperfect and cannot meet the demand level. It is urgent for the Chinese government to improve the governmental fiscal accounting, zealously construct their own GMA system and make an efficient integration of management and financial accounting. The aim of the paper is to study the characteristics of the current GMA practices in China and present and discuss the obstacles and limitations of GMA implementation in China. A few practical improvement suggestions for GMA implementation will also be proposed.

This paper then introduces GMA in the next section. Next the research method and data collection are briefly described. The current practices and implementation obstacles of GMA in China are presented and discussed. Conclusions are made in the last section together with suggestions for the further development of GMA in China.

Research results and discussion

1. The goals and functions of GMA

It can be seen from Fig.1 that government activities can be divided into two parts: operation activity and management activity. The role of operation activities is to achieve financial goals while management activity is used to ensure their successful work. Both of them belong to internal environment of the government but resources they demand are usually from outside. GMA provides essential information for internal organization of an government to make related decisions. It also makes contributions to governmental anticipation, planning, controlling and evaluation and help an government utilize resources to achieve optimal decisions.
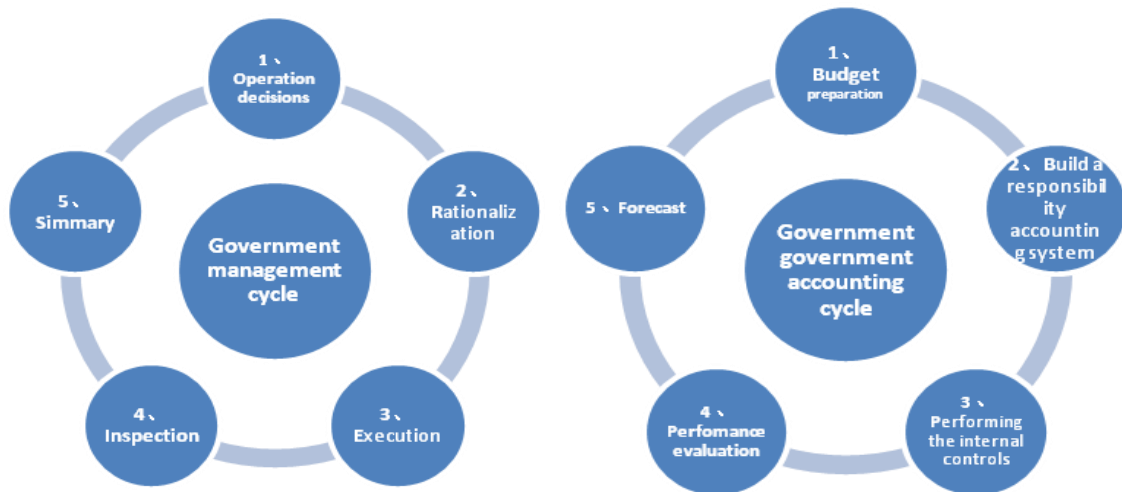

Source: author's own construction.

Fig. 1. **The application area of GMA**

Management Accounting forms on the foundation of management activities. It is the combination of management and accounting (Jones and Xiao, 1999). And their relationship is shown in the following cycle diagrams in Fig. 2.

Source: author's adaptation from Zhang (2009).

Fig. 2. **The government management and accounting cycles**

Steps of GMA should match management activities. First managers in an government ought to participate in budget preparation during decision-making process. Secondly, government needs to build a responsibility accounting system and make department budgets. Thirdly, government will perform inner controls when the decisions are carried out. Fourthly, government should censor executions and evaluate performances. Finally, at the time government makes conclusion and prompts a new project, accountants need to analyse final results and make predictions for the new project. In the cycle of government management, steps 1, 2, 5 belong to planning stage while steps 3 and 4 are about controlling process. Correspondingly, in government accounting cycle steps 1, 2, 5 belong to decision-making accounting while steps 3 and 4 are the parts of control and responsibility accounting.

An effective GMA can offer government timely and valid management information which improves efficiency and effectiveness of the decision making process. Thus GMA is an indispensable tool for efficient government administration purpose.

Zhang (2009) pointed out that effective operations of an system are goals of MA and they also reflect the MA's nature. Different organizations and experts hold various opinions on the goals of MA. For example the American Accounting Association asserts that goals of MA involve both basic target and axially target. The former is to offer internal information for decision-making. The latter is responsible for helping managers control and organize to encourage staff create more values. Another case is that Meng (2007) divided goals of MA into basic target and specific target. The first target guarantees organizational efficiency while the second one emphasizes on trying all kinds of methods to collect useful information during operations.

For all levels of governments, goals of GMA can be divided into general target, basic target and specific target as shown in Fig. 3.
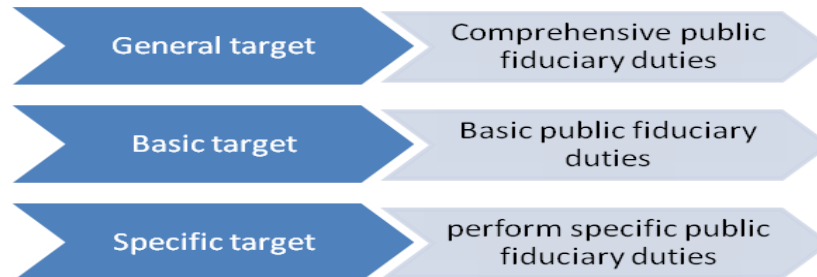
Source: author's own construction.

Fig. 3. **Three levels of government accounting goals**

General target is executed by local departments and it reflects fiscal conditions of these governments. It is conducted to perform comprehensive public fiduciary duties. Basic target is generally utilized by departments with specific functions. For this target, the main concern is a government unit, which summarizes reports from all low level departments into one single report that reflects the fiscal condition of this unit. The function of this target is to perform basic public fiduciary duties. Specific target concentrates on single fund of a project. Every fund was made in accordance with a specific goal or an activity. Therefore, financial statements of each fund should be scheduled independently in order to make all the fiscal conditions clear. This target is most crucial in performing specific public fiduciary duties.

Functions of GMA can be categorized into budget, decision-making, control and evaluation functions. Budget planning of future activities is on the basis of past data. And decision-making utilizes methods of investigation, economic analysis and comparative analysis to evaluate the information of GMA and its decisions. Control can design an effective government responsibility accounting system for allocation of limited resources as well as supervision and adjustment of activities. Evaluation aims to make evaluation and analysis through comparing various performance reports. The key requirement of GMA is to crystallize objects and this is also the result of comprehensive analysis of data stream, logistics and capital flow. It is multidimensional and ensures a wider expansion of GMA.

2. Research methods and data collection

In this research a survey and a case study research method as suggested by Yin (2003) were used to collect data concerning the usage of GMA at the local municipality government level in China. The questionnaire survey was conducted in summer 2012 in Tongzhou district, Nantong city, Jiangsu province, China. The survey was conducted among employees in many government offices in Tongzhou district and these government offices include the local police station, the education affairs bureau, the local court, the tax office, the environment protection office, the water protection office, the land protection office, the local government administration office. In the survey, 121 persons (accountants and/or financial managers) were sent the questionnaire for survey in these government offices. For the first round the questionnaire was sent by traditional post with an pre-paid return envelope included. For the second round face-to-face interview as suggested by Rubin and Rubin (1995) was conducted for those who didn't answer in the first round of questionnaire survey. To ensure reliability and credibility, only professional accountants and/or financial managers were chosen as respondents. The face-to-face interview was found to be more responsive than paper based questionnaire survey. Among the 121 surveyed persons, 86 of them replied and the reply rate is 71%. The number of respondents under 35 years old accounts for 41% of all respondents. 85% of respondents have over 5 years work experience and the longest work experience among all respondents is 41 years.

3. Research results

For the main question "What MA tools or where MA practices are used in your organization?" the results are shown in Table 1.

Table 1

Use of GMA tools and practices in China

MA tools or application areas	Number of answers	Percentage
Internal financial analysis	42	48.8%
Cost-volume-profit analysis	58	67.4%
Capital investment	52	60.5%
Products pricing	12	14.0%
Responsibility accounting	8	9.3%
Comprehensive budget	9	10.5%
Job costing	4	4.7%
Others (inventory)	3	3.5%
Unanswered	12	14.0%

Source: author's own construction.

From Table 1 we can see that most government offices (67.4%) use management accounting for the purpose of cost-volume-profit analysis which is consistent with the fundamental role of management accounting. Capital investment (60.5%) is the second area where many government offices use management accounting. Internal financial analysis is the third area (48.8%) where government offices use management accounting. Other applicable areas include products pricing, responsibility accounting, comprehensive budgeting, job costing, and other fields such as inventory. From the table we know that the application of management accounting in government offices in China is on the very traditional areas of management accounting such as cost-volume-profit analysis and capital investment decision analysis and applications in other areas are rather limited.

For the second question "Does your capital investment decision process involve accountants?" 35 respondents (41%) said "Yes" and 51 respondents (59%) said "No". For the third question "What methods are used in capital investment decision making?" It is found that accounting rate of return (48%), payback period (32%), net present value (12%), and internal rate of return (8%) are the four main methods used.

For the fourth question "What are the possible factors that hinder the application and development of management accounting system in government offices?" We received the following answers as shown in Table 2.

In Table 2 a number of factors hindering the application and development of management accounting system in government offices in China were identified. 90% of the respondents replied that if their leaders do not show interest to management accounting system and practices then there will be no application of management accounting at all. Therefore management interest is a key driver for application of management accounting system. The result is consistent with findings from Wu and Boateng (2010). 67% of respondents mentioned that management accounting system and practices may not be suitable for current internal economic environment and 60% worried that the current management and financial accounting practices are unmatchable. 44% of the respondents did mention that the immature nature of current management accounting system. 24% replied that the lack of adoption of management accounting system is due to the incapability of professional accountants. The results clearly show the most significant factors hindering the application and development of GMA system and practices in China.

Table 2

Possible factors hinder the application and development of GMA in China

Factors	Number of answers	Percentage
Leaders think little of MA	77	90%
International economic environment is inappropriate	58	67%
Financial accounting numbers do not match MA	49	60%
The current MA is unsuitable for practical use	38	44%
Accountants are unprofessional	21	24%
Other factors	–	–

Source: author's own construction.

Conclusions, proposals, recommendations

Based on the discussion of the current GMA practices in China we found that there are four characteristics of GMA practices in China. First, since GMA in China is largely dependent on foreign experiences, coverage of its application is not broad enough and the application is not mature. Secondly, there are insufficient theories to support the development of GMA. Thirdly, advanced MA methods are still not popular among authorities. Lastly, applications of MA can be restricted by the local government. There are some limitations in the application of GMA in China. The government has not fully realized the importance of GMA. And this basically generates unwillingness to use it and there is no practical improvement in the use of GMA.

Form the survey results and analyses we can have a better understanding of the current GMA practices in China. The current practices of GMA in China are presented and discussed in details using a survey at a local municipality level. It is found that GMA is not widely implemented or fully understood at the local government levels in China. This is due to e.g. insufficient recognition of the GMA value by the government, inappropriate internal economic environment, a mismatch between financial and management accounting systems, inadequate knowledge and skills of GMA. There are quite a few limitations in the implementation of GMA in China such as the limitations from Chinese legislations and policies, the limitations from both internal and external environments.

GMA is mainly applied to a set of value-added activities, including logistics, information flow and capital flow. Knowledge of economics, finance, management science and politics is all involved in GMA. Subjects of GMA are much more complicated than those of enterprises. Therefore, how to identify specific forms of subjects and how to collect and integrate information has become a big challenge for GMA.

Deficiency of data, quality of information and ambiguous standards of performance evaluation are all big problems governments are now facing. Obtaining quantitative data is the most crucial step that determines the success of application of GMA. However, the procedure takes government accountants a lot of time and energy in data acquisition since lots of data are difficult to get. As a consequence, the overall quality of government GMA has been negatively affected by these problems.

Characteristics of internal environment can be categorized into behaviour, organization and personnel features. And part of these characteristics might hinder development of GMA in some cases. Government behaviours usually contain many factors such as plan, organization, implementation, legislations and information system. And many factors can impede effective management control. For example, utilization of computers in some local governments is limited and accounting departments

have little chance to use computers for calculation. Although some departments have adopted computerized accounting, their accounting functions still remain at the initial stage doing jobs such as payroll check and registration functions. The lag of advanced software and problematic GMA system design prohibit the application of GMA. Some organizational characteristics can also hamper the implementation of GMA. The scale of a city, its political environment, management style, socioeconomic status and science progress can all pose important influences on GMA. Personnel characteristics are also vital variables in the application of GMA. Educational backgrounds and individual experiences of officials generally have great impact on the implementation of GMA. Many government officials lack responsibilities in decision making. And they hold the idea that financial accounting outweighs MA in terms of practical value. These problems can block organizational coordination and decrease the validity of information.

Chinese legislations and policies can pose some threats on GMA under some circumstances. An obvious case is that the Chinese Budget Law splits up the relationship of budget and accounting. Affected by the law, GMA loses some practical meanings. In addition, Audit Law in China focuses on financial revenue and expenditure while neglects cost and performance of activities. This emphasis makes GMA lack certain legal guarantee. Besides, imperfectness of the budget system also hinders the application of GMA. In terms of financial structure, Chinese management of public finance is relatively problematic. For instance, ambiguous responsibility system usually causes different systems to work simultaneously and requires management from different departments. It is inevitable that some people may take the opportunity to make personal benefits.

Based on the research results there are a few suggestions for the further development of GMA in China. In the process of implementing GMA, Chinese national condition needs to be taken into consideration. GMA has to match the changing public fiscal policies and develop step by step. Establishing a perfect GMA can boost efficiency in cost-controlling, performance improvement and fiscal management. However, there are still many obstacles on the way of encouraging innovations in GMA. This is mainly the result of the fact that effective GMA has to cover all aspects of the government accounting, such as the current information system, the organization structure and the operation mode. Basically, here are some practical suggestions for the further development of GMA in China:

1. Strengthen relevant national legislations and provide a legal safeguard for GMA: A sturdy legal system environment is a key factor for a successful GMA implementation. Reinforce the establishment of related law can make rights and duties of government departments clear and lay legal foundations for performance evaluation. Meanwhile, the application scale of GMA in China needs to be verified to make the reform more scientific, legal and standard.

2. Improve GMA understanding and knowledge among government officials: The practical implementation of GMA largely depends on the support of government officers and leaders. Leaders should deepen their understanding of GMA and provide favourable platforms for the implementation of GMA. This requires an efficient learning and an innovative mind change.

3. Improve quality of accountants: The educational backgrounds and professional skills of accountants are critical to the successful implementation of GMA. Hence, accountants should be trained to obtain outstanding knowledge and skills on GMA.

4. Make experiments in typical departments and collect feedback: Governments can also make some GMA experiments in selected government departments and can learn lessons from them. Based on the feedback in the experiments, GMA practices can be modified to best suit different government departments i.e. we should allow a modification of GMA system and practices in order to implement GMA in various government departments.

5. Combine both internal and external information to form GMA: Traditional GMA usually focuses on internal resources only. However, the modern GMA requires a wider sphere of vision. It demands a knowledge and sense of macroeconomic control. In the meantime, keeping a close look of the market condition and its development can help make smart GMA decisions.

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MARKET DYNAMICS IN CONSUMER SEGMENTATION: MODELLING FRAMEWORK

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Abstract

The concept of consumer segmentation has been widely used by social scientists to explain a variety of behavioural phenomena. Anywhere in between two extremes of one-to-one and mass marketing lies the identification and targeting of segments. Many attempts were made to elaborate reliable segmentation concepts in the past couple of years. However, the influence of marketing environment factors had been underestimated. Aim of this research was to define what trends influence further demand and how they could be integrated into the new model of consumer segmentation, considering psychographic and demographic data and providing reliable demand forecast. Tasks of the research are: identify what external drivers and to what extent influence shaping and modification of consumer segments; determine the importance and level of uncertainty of each driver in relation to their overall impact; map the interdependencies between all of the prioritised drivers, examining the extent to which each driver impacts on other ones; analyse examined all of the interrelationships between the prioritised drivers; determine which drivers were most dominant in terms of their impact on future change, and which drivers were more dependent on. As a result meaningful segments to be identified on the basis of the importance of current consumption trends in food and drink industry and their influence level.

Key words: *market segmentation, trends, consumer heterogeneity*

JEL codes: M31, A14, M30

Introduction

In market segmentation, one distinguishes homogeneous groups of customers who can be targeted in the same manner because they have similar needs and preferences. In 1956, Smith defined: 'Market segmentation involves viewing a heterogeneous market as a number of smaller homogeneous markets, in response to differing preferences, attributable to the desires of customers for more precise satisfactions of their varying wants.' This being an accurate definition to date, one of its most appealing aspects is that it presents segmentation as a conceptual model of the way a manager wishes to view a market. Even if it is a powerful concept, it is still an empirical question as to how well it describes the situation for a particular product or service to provide input to managerial decisions; there are alternatives to segmentation, in particular one-to-one marketing in one extreme and mass marketing in the other.

The opportunity to market one-to-one leads potentially, but not necessarily, to a greater profitability. When implementing one-to-one strategies, firms currently first develop a limited number of marketing mixes targeted to market segments and then personalize some of their components to each member of these target segments. The available new information technology enables this customization of the marketing mix. Although many companies have developed new business and increased their profits with one-to-one marketing, its usage as an implementation tactic does not preclude market segmentation as a general strategy to approach a market. Recently, segmentation and subsequent customization has become

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very effective in industries where customer retention is a primary goal, so that firms can identify, profile, target and reach segments using their own customer transaction databases.

A similar argument can be made for mass marketing. Many companies have successfully implemented mass marketing strategies by targeting consumer populations across the globe with some standardized components of the marketing mix but with customized implementations of the other components, such as communications and distribution. Nevertheless, taking mass marketing as a starting point for strategy involves risk. Not all companies can afford to market their products globally because of the substantial initial investments required to produce and market at such a global scale or because markets may be heterogeneous at a global scale. Consumers in different countries often have more in common with each other than with other consumers in the same country. Many current global marketing strategies are successful because they identify and tailor to the needs and wants of segments of consumers that cut across national boundaries. Nowadays, companies that operate globally therefore identify and target cross-national segments, developing a global marketing mix where possible and tailoring its components to cross national market segments.

Thus, companies have started to recognize, investigate, and exploit various possible levels of aggregation of their markets, considering their marketing strategies and implementing marketing instruments on a continuum that ranges from aggregate - mass marketing to disaggregate - one-to-one marketing.

Anywhere in between these two extremes lies the identification and targeting of market segments. Distinguishing segments will be profitable whenever demand is heterogeneous, but economies of scale in production, logistics or marketing can be realized. The strategic goals of the firm then determine the requirements for segmentation bases and segmentation methods to be uncovered by marketing research.

The distinction of one-to-one marketing versus segmentation is typically linked to the question of whether consumer heterogeneity is better described by a continuous or by a discrete distribution of consumer preferences. The former is associated with finite mixture models, the latter with hierarchical Bayes' methods (Wedel M., 1999). Recently, studies have shown that even under conditions that should theoretically favour one of the approaches, the other does surprisingly well, both in terms of recovery of the true parameters and in terms of forecasting hold out observations (Andrews R., 2002), so that neither seems to empirically outperform the other. It has been argued that the underlying assumption of a limited number of segments of individuals that are perfectly homogeneous within segments in finite mixture models is too restrictive (Allenby G., 1999). Market segmentation would lead to an overly restrictive partition of the continuous distribution into homogeneous segments, while assuming a continuous mixing distribution allows individual level estimates of model parameters to be easily obtained, which is particularly useful to support one-to-one marketing approaches.

However, an important issue in the discussion of a continuous versus a discrete distribution of heterogeneity is managerial relevance. In applying models to segmentation problems, one should recognize that every model is at best a workable approximation of reality. One cannot claim that segments really exist or that the distributional form of unobserved heterogeneity is known.

After all, market segments are not real entities naturally occurring in the marketplace, but groupings created by managers to help them develop strategies that better meet consumer needs at the highest expected profit for the firm. Segmentation has proven to be a very useful concept to managers, even when the final stage of the implementation of the strategy involves one-to-one marketing. Models that approximate market heterogeneity by a number of unobserved segments, in particular mixture models; offer managerial appeal in many applications (Wedel M., 2000). Managers seem comfortable with the idea of market segments, and current mixture models do a good job of identifying useful groups.

However, to enable one-to-one, micro- or direct marketing applications, a continuous approximation of customer heterogeneity such as provided by hierarchical Bayes' models might be appropriate, possibly in combination with unobserved segments to enable one to target individual customers in the customization stage of strategy. Smith's (1956) original definition clearly states that 'The managers'

perspective determines the way homogeneous groups of potential customers are to be identified by marketing research.' The strategic purposes of segmentation determine the bases and methods used in market research; different segments may be identified in the same population of customers in different segmentation studies with different purposes (e.g., new product development, pricing or defining direct marketing targets). Although much progress has been made in the area of models for segmentation, much remains to be done in the conceptualization of strategic market segmentation and in the integration of marketing research and strategy. Different segmentation models are discussed lately in the following concepts.

The concepts of human values and lifestyles have been widely used by social scientists to explain a variety of behavioural phenomena, such as media consumption (Becker., 1981; Rokeach et al., 1989), religious behaviour (Feather et al., 1984), smoking (Grube et al. ,1984), drug addiction (Toler et al., 1975), political inclination (Rokeach et al., 1973; Tetlock et al., 1986), consumer behaviour patterns (Henryet al ., 1976; Pitts et al., 1983; Vinson et al., 1976), adoption of innovations (Naoufel et al., 1999), food preferences, organic choice in particular (Chryssohoidis G., 2005) ecological consumer behaviour (Fraj E., 2006), lifestyle and value influence on travelling patterns (Lee S., 2007), influence of demographics, psychographics, shopping orientation, mall shopping attitude and purchase patterns on mall patronage (Kuruvilla S., 2010), global marketing segmentation usefulness in the sportswear industry (Ko E., 2012), and generation Y values and lifestyle segments (Valentine, D., 2013).

Steenkamp (Steenkamp J., 2002), provide an extensive overview of past work and an outlook on future work in international market segmentation, an important but under-researched area. Heilman (Heilman ., 2002), provides a mixture model for segmenting customers based on their behaviour in several categories. Several authors (DeSarbo W., 2002) extend finite mixture to the new domain of market share models. Brangule-Vlagsma (Brangule-Vlagsma K., 2002) shows how mixture models can be applied to segment consumers based on their value systems, and investigate the stability of these segments over time. Boone (Boone D., 2002) proposes the use of neural networks for market segmentation, and compares them with various other methods. Bock et al (Bock T., 2002) provide a framework for the classification of segmentation variables that may assist thinking about segmentation issues and serve as a checklist for selecting segmentation bases.

In this study the advantages of considering market dynamics while segmenting consumers is discussed. The analysis examined all of the interrelationships between the prioritised trends and allowed to determine which drivers were most dominant in terms of their impact on future change, and which drivers were more dependent on. A mapping procedure is presented that allows the researcher to interpret these drivers and their influence on the segmentation, thus providing a better understanding of the motivations that drive the beliefs, attitudes, and behaviour of each segment.

Research results and discussion

A combination of both wider external and more specific local factors are responsible for shaping the changing consumption landscape. Both sets of factors have been taken into account throughout the process, and are explored in detail.

Method used is qualitative research using in-depth interviews with industry experts with further prioritization of drivers determining the importance and level of uncertainty of each driver as seen in the Table 1.

Table 1

Driver ranking

Please identify which of the listed global* trends are relative to Your business	Please evaluate which driver influences Your business in scale 1 to 10, where 1 – no influence, 10 – influences a lot	Please evaluate to what extent a driver influence will grow or decline in 5 years in scale '+' or '-', where '+' slightly grows, '++' significantly grows, '+++' grows very much; '-' slightly declines, '--' significantly declines, '---' declines very much	Please evaluate drivers predictability in scale 1 to 10, where 1 – unpredictable and 10 – predictable
Health Awareness	8	++	7
Fight for Resources	8	++	8
Income Shift	7	++	4
Digital World	7	+++	7
Entertainment Society	7	++	8
Personalization	7	++	6
Connoisseur Consumer	6	+++	8
Mobility	6	+	7
New Social Structures	6	++	6
Social Responsibility	6	+	7
Burden of Aging	5	+	8
Market Environment and Structure Shift	5	-	3
Changing Household and Family Structure	4	-	4
Urbanization	3	--	7

Source: author's analysis based on in-depth interviews, November-December 2013.

Following analysis done to map the interdependencies between all of the prioritised drivers, examining the extent to which each driver impacts on the other drivers. The analysis examined all of the interrelationships between the prioritised drivers by asking questions such as 'to what extent does driver 'x' influence driver 'y' and vice versa. This analysis allowed determining which drivers were most dominant in terms of their impact on future change, and which drivers were more dependent on.

The results of this analysis is summarised in a matrix seen in the Table 2 that identifies: drivers that are "Dominant" in terms of having a major influence and impact on future change; drivers that are "Dependent" because their impact is more dependent on other drivers, and hence they tend to follow change in those other drivers.

Table 2

Dependency versus Importance Matrix

High Importance	Fight for Resources		Informed Connoisseur Consumer
Medium Importance	Income Shift	Digital World	Health Awareness
	Burden of Aging	Entertainment Society	Market Environment and Structure Shift
	Social Responsibility	Personification	
	Changing Household and Family Structure	New Social Structures	
Low Importance	Urbanization		
	Mobility		
	Low Dependency	**Medium Dependency**	**High Dependency**

Source: author's grouping based on correlation analysis, November-December 2013.

The resulting matrix represents the relative importance and uncertainty of the key drivers based on the dominance and dependency scores derived from the analysis. This analysis allows arranging the drivers into four clusters to form a base for the new model of consumer segmentation.

The emergent driver clusters were identified as shown in Table 3.

Table 3

Driver Clusters

Motivation for Consumption	Attitudes Towards Consumption
Health Awareness	Market Environment and Structure Shift
Entertainment Society	Social Responsibility
Informed Connoisseur Consumer	Income Shift
Digital World	Personalization

Source: author's grouping based on cluster analysis, November-December 2013.

The combination above represents the key areas important for the industry, as well as capturing the critical strategic uncertainties. Each of the clusters above formed the basis for one of the axes of that was subsequently developed. The axes are designed to reflect the output of the importance versus uncertainty matrix above. Axes are designed to be different in nature to each other, avoiding the risk that they could 'collapse' on top of each other and therefore produce only a relatively narrow range of possible futures for the forecast.

From a consumer demand perspective, the food and drink market of today can be characterised as one in which the majority of consumers are struggling to improve their health and wellbeing whilst seeking easy and convenient ways to buy and consume food. Industry participants claim that growing part of their consumers try to buy foods that are lower in fat and natural. However, while consumers are aware of the need to stay healthy, their actions do not always match their good intentions. Pressures such as lack of budget, time and energy mean that consumers may have to compromise their healthy eating ideals, finding themselves grabbing convenience foods on-the-go rather than spending time making healthy meals. Consumers are also eating out

more. This behaviour is much more common amongst the younger age cohorts and thus this behaviour pattern is likely to continue in the future, assuming their eating habits remain the same.

Many consumers balance out their indulgent moments with healthier food or drink. Smart shoppers are seeking out the best value, often mixing and matching high end, premium products with those from discount chains. Some also seek out more artisan produce at farmer's markets and local outlets Traceability and quality assurance remain important to consumers who want to be reassured about the origins of the food. Linked to this concern is the growing popularity of organic food. Although still small, estimated at 0.5% of the total food market, the market for organic food is growing. Increasingly, consumers are considering the wider environmental impact of their shopping and eating habits; environmental sustainability is rising up the consumer agenda even though it remains a rare consideration for some.
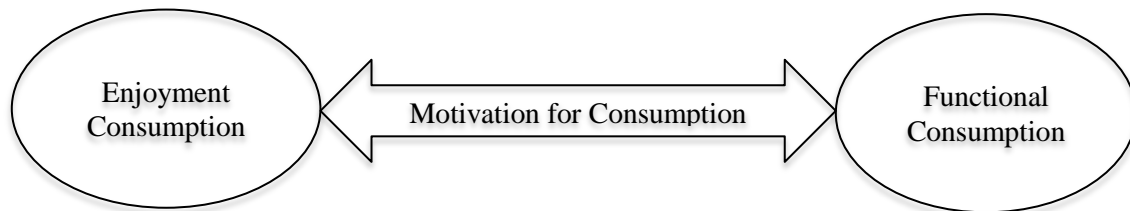
Source: author's grouping, November-December 2013.

Fig. 1. **Defining the horizontal axis**
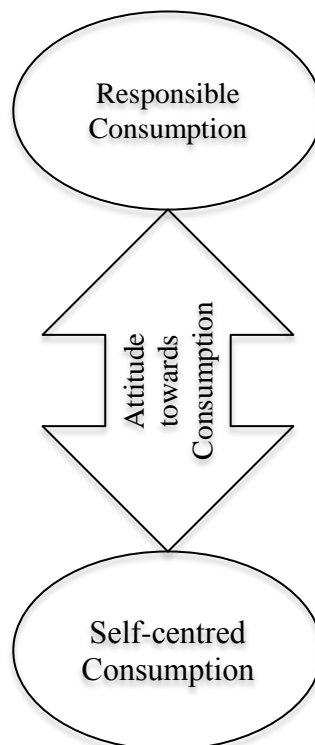
Source: author's grouping, November-December 2013.

Fig. 2. **Defining the vertical axis**

This axis relates to the reasons why people consume and contrapose the following dimensions: enjoyment consumption, where people show individualistic indulgent experimental behaviour and on the other side – functional consumption, which refers to consuming for specific health or functional benefits. Products are seen as a 'fuel' and 'enhancer', allowing consumers to be more energetic, intelligent, thinner, beautiful and so on.

The vertical axis relates to consumers' attitudes towards consumption in general and considers two opposites: 'Responsible Consumption' refers to a growing consumer awareness of and concern about the impact of consumption on the environment. It might stem from tangible experiences of energy shortages or environmental shocks and leads consumers to change their consumption patterns and they push corporations and government to do more to address such issues. On the other hand –'self-centred' indicates a desire for continued consumption. Consumers experience ethics fatigue and are cynical and sceptical about 'green claims' and climate change.

Based on the research segmentation model could be identified based on the driver cluster analysis – see Figure 3.
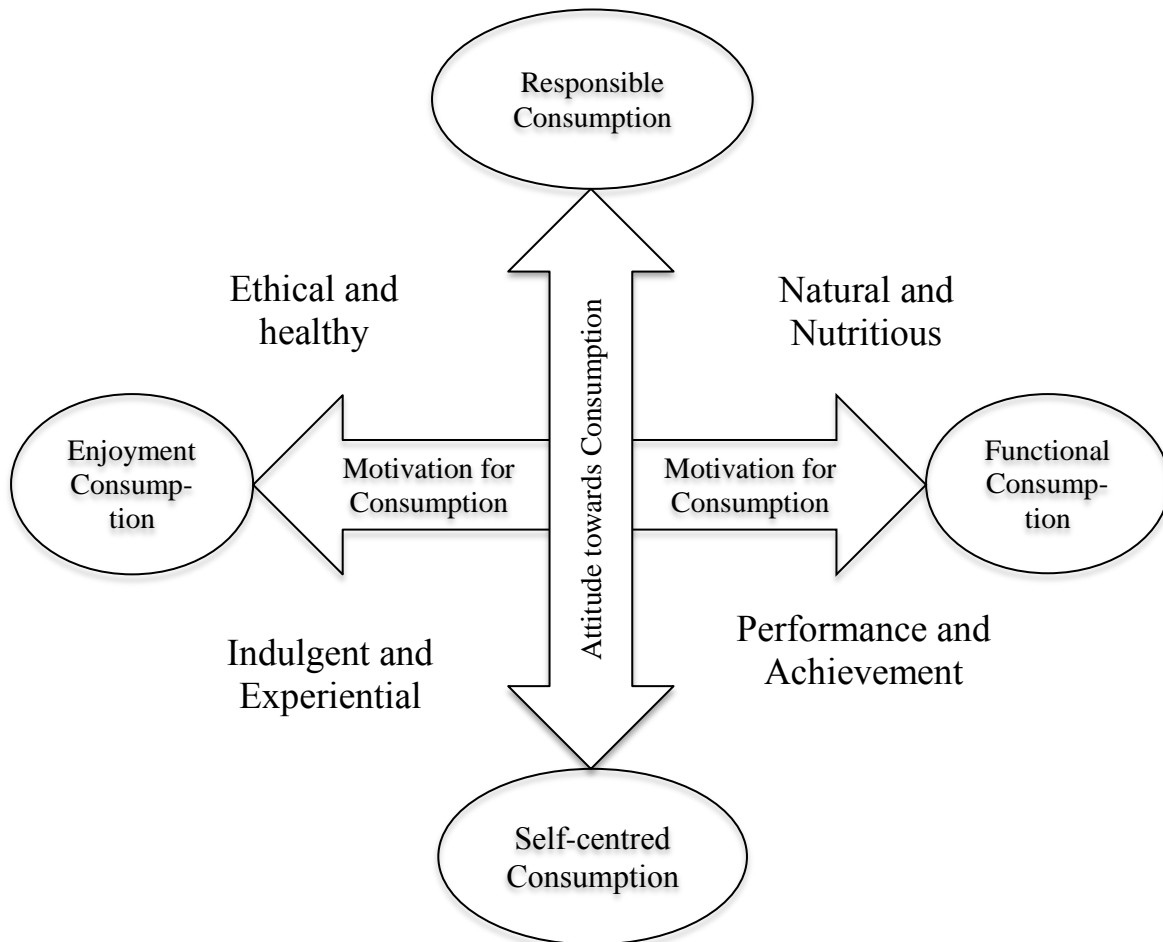
Source: author's construction December 2013 – February 2014.

Fig. 3. **Segmentation Model**

The two axes juxtaposed to create four possible segments or future consumption representing how the market could develop. In considering these differing views of how the future might play out it should be emphasised that they are not designed to be mutually exclusive. The segments are designed to be provocative and to reconsider existing assumptions about the future. The future demand will also depend both on decisions within industry's control and external forces and drivers outside industry's direct or indirect influence. Nevertheless, in order to develop a robust future strategy, it is important to consider the implications for the industry that stem from each of these divergent possible futures.

Conclusions, proposals, recommendations

A combination of wider external and more internal factors has shaped the changing consumption landscape in Latvia. Besides economy dynamics, other important considerations for the future of the domestic market include an ageing population, smaller household size and an increased focus on tackling obesity. Global factors such as climate and resource shortage are also affecting the wider operating environment of the food and drink industry and need to be factored in to any organisational planning. The dynamics of the Latvian food and drink market itself have also changed significantly and are being shaped by both supply and demand. Consumers are spending more money on eating and drinking, and their tastes are changing. Familiar notions such as 'convenience' are becoming more sophisticated as consumers are less prepared to make trade-offs and seek several benefits from one product. Health and wellbeing is also evolving, as people become more aware of the link between health and nutrition and attempt to balance out their indulgent moments with healthier options.

This research is grounded in an assessment of existing global trend data and evidence, which has formed the backdrop for the development of the segmentation. This has been supplemented with a series of interviews with industry stakeholders as well as those from outside. In addition, an interactive workshop with industry stakeholders and those from other sectors was held during Food and Drink Industry Forum in November 2013 in order to listen to a diverse range of viewpoints and ensure co-creation of the final output. A wide array of perspectives has been gathered to shape the views presented by this report. Both large and small businesses have been consulted to ensure that the challenges faced by each are considered equally. Wider stakeholders have been drawn in to the process to provide balance.

A framework for dynamic segmentation was proposed based on the research results and a first empirical illustration was offered. Two major clusters that may impact consumer choices identified and which may influence segmentation results. Research let to identify the combination of key areas that are important for the industry, as well as capturing the critical strategic uncertainties. Each of the clusters identified formed the basis for one of the axes of that was subsequently developed. The axes are designed to reflect the output of the importance versus uncertainty matrix as well as to be different in nature to each other, avoiding the risk to 'collapse' on top of each other and therefore produce only a relatively narrow range of possible futures for the forecast, juxtaposed to create four possible segments representing how the market could develop. The segments are designed to be provocative and to reconsider existing assumptions about the future demand which will also depend both on decisions within industry's control and external forces and drivers outside industry's direct or indirect influence. The study demonstrates that accounting for change in the consumer segments is possible and important. More research, however, is needed to understand the forces powering the change.

From the managerial perspective, using market dynamic component integration approach raises a practical concern related to the cost of a segmentation model. In fact, identification and analysis of drivers can generate many segmentation solutions thus making the costs increase. Therefore, companies could consider the use of a pre-filtering approach and test integrating defined global market trends instead of doing the fieldwork locally.

Further extensions of the proposed modelling framework and available data may show more detailed dynamics of consumers' segments. Practical implication is in the further research of consumption within the segments where market development scenarios could be identified and measured in time and money consumption. This kind of consumer research might give a clear vision for the business on market development thus helping improve strategic planning and increase competitiveness.

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THE IMPACT OF SOCIOECONOMIC REFORMS ON THE WORK INCENTIVES IN LATVIA

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Abstract

In 2013, Ministry of Finance of Latvia proposed several Personal Income Tax reforms, including increased personal income tax allowances and decreased social insurance contribution rates that came into force since January 2014. In 2014, it is expected to develop a proposal of making non-taxable minimum progressive. Another possible scenario of implementation of the progressivity is introduction of a higher rate income tax band. Using the European Union tax-benefit microsimulation model (EUROMOD), and the European Union Statistics on Income and Living Conditions (EU-SILC) survey microdata, this paper identifies the impact of the proposed and alternative socioeconomic reforms on changes in work incentives in Latvia. In particular, this paper aims at the role of Personal Income Tax and basic allowance in influencing Marginal Effective Tax Rates assessed using various scenarios of hypothetical policy changes. Results show that the tax reform implemented since 2014 has a relatively weak impact on the work incentives of Latvians. Making PIT rate progressive that includes reduced standard tax rate results in the increase of the work incentives. The tax reform of making basic allowance progressive proposed by the Ministry of Finance does not virtually affects the work incentives of whole population, and mainly results in increased work incentives of middle-income earners.

Key words: *work incentives, marginal tax rate, tax-benefit system, EUROMOD microsimulation model*

JEL codes: C15, H24, H30

Introduction

At the international and national levels, the influence of tax and benefit policy on the individual`s decision about how much time spend working is a determinative aspect in the design of public policies. Understanding labour supply behaviour is thus crucial for socioeconomic reform to invoke work incentives. Using the European Union tax-benefit microsimulation model (EUROMOD) and the European Union Statistics on Income and Living Conditions (EU-SILC) survey microdata, this paper identifies the impact of socioeconomic reforms on changes in work incentives in Latvia. In particular, this paper aims at the role of Personal Income Tax (PIT) and basic PIT allowance in influencing Marginal Effective Tax Rates (METRs). Higher rate of labour taxes in existence of non-taxable minimum are expected to lower work incentives of high-income individuals, but have little effect on the low-income individuals. This paper compares the distribution of METRs by deciles of disposable equivalised income under the reforms. Estimates of the impact of selected reforms of taxes and benefits on the work incentives of Latvia's population allow to determine the socioeconomic reforms which increase work incentives in the country.

An individual's financial incentive to work will depend on the relationship between hours of paid work and net income, taking into account the financial costs of working and not working (Berger F., 2010). 'Net income' is an income after benefits and tax credits that have been added and after direct taxes

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that have been deducted. Therefore, tax-benefit systems play a primary role in influencing work incentives (Jara & Tumino, 2013).

A distinction is usually made between incentives to work versus not working and incentives to work more for those already in work. Two measures of the incentive to work versus not working are commonly distinguished in the literature:

- The replacement rate is measured by net income out of work divided by net income in work;
- the Participation Tax Rate (PTR), defined as 1 minus the financial gain to work as a proportion of gross earnings. It measures the proportion of gross earnings taken in tax or reduced benefits when starting to work.

Low numbers of both rates mean stronger financial incentives to work; but a value of 1 means that there is no financial reward to working. (Adam S. et al, 2006).

The incentives for those already in work to work harder or earn more is measured by the METRs, i.e. the share of additional income that would be taxed away because of taxes, social insurance contribution (SIC) and benefit withdrawal (Jara & Tumino, 2013). As with the incentive to work versus not working, low numbers mean stronger financial incentives. METRs of zero mean that the individual keeps all of any small change in earnings, and a rate of 1 means that the individual keeps none (Adam S. et al, 2006).

In this paper, the analysis of work incentives concentrates on the METRs to compare work incentives created by social economic reforms in Latvia. METRs are computed dividing all the population by deciles of the equivalised disposable income distribution, taking into account all the interdependencies between incomes of all members of the household. METRs can be calculated only for those who are already in work and have income, but their METRs depend on incomes of other members of the household, even if they are not employed and have zero earnings. This is explained by the existence of benefits: a variation in earnings not only affects the disposable income of the individual whose earnings change, but also benefit entitlements of other members of the household.

$$METR = 1 - \frac{Y_{HH}^1 - Y_{HH}^0}{E_i^1 - E_i^0} \qquad (1)$$

In practice, METRs are calculated according to the formula, where the numerator is equal to the increase in the household's disposable income generated by an increase in the individual's earnings in period 1 compared to period 0, and the denominator is equal to the increase in the earnings of individual i in the corresponding period.

In previously published works (e.g. Jara & Tumino, 2013) the changes in average METRs between 2007 and 2010 are analysed for the 27 EU countries for all population under the tax system already in force. However, this paper divides all population by the deciles of equivalised disposable income, and the distribution of METRs by deciles of disposable equivalised income under the possible PIT reforms are compared.

Research results and discussion

1. Methodology and input data

Methodology

EUROMOD is a tax-benefit microsimulation model for the European Union that enables researchers and policy analysts to calculate, in a comparable manner, the effects of taxes and benefits on household incomes and work incentives for the population of each EU country and for the EU as a whole

(University of Essex, 2014). Using the model, individual and household tax liabilities and benefits entitlements are simulated under the existing policy rules in Member State and in Latvia in particular. The instruments usually used in microsimulations at all EU-27 Member States levels are PIT (state and municipal), Social Security Contribution, household benefits, housing benefits, social assistance and other income-related benefits.

Along with calculating the effects of actual policies, EUROMOD is also used to evaluate the effects of tax-benefit policy reforms on changes of poverty rates, income inequality, work incentives and government budgets (University of Essex, 2014) and to simulate the effects of proposed, alternative or hypothetical policy changes, as well as for exploring the implications of alternative economic or demographic scenarios at national and EU levels (Sutherland H. & Figari F., 2013).

The results presented in this report are derived using EUROMOD version F6.36+.

Input data

Most of EUROMOD input data are derived from the EU-SILC data as released by Eurostat. In some Member States, the national version of SILC – provided by national statistics institutes – is used directly or to complement the EU version due to the availability of more detailed variables (Sutherland H. & Figari F., 2013). Central Statistical Bureau of Latvia provides the access to EU-SILC data. The EUROMOD input database contains information at the individual level on household demographic, labour market characteristics, gross market income and all the other income sources (i.e. pensions, public transfers and private incomes) (Sutherland H. & Figari F., 2013).
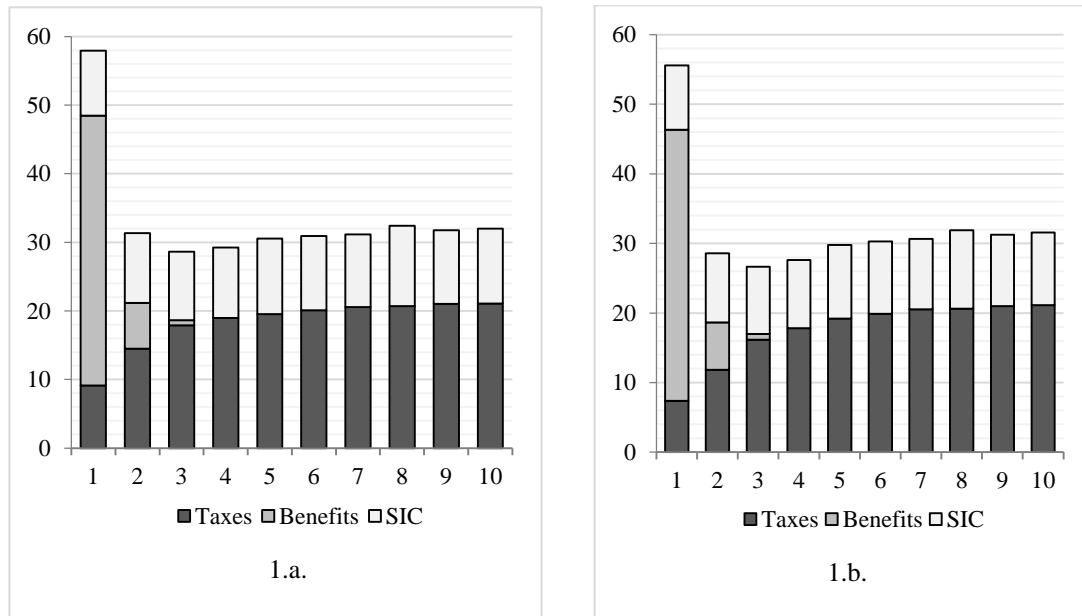
Calculations are based on EU-SILC 2010 data (2009 year incomes). The data is not adjusted for labour market and demographic changes that took place over this period, therefore the changes in METRs between scenarios reflect the changes in tax-benefit systems, controlling for changes in METRs that occurred because of changes in economic situation or composition of the population.

2. Implemented reform: has the tax reform implemented since January 2014 affected the work incentives?

The baseline tax system of 2013 [**1.a**] used in the analysis of METRs includes policy changes that were introduced after June 30, 2013. PIT rate is 24%, the rate of SIC paid by employees rate is 11%, the rate of SIC paid by employers is 24.09%, non-taxable allowance for dependents is EUR 114 (LVL 80) (before June 30, 2013 EUR 100 (LVL 70)), non-taxable minimum is EUR 64 (LVL 45).

In 2013, Ministry of Finance of Latvia proposed several PIT reforms, including increased PIT allowances and decreased SIC rates that came into force since January 2014 [**1.b.**]. Comparing with the baseline tax system of 2013, PIT is still 24%, the rates for SIC paid by employees and employers are both reduced by 0.5 percentage points to 10.5% and 23.59% respectively, non-taxable allowance for dependents increased up to EUR 165 (LVL 116), non-taxable minimum increased up to EUR 75 (LVL 53).

Figure 1 shows that tax reform affected mainly METRs of the four lowest deciles, while METRs of higher income earners stayed virtually unaffected by the change in the tax system. The mean METR for the lowest decile decreased from 57.9 to 55.6 that is mainly affected by the decrease of contribution of taxes to mean METR. The main reason for these changes – the gain from the increased PIT allowances (i.e. non-taxable minimum for dependants and non-taxable minimum) is higher for those with low incomes, as for them the PIT allowances accounts for a bigger share of income. On a whole, the mean METR has decreased from 32.7 to 31.7 that is small but positive affect of the tax reform on the work incentives of Latvians controlling for changes in METRs that occurred because of changes in economic situation or composition of the population.

Note: [1] 1.a. and 1.b. tax systems correspond to actually observed tax-benefit system in 2013 and 2014 respectively; [2] The data is not adjusted for labour market and demographic changes that took place over this period, therefore the changes in METRs between scenarios reflect the changes in tax-benefit systems, controlling for changes in METRs that occurred because of changes in economic situation or composition of the population.

Source: authors' calculations based on EU-SILC 2010 data

Fig. 1. **Mean METRs and contribution of taxes, benefits and SICs by deciles of equivalised disposable income in Latvia under actually observed tax-benefit systems in 2013 and 2014**
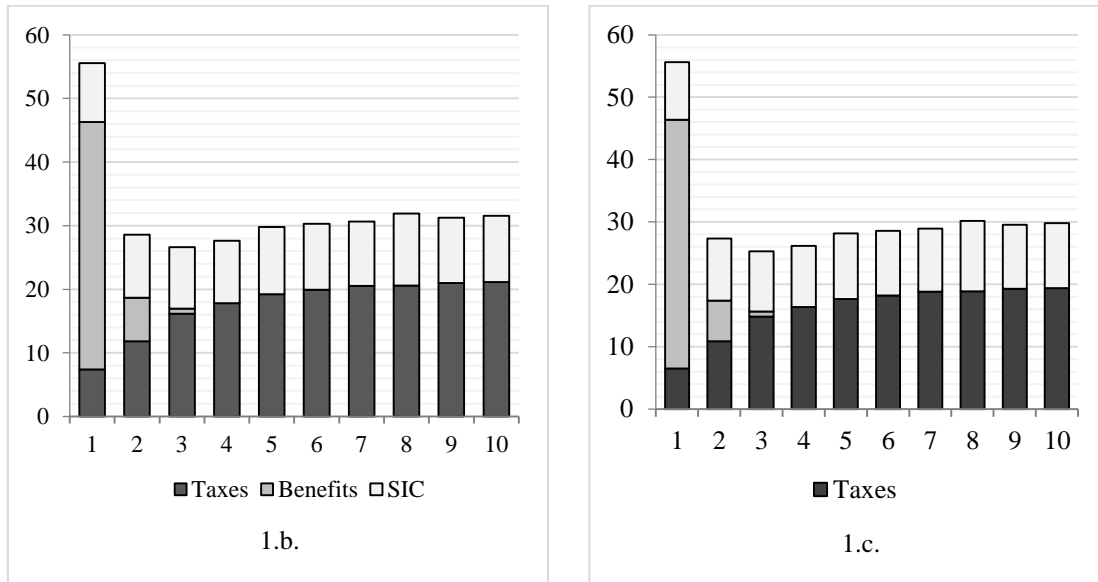
3. PIT reform and progressive PIT

The tax system of 2014 that in force since January 2014 [1.b] is used as a baseline in the analysis of changes in METRs by decile affected by the changes in the PIT rate applied.

According to the suggestion of Ministry of Finance of Latvia (Ministry of Finance, 2013), PIT is intended to be reduced from the rate of 24% in 2014 to the rate of 22% in 2016. The [**1.c**] scenario is based on the tax system of 2014 with the reduced PIT rate from 24% to 22%.

Decreasing PIT rate by 2 percentage points from 24% to 22% virtually did not affect mean METR of the lowest decile (see Figure 2). The main reason for it – since the reduced PIT rate is applied to every income earner according the same statutory rules, the gain from a reduced rate is larger for those with higher income, and is smaller for those with low incomes, as for them the basic tax allowance accounts for a bigger share of income. This makes necessary to search for additional solutions that will influence earners with lower income more than earnings of more productive employees.

The following tax reforms make PIT progressive. A higher tax rate for high-income earners is introduced, while the standard tax rate is reduced.
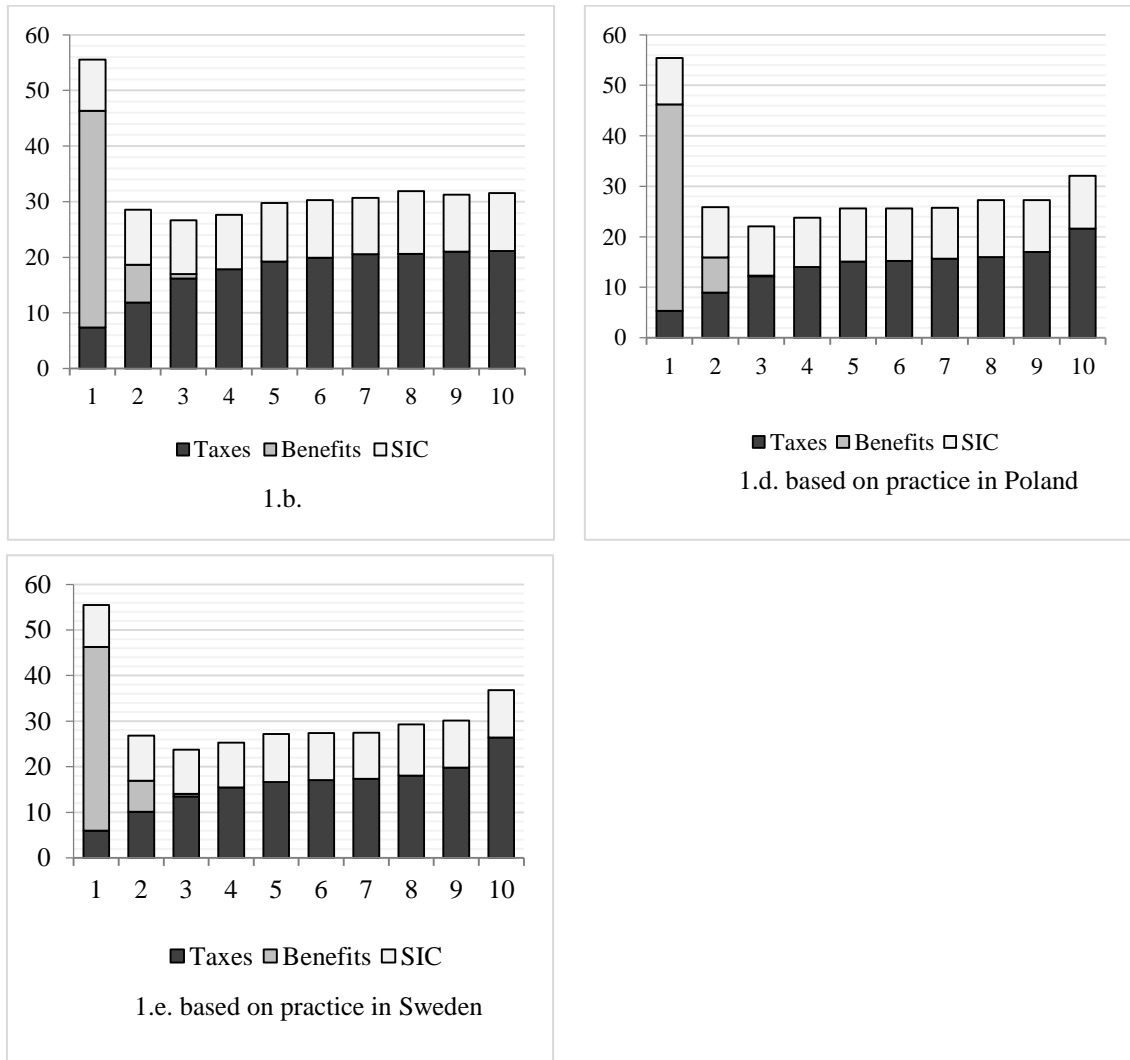
1.b.

1.c.

Note: [1] [3] The tax system of 2014 that in force since January 2014 [1.b] is used as a baseline in the analysis. [2] The data is not adjusted for labour market and demographic changes that took place over this period, therefore the changes in METRs between scenarios reflect the changes in tax-benefit systems, controlling for changes in METRs that occurred because of changes in economic situation or composition of the population.

Source: authors' calculations based on EU-SILC 2010 data

Fig. 2. **Mean METRs and contribution of taxes, benefits and SICs by deciles of equivalised disposable income**

The income level that is taxed at the top PIT rate is set according to the practice of EU Member states. In 2013, 20 out of 27 Member States applied progressive PIT. Two tax bands besides the basic allowance were applied in Czech Republic, Ireland, Poland, Slovakia and Sweden, while three tax bands were applied in Austria, Denmark, Greece and Great Britain. Amongst these countries, the ratio of income at which top rate is in force to an average annual gross earnings ranged from 4.4 in Great Britain to only 0.9 in Ireland (i.e. the top rate is actually the basic rate applied to the majority of employees, another rate is reduced rate applied to low-income earners). The ratio mainly did not exceeded 2: it was equal 1.8 in Poland, 1.6 in Sweden, 2.1 in Austria and 1.5 in Netherlands (Eurostat, 2013 and author`s calculations). The implemented reforms assessed for Latvia are the following:

- Monthly gross income in excess of EUR 1300 is taxed at 32%. Income below that is taxed at 18%. These tax rates were in force in Poland in 2013, while the choice of the income level at the top rate is also determined by the Polish practice: it is approximately 1.8 times higher than average monthly gross earnings in Latvia in 2013 of EUR 716 (Central Statistical Bureau of Latvia, 2014) **[1.d.].**
- Monthly gross income in excess of EUR 1150 is taxed at 40%. Income below that is taxed at 20%. These tax rates are in force in Sweden in 2013, and the income level at the top rate of EUR 1150 is 1.6 higher than average gross earnings in Latvia in 2013 and corresponds to the Swedish corresponding ratio **[1.e].**

1.b.

1.d. based on practice in Poland

1.e. based on practice in Sweden

Note: The tax system of 2014 that in force since January 2014 [1.b] is used as a baseline in the analysis

Source: authors' calculations based on EU-SILC 2010 data

Fig. 3. **Mean METRs and contribution of taxes, benefits and SICs by deciles of equivalised disposable income**

In both scenarios of making PIT rate progressive, a higher tax rate for high income recipients is introduced, while the standard tax rate is reduced. Mean METR in the lowest decile is virtually not affected by the reduced standard rate as for them the PIT allowances accounts for a bigger share of income, while METRs in the middle deciles go down, as the standard tax rate is reduced. METR in the top decile goes up as a result of an increase in the PIT faced by high income earners. As a standard rate in 1.d. scenario (i.e. 18%) is lower than in 1.e scenario (i.e. 20%), the decrease in the mean METRs in the middle deciles is larger in 1.d scenario.

4. Progressive personal income tax allowance

In 2013, the Ministry of Finance of Latvia announced about intention to develop a proposal of implementation progressive PIT allowance: maximum tax allowance is EUR 120 (LVL 84) per month for incomes below EUR 320 (LVL 225) per month [**2.a,** see figure 1]. This cut-off value for income of EUR 320 corresponds to the statutory minimum wage of 2014. Above the income up to the EUR 570 (LVL 400), the basic tax allowance tapers off at the rate of 0.22 (i.e., for every euro of income earned above the threshold, the tax allowance is reduced by 0.22 euro). For incomes above EUR 570 (LVL 400) the basic tax allowance is EUR 64 (LVL 45) (Latvijas Vēstneša portals, 2013). This income is markedly below the average gross income level in Latvia of EUR 716 monthly (Central Statistical Bureau of Latvia, 2014).
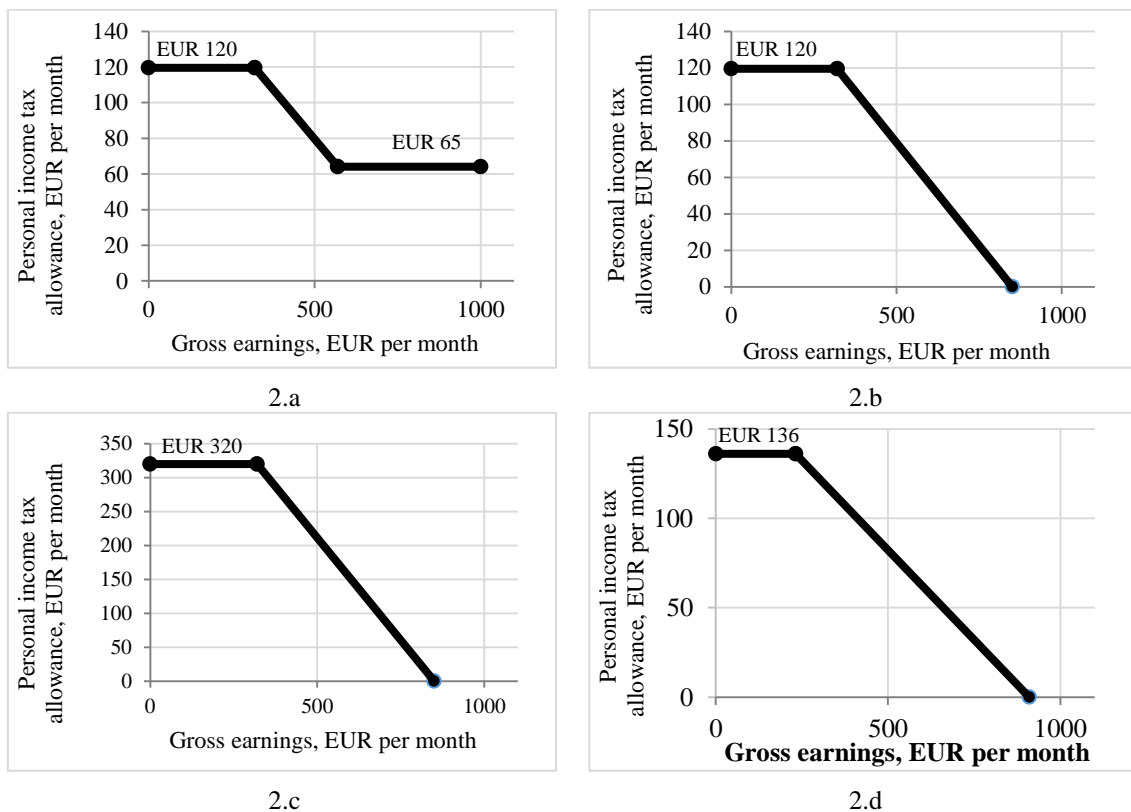

Fig. 4. **Personal income tax allowance at different level of gross earnings, EUR per month**

Another alternative reform of PIT allowance **[2.b]** is similar to reform 2.a, i.e. PIT allowance is gradually reduced taking into account the level of the income of the individual, while no basic allowance is granted to employees earning more than certain amount per month. Maximum tax allowance is EUR 120 (LVL 84) per month for incomes below EUR 320 (LVL 225) per month. Above the income up to the EUR 570 (LVL 400), the basic tax allowance tapers off at the rate of 0.22 (i.e., for every euro of income earned above the threshold, the tax allowance is reduced by 0.22 euro) until PIT allowance becomes zero, i.e. is basic allowance is not applied if annual income exceeds EUR 850 per month.

1.b.

2.a

2.d

2.b

2.c
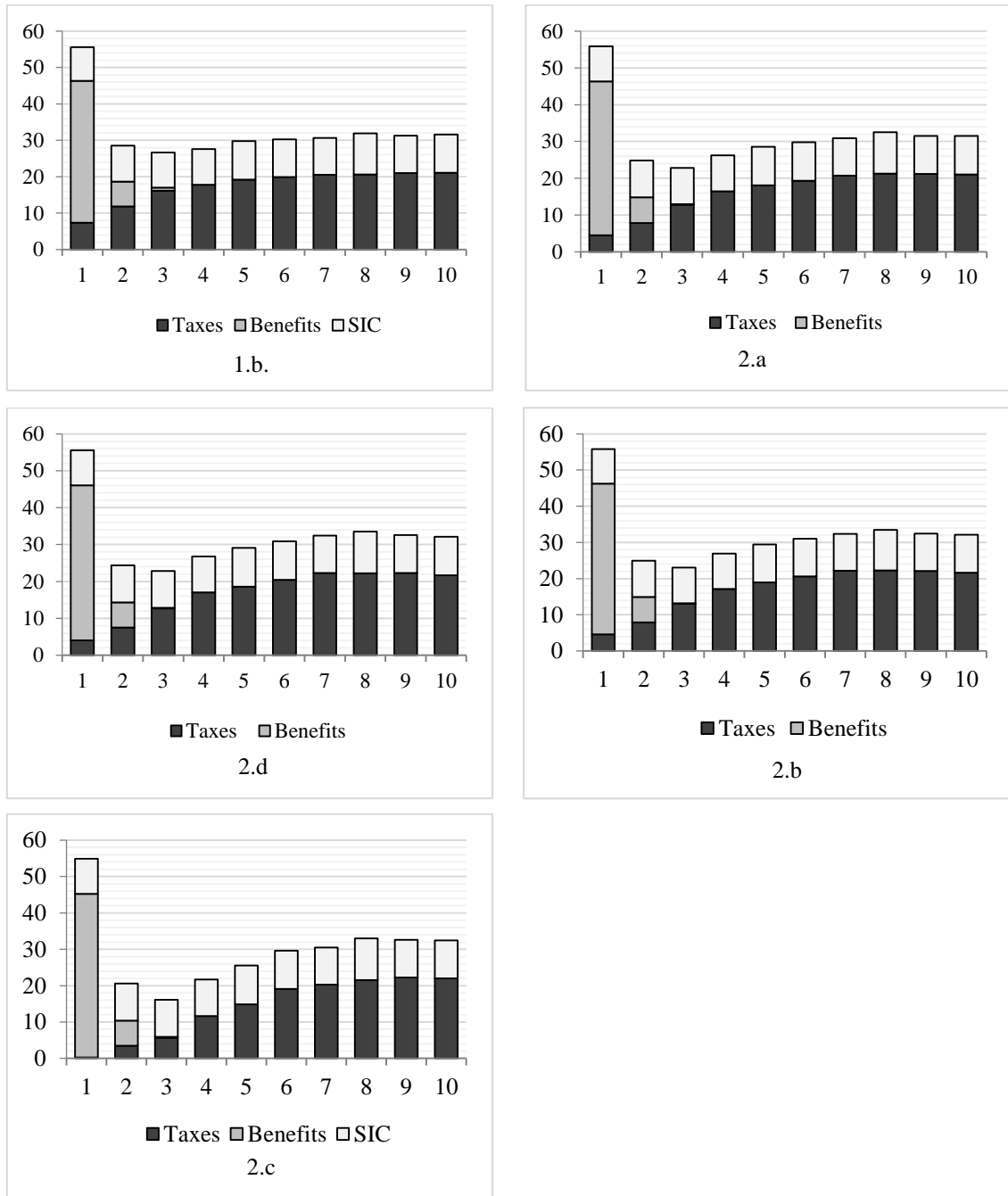
Source: authors' calculations based on EU-SILC 2010 data.

Note: The tax system of 2014 that in force since January 2014 [1.b] is used as a baseline in the analysis.

Fig. 5. **Mean METRs and contribution of taxes, benefits and SICs by deciles of equivalised disposable income**

In the **[2.c]** scenario, maximum tax allowance is higher and is tapered off quicker: non-taxable minimum is EUR 320 (LVL 225) per month for incomes below EUR 320 (LVL 225) per month. That means that earnings equal or below statutory minimum wage are not taxed by PIT. Above that level of income, the personal income allowance is gradually reduced at the rate 0.6, i.e., for every euro of income earned above the threshold, the tax allowance is reduced by 0.60 euro). At the monthly gross income of EUR 850 personal allowance becomes zero.

In the **[2.d]** scenario, PIT allowance currently implemented in Lithuania is proposed. Since 2009, in Lithuania the tax-exempt amount declines as income increasing. Maximum PIT allowance is LTL 5,640 per year (EUR 1,633[2] per year, EUR 136 per month) for the income below LTL 9,600 per year (EUR 2,780 per year, EUR 232 per month). Above that income, the PIT allowance is gradually reduced at the rate of 0.20, i.e., for every euro of income earned above the threshold, the non-taxable minimum is reduced by 0.20 euro. At the monthly gross income of LTL 3150 (EUR 910) PIT allowance is not applied.

Proposed reforms of the PIT allowance (see figure 5) does not virtually affect mean METR of the lowest deciles. The reason for it is that proposed reforms increase net income that results in reduction of means-tested benefits. For example [2.c] reform shows that the mean METR of the lowest decile consists only of the contribution of benefits and SIC, i.e. 54.9% of additional income would be taxed away because of SIC and benefit withdrawal, but not because of taxes due to high level of basic allowance of EUR 320. This proves the fact that decrease of mean METR of the lowest decile and increase of their work incentives can be achieved only accompanied by reforms in means-tested benefits. However, in all scenarios the increase of the maximum basic allowance results in decrease of mean METRs in the middle deciles. Overall, the largest work incentives measured by mean METRs are observed in the tax system [2c].

5. The impact of the tax reforms on work incentives of the whole population

According to the values of the average METRs the highest work incentives are observed under the reform making PIT rates progressive based on the practice in Poland [1d]. All of the reforms that make the basic tax allowance progressive (reforms 2.a to 2.d) reduce the average METR (see **Error! Reference source not found.**), while the lowest mean METR is achieved under the reform that makes all minimum wage non-taxable [2c], followed by the reform proposed by the Ministry of Finance of Latvia [2.a].
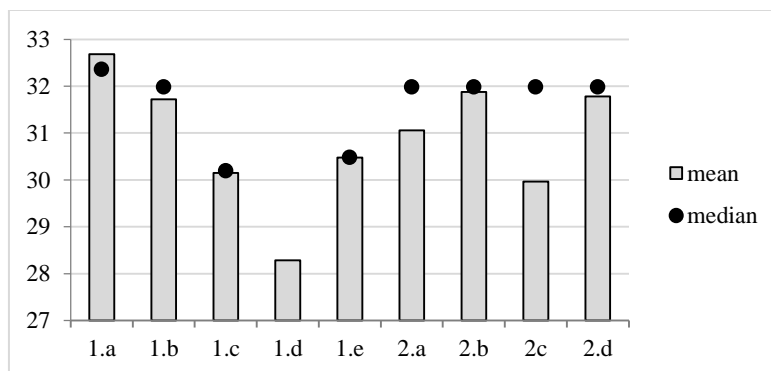
Note: The tax system of 2014 that in force since January 2014 [1.b] is used as a baseline in the analysis.

Source: authors' calculations based on EU-SILC 2010 data.

Fig. 6. **Means and median METRs**

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[2] Pegged to EUR; EUR=LTL 3.45280.

6. The impact of the PIT rate and basic allowance reforms on revenues from PIT

Figure 7 presents the simulated impact of the reforms on revenues from PIT presented relative to the baseline 2014 system.

In terms of the impact on revenues from PIT, the estimated impact of the reforms ranges from negative of 3.1% (reform 1.e) to negative of 35.6% (reform 1.c). The largest decrease of the revenues from PIT by 35.6% is caused by the decrease of flat PIT rate from 24% to 22% (1.c), while the progressive PIT system based on the practice of Sweden caused the decrease of revenues from PIT only by 3.1% (1.e).

The reform of making PIT rate progressive based on practice of Poland reduces revenues form PIT by 7.9% (1.d), that is less loss making than that based on practice in Poland (decrease of revenues from PIT by 35.6%).

The reforms of PIT allowance – 2.a, 2.b, 2.c – results in decrease of revenues form PIT approximately equally – by 4%-8%, while the reform of making all minimum wage non-taxable decreased revenues from PIT by 21.7%. The tax reform proposed by Ministry of Finance of Latvia [2.a] results in lower revenues from PIT than tax system [2.b], where the basic allowance is not applied to the high-income earners, by 3.8 percentage points (see figure 7), although it is overall less effecting in increasing work incentives (see Figure 6).

To conclude, the reform of making PIT system progressive can be more effective than making basic allowance progressive under certain conditions. Thus, the progressive PIT system [1.3] based on the practice in Sweden results in slightly lower mean METR for all population (see Figure 6: 30.5), than in case of application progressive basic allowance [2.a]proposed by the Ministry of Finance of Latvia (see Figure 6: 31.1). In addition, simulated impact of the reforms on revenues from PIT (see figure 7) shows that [1.e] progressive PIT system is less detrimental than scenario [2.a].
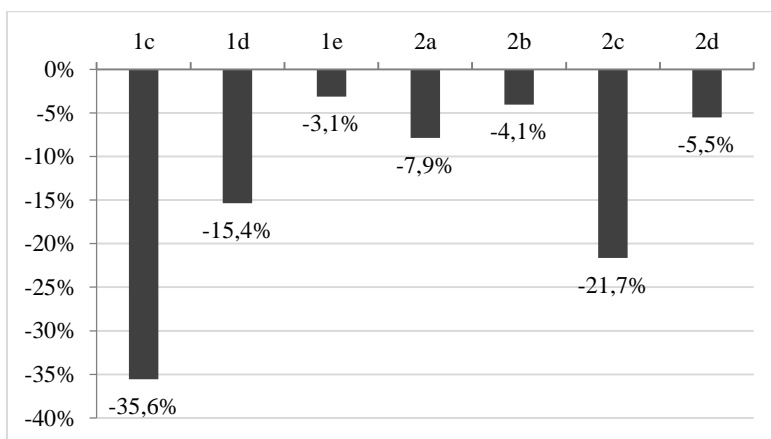
Source: authors' calculations based on based on EU-SILC 2010 data.

Fig. 7. **Impact on revenues from PIT, % from the baseline 2014 system**

Conclusions, proposals, recommendations

Conclusions

The paper results allow to make conclusions about the effects of change of PIT rates and PIT allowance on the work incentives of Latvia's population and to determine the socioeconomic reforms

needed to increase work incentives in the country. The results of the paper can be used in the the design of public policies.

1) The tax reform implemented since 2014 has a relatively weak impact on the work incentives of Latvians. Main gainers of the increased PIT allowances are those with low incomes (i.e. four lowest deciles), as for them the PIT allowances accounts for a bigger share of income, while METRs of higher income earners stayed virtually unaffected by the change in the tax system;

2) The gain from a reduced PIT rate is larger for those with higher income, and is smaller for those with low incomes, as for them the basic tax allowance accounts for a bigger share of income.

3) Proposals of making PIT rate progressive includes a higher tax rate for high income recipients is introduced, while the standard tax rate is reduced. The reduced standard rate does not significantly affect the work incentives of those in the lowest decile, as for them the PIT allowances accounts for a bigger share of income, while METRs in the middle deciles go down, as the standard tax rate is reduced. METR in the top decile goes up as a result of an increase in the PIT faced by high income earners.

4) The most effective reform of PIT rate in terms of increased work incentives of whole population, i.e. the lowest mean METR) is that based on the practice of Poland. This explained by the lower standard rate introduced (i.e. 18%) than in other scenario (i.e. 20%), the causes larger decrease in the mean METRs in the middle deciles.

5) Proposed reforms of the PIT allowance does not virtually affect mean METR of the lowest deciles, due to increase of net income that results in reduction of means-tested benefits. However, in all scenarios the increase of the maximum basic allowance results in decrease of mean METRs in the middle deciles, while mean METRs of the high-income recipients is actually not affected as for them the PIT allowances applied in the baseline scenario account for a bigger share of income

6) The reform of making all minimum wage non-taxable decreased revenues from PIT relative to 2014 system by 21.7%., although it is the most effective reform of basic allowance in terms of increased work incentives of whole population.

7) Another affective reform is that proposed by the Ministry of the Finance of Latvia in 2013 that is less loss making and results in decrease of revenues from PIT only by 3.1%.

8) Assessed impact of the tax reforms on work incentives shows, that decrease of mean METR of the lowest decile and increase of their work incentives can be achieved mainly accompanied by reforms in means-tested benefits.

9) The largest decrease of the revenues from PIT by 35.6% is caused by the decrease of flat PIT rate from 24% to 22%, while the progressive PIT system based on the practice of Sweden caused the decrease of revenues from PIT only by 3.1%. The reform of PIT rate based on practice of Poland reduces revenues form PIT by 7.9%.

10) The progressive PIT system based on the practice in Sweden results in slightly lower mean METR for all population, than in case of application progressive basic allowance proposed by the Ministry of Finance of Latvia, as well as it is less detrimental than scenario with proposed progressive basic allowance.

Proposals and recommendations

1) Proposal to the Ministry of Finance of Latvia: to develop a proposal of possible PIT rate progressive system, as it can be more effective than making basic allowance progressive in terms of revenues from PIT and changes in work incentives under certain conditions.

2) Proposal to Ministry of Welfare of Latvia: to develop a proposal of the reform of means-tested benefits that insured withdrawal of benefits rate in more gradual manner as an individual's income rises, that could result in higher work incentive of low-income earners.

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