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Abstract

The authors conducted a study in 2014 with the objective to identify the impact of national development and socioeconomic factors on the public welfare. 400 respondents were interviewed for this purpose. Riga was selected as the location for the conduct of the study. Despite the experienced economic crisis, the consequences of which are still felt not only in Latvia, but also beyond its borders, the society is very optimistic in general, since 50% of the respondents consider that the economic situation in the country has improved. Unemployment and poverty were mentioned as the most important socioeconomic factors. The fact that the respondents consider that the church has to get involved in the solving of the economic problems was surprising.
The authors will provide more insight into the results of the study in the following paper.

***JEL Code**: I32*

***Keywords**: public welfare, economic situation, social problems.*

Introduction

Contemporary society lives in the high-tech era, and the welfare level determines that the majority of the world population does not have to worry that the socioeconomic factors, such as education, employment, regular income, permanent place of residence could have an impact on the quality of their life.

Public opinion on its welfare is largely related to the level of economic development. Despite the fact that until 2007 the economic development of Latvia was rather rapid (according to the data of CSB, in 2006 the growth of the gross domestic product

(GDP) of Latvia was 11.9%, in 2007 – 10.2%), it was overshadowed by very high inflation (in 2006 – 6.8%, in 2007 – 14.1%) and emigration of the labour force. The financial and administrative crisis of 2008–2010 in Latvia that started in 2008 under the impact of the global financial crisis in 2007–2010 also had an impact on the public opinion and satisfaction of the people with their living standard. During the economic crisis the unemployment in Latvia rose from 5% in January 2008 to 16.6% in December 2010. Unofficial estimates show that the unemployment affected a far larger proportion of the population than it was reflected in the statistics. At the moment, no inflation increase can be observed and economic growth has restarted. However, emigration of the labour force is still a major problem.

Although a relative economic and political stability has been achieved in the country, the mood of the population is affected by the current global political turmoil (annexation of Crimea, warfare in Ukraine and Syria), which has impact on both the economic growth and public welfare. In view of the current situation in the world and Latvia, the authors wanted to find out the public opinion on how they evaluate the situation in the country and their own current situation.

Such phenomena as poverty, economic problems and social problems, which include both low income and access to educational and medical services and cultural measures have a significant impact on the public opinion.

It is no secret that Latvia is the fourth poorest country in the European Union even despite the rapid economic growth. If we wish to understand why there is such a big difference between the rich and the poor countries, then we need to look back at the time when this division into rich and poor countries took place. As history shows, it happened around 1800 when the new economic era was forming. Economic historian Simon Kuznet defined it as the period of modern economic development. Until then the economics did not have great importance, and the increase in the global population was minor – from 230 million at the time of the Christ to 270 million in the year 1000. Until 1800 the number had reached 900 million. Until around 1800 the actual living standards were changing even slower. Based on the historical facts, there were virtually no noticeable changes in the living standard during the first millennium after the Christ. During the following eight hundred years the income per capita increased by around 50%.

The period of economic development experienced both the increase in population and in the income per capita, and took a sharp and unexpected growth turn. Within two centuries, the population grew very rapidly and increased six-fold. As the third century approached, there were 6.1 billion people in the world. There is no end in sight to this progression. The average income per capita was growing even faster – from 1820 to 2000. The income per capita in the United States of America increased almost by 25 times while in the Western Europe it was 15 times. The growth of population and their

income per capita contribute to a fifty-fold increase of economic activity during the last 180 years.

Current gap between the rich and poor countries is the result of modern economic growth. The public opinion on welfare is largely determined by whether they live in the so-called rich or poor countries.

Methodology

The study was based on the quantitative data collection method – surveying. Surveying is one of the research methods, the main purpose of which is to allow the respondent to fill out a questionnaire or a survey sheet that is understandable to him/her on his/her own. The questions contain the research problem at the empirical level. Surveying allows for statistical processing of the data. Contrary to the statistical data collection, the surveying provides subjective opinion and impressions of the surveyed experts rather than objective facts. During the survey a representative part of the whole target audience of the organization is asked questions in order to identify their level of satisfaction. Surveying can vary depending on the research objectives and the available resources. Usually the surveying takes place in the form of questionnaires. The questionnaire usually contains series of questions, which the study subject has to respond to. Most often it is used in situations where the sample is large in numbers and where the respondents have the *anonymity guarantee*. The questionnaire employs closed-ended questions provided with all possible responses.

Population of Riga city was identified as the target group of the study. The available (convenience) sample was used to form the study sample. The samples are used in cases where a lot of different people are conveniently available to be involved in the study, for example, student groups, parish, social services, etc. This allows for obtaining the data that demonstrate certain trends, and sampling error cannot be determined for such a sample. The sample size was based on the experience of the Gallup Institute where a sample of 1500–2000 people is used. Accordingly, the size of the local study could vary from 400–600 people.

The objective of the study was to determine how the national development and the socioeconomic factors affect the public welfare. A study involving 400 respondents was conducted in 2014 for the purpose of achieving that objective. The study was conducted in Riga.

Public Opinion on the Economic Situation in the Country

The authors wanted to find out through their study how the national development affects the opinion of the people on their welfare. It was based on different socioeconomic

factors. During the research the authors asked the respondents how they evaluated the current economic situation in the country, and whether they were concerned about the economic situation in the country. These questions were asked to understand the mood that prevails in the society in regard to the economic development of the country. Economic development is one of the indicators that allows for forming a judgement on whether the country is rich or poor.

This is an eternal question – what do people understand by welfare and what it means to them. Essentially, it is all that people dream of, and obtaining of that conforms to some of their needs or claims, thus causing satisfaction. Those are the things that are hard to come by and that cannot be obtained by anyone who desires them. Those are the values that everyone aspires to but they are limited in stocks. The most important of those are material welfare, power and prestige.

When asked, "How do you currently rate the economic situation in the country?", 50% of respondents replied that, in their opinion, it has improved; 37% considered that it has remained the same and only 13% said that it had declined (see Figure 1).

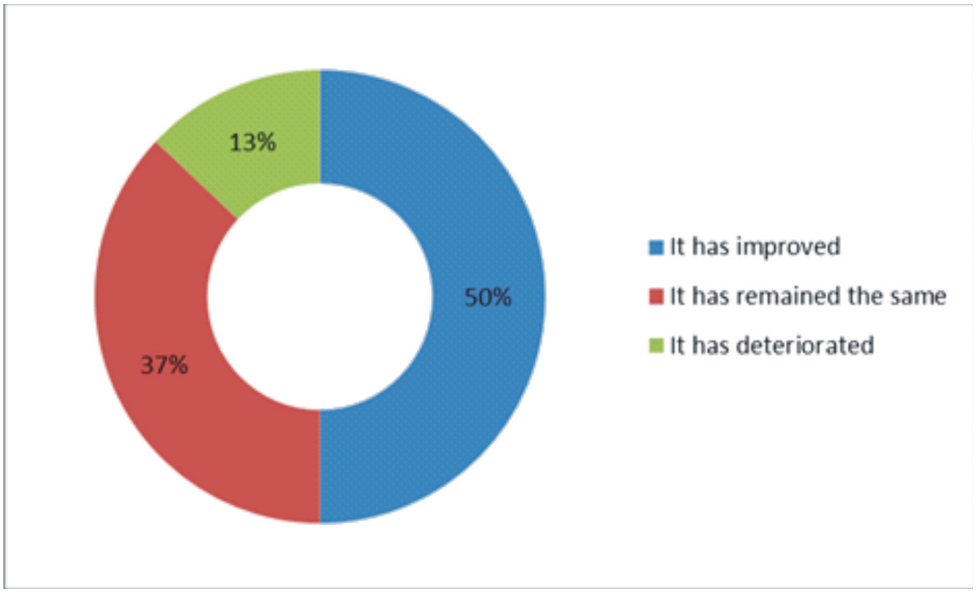

Figure 1. How do you currently rate the economic situation in the country?

Taking into account that the Latvian economy has not suffered any major turmoil since 2008, these results can be rated as good, and they give certain hope that the general welfare level of the society has increased or at least remained at the same level.

Although 50% of the respondents were of the opinion that the economic situation in the country has improved, yet 83% of the respondents still had marked that they are concerned with the economic situation in the country. Perhaps, it is the consequence of the recent economic crisis, and the people have not yet regained their previous income level and sense of safety in regard to the future.

Unemployment

The most significant problems in the Latvian labour market are emigration of the labour force abroad and high unemployment (in 2014 the number of registered unemployed persons in Latvia reached 9.8%). Various economic studies that have strong impact on the labour market are constantly conducted in the country. They study the labour force demand and supply, development of long-term labour market forecasting system and ensuring it with adequate information; quality and availability of educational programs and their conformity to the labour market trends; geographic mobility of the labour force; problems of balanced development of regional labour market; gender equality aspects in the labour market; establishment of optimal tax, benefit and salary system that would encourage employment; social exclusion aspects in the labour market; working conditions and risks, as well as unregistered employment.

The labour market and ensuring of its balance are the key contemporary economic problems. Therefore the importance of the labour market is not reduced because the labour and economic relations have a significant impact on the growth of national economy.

As regards the social problems, the respondents were asked to provide their opinion on the social problems that they have observed. And the respondents gave the following answers: 29% noted unemployment, 22% addictions, 19% poverty, 14% environmental unavailability and 12% ethnic prejudice. The authors were not surprised that the majority of the respondents mentioned unemployment as one of the most alarming social problems. Unemployment, especially long-term unemployment, brings along other social problems, such as becoming poor, giving in to addictions or aggravation of addictions, as well as decreased cultural, racial and national tolerance.

The authors also wanted to find out, which of these social problems pose a threat to the respondents in their opinion. The results are displayed in Figure 2.

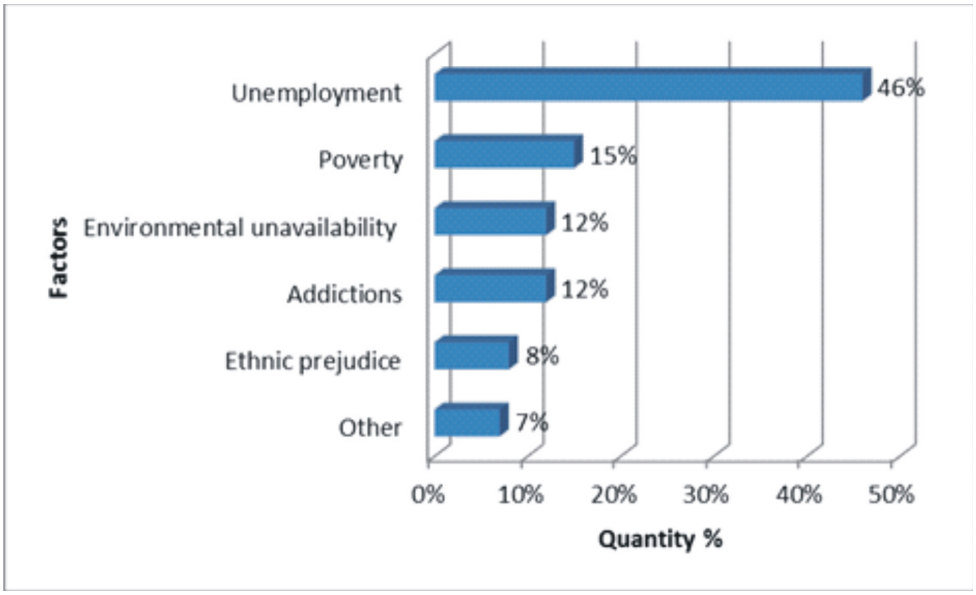

Figure 2. In your opinion, what social problems pose a threat to you in particular?

Figure 2 is indicative of the fact that the majority of the respondents have mentioned unemployment in particular. Today having a job means certain stability, welfare and a sense of security to people. Therefore it is not surprising that the majority of the respondents are concerned about it. Although unemployment can deteriorate the living standard of a person, only 15% of the respondents have mentioned that they are threatened by poverty. Perhaps, it can be explained by the fact that they rely on their family. And here the opinions should be divided into two groups – those who can and do rely on their family and those who do not have such possibility. If a person has a family, then unemployment does not mean that the living standard of this person will deteriorate, because the family will take care of him.

Employment is one of the most important indicators of the development of national economy. Therefore the employment policy is an integral part of both the national and regional social and economic policy. An efficient policy for reducing the unemployment is an important precondition for achieving a high level of employment. Therefore the respondents were asked, "What, in their opinion, hinders people from finding a better job?"

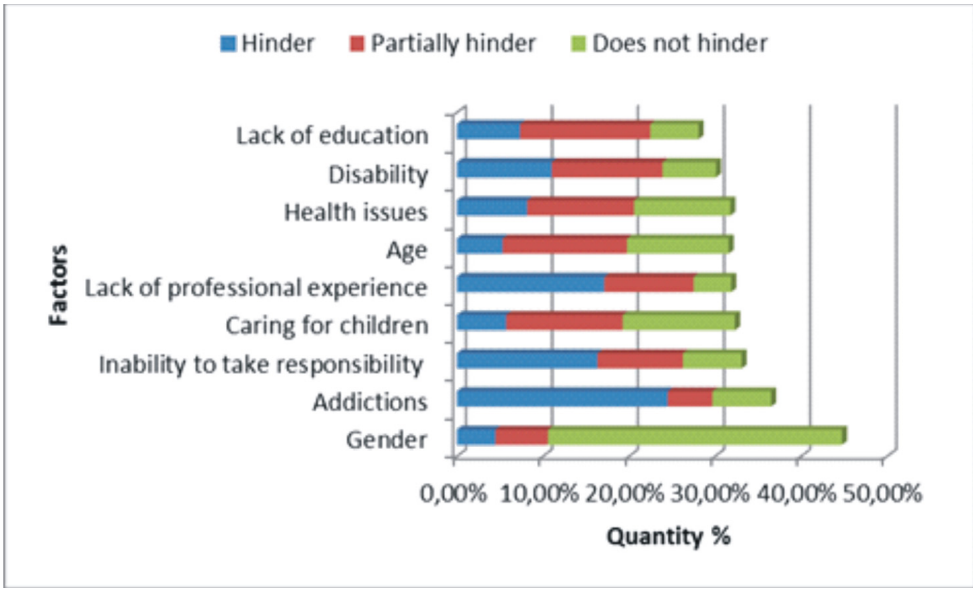

Figure 3. In your opinion, what hinders people from finding a job?

The majority of respondents noted that the main reason is addictions, followed by lack of professional experience and inability to take responsibility. Although there is a predominant public opinion that gender affects job search, the survey demonstrated that gender does not determine the failure to find a job. The authors of the study consider that in order to reduce the impact of the lack of professional experience on job prospects, practical training oriented towards educational development should be encouraged. Also young people, who lack the professional experience the most, should be more actively informed of the possibilities to get involved in volunteer work programs already at school. They should seek and use opportunities of practical training. Although such jobs are not always well-paid, they provide an opportunity to gain the first professional experience that is so crucial for the future.

Addiction issues are inherent to all societies and all generations. A complex approach is required that educates the students, parents and society on addictions to ensure that maximum number of people would have the necessary information of what addiction is and what types of addiction are there, what damage they may cause not only to the addict in particular but also to the rest of population.

Unemployment is one of the central poverty risks. 40% of all unemployed residents are at the risk of poverty, but those who have a job are not necessarily protected from poverty – around 8% of all employed persons can be considered poor, because their income is below poverty level.

Unemployment is a social problem, complete elimination of which is nearly impossible, but it can be reduced. It requires both commitment of national policy makers and involvement of society.

Poverty

Nowadays scientists view poverty under many different aspects, evaluating its economic, cultural, psychological and social dimension.

In many developed countries poverty is considered to be a very serious national problem. Poverty is a concept related to socially disadvantaged conditions, under which people are forced to live.

Europe and the Member States of the European Union have adopted the following definition of poverty: individuals, families and groups are considered poor if they possess little (material, cultural and social) means, if they are excluded from a certain lifestyle, which is considered to be a minimum in the country of their residence.

The study revealed the respondents' opinion on poverty. And the majority or 31% of respondents said that in their opinion poverty is the inability to meet one's needs, 27% indicated that it is a lack of material means, 23% mentioned lack of money, 11% – inability to support family, 5% – inability to pay for utilities. Poverty is mostly related to the lack of means and relative deprivation of the individual or the social group. The majority of the people do not live in absolute poverty, but from the perspective of the average national living standard it can be argued that a large proportion of population can define themselves as poor. The study shows that 93% of the respondents consider that poverty is a wide-spread phenomenon in Latvia.

The year 2010 has been declared in Europe as the year of reducing poverty and social exclusion. Under the impact of crisis, Latvia has declared that it will not participate in many activities. However, it does not improve the alarming situation in the Latvian society where almost one third of population lives in poverty or is at the risk of poverty. What are the main causes of poverty and why can we argue that such a large proportion of population is at risk of poverty? In their study, the authors found out that the most crucial factor determining such large proportion of population is unwillingness to work and economic situation, see Figure 4.

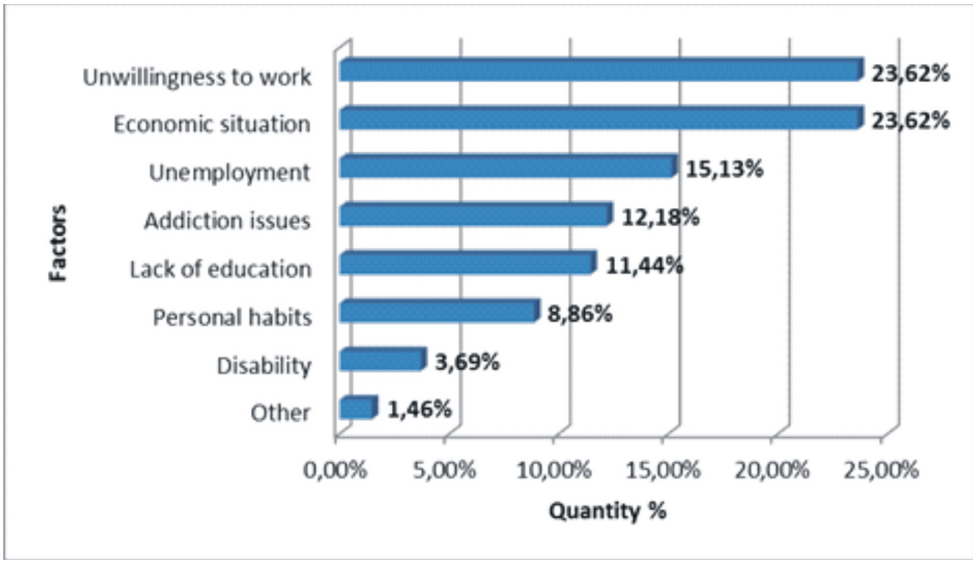

Figure 4. In your opinion, what are the main causes of poverty?

In Latvia the poverty problem is largely related to the level of economic development. Therefore it is not surprising that the economic situation is also mentioned as one of the most significant causes of poverty.

The respondents were asked what level of income defines wealth, prosperity, subsistence level and poverty, see Figure 5.

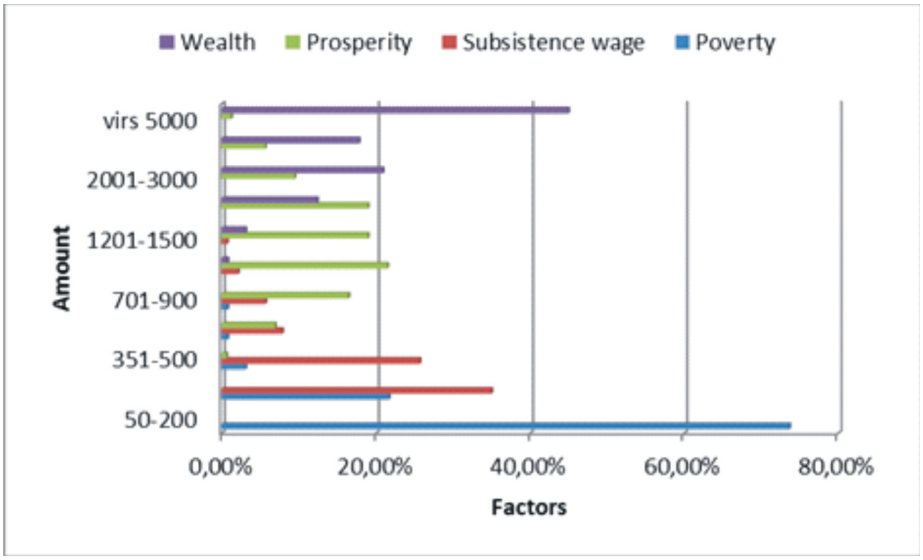

Figure 5. In your opinion, what monthly income in EUR defines wealth, prosperity, subsistence level and poverty?

The results show that poverty is considered when the income does not exceed the growth of national economy; such answer was given by nearly 80% of respondents. The subsistence level varies from EUR 350–500. The respondents admitted that the most typical features of poverty are alienation of population from the state, followed by corruption, infrastructure that does not meet the needs, arbitrariness of the public bureaucracy and inability to obtain quality education, as well as insufficient availability of material resources.

Solving the Socioeconomic Problems

Having the public welfare and what defines a person's opinion on his/her own welfare in mind, the authors of the study asked the respondents, who, in their opinion, should assume responsibility for the reduction of the number of poor people and solving of economic and social problems.

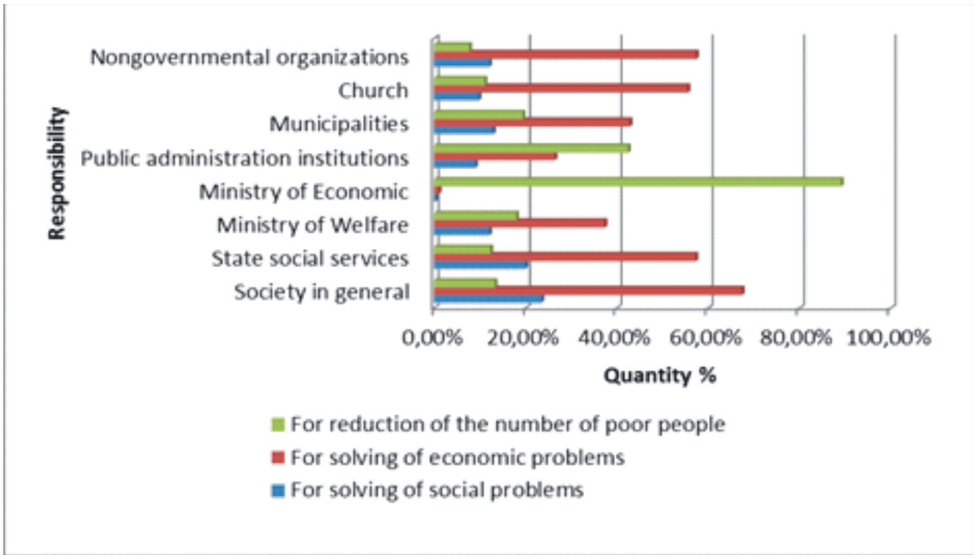

Figure 6. In your opinion, who in Latvia should assume the main responsibility for the reduction of the number of poor people, solving of economic and social problems?

It follows from Figure 6 that the majority of the respondents consider that settling of these issues should be handed over to the public administration institutions (governmental institutions, the Ministry of Economics, the Ministry of Welfare, social services). The authors of the study were surprised that nearly 69% of respondents noted that the church should solve economic problems. Perhaps, it is related to the great trust that people have in church and disappointment with the work of the public

administration institutions and alienation from the state. Perhaps, this results from the continued promises of the government to do their best in order to improve the public welfare. This alienation from the state and the Latvian politicians in particular was demonstrated in the study conducted by the authors where they asked whether the respondents trust the Latvian politicians. The dominant majority of 92% responded that they do not trust and only 8% trusted them. It has to be considered that the government possibly lacks the funds to invest in adequate infrastructure. Despite that the governments are the key players when it comes to investment in public benefits and services, such as health care, streets, electricity, education, etc. If there is lack of funds, it may be determined by the fact that first, the population is so poor that no taxes can be obtained from them; second, the government is so incompetent, incapable or corrupt (is it the case of Latvia???); third, the government has to manage such a large loan from the previous years that the tax income leaves nothing behind for investment purposes. The previously accumulated debts destroy the vision of future growth. Due to such circumstances, tax relief is probably the only option to get out of the vicious circle and fiscal crisis.

Also the survey aspired to find out the opinion of whether the society can affect the national policy making. 30% of respondents thought that national policy making can be affected by getting involved in a social movement, 28% – by participating in elections, 17% – by joining political parties, 8% – by holding demonstrations and strikes and 2% – by not participating in elections. Only 15% considered that there is no way to affect the national policy making. Despite the fact that 15% is a considerable quantity, the opinion that the society can have at least some impact predominates. This is proved by the continuous protests of the teachers and ever increasing involvement of young people in the work of political parties and by standing for elections.

However, if we return to welfare and the socioeconomic factors that affect the public welfare, then we have to continue the discussion on the growth of national economy. Economic growth requires the governance that sets development as a goal. It has to settle many tasks. It has to manage and finance the previous infrastructural projects that have to be made available to the whole population, not just a selected part of it. The same applies to social services. The government has to achieve the conditions that would appeal to the private investors so that they could be certain that the implementation of economic activities they have initiated and retaining of the future income will be possible. The government has to restrict its craving for bribes and side income. What follows next is the obligation to ensure internal peace and security so that no one would have to be afraid. It should develop legal provisions determining the property rights and impartially follow the receiving of procurement orders. Finally, it should take care of defending the national territory against potential invaders.

If the government is not doing its best in one of the tasks, then it is certain that economy will suffer as well. In some cases it might even lead to crisis. In extreme cases where the governments are unable to fulfil even their basic duties, the talks on "state failure" may even lead to wars, revolutions, putsches, anarchy and similar issues.

Very often the state failure not only causes economic disasters, but also signifies their last stage. The state failure and economic disruption may mutually lead to a downward spiral of instability.

Conclusions

1) The authors chose to use survey method for the conduct of the study. 400 residents of Riga aged 18 to 62 years took part in the survey.
2) The public opinion on its welfare is largely related to the level of economic development.
3) Although a relative economic and political stability has been achieved in the country, the mood of the population is affected by the current global political turmoil (annexation of Crimea, warfare in Ukraine and Syria), which has its impact on both the economic growth and public welfare.
4) The labour market and ensuring of its balance is one of the contemporary economic problems. The importance of the labour market is not reduced because the labour and economic relations have a significant impact on the growth of national economy.
5) Unemployment was mentioned as one of the most important social problems.
6) Employment is one of the most important indicators of national economy development; therefore the employment policy is an integral part of both the national and regional social and economic policy.
7) Following the experienced economic crisis, and despite the global political and economic turmoil of 2014, 50% of respondents consider that the economic situation in the country has improved.
8) 93% of the respondents consider that poverty is a wide-spread phenomenon in Latvia.
9) Economic growth requires the governance that sets development as a goal.

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PROVISION OF ADULT LEARNING NEEDS TO START ENTREPRENEURSHIP

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Abstract

At the beginning of the 21st century when knowledge society is actively being formed in Latvia, the main resource and pre-condition for development of every organization and enterprise is acquiring and applying knowledge and self-experience. Skills as a human ability determine innovative development of each enterprise and organization, as well as its success and future prospects. Today learning has become significant for society as a whole. Adults' awareness of the latter is very characteristic in Latvia. People understand that entrepreneurship development is particularly significant for the growth of society, and it is facilitated not only by initiatives, but also by knowledge and experience.

Aim: To examine the learning needs of nascent entrepreneurs, and to determine entrepreneurs' growth according to the elaborated criteria and indicators.

Methods: Analysis of scientific literature, content-analysis, modelling, surveys of 209 young entrepreneurs, observing cooperation during learning, visualisation of results, applying methods of non-parametric statistics.

Results: The author states that, in the process of adult learning, it is of vital importance to reach the point at which people learn how to study and achieve results, if they have set the goal and tasks for themselves. The research proved that the essence of life activity is continuity of processes related to satisfying the needs where changes take place if the unity of society's goal and satisfying the needs of every person is created. In the learning process, the respondents' employment status has changed from an employee to an employer. Changes in the status were indicative of the positive impact of satisfied educational and learning needs on a person's growth.

JEL code: *A290*

Keywords: *nascent entrepreneurs, learning needs, adult learning, entrepreneurship, cooperation.*

Introduction

In the course of 20 years after regaining the independence of Latvia, the country's economics, politics, education, culture and society have changed. People got the opportunity to realize themselves, satisfy self-improvement needs, enrich their experience and play an important role for the closest social group and the state. Professional and particularly emotional and intellectual values of each person became socially significant because, in the process of building knowledge society, the acquisition and application of knowledge and self-experience is the main resource and pre-condition for the development of every organization and enterprise. Skills as a human ability determine innovative development of each enterprise and organization, its success and future perspectives. It is particularly significant for those who start entrepreneurship, because business development is a very important factor in facilitating the social growth in Latvia. Thus nowadays, learning becomes a social objective for the whole society, and it is acknowledged by adults, who have found that learning and self-improvement, by using available technologies or obtaining new knowledge has become more and more significant. Issues of how to create learning opportunity and develop human potential and abilities of every particular member of society and the society as a whole represent an important social-pedagogic problem.

Methodology

The module learning programme "Support for Starting Self-Employment and Entrepreneurship" (Mortgage and Land Bank of Latvia, 2011) for nascent entrepreneurs was chosen as a base for research. It was a course, the participants of which had decided to change their occupation and start entrepreneurship. In order to implement it, they had applied for the Start-up Programme of the Mortgage and Land Bank of Latvia and were getting ready to start business after the studies. The research comprised 1717 participants of the Programme and 209 of them were subjected to analysis of learning efficiency and changes in self-experience according to the criteria elaborated by the author. Non-parametric statistical methods –Wilcoxon Signed Ranks Test and the matrix of Spearman's correlation coefficient indicators were used to process the obtained data.

Identifying Educational Needs and the Results of Learning

Under changing economic circumstances new social needs emerge and people's desire for safety and independence increases. It is also expressed by interest in business start-ups. However, most of people, who want to start business and apply for the Start-up Programme, haven't obtained a special education. Already in the 19th century, a classic

of the pedagogy, Johann Heinrich Pestalozzi acknowledged that there is a certain power hidden in a human being and the task of schooling is to develop and educate that power. There is, in fact, only one way to satisfy the needs of all people – to provide development and education to each and everyone (Pestalozzi, 1996).

Those who have started entrepreneurship face new needs related to professional activities, which have turned participation in the learning process into an objective necessity. Taking into consideration the fact that business starters can satisfy their needs for new values and improve self-experience during learning, it is necessary to clarify the learning needs with a special focus on the learning purport in the process of learning. One way is to define that "self-experience is knowledge, skills and attitudes that have been obtained and evaluated through the life activity and which have become personally significant values" (Špona, 2006: 161). Psychologist Aleksey Leontiev has elaborated the activity theory where he discloses a need as internal necessity and a drive for activity. It determines relations between the activity goals and motives as activity components characterizing the purport (Леонтьев, 1997: 82–83).

It means that learning is essential for a person as an activity, if it possesses an acknowledged goal and goal attainment is driven by a need as a motif. Person's internal conflict between the existing self-experience and new needs provides the source for advancing new self–experience (Gardner, 1999: 292). The task of the tutor is to help a person to discover the above-mentioned internal conflict, acknowledge it and support everyone in the course of resolving it. Nowadays analysing, evaluating, experimenting, risking and reducing risk with the help of new knowledge is a routine needed in every work place. Efforts to form the learning society are grounded on the above-mentioned need. Philosopher Alexander Volkov admits that knowledge is the main source of information for a human being. Therefore, a constant need and thirst for knowledge accompanies people throughout their lives (Volkov, 1998:18).

To ensure that the business starters can advance their values and self-experience through learning, the following pre-conditions need to be implemented:

- The learning content needed to form new self-experience is directly connected with the former self-experience, which, in its turn, is being formed in the process of deliberate self-education.
- Procedurally, experience acquisition is an autonomous self-performance of an individual. Direct intervention into the above-mentioned process is impossible. The formation of experience is connected to active confrontation of an individual with the world, as well as to person's permanent activity and responsibility for the learning process.
- Process of experience formation can be interpreted as a person's activity. Belief in the fact that entrepreneurs would be able to include already ready solutions into their self-experience would be misleading, because in such a

way they would be deprived of a part of self-education process, emotional experience – the joy of learning and awareness of achievements.

- Changing relations between a human being and the surrounding world, as well as an activity connected to nous become a core of learning. The learning purport occupies a special place in the learning process. It means that goals and motives of learning are conscious.

Given that the goal of the Start-up Programme was to expand activities related to national economy by developing knowledge and skills of business starters, as well as to provide the necessary financial support for starting economic activities, first of all, the learning content needs of all the participants, who had applied to courses, were clarified. Before the project started, the participants were offered to join one of the learning modules; their self-evaluation indicators, wishes and education level were taken into consideration. The goal of the project was not to teach new businessmen just for the sake of teaching, but to offer them to advance their incomplete knowledge and obtain new experience by clarifying their actual learning needs.

During the research period, 1717 people from all regions of Latvia had applied for the courses. In Riga, 1253 (73%) nascent entrepreneurs were willing to learn, in Zemgale – 189 (11%), in Vidzeme – 111 (6%), in Latgale – 95 (6%), but in Kurzeme – 69 (4%). One fourth of the nascent entrepreneurs needed to acquire basic knowledge in business. The majority of those who already had basic knowledge wanted to acquire advanced knowledge in accountancy and calculation of taxes, as well as in financial management (see Figure 1).

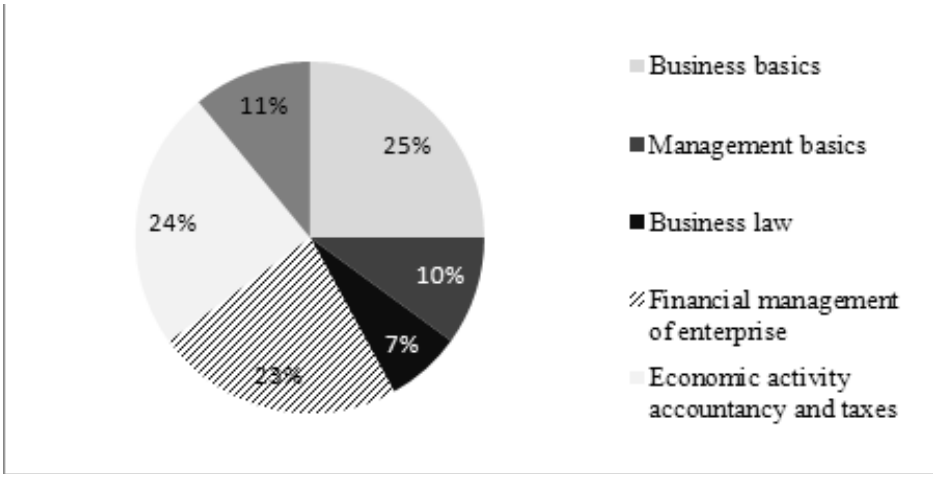

Figure 1. Number of trainees per module

In order to provide an effective learning process, pedagogues, who worked with adults, used the natural learning principles. They admitted that complying with the latter provided significant help in improving cooperation and quality of learning. Representatives of the natural learning approach Renate and Geoffrey Caine consider the following: if the text learning is balanced with principles of natural learning, it does not cause difficulties. In addition, they expand comprehension of the text form and explain it as "information" (Caine & Caine, 2005). It is not important how many and what kind of methods are being used in the education process and learning. However, their diverse influence on feelings is important; what thinking processes they actuate; and how essential an interaction between a student and the tutor is. It is characteristic that the participants of the course evaluated the latter by marking tutor's responsiveness and support as the most significant factors of cooperation (see Figure 2).

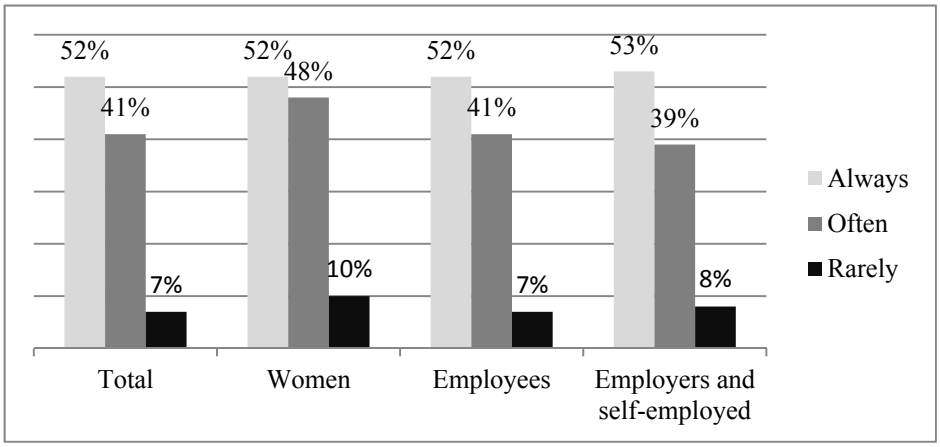

Figure 2. Tutors' responsiveness facilitated cooperation

Replying to the above-mentioned question, 52% of respondents from the course answered "always", 41% – "often", but 7% – "rarely". Špona emphasizes that human, respect-based mutual relations and cooperation is the golden basis that facilitates the strengthening of values for children, youngsters, the whole nation and the society (Špona, 2006: 58).

Responsiveness of tutors received the highest evaluation in regions – 62%. It should be marked that also employees (52%), employers and self-employed (53%) have similarly evaluated the above-mentioned factor of the learning process. In order to provide equal and active cooperation in learning, the tutors' responsiveness and support are the most significant factors to improve the learning skills. Cooperation while choosing and applying the learning methods plays a special role in the learning process. Learners evaluate not only the most significant learning methods for them personally, but also point out what is their priority out of the following: group,

monologic or practical learning method. It bespeaks that learners develop free consciousness and sense of safety during learning.

At the beginning of the studies and in accordance with participants' self-assessment, group work methods were ranked the 1st (45%), practical methods – the 2nd (39%), but monologic methods – the 3rd (16%) (see Figure 3).

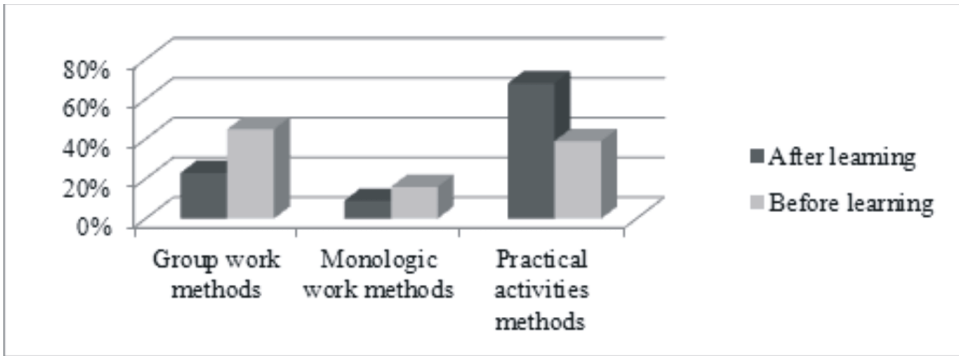

Figure 3. Participation in choosing the learning methods

Throughout the year, assessing the above-mentioned groups of methods, self-evaluation of trainees has significantly changed due to obtained self-experience. Trainees rank practical work methods the 1st (68%), group work methods – the 2nd (23%), but the monologic ones – the 3rd (9%). It means that by using the practical work methods, the application of knowledge was practised and skills, which would be used in professional business, were obtained. The contemporary society requires analysis, reflection and evaluation of the accomplishments in order to ground the future ideas on objectively reasoned approach. It can reduce risk of making mistakes in the real life activity and allow building life more stable.

Within the framework of the research, the author analysed whether the studies complied with the needs of nascent entrepreneurs; whether there were changes in self-experience during the learning process; what kind of changes took place, if any; and whether the needs of the life activity have been satisfied during the learning process.

Based on theoretical knowledge, the author has elaborated the criteria and indicators to test learning efficiency of nascent entrepreneurs experimentally. The following criteria are indicative of entrepreneurs' development during learning: **"a need for new information"**, **"self-improvement skills during the learning"** and **"emotional experience during learning".**

Criterion **"a need for new information"** has three indicators:

1) interest about self-cognition;
2) following innovations in the professional activity;
3) need for communication with social groups.

Criterion "self-improvement skills in the process of learning" has three indicators:

1) goal awareness;
2) participation in choosing/ applying the learning methods;
3) tracing perspectives of life activity.

Criterion "emotional experience in the process of learning" possesses two indicators:

1) emotional experience in the learning process;
2) emotional experience related to learning achievements.

All the indicators are being elaborated at three levels: A, B, C.

Changing relations between a human being and the surrounding world, as well as an activity connected to nous become a core of learning. The learning purport occupies a special place in the learning process. It means that the learning goals and motives are conscious. During the research, the author has also elaborated and used in adult education the criterion **"application of the learning skills"** that has three indicators: 1) listening skills; 2) reading skills; and 3) speaking skills.

In the learning process, contemporary society faces a growing need to develop person's skills of independent reasoning; to teach the sense of responsibility; to develop skills of how to anticipate changes, adjust to them and evolve them. Therefore, creative thinking, imagination, skills, creative and diverse activity of a human being become pre-conditions for life activity, because "the primary self-experience and the secondary one do not exist simultaneously" (Krow, 1999). As the German scientist Martin Giese indicates "new (secondary) self-experience does not exist alongside with prior (primary) self-experience, but in interaction with the latter. (Giese, 2010: 87).The author has elaborated the evaluation criterion **"convergence of the primary and secondary self-experiences"**. Its content is revealed by the following indicators:

- actualization of the primary self-experience;
- evaluation of the secondary self-experience;
- transfer of competence of the secondary self-experience.

Consequently, the essence of life activities is a continuous process of satisfying needs; and changes take place when the unity of society's goal and process of satisfying needs of each individual is being formed. Process of acquiring experience can be interpreted as a person's own activity. The formation of experience, in its turn, is an individual's active confrontation with the world, and it is connected with independent activity and responsibility for learning.

In order to test the learning effectiveness of nascent entrepreneurs according to the elaborated criteria and indicators, the trainees' answers before and after the learning were evaluated. To ensure the reliability of the results obtained during the research, mathematical methods of statistics were applied. Hence, in this particular case, the same group of trainees ($n = 209$) underwent repeat testing; the data obtained during

the survey were processed applying non-parametric statistics methods – Wilcoxon Signed Ranks Test and matrix of Spearman's correlation coefficient indicators.

The results obtained in data processing show that self-experience indicators of the majority of trainees had statistically significant improvements, i.e. improved significantly and differed if compared to the ones recorded before learning (see Figure 4).

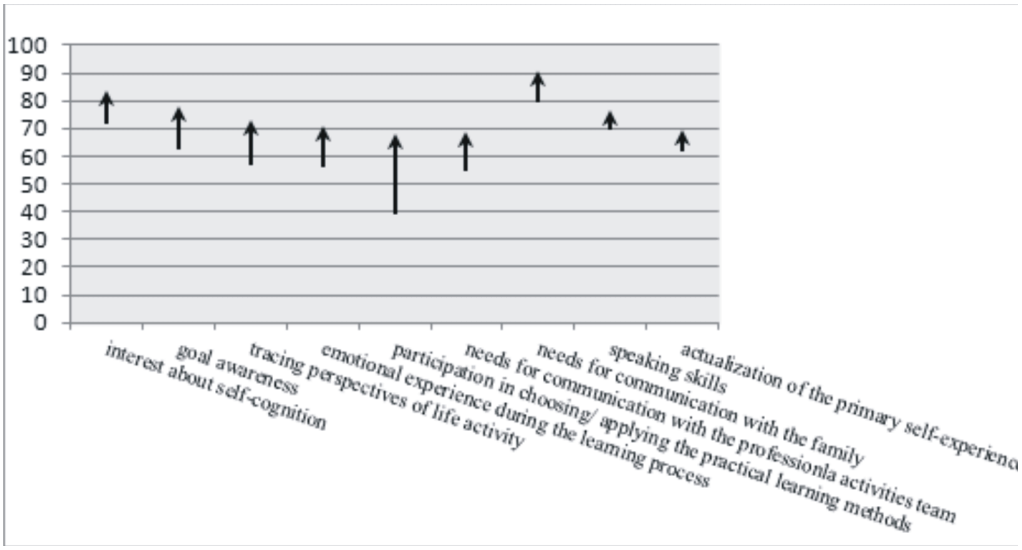

Figure 4. Changes in self-experience indicators
(% before and after learning)

At the same time, no statistically significant differences in the following self-experience indicators were recorded: following innovations in the professional activity; a need for communication with social groups (group of individual interests); emotional experience related to achievements of learning; listening skills; and reading skills.

In general, the research results demonstrate the following most important components in productive learning process: goal awareness, knowledge application and acquisition of self-evaluation skills.

Changes in the legal status of employees and employers demonstrate an objective result of learning (see Figure 5).

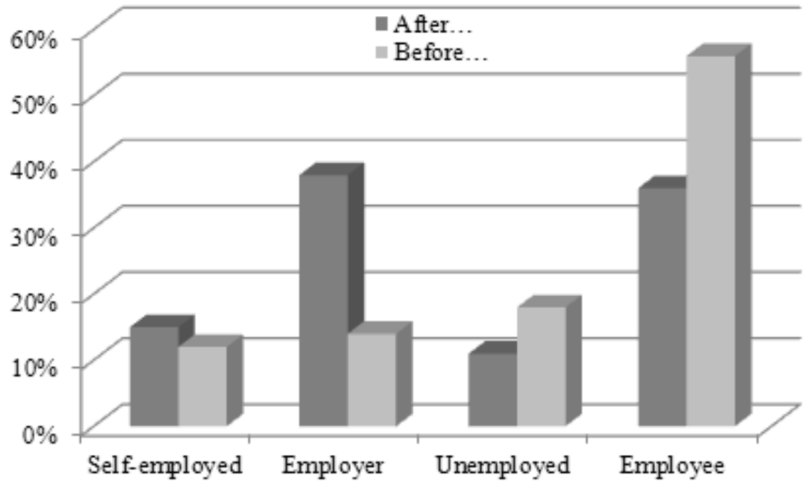

Figure 5. Labour relations

In the process of learning an indicator of respondents' status of labour relations changed. The number of self-employed persons increased from 12% to 15%, while the number of employers increased from 14% to 38%.Status change for the above-mentioned persons proves the positive impact of the learning process on human growth.

Conclusions

1) During the research, it was clarified that organization of the educational process for nascent entrepreneurs depends on the following factors: participants, who are involved in the process; conscious choice of the goal; and desire to cooperate in acquiring the learning content. If an adult has joined the studies voluntarily with an aim to obtain new knowledge and improve self-experience, it is easier for a pedagogue to provoke him/ her to use self-experience to form new knowledge and secondary experience. Trainees were provided with the programmes of learning modules necessary for business start-up that foresaw application of active learning forms. When working with adults, lecturers create the structure of class activity that complies with the stages of cooperation arrangements – psychological preparation, including goal setting; practical preparation, which includes an agreement on educational tools for acquiring the content and achieving the goal; realization of an activity, including content acquisition, evaluation of the activity's process and results, as well as self-evaluation. 99% of trainees affirmed that they have achieved the set learning goal.

2) During the research the author discovered that throughout the year all the trainees had developed skills to evaluate newly obtained knowledge, comprehension and skills to learn, as well as changed their attitude towards learning noticeably. It has provided trainees with a possibility to compare experience and find out what was it like before learning and what is it like upon graduating the course.
3) Objective result of learning can be observed in changes in labour relations of employees and employers. In the process of learning, the legal status of respondents' labour relations has changed.
4) Analysis of theoretical and methodological literature and empirical research proves that an innovative feature of the adult education process is cooperation between a pedagogue and participants of the learning process. It was stated that in the work with adults a role reversal between a student and the pedagogue is crucial. It provides growth and improvement opportunities for both. Trainees can learn how to study and achieve results through interactive work because they have set tasks and see the goal. Purposeful cooperation is grounded on a democratic performance style and the tools and methods of humanistic pedagogy used by the lecturer, which provides self-realization of the course participants. Cooperation is expressed by independent choice of what, in which way and how much a trainee learns to acquire a personally significant content.

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REGIONAL PATTERNS OF TRADE INTENSITY IN AGRIFOOD TRADE OF THE BALTIC STATES

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Abstract

The foreign trade in processed foods and agricultural commodities between the Baltic States has been continuously growing. Bilateral trade flows between Latvia, Lithuania and Estonia make up a large share in total agrifood trade of these countries. The research is aimed at comparing regional patterns of the trade intensity of these countries in processed foods and agricultural commodities by calculating and analysing the symmetric trade intensity indexes for all trading partners of the Baltic States. The research analysis shows certain similarities between Latvia, Lithuania and Estonia with respect to significant differences in trade intensity with countries in four major trading blocks.

***JEL code**: F15*

***Keywords**: foreign trade, food and agriculture, Baltic States, trade intensity index*

Introduction

The foreign trade in processed foods and agricultural commodities of the Baltic States bears certain similarities as the countries are located in the same region and, historically, they have had common trading partners. Moreover, all three countries simultaneously joined the EU. However, certain differences exist in the trading patterns depending upon the structure and size of agricultural production and food processing, trade infrastructure and accessibility of markets. Evaluation of the regional patterns of the trade intensity would enable the assessment of the existing trade flows against their expected development suggested by calculated trade intensity indices. The objective of the study is to compare the regional patterns of the trade intensity of the Baltic States in processed foods and agricultural commodities by calculating and analysing the symmetric trade intensity indexes for all trading partners of the Baltic States.

Methodology

Geographic distribution and scope of bilateral trade between countries or regions can be analyzed by calculating various indices. The most simple indicator of the international bilateral trade intensity can be expressed as a trade share, which represents a relative importance of a given partner country in country's total trade. The share of trade can be calculated either for total trade and all countries or for trade within particular sector and limited set of countries (trade blocks or regions). The main limitation of the share of trade is its dependence on the market size. Based upon trade shares, the trade intensity index (TI) was introduced by Brown (1949) and further developed by Kojima (1964). The trade intensity index partly reflects the market size. If there is no trade between two countries, trade intensity has zero value. If total trade of the partner country approaches zero, trade intensity approaches infinity. If trade intensity takes value of 1, share of trade between two countries is the same as partner country's share in total world trade, indicating "unbiased" trade. Trade intensity values above or below one indicate more or less intensive trade as might have been expected. Usually a symmetric (normalized) trade intensity index is used. In this case, zero value of symmetric index means "unbiased" trade or neutrality. The index takes value –1 when there is no bilateral trade between the countries. Negative or positive values indicate lesser or greater importance of the partner country. Symmetric trade intensity indexes have been used in numerous studies of foreign trade. In research, mostly they have been used over a consecutive time period comprising several years and limited number of countries or regions. De Castro (2012) analyzes the evolution of trade intensity among BRIC countries from 1995 to 2009. Kim (2013) analyzes the changes of South Korea's trade intensity with her major trading countries in a number of industries from 2005 to 2009. The share of trade between two countries is calculated by formula:

$$S_{ij} = \frac{T_{ij}}{T_{iw}} = \frac{\sum_k x_{ij} + \sum_k m_{ji}}{\sum_k x_{iw} + \sum_k m_{wi}}, \quad (1)$$

where x denotes exports, m denotes imports, i – the source country, j is the partner country, k is the number of products upon the level of aggregation (set of products), w is world (set of countries). Trade intensity index is calculated as the share of trade between two countries divided by a share of partner country's total trade in total world trade:

$$I_{ij} = \frac{\frac{T_{ij}}{T_{iw}}}{\frac{T_{jw}}{T_w}}, \quad (2)$$

where i is the source country, j is the partner country, w is world (set of countries).

The symmetric (normalized) trade intensity index is calculated as:

$$S_{ij} = \frac{I_{ij} - 1}{I_{ij} + 1} \quad (3)$$

Sample Data

The foreign trade data was extracted from the United Nations COMTRADE database according to 2-digit codes of HSO classificator as countries have reported for 2013. The data set comprises import and export values of 146 countries available in the database. The totals for imports and exports do not add up to a zero balance as the data for imports are reported in CIF prices, and data for exports are reported in FOB prices. Data obtained were cross-tabulated to get complete data panels for imports and exports.

Bilateral Trade Flows between the Baltic Countries

All three Baltic States are rather important partners to each other in trade of processed foods and agricultural commodities. The shares of each country's exports to other two countries' total exports are shown in Table 1.

Table 1

Shares of Countries in Value of Total Agrifood Exports, 2013

	Estonia	**Latvia**	**Lithuania**
Estonia	–	15%	11%
Latvia	14%	–	20%
Lithuania	5%	11%	–

Source: research findings, UN Comtrade database

The share of Lithuania in Latvian exports is rather high at 20%. The relatively low share of Estonia in Lithuanian exports at 5% is explicable by a lack of common border and lower importance of smaller Estonian market. The shares of each country's imports from other two countries' in total imports are shown in Table 2.

Table 2

Shares of Countries in Value of Total Agrifood Imports, 2013

	Estonia	**Latvia**	**Lithuania**
Estonia	–	12%	9%
Latvia	11%	–	28%
Lithuania	5%	10%	–

Source: research findings, UN Comtrade database

The share of Lithuania in Latvian imports is rather high at 28%. The relatively low share of Estonia in Lithuanian exports at 5% is explicable by a lack of common border and lower importance of smaller Estonian market.

Trade Intensity of the Baltic States

The total number of 145 trading partners of the Baltic States is broken down into four blocks – old EU Member States (13), new EU Member States (12), CIS countries (9) and other countries (111). The UN Comtrade database does not contain trade information on Portugal and a number of other countries. Even though each Baltic State has its own foreign trade pattern and preferences, they have a number of common trade partners. The calculated trade intensity indexes of all three Baltic States with countries with the highest trade intensity are presented in Table 3.

Table 3

Trade Intensity Indexes of the Baltic States with Positive Values, 2013

	Lithuania	Latvia	Estonia
Belarus	0.68	0.76	0.89
Cambodia	0.02	0.11	0.07
Czech Republic	0.01	0.42	0.38
Denmark	0.56	0.66	0.47
Finland	0.97	0.81	0.80
Georgia	0.26	0.64	0.67
Germany	0.19	0.31	0.41
Hungary	0.27	0.00	0.23
Iceland	0.72	0.09	0.35
Iraq	1.00	0.78	0.72
Kazakhstan	0.78	0.62	0.63
Moldova	0.56	0.65	0.52
Netherlands	0.05	0.26	0.58
Norway	0.60	0.33	0.51
Poland	0.69	0.81	0.84
Russia	0.85	0.86	0.89
Slovakia	0.65	0.22	0.25
Spain	0.15	0.16	0.31
Sweden	0.76	0.71	0.75
Ukraine	0.63	0.35	0.39

Source: research findings, UN Comtrade database

The countries with high trade intensity index values for all three Baltic States are Russia, Finland, Iraq, Poland, Belarus and Sweden. Intensity in trade with Kazakhstan, Moldova, Denmark, Georgia, Norway and Ukraine is high, albeit somewhat lower. Indexes for Iceland, Slovakia, Germany, the Netherlands, the Czech Republic, Spain,

Hungary and Cambodia also are positive for all three Baltic States. The lowest values of the trade intensity index are predominantly for geographically distant countries in Asia, Oceania Pacific, Africa and Americas. High negative index values are also for such European countries as Bosnia and Herzegovina, Slovenia, Croatia, Serbia, Greece and Romania. For other European countries, trade intensity varies between Baltic States.

Regional Patterns of Trade Intensity of the Baltic States

The differences of calculated trade intensity indexes for all trading partners in four trade blocks are tested by non-parametric one-way ANOVA test. For Estonia, a one-way analysis of variance revealed significant differences between the four groups, $F(3,141)=24.48$, $p<0.01$. The means and standard deviations for Estonia are presented in Table 4.

Table 4

Mean Trade Intensity Indexes in Trade Blocks for Estonia, 2013

Blocks	Items	Mean	Standard Deviation
CIS	9	0.337	0.570
Old EU Member States	13	0.153	0.445
New EU Member States	12	0.180	0.571
Other countries	111	-0.633	0.499

Source: research findings, UN Comtrade database

For Latvia, a one-way analysis of variance revealed significant differences between the four groups, $F(3,141)=49.85$, $p<0.01$. The means and standard deviations for Latvia are presented in Table 5**Error! Reference source not found.**.

Table 5

Mean Trade Intensity Indexes in Trade Blocks for Latvia, 2013

Blocks	Items	Mean	Standard Deviation
CIS	9	0.621	0.204
Old EU Member States	13	0.085	0.480
New EU Member States	12	0.289	0.581
Other countries	111	-0.738	0.437

Source: research findings, UN Comtrade database

For Lithuania, a one-way analysis of variance revealed significant differences between the four groups, $F(3,141)=41.09$, $p<0.01$. The means and standard deviations for Lithuania are presented in Table 6.

Table 6

Mean Trade Intensity Indexes in Trade Blocks for Lithuania, 2013

Blocks	Items	Mean	Standard Deviation
CIS	9	0.466	0.381
Old EU Member States	13	0.183	0.469
New EU Member States	12	0.238	0.507
Other countries	111	-0.694	0.447

Source: research findings, UN Comtrade database

The trade intensity with CIS and EU countries for all three Baltic States is high and respective mean trade intensity values are positive. For all three Baltic States, mean trade intensity with CIS is the highest of four blocks. In trade with CIS, Latvia has the highest mean trade intensity at the index value 0.62. Lithuanian and Estonian mean trade intensities are lower with index values 0.47 and 0.34, respectively. In trade with the old EU Member States, Lithuania has the highest mean intensity at the index value 0.18. Estonian and Latvian mean trade intensities are lower with index values 0.15 and 0.09, respectively. In trade with the new EU Member States, Latvia has the highest mean intensity at the index value 0.29. Lithuanian and Estonian mean trade intensities are lower with index values 0.24 and 0.18, respectively. Mean trade intensity with other countries for all three Baltic States is rather low with negative trade intensity index values. In trade with other countries, Estonia has the highest mean intensity at the index value -0.63. Lithuanian and Latvian mean trade intensities are lower with index values -0.69 and -0.74, respectively.

Conclusions

1) With respect to four major trading blocks, mean trade intensity with CIS is the highest for all three countries.
2) In trade with the new EU Member States, for all three Baltic States mean trade intensity values are lower than in trade with CIS.
3) Albeit positive, the respective mean values in trade with the old EU Member States are lower than in trade with the new EU Member States.
4) In trade with other countries, mean trade intensity is rather low with negative trade intensity index values.
5) Latvia has the highest intensity of trade with CIS among the Baltic States.
6) Lithuania has the highest intensity of trade with old EU Member States among the Baltic States.
7) The negative values of trade intensity index with other countries for Estonia are less pronounced among the Baltic States.

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CHARACTERISTICS OF DOMESTIC MERGERS AND ACQUISITIONS IN POLAND, IN THE YEARS 2005–2014

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Abstract

In May 2004, Poland became a member of the European Union. Characteristics of mergers and acquisitions in Poland are presented for the years 2005–2014. Two research hypotheses are formulated: one assuming a correlation between mergers and acquisitions of assets and that of ownership titles; the other – assuming a trend for company mergers and acquisitions to favour entities representing the same sector of economy. Both hypotheses were found to be true based on the results of the research. The correlation strength between the number of mergers and acquisitions was found at 0.9, and the companies actively involved in M&A were found to typically follow the sector affiliation when choosing their M&A targets.

***JEL code**: G3*

***Keywords**: mergers, acquisitions*

Introduction

The aim of this paper is to present an analysis of domestic mergers and acquisitions that took place in Poland in the period from 2005–2014. It is generally known that the economic processes (incl. mergers and acquisitions) typically follow a cyclic pattern. Professional literature provides a number of reasons for cyclic 'waves' of M&A occurrences. Of these, the most important ones include changes in company's operating environment (economic, technological, legal), market underpricing of companies, and changes in financial liquidity. In modern economies with strong sectoral differentiation (services, production, trade), the economic processes in individual sectors may vary considerably, and follow different routes.

The author analyses domestic mergers and acquisitions against other forms of assumed control over companies (such as asset and ownership title takeovers). In addition, a detailed analysis of companies is provided (both the active and the passive actors of the process), by sector of operation (such as production, services and trade).

The following research hypotheses are formulated:

H1: There is a correlation between M&A processes and other forms of control takeover in economic entities in the years 2005–2014.

H2: Active companies tend to merge with or take over companies of the same sector of economy.

The research objective will be met when both hypotheses are found to be true.

Despite the free flow of capital in most of the economies, national legislation may impose detailed rules with respect to mergers and acquisitions of economic entities. Such regulations are typically construed to provide process transparency (e.g. through obligatory disclosure of certain significant parameters of the M&A), as well as protection of ownership holders (through obligatory expert evaluation of M&A plans, including the parity of the planned ownership exchanges) and protection of creditors (by setting up separate management on those assets that are used to secure company's financial commitments). The problems resulting from capital concentration through M&As are addressed in the respective regulations, both on national (Poland) and community level (EU), in particular – the Directive 2005/56/EC of the European Parliament and of the Council on cross-border mergers of limited liability companies, the Code of Commercial Companies, the new Directive 2013/34/EU of the European Parliament and of the Council on the annual financial statements and related reports of certain types of undertakings, the Accounting Act of the Republic of Poland, and the International Financial Reporting Standards. Despite the fact that since 2004 Poland has become the member of the European Union, the merger will be considered from the point of view of Polish regulations. Accession to the European Union provided the Polish companies with easier access to capital.

In professional literature, economic mergers have been approached from the viewpoint of: legislative regulations (regulations on company creation, liquidation and third-party liabilities), accounting (bookkeeping, merger evidencing, reporting), company management and finance (cost-effectiveness of mergers, restructuring and optimizing of the economic activities). While merger operations may take on different forms and be labelled using a variety of terms, the core of the problems associated with various aspects of the process and various disciplines (accounting, finance, management, economics) calls for the need to treat them as a single cohesive process, with logical associations made between all the constituent elements.

In domestic literature, company mergers analysed from the legislative viewpoint come in the form of comments to the legislative acts and other documents regulating the M&A processes, such as the Code of Commercial Companies and the Accounting Act (Witosz & Kidyba, 2013), (Litwińska-Werner, 2005), (Allerhand, 1997), (Kruczalak, 1998), (Remlein, 2008).

Domestic studies of mergers and acquisitions examined, among other things, the financial results of mergers of publicly quoted companies (Perepeczko, 2009), as well as the 'wave-like' qualities of M&As, attesting to the cyclic character of mergers (Janowicz, 2012), (Perepeczko, 2010). The analysis of M&A 'waves' was concluded in 2010 and attempted to determine the reasons for increased or decreased interest in mergers and acquisitions, without any statistical analyses of the available data. Many authors describe the M&A processes from the viewpoint of their value to the owner (Oziębło, 2012), (Czerwonka, 2010) (Czerwonka, 2010), (Rojek, 2011). Based on samples of publicly quoted companies, the authors provide arguments in support of the thesis that M&As provide more benefits for the passive parties (the companies being acquired) than to the active ones (the acquiring companies). In addition, the managerial motives behind company mergers were found to be more pronounced than the purely economic ones. It was reflected in subsequent undervaluation of the acquiring companies in the eyes of investors.

Evaluation of financial standing of merging companies (based on a sample of selected companies) was addressed by Luty (Luty, 2014). In addition, Luty (Luty, 2013) examined the impact of title exchange parity in the process of mergers of economic entities.

The empirical studies of foreign authors are decidedly broader in range, compared to domestic studies in the field. Foreign literature suggests that mergers of economic entities may follow the reasoning of neoclassical or behavioural theories, or the agency theory. This attests to the complexity and multi-dimensionality of M&A processes. Research on merger rationales related to changes in company productivity was conducted, among others, by Maksimovic and Phillips (Maksimovic & Phillips, 2001), Ditmar (Ditmar & Ditmar, 2008), Yang (Yang, 2008), Mitchell, Mulherin (Mitchell & Mulherin, 1996). However, some authors suggest that the merger motives are more related to changes in company's financial liquidity (Harford, 2005), (Elsfeld & Rampini, 2003), (Maksimovic, Phillips, & Yang, 2009). Moreover, the merger activities were found to be more pronounced and frequent in countries with well-developed financial markets (di'Giovanni, 2005). Other studies suggest that, in the case of cross-border mergers, companies with foreign institutional capital were more involved in M&A activities, compared with other companies (Ferreira, Massa, & Matos, 2005). Company mergers are also often linked to periods of prosperity, when market values of companies are relatively high (Gort, 1969), (Rhodes-Kropf, Robinson, & Viswanathan, 2005), (Shleifer & Vishny, 2003), or in the face of low interest rates (Harford, 2005).

Based on the available studies on the rationales behind domestic and cross-border mergers, a significant correlation can be found between the number of mergers and the periods of economic prosperity (Makaew, 2009).

In the light of US studies, the acquiring companies were found to represent above-average financial standing; as opposed to the companies being acquired (the reported productivity of the latter was found well below the average in a given sector (Makaew, 2009). This would suggest the validity of the neoclassical approach to company merger rationales (Harford, 2005). In a domestic study of Polish companies (Luty, 2014), the neoclassical theory of merger determinants was refuted. Similarly, Blunck and Bartholdy (Blunck & Bartholdy, 2009) observed that, while the neoclassical theory related to changes in the economic environment may explain the mergers between privately owned companies, it fails to provide reasons for mergers between publicly quoted companies.

Professional literature, both domestic and foreign, seems to lack proper analyses of the M&A processes against other forms of control transfer. Analyses provided in this study can also be used to test any correlations in the number of merger transactions between individual sectors (production, services, trade, and others). There are also no professional publications to describe the scale of company mergers by sector. Jarosław Bem and Grzegorz Bącal (Bem & Bącal, 2014) provide details on the number of M&A transactions, but without going into in-depth analyses, and focusing only on transactions made in the year 2012.

Methodology

The examination of mergers and acquisitions on Polish market was conducted using the Thomson Reuters Eikon database. For the period under the study (2005–2014), the Thomson Reuters Eikon database yielded 2210 cases of M&A transactions. For the purpose of this study, the M&A processes were divided into the following subsets:

- merger;
- acquisition of assets;
- acquisition of certain assets;
- acquisition of majority assets;
- acquisition of partial interests;
- acquisition of remaining interests;
- buyback;
- exchange offer.

Table 1 presents the number of transactions for each identified subset.

Table 1

The Number of Transactions for Identified Subsets

	Acquisition of Assets	Acquisition of Certain Assets	Acquisition of Majority Assets	Acquisition of Partial Interest	Acquisition of Remaining Interest	buyback/ exchange offer	Merger	Total
2005	23	1	21	11	1	0	18	75
2006	41	0	29	19	4	0	44	137
2007	65	0	52	48	7	1	60	233
2008	60	0	73	89	9	2	80	313
2009	45	1	49	77	13	1	63	249
2010	48	11	104	64	9	5	92	333
2011	56	3	64	54	6	32	60	275
2012	38	1	29	34	11	11	47	171
2013	42	2	34	46	17	2	45	188
2014	28	0	54	88	6	6	54	236
Total	*446*	*19*	*509*	*530*	*83*	*60*	*563*	*2210*

Source: own research

For each M&A subset, companies were identified as either acquirers or target companies (being subject to acquisition). In addition, each company was assigned to a particular sector of economic activities. Based on detailed database records of the sectors represented in the identified sample of companies (both acquirers and targets), the companies were assigned to the following aggregated sectors: services, energy, production, trade, finance, and other. The results of this assignment are presented in Table 2.

Table 2

Assignment to the Aggregated Sectors

No.	Label	Sector	No.	Label	Sector
1	Advertising & Marketing	services	41	IT Consulting & Services	services
2	Aerospace & Defence	other	42	Legal Services	services
3	Agriculture & Livestock	production	43	Machinery	production
4	Alternative Energy Sources	energy	44	Metals & Mining	production
5	Alternative Financial Investments	finance	45	Motion Pictures / Audio Visual	services
6	Apparel Retailing	trade	46	National Agency	other
7	Asset Management	finance	47	Non Residential	production

8	Automobiles & Components	production	48	Oil & Gas	energy
9	Automotive Retailing	trade	49	Other Consumer Products	production
10	Banks	finance	50	Other Energy & Power	energy
11	Biotechnology	production	51	Other Financials	finance
12	Broadcasting	services	52	Other High Technology	production
13	Brokerage	finance	53	Other Industrials	production
14	Building/Construction	production	54	Other Materials	production
15	Cable	production	55	Other Media & Entertainment	services
16	Casinos & Gaming	services	56	Other Real Estate	services
17	Chemicals	production	57	Other Retailing	trade
18	Computers & Electronics Retailing	trade	58	Other Telecom	services
19	Computers & Peripherals	production	59	Paper & Forest Products	production
20	Construction Materials	production	60	Petrochemicals	energy
21	Containers & Packaging	services	61	Pharmaceuticals	production
22	Credit Institutions	finance	62	Pipelines	energy
23	Discount and Department Store Retailing	trade	63	Power	energy
24	Diversified Financials	finance	64	Professional Services	services
25	E-commerce / B2B	finance	65	Publishing	services
26	Educational Services	services	66	Real Estate Management	services
27	Electronics	production	67	Recreation & Leisure	services
28	Employment Services	services	68	REITs	finance
29	Food & Beverage Retailing	trade	69	Residential	production
30	Food and Beverage	production	70	Semiconductors	production
31	Healthcare Equipment	production	71	Software	production
32	Healthcare Providers	services	72	Space and Satellites	production
33	Home Furnishings	production	73	Telecommunications Equipment	production
34	Home Improvement Retailing	trade	74	Telecommunications Services	services
35	Hospitals	services	75	Textiles & Apparel	production
36	Hotels and Lodging	services	76	Transportation & Infrastructure	services
37	Household & Personal Products	production	77	Travel Services	services
38	Insurance	finance	78	Water and Waste Management	services
39	Internet and Catalogue Retailing	services	79	Wireless	production
40	Internet Software	production			

The research of M&A transactions concluded in the period of 2005–2014 was conducted in two phases, as follows:

1) Analysis of correlations between mergers and other forms of control transfer (acquisitions) – verification of the H1 hypothesis.
2) Analysis of correlations between acquirers and targets by sector of economic operation – verification of the H2 hypothesis.

For the purpose of the study, correlation was defined as statistical strength of relationship between the studied variables. Quoting after D. Aczel (Aczel, 2000), the "strongly correlated variables appear to be progressing in tandem".

Research Findings

The capital and asset concentration processes may progress with varied dynamics and follow different progression trends. Figure 1 presents mergers of economic entities against other forms of asset or equity control transfer.

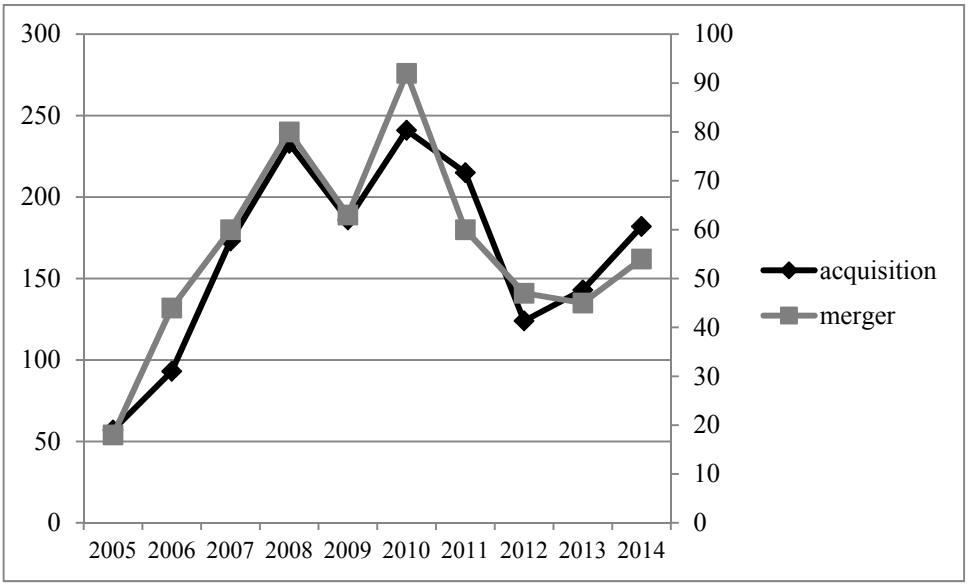

Figure 1. Distribution of mergers vs. acquisitions in the period 2005–2014

Analysis of Figure 1 suggests that, despite variations in the number of mergers vs. acquisitions, the shape of progression changes as each of the two categories follows a similar path. With the correlation coefficient at 0.929, the strength of correlation observed between mergers and acquisitions is quite pronounced.

In the case of acquisitions, the transactions can be distinguished into asset transfers (acquisition of assets, certain assets, majority assets) and ownership transfers (acquisition of partial interests, remaining interests). Figure 2 presents the distribution of merger transactions against the number of asset acquisitions.

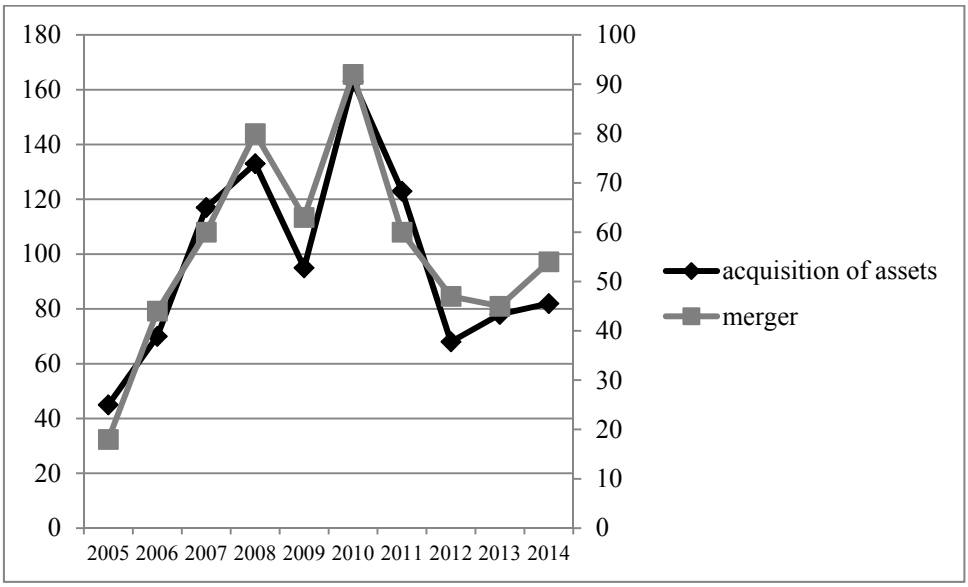

Figure 2. Distribution of mergers vs. asset acquisition transactions in the period of 2005–2014

Based on the analysis of changes recorded on Figure 2, it may be observed that merger transactions and asset acquisition transaction seem to follow a similar progression path. Both plots just about overlap that is indicative of great similarities, both in the dynamics and the trends.

Figure 3 presents the number of merger transactions against that of ownership transfers (acquisition of interests).

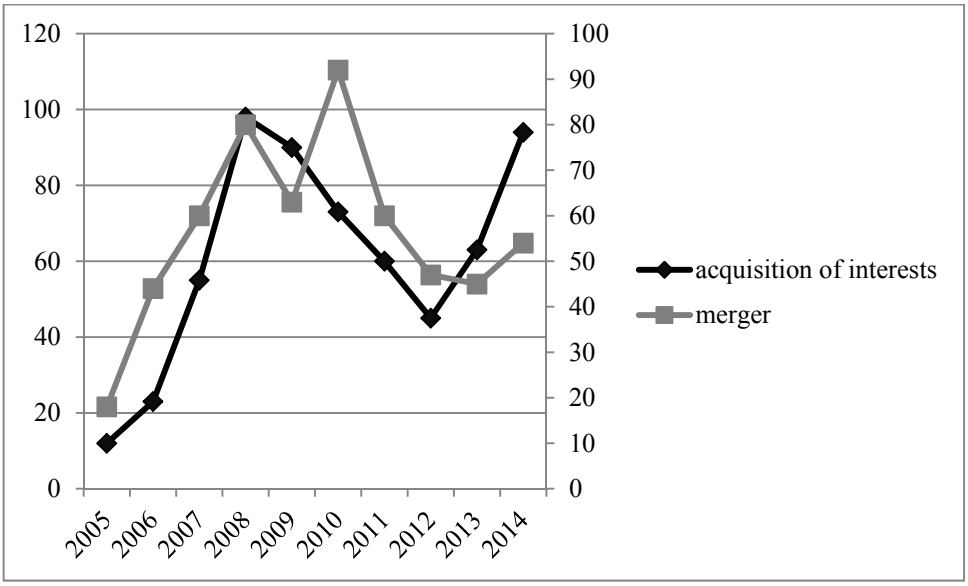

Figure 3. Distribution of merger transactions vs. transactions involving acquisition of interests, in the period of 2005–2014

Analysis of Figure 3 suggests that, despite a similarly marked increase of both mergers and interest acquisition transactions observed in the years 2005–2008, the progression paths for the variables under the study differed significantly in the years to follow. In 2010, the number of mergers increased again and reached a peak level, while the number of interest acquisitions continued to decline. By 2012, the number of interest acquisitions took on a steadily rising trend, in contrast with the number of merger transactions.

M&A processes require the involvement of at least two entities: the acquirer and the target company. Setting aside the motives for company mergers and acquisitions, companies may integrate within the same sector or across sectors. Table 3 presents company mergers in various sectors, in the period 2005–2014. Abbreviations used in Table 3 (the aggregated distribution of the number of mergers (both acquirers and targets) in various sectors of economy, in the period 2005–2014) and Table 4 (detailed distribution of the number of company mergers (acquirers and targets) by sector of economic operation, in the period of 2005–2014) represent the following sectors:

e – energy sector
f – finance sector
g – public finance sector
t – trade sector
o – others, not classified in this overview
p – production sector
s – services sector

Table 3

M&A Transactions in Various Sectors

		Acquirers							
Labels		**e**	**f**	**g**	**t**	**o**	**p**	**s**	**Total**
Target companies	e	48.20%	17.99%	1.44%	0.72%	0.72%	23.74%	7.19%	100.00%
	f	1.49%	68.40%	0.37%	0.74%	0.37%	16.36%	12.27%	100.00%
	t	0.00%	16.55%	0.00%	46.04%	0.00%	28.06%	9.35%	100.00%
	o	25.00%	25.00%	0.00%	0.00%	25.00%	25.00%	0.00%	100.00%
	p	2.14%	22.12%	0.29%	2.14%	0.49%	60.82%	11.99%	100.00%
	s	0.16%	24.80%	0.47%	2.69%	0.00%	17.54%	54.34%	100.00%
Total		*4.30%*	*27.92%*	*0.41%*	*4.80%*	*0.36%*	*38.55%*	*23.67%*	*100.00%*

Based on the overview presented in Table 2, mergers in the period under the study were most often found between companies representing the same sector of economic operation. Nearly a half (48.20%) of target companies of the energy sector was acquired by other companies of the energy sector. For the financial sector, the number of inter-sectoral transactions was 68.40%. For the trade sector (46.04%) and services sector (54.34%) nearly a half of the target companies were acquired by companies of the same sector. For production, as many as 60.82% of the target companies were acquired by other companies of the production sector.

A detailed overview of acquirers and target companies by sector of economic operation in the period of 2005–2014 is presented in Table 4.

Table 4

Detailed Overview of Acquirers and Target Companies by Industry Sector

	Acquirers							
Labels	**e**	**f**	**g**	**t**	**o**	**p**	**s**	**Total**
e								
2005	66.67%	0.00%	0.00%	0.00%	0.00%	33.33%	0.00%	100.00%
2006	22.22%	44.44%	0.00%	0.00%	0.00%	22.22%	11.11%	100.00%
2007	66.67%	13.33%	0.00%	0.00%	0.00%	13.33%	6.67%	100.00%
2008	66.67%	5.56%	5.56%	0.00%	0.00%	16.67%	5.56%	100.00%
2009	40.00%	0.00%	6.67%	0.00%	0.00%	40.00%	13.33%	100.00%
2010	31.25%	12.50%	0.00%	6.25%	6.25%	43.75%	0.00%	100.00%
2011	42.86%	19.05%	0.00%	0.00%	0.00%	28.57%	9.52%	100.00%
2012	54.55%	27.27%	0.00%	0.00%	0.00%	9.09%	9.09%	100.00%
2013	60.00%	10.00%	0.00%	0.00%	0.00%	30.00%	0.00%	100.00%
2014	38.89%	44.44%	0.00%	0.00%	0.00%	5.56%	11.11%	100.00%
f								
2005	0.00%	62.50%	0.00%	0.00%	0.00%	31.25%	6.25%	100.00%
2006	0.00%	70.83%	0.00%	0.00%	0.00%	12.50%	16.67%	100.00%

2007	0.00%	57.89%	5.26%	0.00%	0.00%	5.26%	31.58%	100.00%
2008	0.00%	66.67%	0.00%	0.00%	4.76%	14.29%	14.29%	100.00%
2009	3.70%	77.78%	0.00%	0.00%	0.00%	18.52%	0.00%	100.00%
2010	0.00%	62.07%	0.00%	0.00%	0.00%	17.24%	20.69%	100.00%
2011	0.00%	65.71%	0.00%	0.00%	0.00%	22.86%	11.43%	100.00%
2012	7.41%	74.07%	0.00%	3.70%	0.00%	7.41%	7.41%	100.00%
2013	0.00%	62.50%	0.00%	0.00%	0.00%	18.75%	18.75%	100.00%
2014	2.56%	76.92%	0.00%	2.56%	0.00%	15.38%	2.56%	100.00%
t								
2005	0.00%	0.00%	0.00%	75.00%	0.00%	25.00%	0.00%	100.00%
2006	0.00%	10.00%	0.00%	40.00%	0.00%	40.00%	10.00%	100.00%
2007	0.00%	9.09%	0.00%	27.27%	0.00%	54.55%	9.09%	100.00%
2008	0.00%	14.29%	0.00%	42.86%	0.00%	28.57%	14.29%	100.00%
2009	0.00%	14.29%	0.00%	57.14%	0.00%	14.29%	14.29%	100.00%
2010	0.00%	27.27%	0.00%	50.00%	0.00%	22.73%	0.00%	100.00%
2011	0.00%	20.83%	0.00%	41.67%	0.00%	29.17%	8.33%	100.00%
2012	0.00%	20.00%	0.00%	40.00%	0.00%	30.00%	10.00%	100.00%
2013	0.00%	16.67%	0.00%	50.00%	0.00%	16.67%	16.67%	100.00%
2014	0.00%	0.00%	0.00%	60.00%	0.00%	40.00%	0.00%	100.00%
o								
2006	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	100.00%
2010	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
2011	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%
2013	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
p								
2005	0.00%	17.86%	0.00%	3.57%	0.00%	64.29%	14.29%	100.00%
2006	1.43%	15.71%	0.00%	1.43%	1.43%	65.71%	14.29%	100.00%
2007	0.82%	9.84%	0.00%	0.82%	0.00%	77.87%	10.66%	100.00%
2008	2.01%	21.48%	0.00%	1.34%	0.00%	63.76%	11.41%	100.00%
2009	4.13%	28.93%	0.83%	0.83%	2.48%	52.89%	9.92%	100.00%
2010	2.94%	21.18%	1.18%	4.71%	0.00%	59.41%	10.59%	100.00%
2011	3.39%	15.25%	0.00%	4.24%	0.00%	63.56%	13.56%	100.00%
2012	2.60%	16.88%	0.00%	1.30%	1.30%	64.94%	12.99%	100.00%
2013	1.30%	35.06%	0.00%	1.30%	0.00%	46.75%	15.58%	100.00%
2014	0.00%	40.43%	0.00%	1.06%	0.00%	46.81%	11.70%	100.00%
s								
2005	0.00%	9.52%	0.00%	0.00%	0.00%	33.33%	57.14%	100.00%
2006	0.00%	26.09%	0.00%	0.00%	0.00%	13.04%	60.87%	100.00%
2007	1.52%	15.15%	0.00%	4.55%	0.00%	21.21%	57.58%	100.00%
2008	0.00%	21.15%	0.00%	0.96%	0.00%	18.27%	59.62%	100.00%
2009	0.00%	20.83%	1.39%	0.00%	0.00%	12.50%	65.28%	100.00%
2010	0.00%	29.47%	1.05%	2.11%	0.00%	22.11%	45.26%	100.00%
2011	0.00%	25.00%	0.00%	6.58%	0.00%	17.11%	51.32%	100.00%
2012	0.00%	23.91%	0.00%	2.17%	0.00%	15.22%	58.70%	100.00%
2013	0.00%	22.00%	2.00%	0.00%	0.00%	12.00%	64.00%	100.00%
2014	0.00%	41.25%	0.00%	6.25%	0.00%	15.00%	37.50%	100.00%
Total	*4.30%*	*27.92%*	*0.41%*	*4.80%*	*0.36%*	*38.55%*	*23.67%*	*100.00%*

Detailed distributions of mergers between companies representing the same sectors show significant changes in this respect over the period under analysis. In some cases, such as the trade sector in 2007 and the services sector in 2014, the majority of target companies were acquired by companies from other sector (production – 54.55% and finance – 41.25%, respectively).

Conclusions

Mergers of economic entities are one of many forms of acquiring control over another company. Professional literature makes a distinction between mergers, asset acquisition and interest (or share) acquisition transactions.

Based on the findings of the study on mergers and acquisitions reported for the period 2005–2014 in Poland, it may be observed that merger transactions were the most popular form of the broadly defined M&A transactions, constituting 25% of all transactions of this type.

The first research hypothesis, with assumed correlation between the number of mergers and the number of other forms of control acquisition, has been positively verified. The rises and declines in the number of merger transactions (presented in Graph 1) followed a similar progression path as the other types of acquisition, with correlation coefficient for the number of transactions found at 0.93, and the correlation between the dynamics of mergers and acquisitions found at 0.75.

In addition, the study findings seem to provide a positive verification of the second research hypothesis on mergers within the same sector of economic operation. In the merger processes, the majority of target companies were acquired by other companies representing the same sector of operation. This suggests that companies were more focused on mergers as a form of internal development within the boundaries of the same sector of operation, rather than seeking ways to expand their operation to other sectors. The only exception to this trend is the financial sector: while the share of the same-sector mergers remained high, activities of financial companies in the remaining sectors of operation were quite pronounced and fluctuating around the 20% mark. This may be indicative of the fact that capital funds and other special purpose companies of the financial sector are typically more interested in acquiring companies from other sectors of economic operation.

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KNOWLEDGE-BASED SOCIETY AND KNOWLEDGE ECONOMY CREATION: DEVELOPMENT TRENDS AND CHALLENGES UNDER CONDITIONS OF GLOBALIZATION

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Abstract

New challenges, social, economic, technological and political, as well as cultural development trends in the context of contemporary global transformations and the knowledge-based society and knowledge economy creation are defined as an especially important field of scientific research and study. The author analyses the complexity of global transformations and the knowledge – based society creation.

The focus of attention is on the idea that the creation of knowledge-based society and knowledge economy is perceived as one of the most important priorities of modern society and its lifestyle development, as well as of social, economic, political development, science and technological progress, especially, under conditions of globalization.

The knowledge-based society and knowledge economy creation is assessed as the most important assumption and the key to solving most of the social, economic, technological, even security and defence problems worldwide, as well as in various countries or regions.

The complex analysis and multidimensional evaluation of global transformation processes, the knowledge-based society and knowledge economy creation as a prospective theoretical approach in research of societal changes in the context of globalization is defined and described in the article. The author also deals with a variety of global transformations, the main problems and processes associated with the knowledge-based society and knowledge economy creation in the context of globalization. The main idea behind the complex analysis and evaluation of the factors of interaction between the general processes of global transformations and the processes of knowledge-based society and knowledge economy creation is that all these processes as common global transformations are defined and analyzed, and new challenges for the knowledge-based society and knowledge economy creation are identified in the context of globalization.

JEL Classification: *A10, F01, F39, O39, Q59*

Keywords: *global transformations, knowledge-based society, knowledge economy, creation processes, regularities*

Introduction

There are many new directions and priorities of the studies and scientific research on contemporary social, economic, technological, as well as political and cultural development trends. They could be defined as particularly important in the context of contemporary global transformations and creation of the knowledge–based society and knowledge economy.

New challenges, social, economic, technological and political, as well as cultural development trends in contemporary world should be defined as an especially important direction of scientific research and studies in the context of global transformations and the knowledge – based society and knowledge economy creation.

The creation of knowledge–based society and knowledge economy is perceived as one of the most important *priorities* of modern society and its lifestyle development, as well as of social, economic, political development, science and technological progress in general.

The knowledge–based society and knowledge economy creation is assessed as *the most important assumption* and *the key* to solving the majority of social, economic, technological, even security and defence problems worldwide, as well as in various countries or regions.

The processes of the knowledge–based society and knowledge economy creation manifest *essential qualitative changes* in all areas of social, economic, political life, scientific and technological progress, as well as interaction with nature. These processes deeply influence the content of *globalization* processes and situation in the modern world.

It should be mentioned that the processes of the knowledge–based society and knowledge economy creation, in general, could be perceived and assessed as an *essential worldwide transformation* that determines a number of *breakings and sallies*, important for the whole of humankind.

The processes of the knowledge–based society and knowledge economy creation should be analyzed *in complex*. In general, these processes could be defined as the processes belonging to the category of *global processes*. It also means that the *complex interaction* between the processes of *global changes* and the processes of the knowledge–based society and knowledge economy creation is a very important factor for the *positive development* of the societal life in the general context of globalization.

There are very different theories and theoretical models of knowledge–based society and knowledge economy creation processes. The problem lies in the fact that the knowledge–based society and knowledge economy creation processes and the processes of global transformations are *usually analyzed separately*. The factor of *complex interaction* between different processes of global transformations and the processes of

creation of knowledge–based society and knowledge economy is often ignored. It means that a complex analysis of the processes of both types, as well as evaluation of the factors of interaction between these processes could be defined as a perspective way to solve some actual theoretical and practical problems in the area of knowledge–based society and knowledge economy, especially in the context of globalization.

The main idea behind the complex analysis and evaluation of the factors of interaction between the different processes of global transformations and the processes of knowledge–based society and knowledge economy creation is that all these processes could be defined and analyzed as general global transformations. The new challenges associated with the creation of the knowledge–based society and knowledge economy could be identified in the context of globalization. The author describes this idea in detail.

The object of this article is the processes of global transformations, especially, the creation of the knowledge–based society and knowledge economy in the context of contemporary internationalization of social, economic and cultural development. The focus is on *the* interaction between the processes of knowledge–based society and knowledge economy creation and general processes of global transformations in the context of globalization.

Tasks of the research are to:

- explore the new definitions and systematize the general processes of global transformations;
- to describe the main global transformations and specify their role, as well as to describe the knowledge–based society and knowledge economy creation processes in the context of globalization;
- explore the main challenges of societal development in the context of global transformations, incl. creation of the knowledge–based society and knowledge economy.

Methodology of the research:

- a complex analysis of the processes of the knowledge–based society and knowledge economy creation under conditions of globalization;
- a complex analysis of the processes of social, economic, political development, technological progress and environmental changes in the context of global transformations;
- a logical and comparative analysis of the societal changes with a focus on the priorities of modernization.

The Knowledge–based Society and Knowledge Economy Creation Processes as a Global Transformation: Complexity of scientific cognition

The processes of development and changes in contemporary society are very complicated and controversial. A lot of new phenomena and circumstances show up under conditions of social, economic, political development and progress of science and technologies. In order to understand and respond to them, it is necessary to examine the *problems relating to complexity of the development processes and changes in different types and nature* and to strive to solve these problems adequately, taking into account new challenges in life of the society. In addition, the significance of the problems relating to complexity of development processes and changes is indicated by the fact that the understanding and resolution of these problems is one of the main priorities implemented in contemporary practice of scientific research.

The complexity of global transformations and the knowledge–based society creation processes could be defined as an especially important: the significance is demonstrated by the dominance and prevalence of globalization processes and problems, as well as processes and problems of the knowledge-based society and knowledge economy creation in the context of changes, development processes and problems of contemporary society and its life in general.

Modern attitudes towards the complexity of global transformations, the knowledge–based society creation, the concept of complexity of these processes, as well as towards the understanding and resolution of problems relating to the knowledge–based society and knowledge economy creation processes in the context of globalization can be characterized as extremely *varied*. Such variety is determined by the fact that phenomena, problems and topicalities can be analyzed by:

- including *spaces of different extent* (various regions, countries or their groups, the world), as well as *different systems* (various organizations, their groups, other systems);
- involving *different combinations of processes, phenomena, factors and circumstances* of social, economic, political development, and progress of science and technologies into the unit of developmental processes;
- giving preference to different social, economic, ecological, technological, political as well as other manifestations, consequences or circumstances of the knowledge–based society and knowledge economy creation processes in the context of globalization;
- regarding the *management, administration and governance features* of various development processes and progress, as well as the *multiplicity of different subjects and their interests* that take place in management, administration and governance processes.

The research on complexity of global transformations and the knowledge–based society creation processes is *multidisciplinary* and *interdisciplinary* by nature. It must inevitably have attitudes towards social and economic development, technological progress, environmental protection and changes in modern society and its life, which reflect various areas of science that are integrated in them. The *regional* aspect of the research on complexity of global transformations and the knowledge–based society creation processes is very important because various social, economic, technological, ecological factors are assessed *to the extent of variously identified regions*, by trying to reveal the interaction of processes and changes of different nature in various regional systems herewith.

The problems associated with the knowledge–based society and knowledge economy creation, including – in the context of globalization, are analyzed through various aspects in a number of scientific works. The studies on the knowledge–based society and knowledge economy creation processes in the global space and in different countries are very important (Boldrin & Canova, 2001; Currie, 2000; David & Foray, 2002; Dicken, 1998; Ein-Dor, Myers & Raman, 2004; Farnsworth, 2005; Garrett & Mitchell, 2001; Goeransson & Soederberg, 2005; Grace & Butler, 2005; Hayo & Seifert, 2003; Hunt, 2000; Huseman & Godman, 1999; Leydesdorff, 2004; Melnikas, 1990, 2002, 2008; Melnikas &Reichelt, 2004; Merrill & Sedgwick, 1997; Munasinghe & Sunkel, de Miguel, 2001; Olsen & Osmundsen, 2003; Parker, 1998; Perraton, 2001; Redding &Venables, 2004; Sangmon, 2002; Steinmueller, 2002). On the one hand, traditional attitudes towards the knowledge–based society and knowledge economy creation emphasize the *technological priorities*, *new values*, *new models of lifestyle,* as well as necessity to ensure the internecine compatibility and compensation of developmental processes and changes with different nature. On the one hand, the majority of scientific works on the knowledge–based society and knowledge economy creation does not pay sufficient attention to the impact of the knowledge–based society and knowledge economy creation processes on the development processes in the global space, as well as in various sectors of societal life. Most of the scientific works on the knowledge–based society and knowledge economy creation processes do not focus on resolving the *actual problems* of economic, social, political, technological, ecological *development*, especially – economic, social, political, technological, ecological *sustainability* and *sustainable development in general* (Castells, 2000–2004; Friedman, 2006, 2009; Melnikas, 2010).

In general, contemporary practice of scientific research on problems associated with the knowledge–based society and knowledge economy creation is characterized by the prevalence of *specific* studies and research works, which focus on a *separate research* of various specific problems and processes relating to the knowledge–based society and knowledge economy creation: various *complexity aspects* of the knowledge–based

society and knowledge economy creation in the context of globalization have not been investigated.

Despite the fact that traditional attitudes towards the knowledge–based society and knowledge economy creation in the context of globalization are characterized by a wide variety, extensive coverage of processes and problems, as well as considerable possibilities of practical application, it is still possible to claim that nowadays there appear many new circumstances, conditions and phenomena, the impact and role of which are *insufficiently* reflected in most of traditional attitudes. Therefore, traditional concepts of the processes and problems associated with the knowledge–based society and knowledge economy creation become more and more *incompatible* with modern needs and challenges and require essential supplements and specifications.

It must be noted that modern attitudes towards the creation of knowledge–based society and knowledge economy should deeper reflect the role and influence of *new type of transformation processes* that are currently taking place in the world. Those transformations, which reflect *the global spread of values and ideas of the* knowledge–based *society and sustainability of new knowledge creation processes, play the* most important role: namely the knowledge–based society creation and spread of its values and ideas. The spread of ideas and values of new knowledge creation processes' sustainability in the global environment can activate and stimulate the new transformations in the modern society and its life, as well as help to understand the necessity to react to the needs of the knowledge–based society and knowledge economy creation and resolve new problems in a new way.

It is possible to claim that the essence of the actualization of the traditional concepts of knowledge–based society and knowledge economy creation and development processes lies in the fact that the modern concept should focus on complexity and sustainability of social, economic, technological, ecological development processes and reflect both the global transformation processes in general and those global transformation processes, which reflect the creation of knowledge–based society, knowledge economy and the spread of values and ideas of new knowledge creation processes' sustainability.

When actualizing the concepts of the knowledge–based society and knowledge economy creation and considering the circumstances of global transformations, it is important to refer to certain *theoretical attitudes*, which could be used when *analyzing various phenomena* of the knowledge–based society and knowledge economy creation processes. The idea of *multidimensional evaluation* of global transformation processes and processes of knowledge–based society and knowledge economy creation, as well as the so-called *"power" concept* should be distinguished among those theoretical attitudes: their ideas and application possibilities are revealed in various studies (Melnikas, 1990, 2002, 2007, 2010).

The Global Transformations as a General Context of the Processes of Knowledge–based Society and Knowledge Economy Creation

The contemporary world is increasingly affected by multiple globalization processes, which appear in all areas of political social, economic life, and in all sectors of culture, science and technological progress. Globalization processes proximately influence society's lifestyle and the quality of life, as well as the *changes*, which take place in all areas of life (Ravenhil, 2008; Friedman, 2006, 2009; Appiah, 2007; Castells, 2000–2004; Chossudovsky, 2003; Melnikas, 2002). In addition, the perception and assessment of the *meaning of globalization processes* regarding the *content and singleness of changes* in the world are considered a *very important assumption* to scientifically cognize and adequately analyze the *nature* of globalization itself. It is obvious that deep and complex cognition and analysis of globalization processes are possible only when globalization processes are treated as changes, which *take place to a global extent,* and as *global environment of such changes*.

Relation of the conception of globalization processes to global changes and their environment allows for *speculating* that the so-called *global transformation processes* are considered *exceptionally significant.* Such speculation is due to the fact that the essence of transformation processes (or, simply, transformations) is *qualitative changes*, which determine the *creation of new systems*: globalization processes namely express the world's *qualitative changes*; therefore, the *transformation processes* are treated as *exceptionally important and significant for general globalization processes*.

Global transformation processes are characterized by a *wide variety* and may be identified and classified according to various features. The following features may be treated as the most important ones among the features, which should be taken into consideration when identifying and classifying *the processes of global transformations*:

- features, which characterize *natural and climate conditions*, as well as their influence on various global changes and situation;
- features, which characterize *human resources*, their potential, change of its structure, as well as global role of human resources;
- features, which characterize the *society*, its development, structure, change dynamics, as well as features, which help to describe various *types and models* of the society itself, its organization, global *spread and spread dynamics* of these types and models;
- features, which characterize global variety and spread of *cultures, mentalities, value systems, models of lifestyle, and social behaviour stereotypes*;
- features, which characterize the processes of social, political, economic development, as well as science and technological progress, the impact and consequences of these processes, which appear or may appear globally.

The above-mentioned features, as a unit, as well as various their combinations allow for universal and complex description of modern global transformation processes and their variety. It is obvious that other features, characterizing such transformations may appear regarding the complex cognition of global transformations.

The variety of global transformations is also shown by the fact that global transformations may be identified, assessed and analyzed by *two* different approaches:

- *geographically regional* approach when global transformations, their expression or their impact on the society and its life are assesses and analyzed according to a country, region, continent or other *geographically or regionally identified system*;
- *sectoral* approach when global transformations, their expression or their impact on the society and its life are assessed and analyzed by distinguishing certain *sectors*, out of the whole of global transformations, which are identified by content, character or forms of expression of global transformations themselves, and by assessing and analyzing the global transformations *according to various sectors* (in addition, various sectors may be identified by highlighting multiple features, typical of the global transformations themselves).

Moreover, the variety of global transformations demonstrates that global transformations, as a unit, are exceptionally complicated area that requires scientific cognition and research. It is possible to state that the underlying aim of the research in this area is to assess and foresee possible impacts of global transformations on the society, its development, its life, as well as to make assumptions for purposeful influence and management of the society development processes.

The impacts of global transformations on the modern society in general and on the *changes* in its life, development and progress are *multiple, complicated and even contradictory*.

Several circumstances determine the *multiplicity and complexity* of global transformations' impact on the society and changes in its life. Firstly, the global transformations themselves are characterized by a *variety of* typical *features*, which inevitably affect the multiplicity and complexity of these transformations and their impact. Secondly, global transformations, as a unit, may compose *different geographically regional or sectoral systems*. The variety of different geographically regional or sectoral systems reflects the multiplicity and complexity of the impact of global transformations on the society and changes in its life. Thirdly, *controversial trends* when certain development, progress and change processes evoke *positively and negatively* assessed results, inevitably appear under conditions of the variety, multiplicity and complexity of global transformations and their impact on the society and changes in its life.

All in all, it is possible to claim that global transformations, as a unit, are characterized by exceptional complexity, variety and multiplicity, as well as great impact on all

changes, which take place in all areas of life, their content and trajectories. These circumstances reveal the importance and significance of global transformations. They also show that global transformation processes and their impact on modern society and changes in its life require a more detailed description.

The most important global transformations are:

- global transformations, which manifest changes in natural and climate conditions;
- global transformations, which manifest changes in the potential of human resources and its structure;
- global transformations, which manifest changes typical of modern society, its structure and organization;
- global transformations, which manifest changes in cultures, mentalities, value systems, social behaviour stereotypes;
- global transformations, which manifest changes in various areas of social, economic, political development, science and technological progress.

It must be emphasized that the above-mentioned global transformations are indicative of *modern society's power to actively and single-mindedly* influence its life conditions while *partially programming* the trajectories of further development and progress.

In general, the global transformations, which express *changes* in various areas of *social, economic, political development, science and technological progress*, could be defined as an *important precondition* and *global context* of various social, economic, political, technological changes in all spheres and sectors of contemporary society and its life, as well as in all countries and regions (Foltean &Feder, 2009; Armstrong, 2006; Zeitlin, 2008; Wendt, 2005; Melnikas & Reichelt, 2004).

In conclusion, it may be noted that global transformations, as a unit, are so multiple and complicated that even a detailed study of these transformations creates assumptions to perceive and assess various factors and circumstances, which are typical of transformations and their effects, only superficially. Moreover, deeper approach to global transformations, their manifestations, variety, influence on the society's development and lifestyle changes allows for adequate perception of problems and resolving them single-mindedly and efficiently. The latter proposition is very important when perceiving the problems and topicalities of *sustainable development,* as well as when trying to implement modern *attitudes of the sustainable* development in real practice (Melnikas, 2013).

Regularities of Global Transformations and the New Challenges for the Knowledge-based society and Knowledge Economy Creation

Global transformations, their expression and influence on the modern society and its life are characterized by wide *variety* and significant *common regularities* (Melnikas, 2013).

C*ommon regularities*, typical of global transformations, include:

- regularities, which reflect universalism and unification processes under conditions of global transformations;
- regularities of the increasing uncertainties and their expression;
- regularities of *unsynchronized development and the expression of resonance effects*;
- regularities, which express society's need to *activate innovations, stimulate creativity, and strengthen adaptation and tolerance skills*.

The above-mentioned regularities are perceived as very important and significant under contemporary conditions. However, it is possible to claim that the reference to the perception, that the above-mentioned regularities are essential and the most important, allows *complexly* perceive and assess the influence of global transformations on the modern society and its life. In turn, the adequate perception of such influence allows for solving the topical problems associated with the knowledge–based society and knowledge economy creation.

The knowledge–based society and knowledge economy creation could be defined as a *priority* in the system of global transformation processes. In this case the *phenomena* of the knowledge–based society and knowledge economy, as well as the *trends* and *concepts* of the knowledge–based society and knowledge economy creation processes should be analyzed in the context of global transformation processes.

The *modern concepts* of the knowledge–based society and knowledge economy, as well as the concepts of the knowledge–based society and knowledge economy creation processes are very multiple (Castells, 2000–2004; Currie, 2000; Dang & Umemoto, 2009; David &Foray, 2002; Fischer, Gran, Hacker, Jakobi, Petzold, Pusch & Steinberg, 2010; Goeransson & Soederberg, 2005 ; Grace & Butler, 2005; Huseman & Godman, 1999; Leydesdorff, 2004; Steinmueller, 2002; Melnikas, 1990–2014). Therefore, it is obvious that the concepts of the knowledge–based *society* and *knowledge economy* can be defined and described differently.

In order to substantiate the appropriate definitions and descriptions, it is necessary to consider the following:

- when describing a certain *society*, the underlying attention must be paid to highlighting *the most important values, typical of the society itself*;

- when describing a certain *economy*, the underlying attention must be paid to highlighting *the most important factors of economic growth*.

As regards the above-mentioned attitude, we can claim that it is essential to describe the concepts of the *knowledge-based society and knowledge economy* as follows:

- the knowledge-based society is the society, which is characterized by the values of the predominance of creativity and creative activity, as well as the values, which express the generation, spread and use of new knowledge. In the knowledge-based society, the underlying interests express the objectives to create, spread and use new products of art, technical, business and other creation, as well as initiate, generate and implement multiple creative ideas and innovations in all areas of life.
- the knowledge economy is the economy, for which the underlying growth factor is the potential, intended for the generation, spread and use of new knowledge, as well as the activation of creativity. The raising and possession of the abilities to create, spread and use new knowledge, ideas and innovations in all areas of life, as well as the incessant raise of the economical efficiency with the acceleration and activation means of the science and technological progress are the underlying conditions for economic growth and modernization of the knowledge economy.

The above descriptions reflect the main orientations of values, which express the objectives of creativity, creation activation and new knowledge generation, typical of the knowledge-based society, as well as the main features, which characterize the significance of new knowledge generation, innovation and science and technological progress, typical of the knowledge economy.

In order to describe the society and economy reasonably, it is necessary to take into account the fact that there are *internal contradictions*, which appear in every society and economic system, and which operate like the *propulsion stimulating the progress of the society and economy*, as well as the *cause,* which determines certain *destructive processes* that can "destroy" or destabilize both the society and economy.

The highlighting of the *underlying values*, which are typical of the *knowledge-based* society and which express the domination of creative activity, generation, spread and use of new knowledge, allows for realizing that *the essential internal contradiction* of the *knowledge-based* society is the *contradiction* among the society members, groups, layers and variously identified subjects, which belong to *two different categories*:

- One category includes the society members, groups, layers and subjects who become leaders able to initiate the creation of new knowledge, ideas and innovations, to participate in multiple creations actively, intensively and productively, to develop creative activity, generate, spread and efficiently use the new knowledge and ideas. The society members, groups, layers and subjects who belong to this category *take over* the *real power in the society*

and carry out the *functions of its development and progress*. Moreover, the creation and spread of new knowledge, ideas and innovations generally express the *prerogative of making progress oriented decisions, especially strategic* ones.

- The other category includes the society members, groups, layers and subjects who *lose or do not have real possibility* to initiate the creation of new knowledge, ideas and innovations, who *do not have real conditions and skills* to participate in the creation actively and intensively, to develop creative activity independently, or to generate, spread and efficiently use the new knowledge and ideas. The society members, groups, layers and subjects that belong to this category generally become just *ordinary effectors* who have *very limited power* and only perform the *functions of effectors*, including even those areas, where huge innovation changes take place.

The above-mentioned contradiction reflects the *internal differentiation logic*, typical of the *knowledge-based* society when the position of different members, groups, layers or subjects of the society is determined by the *role and place when initiating, generating, spreading and using new knowledge, ideas and innovations*. In addition, the expression of the above-mentioned contradiction is *universal*: this contradiction may be perceived as appearing in the lives of separate countries and regions, in separate groups or layers of the society and may appear globally in the future.

The above-mentioned contradiction reflects the meaning of those *propulsions*, which determine and will determine the *development and progress of the knowledge-based society*, as well as the preconditions for various *threats and dangers* to appear, which may inevitably arise under the conditions of the *knowledge-based* society. It is obvious that the *internal differentiation of the society*, which expresses *different* role and place of various society members, groups, layers and subjects when initiating, generating, spreading and using new knowledge, ideas and innovations, may manifest itself *in two ways*:

- as *propulsion*, which determines further development and progress of the knowledge-based society, because the *objective to activate and effectuate creative processes*, when initiating, generating, spreading and using new knowledge, ideas and innovations, become the underlying *stimulus* of development and progress, and the *potency* activating the processes of development and progress;
- as a precondition for new *threats and dangers* to appear, because, under the conditions when the society differentiation exceeds certain critical limits, there inevitably appear various *destructive tendencies*, including the trends to integrate various means based on the use of the latest scientific and technological progress into destructive processes.

The internal contradictions, typical of the *knowledge-based* society, influence the processes of *knowledge economy* creation and development. The underlying conditions for economic growth and modernization, typical of the knowledge economy, which include education and possession of the abilities to create, spread and use new knowledge, ideas and innovations, as well as increase economic efficiency with the acceleration and activation means of science and technological progress, may be assessed *in two ways*:

- as the *propulsio*n, typical of the development and progress of the knowledge economy, which reflects the influence of the initiation, generation, spread and use of the new knowledge, ideas and innovations, as well as of the results of scientific and technological progress, on the growth and effectuation of economy itself;
- as the *precondition* for new threats, dangers and risks to appear, which are characteristic of the knowledge-based society and knowledge economy and may cause various *undesirable negative effects* of the knowledge economy development and progress, which appear or may appear in various sectors of economic life, as well as in various areas of the society's life and development in general.

In addition, the perception of the importance of internal contradictions, typical of the *knowledge-based* society and knowledge economy, determines the need to analyze and assess the creation, development and progress phenomena of the knowledge-based society and knowledge economy in the context of *sustainable development* ideas and attitudes.

For the sake of the scientific cognition and purposeful creation and modernization of the *knowledge-based* society and knowledge economy, it is necessary to consider the *essential principles*, which reflect *qualitative changes* in the society in general, as well as in the *economic life* of the society (Melnikas, 2002, 2010).

Conclusions

The research on the processes and problems associated with complexity of global transformations and the *knowledge-based* society creation could be defined as an important *scientific research area*, especially – as an important *object of social science*.

The research on the processes and problems of the *knowledge-based* society and knowledge economy creation in the context of global transformations could be defined as especially important scientific research area under contemporary conditions.

The processes of the *knowledge-based* society and knowledge economy creation in the context of globalization should be understood as *the undivided unity.* These processes are an important priority of the social, economic and technological changes and

development processes. These processes should be perceived as relevant to *all* spheres of life – meaning social, economic and political life, culture, advancement of science and technologies, interaction with nature in general and environment in particular. These processes should be comprehended as the ones providing *social, cultural, political, economic, technological preconditions* for modernization of the society and refinement of its life in accordance with *the modern and future oriented standards, norms and values*.

The *knowledge-based* society and knowledge economy creation processes in the context of globalization should be interpreted as *multi-dimensional and extremely complex and uninterrupted global process,* which manifest themselves in *cyclical changes and leap towards higher quality standards, norms and values.* The idea of complexity of global transformations and the *knowledge-based* society creation should be implemented in *all* stages of scientific research, studies and practical activities, including the prioritizing various programs on multi- and cross-disciplinary research and studies, as well as strategic solutions of the complex character in various stages. The processes of the *knowledge-based* society and knowledge economy creation in the context of globalization could be interpreted and analyzed as an important *global transformation*. The global transformations in general, as well as the processes of the *knowledge-based* society and knowledge economy creation could be analyzed in the context of *the ideas of synergy effects*: in general, the global transformations and the processes of *knowledge-based* society and knowledge economy creation may be attributed to the category of *global transformation and synergy effects oriented* in changes occurring in *development processes.*

Global transformation processes are characterized by a *wide variety* and may be identified and classified according to various features. The following features may be treated as the most important ones among the features, which should be taken into consideration when identifying and classifying *the global transformation processes*:

- features, which characterize *natural and climate conditions*, as well as their influence on various global changes and situation;
- features, which characterize *human resources*, their potential, change of their structure, as well as global role of human resources;
- features, which characterize the *society*, its development, structure, change dynamics, as well as features, which help to describe various *types and models* of the society itself and its organization, and global *spread and spread dynamics* of these types and models;
- features, which characterize global variety and spread of *cultures, mentalities, value systems, models of lifestyle, and social behaviour stereotypes*;
- features, which characterize the processes of social, political, economic development, as well as scientific and technological progress, the impact and consequences of these processes, which appear or may appear globally.

The impact of global transformations on modern society in general and on the *changes* in its life, development and progress are *multiple, complicated and even contradictory*. Several circumstances determine the *multiplicity and complexity* of the impact of global transformations on the society and changes in its life. First, the global transformations themselves are characterized by a *variety of* typical *features*, which inevitably affect the multiplicity and complexity of these transformations and their impact. Second, global transformations, as a unit, may be identified as composing *different geographically regional or sectoral systems*: the variety of different geographically regional or sectoral systems reflects the multiplicity and complexity of the impact of global transformations on the society and changes in its life. Third, *controversial tendencies*, when certain development, progress and change processes evoke *positively and negatively* assessed results, inevitably appear under the conditions of the variety, multiplicity and complication of the global transformations and their impact on the society and changes in its life. Finally, it is possible to claim that global transformations, as a unit, are characterized by exceptional complexity, variety and multiplicity, as well as great impact on all changes, which take place in all areas of life, their content and trajectories.

Global transformations, their expression and influence on the modern society and its life are characterized by wide *variety* and significant *common regularities*. The creation of the *knowledge-based* society and generation of knowledge economy and its further development in the context of globalization *harmonization* should be sought in the following:

- in the fields of various social, economic, political development, culture, advancement in science and technologies, interplay with nature and other fields;
- in the environment of changes in various countries, regions or otherwise geographically or regionally defined systems;
- various layers of society.

Creation and modernization of the knowledge-based society and knowledge economy are very complicated processes with a focus on the formation of the new quality society and qualitatively new lifestyle. Moreover, these processes may be described as "twice" as complicated because they win distinction by orientations to the pursuit of new quality in two aspects:

- the *knowledge-based* society and knowledge economy, compared to "traditional" society and economy, are in all cases described as qualitatively new;
- the *knowledge-based* society and knowledge economy creation and development take place under conditions of *global changes*, which means that *qualitative changes* take place *in all global space*. The essence of those changes is the creation and spread of the *knowledge-based* society and knowledge economy;

- the *knowledge-based* society and knowledge economy creation and development processes may be attributed to the category of *global transformation processes*, therefore *all general phenomena* and characteristics of *global transformations* in general are unconditionally typical of the creation and development of the *knowledge-based* society and knowledge economy.

The research of the problems associated with the creation of the *knowledge-based* society and knowledge economy is *multi-* and *interdisciplinary* by nature. They must inevitably have attitudes to social and economic development, progress in technologies, environmental protection and changes in the modern society and its life reflecting various areas of science, integrated in them.

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INNOVATIONS IN THE CONTEXT OF THE KNOWLEDGE BASED SOCIETY CREATION: NEW THEORETICAL APPROACH

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Abstract

The present publication deals with possibilities for the development of new forms of economic, social and technological headway designed to create and further improve economies based on knowledge and high technologies sector. The author suggests a concept of creation of regional and cross-regional clusters and their networks also known as "economic oases". The author of the present article explains that the economies based on knowledge development of clusters and their networks will soon become one of the core forms of economic and technological advancement. The main idea is that the future lies in the creation of a knowledge based society and knowledge based economy. This means that the key issues that require strategic decisions with a focus on innovations and innovation activities are to be considered as issues of creation of the knowledge based society and knowledge based economy.

The author of this publication analyzes a new approach towards developing long term strategies for innovation activities and creation of the knowledge based society and knowledge economy. The objective of the research is to prove that the key priorities for innovation activities and creation of the knowledge based society and knowledge economy are the urge of technological advancement and enhancement of compatibility and productivity, using such opportunities as specialization of national and regional economies, creation of clusters and their networks, as well as the development of the so-called "economic oases" and hyper-clusters. The main result of the completed research is the concept of strategies focused on integration and synthesis, the basis for which is the universal principle of "creation of new quality". Key challenges and priorities that require special attention when creating the knowledge based society and knowledge based economy are described in details.

JEL Classification: *A10, F01, F39, O39, Q59*

Keywords: *innovation, networking, knowledge based society, knowledge economy, clusters, strategies, creation processes*

Introduction

The future of modern society in general, especially – the future of Western society, lies in the *creation of the knowledge based society and knowledge economy* and in the *activation of innovations and development of innovation activities*. This means that key issues that require *strategic decisions oriented towards changes in societal life and the social, economic and technological development in general* are to be considered as issues of *creation of the knowledge based society, knowledge economy and activation of innovation.*

The essence of these issues could be revealed in the following: *what* should the knowledge based society and knowledge economy be like in the future, *how* should innovations be encouraged and intensified in the context of the creation of knowledge based society and knowledge economy? Striving to find answers to these questions determines the necessity to elaborate and implement appropriate *strategies for innovation activities and the creation of knowledge based society and knowledge economy*. In its turn, in order to ensure elaboration and implementation, *appropriate* concepts and methodologies for preparation and justification of strategic decisions should be used.

This publication analyzes a new approach towards developing *long term strategies* designed to create the knowledge based society and knowledge economy, as well as to activate innovations and develop the innovation activities. This approach is a result of *scientific research.* The object of this research – *innovation activities* and *creation of the knowledge based society and knowledge economy in the context of contemporary challenges.*

The objective of the completed research was to prove that the key priorities for the activation of innovations and creation of the knowledge based society and knowledge economy are the urge of technological advancement and enhancement of compatibility and productivity, using such opportunities as specialization of national and regional economies, creation of clusters and their networks, as well as the development of the so-called "economic oases" and hyper-clusters in various economic spaces.

Methodology of the research – a complex analysis of the processes of innovative social and economic development under the contemporary challenges and conditions of knowledge based society and knowledge economy creation, as well as logical and comparative analysis of the changes, focusing on the priorities of modernization of contemporary economy and a complex analysis of the processes of dissemination of advanced forms of innovation activities, including clusters, networks, "oases".

The main result of the completed research is the concept of strategies oriented towards the integration and synthesis, the basis for which is the universal principle of "creation of a new quality".

Key *tasks* of the research are to:

- demonstrate that innovations should be encouraged and intensified and the knowledge based society and knowledge economy should be created according to the universal principle of "creation of a new quality";
- reveal the essence of the rational specialization of national and regional economies;
- show the need to create and expand regional, cross-regional and international networks of clusters and "economic oases", to prove the necessity to create and apply the strategies oriented towards integration and synthesis processes.

These tasks have been a *priority* in the author's attempts to activate innovation processes and create a modern knowledge based society and knowledge economy.

Innovations and the Creation of the Knowledge Based Society and Knowledge Economies: New Challenges

Creation of the knowledge based society and knowledge economy as a key priority of further societal development and modernization could be defined as especially complex process oriented towards formation of the brand new society and the qualitatively new life style. What is more, this process can be described as of *"double" complexity* as it reflects the *striving for the new quality in the following aspects:*

- the knowledge based society and knowledge economy are being formed, which if compared to the "traditional" society and economy, could be by all means considered as *qualitatively new*;
- development of the knowledge based society and knowledge economy is completed under conditions of new *development trends in the global space,* which means that *qualitative changes* have been taking place in *contemporary global* space.

Examining the possibilities and prospects for creation of knowledge based society and knowledge economy, it is recommended to apply the *"universal principle of the creation of new quality"*. This principle could be applied to various situations; it is suitable when examining both the processes of developing the knowledge based society and knowledge economies and common processes typical of various regional and global spaces (Melnikas, 2002, 2011, 2013, 2014).

A universal principle of the creation of a "new quality" could be defined as follows: new quality always develops by the amalgamation when elements of different origin that had never belonged to the same system collide. This principle expresses the idea of developing and using the synergy effect, and demonstrates that qualitative transformations always require actions and means necessary to join elements of different origin to the common system.

Applying the *universal principle of the creation of new quality",* it is important to consider the fact that a *new quality* is always created as a subsequence of amalgamation. At the same time, it is worth mentioning that the *processes of amalgamation* can be very different, and in the most common case can represent *two types*: processes of *integration* and processes of *synthesis*.

Processes of integration usually prove that, in the course of amalgamation, the elements that collide never lose their major primordial features: this means that the result of the integration marking the new quality can be disintegrated according to previous features of the amalgamated elements.

Processes of synthesis demonstrate that elements colliding in the course of amalgamation miss their major primordial features; this means that the result of the synthesis possessing new quality cannot be disintegrated according to the previous features of the collided elements. We may state that qualitative changes within the synthesis are never recurrent, whereas qualitative changes within the integration in some cases may recur.

Understanding the meaning of the processes of integration and synthesis as processes of creation of a new quality allows broadly applying *the principle of creation of the universal "new quality",* examining very complex manifestations of the enlargement of the European Union, including creation of knowledge based society and knowledge economy. When analyzing these manifestations, it is critical to assess *to what extent* the enlargement of the European Union is based on the processes of *integration* and to *what extent* the processes of *synthesis* determine the enlargement of the European Union.

Elaborating and implementing the strategies for creation of the knowledge based economy, it is necessary to logically forecast various vehicles designed to expand and develop the *integral economic, social and culture space of the European Union:* among these vehicles there should inevitably be the vehicles oriented towards both processes – integration and *synthesis.*

Rational complementation of the vehicles designed for integration and synthesis can be a basis for the implementation of very effective strategies of creation of knowledge based economy in the European Union. Subsequently, the application of the *universal principle of creation "of the new quality"* should be considered as a *priority* when elaborating and implementing strategies designed for the enlargement of the European Union.

Creation of the knowledge based society and knowledge based economy in the European Union requires elaboration and implementation of appropriate *development strategies.* These *development strategies* could be defined as *the innovation focused strategies.*

Understanding that processes of the enlargement of the European Union are *two-fold* (they are processes of integration and synthesis), it is possible to assume that under the circumstances of enlargement of the European Union, the *strategies* of *two types* could be implemented:

- strategies oriented towards the processes of integration;
- strategies oriented towards the processes of synthesis.

Strategies oriented towards the processes of integration should ensure that the main emphasis is put on the following priorities:

1. Priorities of *quantitative growth*, including:
   - integration of new countries into the European Union;
   - economic growth inside the European Union;
   - increase of the economic viability of the European Union as a system in global markets.
2. Priorities for interrelation improvement, including:
   - enhancement of the interrelations among the Member States of the European Union, co-ordination of the policies of the states in various sectors;
   - enhancement of the interrelations among various national and regional economic systems, efforts to lessen economic and social differentiation between various regions;
   - enhancement of co-operation among the business and public sector;
   - enhancement of co-operation between central, regional and local administrative divisions, either in business systems or public sector;
   - enhancement of co-operation between various societal layers in some countries in particular and in European countries in general.
3. Priorities of the creation and development of the integrated *systems of common use*, including:
   - creation and development of information systems of common use and database in all major spheres of social and economic life, with the provisions for integration of appropriate national systems and databases within these systems;
   - unification of norms and standards regulating various spheres of social and economic life and incorporation of national systems and the systems of particular sectors into the integrated systems of the norms and standards of common use;
   - creation of infrastructure of common use, especially in the sphere of communications and transportation;
   - unification of national and regional energy systems with the systems of common use;
   - unification of national and regional legal, ecologic and other security systems to the systems of common use;

- creation and development of other integrated systems of common use or the systems of other character.

Strategies oriented towards the processes of synthesis should ensure that their main focus is put on the following priorities:

1. Priorities for *quantitative changes*, including:
   - development and distribution of novel common European values, new patterns of lifestyles and societal behavior stereotypes, expressing common European dimensions in the entire European Union;
   - development and distribution of novel common priorities: orientation towards the requirement that being part of the common knowledge based society in the European Union, along with innovativeness, creativity and ability to create and implement new technologies in various spheres of life are priority values;
   - prevalence of multicultural and especially multinational communities and organisms in all major spheres of social and economic life.

2. Priorities for human resources training, enhancement of intellectual capital and creation of common system, including:
   - development of training systems for human resources, uniform in the entire European Union, starting with university sector and including other sectors of higher education;
   - creation of systems for science and technology development, uniform in the entire European Union;
   - creation of "lifelong learning" systems, adapting them to the needs of developing common labor market in the European Union;

3. Priorities for the creation of a common economic system, including:
   - transformation of the key economy sectors into the existing integral economic systems in the entire European Union;
   - transformation of national economic systems into common economic systems of the European Union or economic systems of its large regions;
   - creation and implementation of legal acts and norms regulating economic endeavors, and a common system for the entire European Union;
   - execution of common monetary and fiscal policies on the scale of the entire European Union;
   - execution of common policies in the sphere of foreign trade on the scale of the entire European Union;
   - execution of common policies in the sphere of investment on the scale of the entire European Union;
   - execution of common policies in the energy sector, as well as environment protection and use of natural resources on the scale of the entire European Union;

- execution of common policies in specific sectors of economy (industry, transportation, agriculture, fishing) on the scale of the entire European Union;
- execution of common policies in the field of technology advancement, especially, high technologies on the scale of the entire European Union;

4. Priorities for creation of common systems of political, social, cultural development and security protection, including:

- execution of common policies in the sphere of employment and social security, as well as health protection, education, science and studies on the scale of the entire European Union;
- execution of common policies in the sphere of culture, as well as mass media and other spheres adherent to culture on the scale of the entire European Union;
- execution of common policies in the sphere of border protection, public security and legislation on the scale of the entire European Union;
- execution of common policies in foreign policy and security on the scale of the entire European Union.

The aforementioned strategies with a focus integration and synthesis are designed for further enlargement of the European Union. These strategies should address the creation of the knowledge based society and knowledge economy: the *integrity of such strategies* expresses the attitude of the modern society towards key transformations that are meant to happen in the future.

It is critical to note that the strategies oriented towards integration and synthesis can also be designed for the European Union as a whole, and for particular spheres of social and economic life in the European Union. These strategies can also be designed for various spheres and sectors of social and economic life in the global space. One of these spheres is development of national and regional economic systems and creation of cluster based economy of a new type.

Cluster Networks, "Economic Oases" and Rational Specialization of Regional Economies: New priorities of innovative development

The principles and practices of contemporary economy confirm that in *efficiently operating economic systems their surplus value* is *created to a greater extent*. This statement works in all cases where there are ways to increase efficiency and compatibility on the scale of both particular economic subjects and large national and regional economic systems (Boldrin & Canova, 2001; Bond, Syropoulos & Winters, 2001; Chortares &Pelagidis, 2001; Redding &Venables, 2004; Sangmon, 2002). The main precondition to ensure high efficiency and compatibility of any economic system is to achieve that any economic system is *properly specialized* (Hummels, Ishii,

Kei – Mu Yi, 2001; Huseman & Godman, 1999; Olsen & Osmundsen, 2003; Melnikas, 1997, 2002, 2011, 2013, 2014).

By *proper specialization* we understand the situation where the range of products produced within the *economic system* guarantees *magnification of the surplus value within this system*: the economic system should be exceptionally oriented towards the series of products, services and activities, whose structure allows for achieving potentially greater surplus value or higher velocity of the increase of this value.

For the sake of rationalization of a national or regional economic system, various means may be used. These means should create a *solid complex*, and have to be *long-term* and *consecutive.* The idea of the means should ensure that the entire economic system of particular region or country is developed as a *large macro-cluster or hyper-cluste*r. These large macro-or-hyper-clusters may be *multi-profiled* and oriented towards *creation* of different and diverse *final products*, and it is very important to create final products that are compatible in *global markets*.

It is obvious that large macro – or- hyper- clusters in particular countries or regions should meet the following requirements:

- large clusters of this kind function as *open systems*, maintaining both internal and external economic and technological relations in international and global markets;
- *inside* the large clusters of this kind various specialized clusters can be created within incorporated diverse institutions of science, research and education, enterprises of production and services, business incubators, parks of science and technology, centers for innovation, and industrial, trade, transportation and communication companies.

Development of large economic systems in a way of *clusterization* may be of great variety. A very prospective method is the creation of *regional (territorial) or sectoral "oases"*.

In general, "oasis" can be explained as an *economic system*, *possessing extremely advantageou*s *political, legal, economic and other conditions for activities and development*. These conditions are, as a rule, exclusive, and in their presence the "oasis" as an economic system has various privileges or an extremely beneficial environment is created for it. "Oases" can be established on behalf of political will of a *state* or even a *group of states*: by the way, the idea of regional "oases" is very viable in the improvement and implementation of regional policy of the European Union, with the intention to create "oases" "not only in particular countries, but also in regions, comprised regions of different countries.

In regional "oasis", exceptionally advantageous conditions for economic development are created in a territorially outlined area (region). This area may or may not coincide with systems of administrative territorial division of particular countries.

Sectoral "oasis" is the one where exceptionally advantageous conditions are created for particular branch of economy, and particular segments of business or public sector.

In the process of creating and developing "oases", it is very important to consider the demographic situation, possibilities to attract, concentrate and efficiently utilize human, financial and other resources. It is also possible to expand various innovations.

The idea of "oases" and opportunities to promote this idea under circumstances of the development of the European Union has been described quite comprehensively (Melnikas, 2002, 2003, 2004, 2011, 2013, 2014).

Summarizing the statements given above, we may confirm that the concepts of *proper rationalization of national and regional economic systems*, as well as concepts of creation of *macro-or-hyper-clusters and "oases"* are of great importance, as they ensure progress in the entire European Union.

The idea of clusters, their networks and "oases", oriented towards rationalization and specialization of regional economies, is very promising for the creation of *the knowledge based economy* in the European Union. The implementation of this concept should be based on the *universal principle of "creation of a new quality"* when planning to prepare and implement appropriate *strategies oriented towards integration and synthesis.*

In order to create the knowledge based society and knowledge based economy in the European Union, we should purposefully and consecutively implement the strategies oriented towards integration and synthesis embracing *all major spheres* of *social, economic and cultural life.*

Considering the fact that when creating the knowledge based economy the key priority should be given to *clusterization, networks of clusters, economic "oases" and rational specialization of regional economies* we suggest that: for the benefit of creation of knowledge based economy in the European Union, it is necessary to prepare and implement *a complex of strategies for clusterization and rational specialization of regional economies.*

The strategies for clusterization and rational specialization of regional economies should include both the strategies oriented towards integration and the strategies oriented towards synthesis: the strategies oriented towards integration and the strategies oriented towards synthesis are characterized by different purpose and different content.

The idea behind the strategies oriented towards integration is to ensure high efficiency and compatibility of different regional economies and different sectors of both in the integral regional economic spaces and in the global markets. These strategies should draw upon the following key decisions:

- each national or regional economic system should define one or more *priorities* oriented towards the *creation of modern state-of-the-art technologies and*

products: based on such priorities, one could define or develop *rational specialization of each national or regional economy;*

- each national or regional economic system according to the *regional priorities,* should form *regional economic "oases"* and clusters*;* whereas general "oases" and clusters can be transformed into *macro* – or *hyper – clusters* on the scale of large regions or the entire country (the clusters of this kind can be of a *broad scope, multi-scope* and *limited scope*, functioning as *specialized* clusters in particular sectors of economy);
- creation of "oases" and clusterization should ensure that *the major role* in economic development is to be played by *intellectual resources and technological advancement.* The idea of the *strategies oriented towards synthesis* is to achieve *that major sectors of economy* operate as *integral systems on the scale of the whole regional or global space.*

Each sector of this kind as a system should possess a *very high level of technological development* and should be a *leader* in the corresponding sphere of economy *on a global scale.* Orientation towards the challenges of this kind requires that the following decisions are made within the framework of these strategies:

- on the scale of the entire regional or global space, *the networks of regional and sector clusters, as well as "oases"* should be created and mutually developed: each element in the networks of this kind could become *rationally specialized.* Thereby, it would be possible to make sure that *the network as a system is of a state-of-the-art level of productivity and technological advancement;*
- *the networks of regional and sector clusters as well as "oases"* should be *specialized:* subsequently, the networks of this kind on the scale of regional economic space are *mutually complementing* and based on partnership;
- *the networks of regional and sector clusters as well as "oases"* which are created in the regional space *can operate outside this space:* this will ensure the viability of economic structures and their compatibility in the global markets;
- the networks of regional and sector clusters as well as "oases" in the future should be an organizational basis for the *economies* of the *entire regional or global space:* the networks of this kind should be understood as the *key structural elements of the national, regional or global economy,* as well as a *key organizational structure* of the *knowledge based economy* in general (it is obvious that in any of these networks, high intellectual, information technical and other potential should be accumulated ensuring rapid and efficient headway of technologies and leadership in the global markets).

Implementation of the aforementioned strategies is a very important factor to ensure that the creation of knowledge based society and knowledge economy in various regional or global spaces becomes a reality.

To conclude, it is also worth noting that purposeful and consecutive development and implementation of the strategies oriented towards integration and synthesis ensures the development of an *integral, undivided, innovative and highly efficient knowledge based society* and *knowledge economy* within the European Union, other regions and globally.

Conclusions and Recommendations

Innovation activities and the creation of the knowledge based society and knowledge economy is a very complex and long-term process.

Key *challenges and priorities* that require main attention when creating the knowledge based society and knowledge based economy are as follows:

1. The implementation of the universal principle *"creation of a new quality" is the* basis for innovation activities and for the creation of knowledge based society and knowledge economy. *It has been* designed to complete the following:

- development of the society and economy of a new type is taking place under concurrent *processes of integration and synthesis;*
- when creating the knowledge based society and knowledge economy, an *integral cultural and multicultural space* should be created*;*
- when creating the knowledge based society and knowledge economy, *the strategies oriented towards integration and synthesis* should be created and implemented*;*

2. As regards *the strategies with a focus on innovations and innovation activities* designed to create the knowledge based society and knowledge economy, the main emphasis should be put on the following *priorities*:

- *rational specialization* of national and regional economies*,* ensuring *high compatibility* in both regional and global markets;
- transformation of national, regional and sector economies into the *macro –or hyper – clusters* and *systems of such clusters;*
- development of *clusters and networks of economic "oases" in the entire* regional or global system;
- further development of *clusters and networks of economic "oases" as key organizational structures* characteristic of various regional and global systems.

3. Under conditions of further development of various national, regional and global systems the following provisions should be implemented:

- issues regarding modernization and increasing compatibility of national, regional and sector systems should be tackled *in the strategies oriented towards integration*;

- issues related to the creation of the *integral and undivided* knowledge based society and knowledge based economy should be tackled *in the systems oriented towards synthesis in the entire region or globally.*

Further scientific research and practice dedicated to innovations and innovation activities for the knowledge based society and knowledge economy creation are very promising and important.

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THE PUBLIC-PRIVATE PARTNERSHIP STRATEGY IN THE CONTEXT OF INNOVATIVE DEVELOPMENT OF ECONOMY IN BELARUS

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Abstract

The analysis of innovation activity in the Republic of Belarus is conducted in the article. The authors of the article develop theoretical and methodological foundations for public-private partnerships (PPPs) in the innovation sector, incl. the PPP concept, features of PPPs, PPP relationship model in the innovation sector, as well as PPP types and models. The directions for PPP's strategy formulation to ensure innovative development of Belarusian economy are provided. The research methods include the analysis and synthesis, comparison values and the expert method.

Keywords: *public-private partnership, innovation, innovative development, innovation activity, innovation projects, competitiveness*

Introduction

In the context of development of "new economy", traditional approaches to management of innovative activity, which is focused on building material benefits and accumulation of material assets, do not comply with current changes (globalization, increased competition, development of network structures). They should be complemented with a new approach based on promoting partnerships in science and education.

The essential precondition for high-quality economic growth that is based on innovation is constructive interaction between business and government structures. The nature of these relations is manifested in the PPP institution. Active formation of the ideology of the partnership between business and the state, legislation and projects in this area began in the first half of the 90s of the 20th century, by the end of which there were more than 3000 officially registered active PPP projects in the world. According to

Going Global, the world leaders in the development of such partnerships are UK, Australia and the Scandinavian countries (CBI, 2007). In many OECD countries the PPP projects account for a growing share of state budget for science and technology.

The significance of PPPs in addressing the challenges of innovation development of economy is recognized in Belarus at the state level. This is reflected in policy documents – the Directive of the President of the Republic of Belarus No. 4 "On the Development of Entrepreneurial Initiative and Stimulation of Business Activity in the Republic of Belarus", the State Program for Innovative Development of Belarus for 2011–2015, and the Program of Socio-economic Development of the Republic of Belarus for 2011–2015. However, currently the PPP strategy is absent in the Republic of Belarus. Future PPP relations in the sphere of innovation and mechanisms for practical realization are not defined in the draft law of the Republic of Belarus "On Public-Private Partnership".

Theoretical foundations of PPPs are developed in the writings by foreign authors (including CIS), e.g. K. Bovis, S. O. Bochkov, V. G. Varnavskiy, J. Hamilton, M. A. Deryabina, Dzhieng Feng, D. Zanoga, N. Cooper, G. P. Kurapov, K. Kliffton, N. Cruz, N. M. Kolganov, S. N. Larin, I. N. Markov, V. N. Noskov, L. S. Plakitkina, B. P. Simonov, A. Smith etc.The methodology of relations of PPPs are investigated by N. N. Bondar, E. P. Borushko, A. S. Golovachev, E. A. Daderkina, E. B. Dorina, A. Zaborovsky, I. V. Novikova, P. G. Nikitenko, S. V. Lanevsky, I. N. Melnikova, S. I. Mazol, V. M. Krasovsky, O. Temnitskaya, etc. However, the development of institutional mechanisms of PPPs in innovation with regard to the specifics of the innovation cycle and features of the Belarusian model of economic development could not be reasonably traced in previous studies.

The purpose of this article is to justify the PPP strategy in innovative development of the Belarusian economy, considering relevance and insufficient degree of elaboration of PPP mechanisms in the sphere of innovation. To achieve this objective, there is the need to:

- carry out the analysis of innovation activity in the Republic of Belarus;
- develop the theoretical and methodological foundations of PPPs in the sphere of innovation;
- offer the direction for the development of the PPP strategy in the innovative development of economy of the Republic of Belarus.

The Analysis of Innovative Activity in the Republic of Belarus

Belarus has worsened its position by 5 places, ranking the 93rd in 2011/12 and the 98th in 2013/14 (see Table 1) in the competitiveness rankings of the *Global Competitiveness Index* (GCI) for 2010–2013 by the World Economic Forum and SIC Mises AC "Strategy.

Table 1

World Countries by the Global Competitiveness Index (GCI)

Country	Place in the Global Competitiveness Index GCI *			Place in the GCI Sub-indexes								
				Basic Requirements			Efficiency Enhancers			Innovation Factors		
	2011/12	2012/13	2013/2014	2011/12	2012/13	2013/2014	2011/12	2012/13	2013/2014	2011/12	2012/13	2013/2014
Switzerland	1	1	1	3	2	3	2	5	5	1	1	1
Singapore	2	2	2	1	1	1	1	1	2	11	11	13
Finland	4	3	3	5	4	7	10	9	9	4	3	2
Germany	6	6	4	11	11	9	13	10	8	5	4	4
USA	5	7	5	36	33	36	3	2	1	6	7	6
Sweden	3	4	6	4	6	8	7	8	7	2	5	5
Hong Kong	11	9	7	2	3	2	4	3	3	25	22	19
Holland	7	5	8	7	10	10	8	7	11	9	6	7
Japan	9	10	9	28	29	28	11	11	10	3	2	3
Britain	10	8	10	21	24	24	5	4	4	12	9	10
China	26	29	29	30	31	31	26	30	31	31	34	34
Estonia	33	34	32	27	26	26	36	31	30	37	33	35
Poland	41	41	42	56	61	59	30	28	32	57	61	65
Czech Republic	38	39	46	45	44	55	29	34	37	32	32	36
Lithuania	44	45	48	49	49	43	48	46	47	50	47	44
Kazakhstan	72	51	50	62	47	48	76	56	53	114	104	87
Latvia	64	55	52	66	54	40	54	48	41	64	68	68
Russia	66	67	64	63	53	47	55	54	51	97	108	99
Georgia	88	77	72	86	64	57	89	87	86	117	120	122
Slovakia	69	71	78	60	62	67	54	51	56	64	74	77
Ukraine	82	73	84	98	79	91	74	65	71	93	79	95
Greece	90	96	91	80	98	88	65	69	67	81	85	81
Belarus *	**93**	**92**	**98**	**95**	**112**	**117**	**91**	**94**	**99**	**96**	**90**	**104**

* Index of 148 countries in 2013–2014; 2012–2013 – 144 countries; 2011–2012 – 142 countries.

* across Belarus an assessment of the Research Centre of Mises AC "Strategy".

Source: Romanchuk, 2011, Global Competitiveness Report. World Economic Forum, 2014.

The calculation of the Global Competitiveness Index rankings is conducted in the following key indicators: basic requirements (institutions, infrastructure, macroeconomic stability, health, and primary education); efficiency enhancers (higher education, the efficiency of product markets and labour market, financial market sophistication, technological readiness, market size); innovation factors (business experience, innovation).

Economic growth in Belarus has not yet become innovative.

The innovation factors rank 104th in 2013/14 out of 148 countries (see Table 1) in the assessment of global competitiveness of Belarus.

The analysis of the factors constraining innovative development is carried out based on the expert method by the National Statistical Committee of the Republic of Belarus (12479 heads of the industrial enterprises participated in the poll).The heads of the Belarusian enterprises have identified the following factors constraining the development of innovative activity (from a list of factors as the main or decisive) [Science and innovation activity in the Republic of Belarus, 2013: 101]:

- lack of own money (739 answers);
- lack of financial support from the state (531 answers);
- lack of opportunities for cooperation with other organizations (229 answers);
- high cost of innovation (681 answers).

The analysis of innovative activity shows that the expected indicators, which are determined by the State Program of Innovative Development of the Republic of Belarus for 2011–2015, were not executed by the end of 2014.

The main problems include:

- The funding of scientific research in Belarus does not meet the needs of international competition; there is very low research intensity.
- Low efficiency of innovation, as evidenced by the low value of the share of new products in total production.
- Lack of own money; lack of financial support from the state is identified as factors hindering the development.
- Low level of innovation.
- Partnerships for innovation are yet not developed in Belarus.

Thus, the analysis showed the imperfection of the innovation system in the Republic of Belarus. It confirms the relevance of the development of increased innovation through the development of PPP relations.

The PPPs Concept in Innovation

The term ‘public-private partnership’ (PPP) emerged in the early 90s of the 20th century and is associated mainly with the "British Model" PPPs. D. Major government

announced the "Private Finance Initiative" (PFI), which was a modernized concept for management of state-owned property in 1992.

According to authors of scientific researches in the field of PPPs (Varnavskiy, 2014: 67–74, Regional Training Materials on PPP, 2012, Makarov, 2013: 18–29, Firsova, 2013: 25–30, Bovis, 2013:1–35, Cruz, 2013: 292–307), PPP is understood as the institutional and organizational alliance between the state and business (enterprise structures). It is directed towards the attainment of common economic targets, solving of current social and economic tasks, the implementation of national and international, large-scale and local projects for the society in a wide range of fields of activity, incl. the development of strategically important industries and financing of innovative scientific development.

By analysing the existing definitions, we can conclude that the PPP is considered as legally admissible for a fixed term mutually beneficial cooperation bodies (organizations) of the government and a business entity for objects that are under direct control of the state, as well as services implemented by the state. This cooperation involves pooling of resources and sharing the risks between the partners. It is carried out to ensure the most effective implementation of the projects having important state and public value. The range of relationship between business and the state has expanded, and is being used widely in the sphere of science and innovation.

Formation and development of PPP gains special relevance under modern conditions of globalization of economy and internationalization of production. The PPP with the foreign capital provides more opportunities for Belarus to be integrated into the world economy and to acquire the necessary experience and advanced technologies. Interaction between the state and multinational companies in the global context is an important precondition for maintaining and enhancing the competitiveness of domestic production.

The PPP relationships create preconditions for innovation activity of business entities by virtue of their specific features. As a result of PPPs, the increased innovation activity occurs at all stages of the innovation process: education, research and development, investment, innovation transfer. Knowledge sharing, idea generation, R&D are the factors of innovation activity. The key problem of science – new development, mission of the state – the creation of frame conditions, a business problem – commercialization of development within PPP in the sphere of innovation.

Use of PPP mechanisms gives the opportunity to implement innovative projects, unattractive for traditional forms of private financing in the shortest possible time. The PPPs increase the project efficiency. The conditions are created for reducing the burden on the budget by attracting private funds and transcriptions of the cost of users (commercialization services), by attracting the best managerial personnel, equipment and technology, improving the quality of end users. The review and synthesis of theoretical researches (Varnavskiy, 2014: 67–74, the State Program of Innovative

Development of the Republic of Belarus for 2011–2015, 2014; Kolganov, 2013:145–151; Larin, 2008:312; Lenchuk, 2014:19–46; Melnikova, 2012: 61–62; Nikitenko, 2011; Firsova, 2013: 25–30) allowed for defining PPP's theoretical and methodological foundations in innovation, taking into account the institutional environment of the Republic of Belarus.

In the sphere of innovations, PPP is a set of organizational legal relations and actions of the state and private business directed towards achieving the objectives of innovative development at macro, regional and micro-level by means of implementation of projects and programs.

Innovative program is a complex of innovative projects and actions based on resources, performers and terms of implementation, providing the effective solution of development tasks and distribution of essentially new types of products (technologies).

Innovative project is the project containing technical and economic, legal and organizational justification of final innovation, e.g. a comprehensive action plan aimed at creating or changing a particular system through the transformation of innovations and providing for its implementation. Certain conditions (time, funding, equipment, methods of organization, etc.) are the attributes of the innovative project.

Pooling of resources and potentials of two economic entities takes place in such a relationship system. The ownership, financing, provision of services (education, consulting, etc.), guarantees (e.g. banks for the credits of the private sector), tax and other privileges may be contributions of the public sector. Finance, property, management, professional experience and the ability to innovate are the contributions of the private sector.

Signs of PPP are as follows:

1) The parties to the partnership represent the public and private sector.
2) The relationship of the parties is recorded in official documents (contracts, contracts, agreements on partnership, etc.).
3) The relationship between the parties is a partnership that is equitable in nature.
4) The parties have common goals and certain state interest.
5) Realization of partnerships takes place in competitive environment (which involves competition among business entities applying for the state support).
6) A clear definition of goals and roles, the division of authority and responsibility, accountability, strategic management.
7) The parties combine their contributions to achieve common goals.
8) The parties share the costs and risks, use the obtained results.

The private partner and state partner can initiate the PPP project. The state partner initiates projects of national value, e.g. a project on the creation of a petrochemical

cluster, a project on the creation of the international research consortium and a project on the creation of science and Technology Park.

The PPP relationship can be implemented in various fields: transport, utilities, energy, telecommunications, health, education, culture, tourism and sport, social services, innovation.

Specificity of innovation affects the PPP types and models in the field of innovation. The innovation process involves high risks and big initial costs in various stages of the innovation process, such as education, research and development, investment, innovation transfer, production, distribution and service of innovative products.

There are specific PPP types in the sphere of innovation.

Type PPP in innovation is a combination of organizational and legal relations and actions of the state and private business to achieve the common goals of innovation policy of the Republic of Belarus, which are fundamental for building an innovative economy in the country. The PPP types in the sphere of innovation are formed at stages of an innovative cycle and include: partnership in education, cooperation in R&D, cooperation in investment activity, cooperation in technology transfer, cooperation in production of innovative products.

The PPP model in innovation is the specific PPP project that results from lawful and transparent procedure for selection of corresponding PPP participants from private business to solve specific problems in the sphere of innovation. It is directed towards solving of private problems related to innovation policy of the Republic of Belarus.

There are several models within each type, for example, the PPP type – *cooperation in technology transfer* can include the following models (projects): a project on the creation of the innovation and technology centre, a project on the creation of regional venture fund with the state participation, the project on the creation of a high technology innovative product, etc.

In stages of innovative process (education, R&D, investment activity, innovation transfer) knowledge is the source of innovation in the development of a product and production technology, management, marketing techniques, advertising, etc. The partnership in education is realized in the following directions: participation of the government's regional bodies in development of educational programs in local universities; the organization of the training seminars, conferences on management issues, marketing, law, and logistics for the business entities of a particular region.

Joint research (engineers, public research organizations and business organizations); joint product development; improvement of product design; improvement of production methods; joint development of high technology products are the directions for cooperation in scientific research and development. *Cooperation in investment activity* is joint funding of innovative projects by business entities and public and regional government authorities, attraction of foreign capital by regional state

authorities for the establishment of companies with foreign investment, the creation of venture funds. *Cooperation in technology transfer* is the creation of technology transfer centres, free economic zones, technology parks, business incubators, joint and franchise organizations.

Thus, activation of innovation resulting from PPPs takes place at all stages of the innovation process. Knowledge sharing, idea generation, joint financing of R&D are factors of innovation activity. PPP doesn't mean simple addition of resources. Each party has its own goals, specific problems, and thereby different motivations.

Main Directions of the Public-Private Partnership Strategy in Belarus

The national strategy for development of PPP in Belarus as part of the state innovation strategy is necessary for successful use of PPPs in the innovative development of economy of the Republic of Belarus.

The main directions of the PPPs strategy in innovation are:

- the development and continuous improvement of scientific and innovative policy;
- the integration of public and private property under the relevant innovative projects on the principles of profitability and repayment;
- the promotion, advancement and dissemination of knowledge about PPPs;
- the creation of a legislative base of scientific and innovative activity, taking into account strategic objectives, priorities and policy in this sphere;
- the producing of PPP development programs in specific sectors of economy;
- carrying out actions to build trust between partners and foster cultural development through cooperation between state and private partners;
- the development of forms and methods of interaction between the government, public and private research and innovation institutions;
- improvement of tax and customs policy, including tax and customs privileges;
- assistance and partnership in formation of scientific and innovative infrastructure (technological centres, science and technology parks, centres for collective use of equipment, industry technology transfer centres, etc.);
- international cooperation (for example, the creation of innovative joint corporations);
- state funding, development of venture funds, business angel networks, start-up schools;
- state support for SMEs in innovation;
- establishment of PPP's institutional environment in the country: the financial and economic institutions providing investment and guaranteeing private

investment, independent organizations, which carrying out examination of projects and consulting, management companies, associations, unions, foundations, etc.;
- training of specialists in the field of PPP and investment managers;
- definition of financial relations between public authorities, public and private research and innovation organizations.

The combination of these measures should contribute to the accelerated development of a competitive innovation system in the Republic of Belarus, and thereby, to accelerated modernization of economy at national level. Solving of these problems will certainly require creative, entrepreneurial approach from both the state and business, not only in manufacturing, but also in the management and organization of investment planning.

The interaction between the government and businesses in the implementation of major investment projects in the sphere of innovation requires a variety of *necessary conditions*.

They are as follows:
- the existence of strategic priorities, which are accurately formulated by the state and designation of possible ways of their achievement by means of individual local projects;
- establishing the rules for interaction between the state and private business in the implementation of joint projects;
- development of concrete proposals for the division of investment, the risks and benefits of each development.

The proposed stages of PPP formation in Belarus are as follows:
1) defining and expression of initiatives (government and private partner);
2) two parties for the implementation of the put-forward initiative;
3) dialogue (coordination of essential conditions) of the state and the private sector about the future of the PPP project;
4) fixing agreements between the state and private business;
5) implementation of the commitments under PPP;
6) analysis of the results of PPP;
7) development of new (more perfect) PPP models;
8) and again development of initiatives.

The draft agreement on PPPs in innovation can include the following provisions:
- subject and object of the agreement;
- purpose of the agreement;
- validity period of the agreement;
- volume, contents and types of work and (or) services;
- timing of work and (or) services;

- the order of creation (construction, reconstruction) and / or operation of the facility agreement;
- powers, rights and duties of parties to the agreement;
- financial terms of the agreement, including the terms of payment between the parties;
- distribution of risks;
- guarantees provided for the parties to the agreement;
- set of the rights which are transferred by the state partner to the private partner;
- resources of the state partner, which are transferred by each state partner to the private partner; an order to transfer these resources;
- ownership of the object agreement and intangible assets related to the agreement (licenses, permits and other documents), the distribution of shares of public and private partners in the ownership of the specified object, the conditions and time of such rights;
- procedure for the return of state resources as the result of ownership agreement necessary to sustain the provision of services at the time of expiration, or in case of early termination of the agreement;
- environmental, historical, cultural and security requirements;
- insurance conditions in connection with performance of the agreement.

Conclusions

It is necessary to formulate and approve the PPP strategy and mechanisms for its realization to ensure innovative development of Belarus. It is advisable to accelerate the adoption of the law "On the Public-Private Partnerships" of the Republic of Belarus and the development of methodological support for PPP projects.

The theoretical and methodological foundations for using a new resource for innovative economic development, which are developed and presented in this article – the PPPs of business, government and education will allow achieving synergetic effect from cooperation. The increase in innovation activity occurs at all stages of the innovation process: education, R&D, investment, innovation transfer. Knowledge sharing, idea generation, joint funding of R&D are the factors of innovation activity.

The proposed directions for development of PPP strategy in Belarus will be interesting for both businesses, business associations, government, as well as regional government.

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RISK ASSESSMENT FOR DEVELOPING A MARKETING STRATEGY FOR LATVIAN SMALL AND MEDIUM SIZED ENTERPRISES

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Abstract

The cornerstone of successful business is to correctly define the strategic directions of business operations, including marketing. As disparities among the products are reducing due to technological advancement, the role of marketing in ensuring competitiveness is rising. Under conditions of changing environment, it is becoming more and more difficult to successfully forecast business development in order to precisely define a strategy. There are a lot of diverse internal and external factors that influence proper decision making. Therefore, it is very important to duly identify and evaluate the possible risks and work out contingency plans for minimising their impact.

Keywords: *risks, risk classification, risk management, marketing strategy*

Introduction

Under conditions of contemporary market, the main goal of an enterprise is to ensure its competitiveness. Customer orientation, customer research and satisfaction of customer needs, the involvement of the customer in the development and improvement of products and services are the factors of customer oriented approach that is the focus of marketing. It is difficult to imagine and ensure the successful implementation of this process without the development of a successful marketing strategy. The development of the strategy depends on the analysis of the internal and external environment, which are variables and subject to various risks. Therefore, over the last few years, the role and significance of risk management in ensuring the successful functioning of an enterprise has been highly appreciated in Latvia. Risk management promotes risk prevention, enhances decision making, helps set priorities and allocate resources providing a deeper understanding of the potential risks and the potential adverse outcomes. Entrepreneurs have to learn to recognise, assess and reduce risks, as well as to properly analyse the risk circumstances in order to be able

to sensibly use market correlations, not fall victim to market circumstances and be afraid of the changing circumstances but to exploit the advantages of the market and avoid incurring losses, which result from improper or inefficient decision making.

The aim of the research is to assess the advantages of using risk management for development of the marketing strategy of an enterprise as an effective management tool for increasing competitiveness and rational use of resources.

The following tasks were set to achieve the goal:

- to describe the risks, their classification and management principles;
- to identify the role of marketing strategy in strategic planning of an enterprise;
- to classify risks related to the development of the marketing strategy;
- to carry out a survey of management and leading specialists of Latvian small and medium sized enterprises with the objective to ascertain about the level of use of risk management.

Research limitations: The enterprises' managers and leading specialists were surveyed to determine the trends in Latvia and to put forward recommendations for enhancing marketing strategies for risk management. In view of the specific features and multifaceted nature of development of marketing strategy and risk management aspects, the following limitations were set for the research: risk identification was carried out mainly from the methodological aspect and respondents' details, e.g. educational level, age, gender, social status etc. were not taken into account. The results of the survey are presented and elaborated in this paper. Research period: January 2014 – March 2014.

The following research methods were used: monographic or descriptive method, logic – constructivist method, comparison of theoretical materials with empirical results, graphic method – visual display and analysis of information gathered; survey – survey of opinions of managers and leading specialists.

The research methodology is based on the work of Latvian and foreign researchers, contemporary authors who have provided an insight into the latest information on trends in risk management and into the novelties in risk management and methodology.

Risks and their Management

Businesses will always be subject to risks as they always exist regardless of whether we recognise them or not. In many cases, the failure of businesses can be attributed to their inability to identify risks. Any kind of economic activity is subject to numerous difficulties and unforeseen circumstances, dependent or independent of the entrepreneur. Understanding the risk situation one can find a way out by taking the right decisions for preventing or minimising the risks. As stated by the risk expert

A. Vedla, "… the task of an entrepreneur is not to avoid risk... One must understand ... anticipate and feel it, assess the level of risk and try to minimise it to the lowest possible level". Taking risks means to meet unknown and possible dangers in order to get certain benefits, advantages (Vedla, 2002).

There are many and varied risks for each and every sector and enterprise. Many entrepreneurs simply do not recognise that risk management is necessary; however risks exist for all enterprises. It is only not known when they will come into force and how they will impact a particular enterprise. Risk management is a complex process that includes all the areas of an enterprise's operations in order to transfer and reduce existing risks to the minimum. It is difficult to classify risks due to their close mutual interaction and changing nature. Risk classification depends on the "perspective" that is determined by the public opinion regarding any risk and can be influenced by the transformation of one risk into another. Different authors use many different classifications. Approximately 40 different kinds of risk classifications can be inferred from publications of researchers and business specialists. However, while studying risks around 5–15 classifications are used (Zvaigzne, 2005).

The following principles should be observed while classifying risks: risk classification has been for a particular purpose and has to be done using a system. By systemising risks, one can identify several specific variables in a goal oriented manner to characterise the risks involved, e.g. factors causing the risks, effects of risks, risk situations etc.

Handbooks on risk management offer more in depth breakdown of risk classification.

1. In terms of losses, business risks are classified into:
    - production risks;
    - commercial or market risks;
    - financial risks;
    - loan risks;
    - investment risks;
    - infrastructure risks – related to inflation, changes in taxation legislation, inadequacy of information.
2. In terms of risk forecasting, business risks are classified into:
    - Expected risks – the enterprise already knows the approximate consequences of such risks.
    - Unexpected risks – the precise impact on business cannot be determined due to the specific nature of such risks.
3. In terms of risk impact, business risks are classified into:
    - Global risks – impact on the whole world (scarcity of raw materials, pollution, world wars etc.).
    - Local risks – topical only within a particular territory.
    - Selective risks – impacts only certain individual enterprises.

4. In terms of systematisation (diversification possibilities), business risks are classified into:

- Systematic (non-diversifiable risks) risks – affect the whole investment market.
- Unsystematic risk (diversifiable) risks – affect a particular investment project or enterprise.

5. In terms of results, business risks are classified into:

- Physical risks – related to fires, floods, thefts to technogenic accidents such as industrial explosions and chemical emissions.
- Financial risks – related to market price changes, solvency of business partners, loss of reputation as well as other economic failures of business operations. (Risk Management Handbook, 2008).

Classification of business risks helps understand the nature of business risks and thereby helps maximally effectively organise risk management. Regardless of the manner how an enterprise classifies risks, the organisation of a rational and effective risk management process is necessary for effective management (Risk Management Handbook, 2008).

According to the authors' opinion, whatever the risk the enterprise faces, it is of utmost importance to determine the level of risk and its impact. As risk classification is very varied and diverse, each individual entrepreneur has to choose the most appropriate and relevant classification for his/her enterprise. Risk is a variable that changes in tune with economic and political changes in the country. Therefore the information related to the market must be systematic and regular.

As risks play a significant role in business, they carry out several functions. In order to identify, assess and control risks, entrepreneurs should be aware of the following risk functions:

1. **Innovative function** – risk can stimulate the search for non-traditional solutions to the problem.

2. **Regulatory function** – there are two forms: constructive and destructive. The Constructive form states that successful entrepreneurship is not possible without the ability to take risks.

3. **Protective function** – risk stimulates businesses to develop protection against failures.

4. **Analytical function** – risk forces entrepreneurs to analyse the causes and effects of risks (Risk Management Standards).

One of the mandatory sections of each and every business plan is the formulation of risk factors.

There is no 100% guarantee for successful and stable development of business in the future if the enterprise does not consider risk factors and their management today.

Risk management is a process that involves activities such as risk identification and assessment, setting up definite tasks and reporting on their performance of these tasks. It is not important how and with what aids the particular work flow is ensured but it is essential that the process takes place, and that it is supervised (Alenika, 2004). In the recent past, risk management was based primarily on the experience and intuition of enterprise managers and owners. Today, taking into account globalisation of businesses and concentration of capital, business operations are subjected to numerous and diverse risks and, therefore, management should be carried out by developing an integrated risk management strategy as well as by implementing a complex analysis and control mechanism. Risk is a component of progress and therefore risk management should be seen as an integral element of business management. It is defined by three factors:

- It is not possible to fully identify all the risks while planning business development or the identification of the full range of risks demands too many resources.
- External circumstances change frequently during the functioning of an enterprise, which leads to changes in the probability of occurrence of risks that were identified as well as the emergence of new risks.
- Plans are frequently corrected during the functioning of an enterprise, which promotes the emergence of new risks or changes in the probability of occurrence of existing risks and their impact (Risk Management Handbook, 2008).

Enterprises can use the three stage approach towards risk management:

- identification of risk types that the enterprise faces;
- determination of the potential impact of the identified risks;
- minimisation of each possible risk, using various risk management methods (Hillson, 2005).

In order to identify risks, one has to develop a list of risks that could affect the enterprise's development. Usually this list is extensive and, therefore, it is necessary to separate the important ones from the less important. Two risk assessment methods have been reviewed herein – point system for risk assessment and special coefficient method, which the authors would use to develop a risk management strategy for enterprises. These methods have been chosen to provide an insight in qualitative analysis methods and quantitative methods. Each method is also different in terms of complexity and length of calculation.

- **Point system for determining the magnitude of risk –** based on the determination of points for each identified risk type according to system components – probability of the risk, length of risk impact, severity of damages caused by the risks (Risk Management Handbook, 2008).

- **Special coefficient method –** helps assess individual risks and risk groups directly as well as indirectly (Pettere, 2004).

Several strategies can be foreseen for enterprise risk management. Taking into account the results of risk assessment, the right risk management strategy can be chosen.

Types of risk management strategies:

- considered – prudential strategy;
- risky strategy;
- risk avoidance;
- risk retention;
- risk transfer.

The choice of a strategy depends on the capital layout and psychological features of the enterprise management. An enterprise can often apply more than one strategy by choosing the appropriate one for each situation. The most common strategy is the strategy, which is characterised by the use of a unified risk management procedure for all risks. Usually, the risk reduction method depends on the chosen risk strategy. While choosing a risk reduction method, the enterprise should first of all take into consideration the efficiency principle: the choice of method is justified if the costs are lower than the possible damages. Regardless of the applied risk reduction method, managers of small and medium sized enterprise should pay special attention to the internal planning of their businesses. The reduction in the overall risk level is often achieved through a reduction of internal risks (Pettere, 2004).

Fear of the risk consequences may prompt an entrepreneur to avoid risks. **Risk avoidance** or conservative assessment – can lead to rejection of decisions that may bring in maximum profits (Leonovica, 2005). Risk avoidance involves activities as a result of which risks do not affect the performance of the enterprise. It could be achieved by changing the way how essential activities are performed or changing the enterprise's goals. If risk avoidance can be achieved at a lower cost or at no cost at all, such an approach should definitely be used. On the other hand avoidance may be mandatory if the potential impact of the use of all other attempts to reduce risks is no longer acceptable.

Marketing Strategy

An enterprise's strategy is a set of actions characteristic to an enterprise or a business model that foresees the achievement of set goals. The strategy is characterised by the position and activities of the enterprise within a particular sector and it is one of the biggest challenges faced by enterprise managers as modern day rapid development does not allow for planning next 10 years or at least five years, and managers must ensure the survival of the enterprise under fiercely competitive conditions. While

working out the plan for the enterprise's operations, one should take into consideration the possible problems, risks, losses that could occur in future and therefore duly consider and search for options on how to reduce and prevent them. The more the enterprise is ready to face possible risks, the more successfully it can operate in unprecedented circumstances.

The next level is the functional strategy level that includes:

- personnel management strategy;
- production strategy;
- financial management strategy;
- sales strategy;
- marketing strategy.

The marketing strategy should be developed based on the analysis of best market opportunities (Caune & Dzedons, 2009). It is the marketing strategy that combines all marketing activities of an enterprise and sets the general guidelines for carrying out and planning marketing activities in accordance with the enterprise's overall goals. The process of developing a marketing strategy can be divided into two stages:

- analytical stage;
- strategy development stage.

The analytical stage involves:

- market analysis and search for the potential niche;
- consumer analysis;
- competition analysis;
- product analysis;
- distribution analysis;
- assessment of strengths and weaknesses of the enterprise.

The strategy development stage involves:

- market segmentation, choice of the most promising segment and positioning of the product in each segment;
- development of product strategy;
- development of pricing strategy;
- development of sales strategy;
- development of promotional strategy.

PESTLE and SWOT analysis can be carried out initially to determine which factors affect a particular enterprise**.** SWOT analysis is a strategic planning tool that enables identifying the enterprise's Strengths, Weaknesses, Opportunities and Threats. The main idea behind SWOT analysis is to determine the potential development strategy of the enterprise. Everything is considered from the following perspective: how to transform the enterprise's weaknesses into strengths taking into account the external opportunities and threats. The main task of SWOT analysis is to identify the influence of internal and external factors on the enterprise in a systematic and sufficiently in

depth manner. The other task of SWOT is to provide the main basis for the development of the enterprise's strategy. The logical link between SWOT and the resulting strategy is that the latter foresees actions by maximising the use of the enterprise's advantages and opportunities on the one hand and reducing the weaknesses and avoiding threats on the other hand, thereby providing the enterprise with the opportunity to increase its competitiveness and strengthen its position in the market (Andersone, 2004).

Marketing Strategy and the Corresponding Risks

Analysing the essence of risk and risk management, it is clear that the development of marketing strategy dominates in the case of commercial or market financial risks, which are foreseeable and selective. There are a lot of such risks and, therefore, the authors suggest dividing the risks into four big groups: sector, competitors, consumers and promotion (Slivockis & Driziks, 2005).

Table 1

Risk groups for developing a marketing strategy

Risk group	Characteristic examples
Sector	Expressed price wars in the sector Impossible to find the promising niche etc.
Competitors	Is dominated by a few big players Possibility of new competitors etc.
Consumers	Changes in consumer needs and tastes Changes in priority of consumer needs etc.
Promotion	Problems in reaching the target audience Differing brand perceptions etc.

As the risks and their impact on the successful development of the marketing strategy for each individual sector and enterprise can differ drastically, the authors suggest dividing them into groups according to the points system, depending on the consequences of their impact. Such an assessment would enable identifying the most prominent risks and determine their level of impact on each particular stage of the enterprise's operations. Risks are grouped according to priority following their assessment using the overall points system. As the result, the most important risk factors that have to be focused upon are determined. At this stage the enterprise managers should start searching for solutions for managing the most significant risks. Only when the priority risks are determined, it is worth spending considerable resources for modelling the risks. **The risk management system includes the following key elements that are helpful for practical use:**

- finding alternative solutions for risks;

- working out recommendations for prevention or reduction of possible negative consequences;
- working out special plans that provide the opportunity to choose the best option while working in risk situations and implementing risk related decisions (Шахов, 1999).

It is also important to consider the following key principles in risk management:

- One cannot risk more than what the equity capital allows – the maximum damages cannot exceed the participant's financial capabilities.
- One should think about the risk consequences.
- One cannot risk with something big for just a small return.
- Positive decisions must be taken only if there are no alternatives.
- Simple principles of risk management must be used for managing business risks.

It is possible to manage risks using various techniques, which to a certain extent enable us to forecast the occurrence of risks and carry out preventive measures to reduce the risk level.

Risk Management in Latvian SMEs

The authors have carried out a survey of various enterprise managers and leading specialists in the small and medium sized enterprises' sector from January 2014 to March 2014. The questionnaire was designed based on risk management criteria. The respondents sample consisted of 100 managers and 66 leading specialists who were randomly selected from the authors' database. All the questionnaires were considered to be valid for use in the research. The questions were grouped into 4 parts: market research, marketing strategy, risk identification and risk management. Each group assessed a number of elements. The survey results are illustrated by the author as a summary of the four main parts.

As regards the first part on the market research, only 34% of the respondents answered that their enterprise had carried out a systematic market research and analysis; 12% of the enterprises hadn't conducted any market research at all and in the case of the remaining 54% – it was carried out irregularly (see Figure 1).

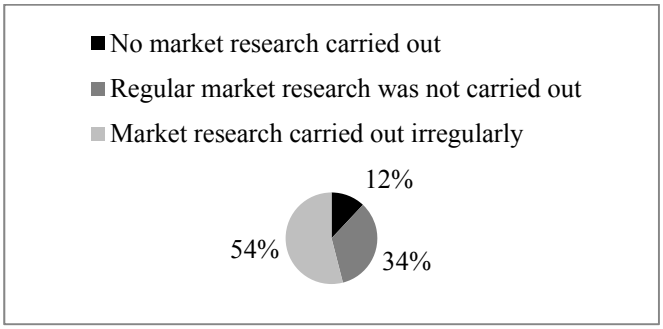

Figure 1. Regularity of market research

Concerning the 2nd part relating to marking strategy the majority of respondents – 53% answered that market research and analysis were not taken into account while developing a marketing strategy. The remaining 47% answered that market research and analysis was only considered to a limited extent while working out definite directions of the marketing strategy (see Figure 2).

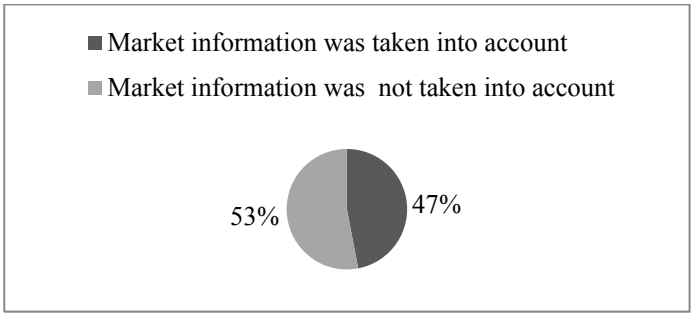

Figure 2. The development of marketing strategy based on market information

The 3rd part concerning risk identification for development of the marketing strategy can be seen in Figure 3 that reflects an even more dramatic situation. 72% of respondents answered that risks were not identified while developing a marketing strategy, 22% replied that they were partly identified and only 6% answered that they were identified. As regards the 4th part, it was but logical that in 72% of cases where the risks were not identified there was no risk management. In 22% of enterprises it was partly managed and only in 6% of enterprises the marketing strategy was developed based on the management of identified risks.

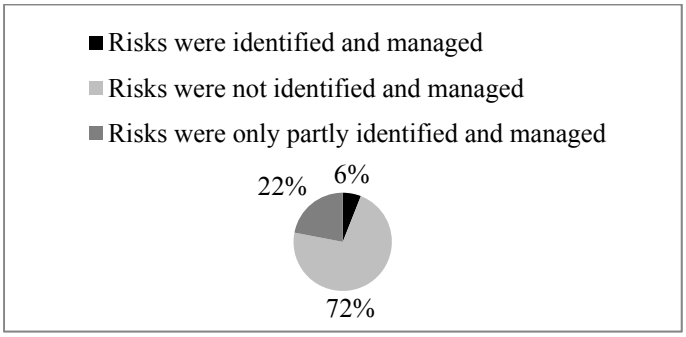

Figure 3. Risk identification and management

Such actions are indicative of the presence of problems in the Latvian business management process. As stated by a part of the respondents, the development of marketing strategy was mainly based on the intuition and previous experience of the enterprise managers and the entrepreneurs themselves.

Conclusions and Recommendations

Summarising the research carried out, the authors have come to the following conclusions:

1) Businesses are always subject to risks that could be caused by direct or indirect factors.
2) Risk management is a very significant component of each and every enterprise as it helps the enterprise reach its goals, strengthen its position in the market and develop.
3) Risk classification is very broad and varied. Each entrepreneur has to choose the one that is the most appropriate and relevant for his/her own business sphere.
4) Many different methods are used for risk assessment both quantitative and qualitative. Entrepreneurs have to know how much resources are needed for the application of each particular method, e.g., how time consuming the assessment process is.
5) The choice of risk reduction method depends on what kind of risk management strategy is being used by the enterprise.
6) Marketing strategy is a functional strategy and performs the essential function of creating and ensuring the competitive advantage of enterprises.
7) The development of marketing strategy is based on systematic market research, analysis and assessment of strengths and weaknesses of an enterprise.
8) The situation regarding risk management development in Latvian enterprises depends on managers' understanding of risk management and its necessity.

9) Managers of Latvian enterprises recognise the essential risks that their businesses can face but only a part of them are ready to introduce significant risk reduction measures.

Based on the aforementioned conclusions the authors have put forward the following recommendations:

1) Entrepreneurs should carry out systematic market analysis and take decisions based on the market research and analysis information. Regular PESTLE and SWOT analysis must be carried out at the enterprise.
2) While developing a marketing strategy, it is necessary to identify the risks associated with it and divide them into four groups, as well as assess them according to the points method.
3) A relevant strategy for risk management should be developed based on the risk assessment.

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SOCIAL SUPPORT RESOURCES: DISTRIBUTION PROBLEMS IN TRANSITION ECONOMIES

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Abstract

The paper is devoted to distribution of social support resources. The problem of poverty exists in transition economies. The objective of the public administration is to improve the quality of resource distribution in the field of poor social support. The main indicator of quality of social support resources is its targeting (distribution among really needy population). The main condition of targeting is exact estimation of gains. The aim of the paper is to develop the directions for distribution of social support resources through intensified benefit targeting. In order to develop the methods to improve targeting, the authors investigate the social support experience in the USA, European countries, the countries of Latin America, and Russia. The following methods are used in the paper: economic and statistic analysis, comparison method. The authors arrived at a conclusion that it is necessary to supplement direct gains estimation with indirect estimation. The methods offered in the paper enable to improve the quality of social support distribution in the countries of transition economy with limited budget and shadow economy.

Keywords: *social support, targeting, budget, poverty, gains, benefit*

Social protection is an important part of social state. It ensures adequate life level for dependent people. The problems of just social protection are very important in transition economies. In the period of drive for market the main aim of the government is to ensure the balance between centralized direction of budget expenditure and the means for citizens to find the employment without assistance.

One of population groups protected by the state is the poor. The most important mechanism for smoothing social inequality in the developed countries of Europe is the state policy aimed at squaring the household incomes through targeted social transfers, investment in human capital. The ratio of wages and social transfers in population

incomes play an important role in work motivation. Predominance of wage in total income usually develops enterprise, initiative while social transfers increase psychological dependency. The main problem associated with the government's social protection policy in transition economies is to ensure adequate life level for poor people using limited resources and excluding social dependence.

Poverty level varies among the countries. According to Russian official statistics, in Russia, it was 11% in 2012, in Hungary – 32%, in Latvia – 36.6%, in the Netherlands – 16%. However, the methods for poverty evaluation line across the countries. For example, Eurostat defines the 'underclass' as citizens who have less than 60% of median income. In the U.S. poverty standards are calculated separately for 20 types of families (number of households, age, presence of children, etc.); border income in 2009 was about $ 1,000 per person per month (Кокшаров, 2010). In Russia, the poverty line is defined in terms of the physiological minimum consumption, and in 2010 it was set at 5902 rubbles a month (Росстат, 2013. Smoothing of social inequality and poverty reduction in many countries are among the priorities. Usually, low-paid workers, the unemployed, single parents, children, youth and seniors rank as the poor.

Economic growth is a necessary but not a sufficient condition to tackle poverty. It requires additional elements:

- resources base of poor households should stimulate them to take part in economic growth;
- economic growth should be more intensive in the sectors with prevalence of the poor;
- maintenance and growth of consumption level of the poorest requires short-term government transfers (Barrientos & Hulme).

One of the main instruments to ensure these elements is effective social protection policy of the government. The problem of just distribution of social protection resources is sharp in transition economies because of limited budget and existence of "shadow" incomes.

Western Social protection systems for a long time have been based on the concept of 'welfare state' that implies the right of all citizens to maintain a certain standard of living, to health and education, with the participation of the population in funding of social programs. Since the mid-70s the growing demand of the population associated with its aging, as well as the economic slowdown forced the countries to move from a policy of "public assistance" to the policy of "economic independence"". The principle of targeted social protection was widely used.

The social support resource distribution policy depends on the number of factors: unemployment level, "shadow economy", the number of government dependants. Table 1 is indicative of the fact that the unemployment level in developing countries is higher than in advanced countries. It carries high government expenditure on social support.

Table 1

Unemployment Level in Advanced and Transition Economies
(% of economically active population)

Country	2009	2010	2011	2012
Russia	8.4	7.5	6.5	5.5
Bulgaria	6.8	10.2	11.2	12.3
Hungary	10.0	11.2	10.9	10.9
Germany	7.7	7.1	5.9	5.5
Latvia	17.1	18.7	15.4	14.9
Netherlands	3.4	4.5	4.4	5.3
Poland	8.2	9.6	9.6	10.1
France	9.1	9.3	7.8	10.2
USA	9.3	9.6	8.9	8.1
Brazil	8.1	6.7	6.0	4.9

Source: Россия и страны мира. 2012.

It is very important to take into account hidden employment and "shadow" income. For example, in Russia, 17% of citizens work for an informal sector. According to the World Bank evaluation, the level of shadow economy in advanced countries is 3–10% of GDP, in developing countries – 10–20%, in Russia – 49%. The availability of competitive working places and skilled manpower allows for tackling poverty without government transfers.

The number of government dependants is determined by the demographic load coefficient. The indicator in advanced countries is higher than in developing countries. For example, in the USA, in 2012 it was 62.5%, in Germany – 65.4%, in Japan – 80.4%, in Russia – 61.3%, in Latvia – 54.9%, in Poland – 52.1%, in Brazil – 53.5% (Росстат, 2013). On the one hand, high demographic load coefficient is indicative of government's ability to ensure adequate economic conditions for childbirth and life of dignity for old people. On the other hand, it requires high government expenditure and effective mechanisms for distribution of budgetary resources.

There are the following problems relating to distribution of social support resources in transition economies:

1) Limited budget resources require accurate detection of really needy population, excluding dependence on benefits. High level of poverty and unemployment indicate that considerable part of benefit recipients is capable of working; they can find sources of employment and incomes without the help of government.
2) Shadow incomes prevent from accurate poverty detection. There is a high probability of including mistakes in the process of needs evaluation.

3) Incomplete transition to market economy prevents from generating competitive jobs. Social protection of the government should focus on work stimulation by implementing work responsibility.

Social protection expenditure is high in European countries (Germany – 29.4% of GDP, France – 33.6%; Latvia – 15.1%; Hungary – 23.0%; the Netherlands – 32.3%; Bulgaria – 17.7% (Eurostat). The use of the targeting principle for distribution of social protection resources allows for optimizing the budget expenditure and stimulating the poorest to look for employment and return. The goal of targeting is to ensure receipt of limited budget resources by mainly poor population.

The system of measures needed for the implementation in practice of targeted social support policy, includes the following elements:

- assessment of income and financial position of the household members;
- identification of the reasons for which these individuals were among the needy;
- selection of an individual "package" that may include, in addition to financial support, the organizational measures to increase household income, as well as providing interaction with structures and organizations, which will participate in the provision of necessary social services;
- evaluation of the efficiency of assistance provided on the basis of the feedback system (Либоракина, 2002).

There are different targeting methods represented in Table 2.

The analysis shows that direct methods are used in advanced countries with high openness of economy and incomes. Indirect methods are used in the countries with high level of shadow economy where it is hard to receive documentary evidence of incomes. Therefore, direct methods of income evaluation should be complemented with indirect welfare indicators (education level, profession, assets potential). It is very important for the countries with budget deficit and "shadow" economy.

In transition economies, the socio-economic policies have the following tasks associated with distribution of social support resources: First, to decline the share of "dependents" of the state and encourage people to employment and entrepreneurship. Provision of high quality jobs depends on information exchange between the labour market and educational services, people's capacity and prospects for industry development.

Table 2

Targeting Methods

Group of Methods	Method	Description	Countries	Advantages	Disadvantages
Individual assessment	Income assessment by direct method	Household income calculation on the basis of given documents, comparison with cut-off score	Russia, Germany, France, USA, UK	- Standard approach to all the recipients; - Transparency and accuracy of the results	- high expenditure; - "shadow" income assessment problems
	Assessment of income and assets	Assets accounting for household welfare assessment	Bulgaria, Kyrgyzstan, Rumania	- total accounting of household economic conditions; - exposure of stagnant poverty	- high expenditure; - probability of error elimination
	Income assessment by indirect method	Correlation dependence of income and various conditions of the household: sex, age, disabled presence, profession, education level, home conditions	Armenia, Chile Costa-Rica, Columbia, Mexico, Turkey	- appropriate for countries with high level of «shadow» economy	- requires periodic large scale analysis in connection with varying social-economic conditions
	Assessment by local units	The leader or a group identifies which household should take social transfers	Uzbekistan	- more complete assessment of household welfare	- subjectivism in making decision
Categorical evaluation	Geographical targeting	The right to social transfers is identified by the fact of dwelling in a defined region	Brazil, Albania, Mexico	- realization simplicity; - absence of brand effect; - easy to combine with other methods	- high information requirements; - hard to realize when poverty does not depend on the territory; - political disputes about inclusion or exclusion of the territory
	Demographical targeting	Transfer right is limited by belonging to a social group (for example, a single mother)		- realization simplicity	- high probability of error inclusion/exclusion
Self-targeting	Labour-rent requirement	The transfer given the conditions are uncomfortable for not poor	USA	- self-cutting of the dependents	- hard to realize in the period of job deficit
	Goods for the poor				
	Disposition of goods and services sale				

Source: Compiled by the author

Training programs in educational institutions should depend on the need for workers in this profession, as well as changes in various industries and service sectors. Employment service should promote advanced training or additional education for citizens' further employment. It is possible to stimulate entrepreneurship, first, through financial support, the development of infrastructure, as well as through tax incentives.

Second, increasing the attractiveness of the local population and reducing out-migration. Annual growth of real incomes allows not only to keep the population in the country, but also to increase birth rate in the country. It is important to ensure the wage growth in line with the results of professional activities and skills, to support entrepreneurial initiatives. Educational institutions are able to stimulate and promote employment of graduates in the country.

Third, the legalization of "hidden" employment. The existing and newly created jobs should be competitive in terms of wages and working conditions. Excretion of "out of the shadows" of labour processes and entrepreneurship will increase tax revenues and reduce the burden on the state by reducing the amount of benefits paid for unemployment and poverty. These measures will allow more equitable distribution of budgetary resources in areas of socio – economic policy.

Currently, a system of social contracts is applied in developed and developing countries. There is a contract between social protection organizations and social protection recipients. It provides the improvement of the material conditions of the recipient's care by developing individual social adaptation programs. Receiving payment up to the subsistence level, citizens undertake to lead a healthy lifestyle, to look for work and take care of children, not to commit antisocial acts and illegal actions. This program is aimed at overcoming social dependency, as it allows low-income citizens with "seed money" or professional capacity to change their own financial situation (Воронкова, 2009). Clearly, a system of social contracts enables to provide quality support for needy citizens, increasing their well-being, and thus does not create dependency. The system has a positive effect on the budget, because it reduces the number of welfare recipients, and the taxes on their wages will replenish the state treasury. However, the introduction and use of social contracts require additional costs.

In the 90s of the 20th century, the U.S. government carried out a social reform aimed at reducing citizens' dependence on social welfare. In 1996, the Act was passed under the personal responsibility and employment opportunities, based on the experience of numerous regional demonstration projects. Government benefits were complemented with duty to work. The aim of this reform was the reorientation of able-bodied recipients to labour income sources (Castaneda & Lindert, 2005). As a result of this program for the period 1996–2007, the number of beneficiaries in the U.S. fell more than three times (from 12.3 million to 3.8 million). In response to the crisis of 2008–2009, the tendency of reducing the recipients somewhat disrupted (in 2009 their number

amounted to 4.3 million people), which in turn indicates the need for refocusing of able-bodied recipients to increase their well-being at their own expense (Лебедева, 2010).

Provision of financial assistance in response to the labour was used in the countries of Western Europe. In 1988, a system of guaranteed minimum income was introduced in France. It takes into account the individual situation of the client (the need for training, psychological support, providing opportunities to participate in public works). Participants of the program were offered jobs in organizations, mainly the social sector. 65–85% of remuneration was paid by the state, and the employers were exempted from payment of contributions to the social insurance system (Иванов & Суворов, 2006).

During the crisis in 2008 the concept 'working poor' appeared. They include part-time workers, as well as citizens with meagre earnings, which do not allow their families to tackle poverty. Therefore, the French authorities decided to replace the two types of benefits – benefits guaranteed minimum income and single parent allowance, with a new kind of social assistance – active solidarity income (RSA), which covers the working poor (Прокофьева, 2010).

Work with recipients of active solidarity income occurs in two phases. First – phase orientation when they choose one of three possible social adaptation directions:

1) if the person is in a situation that facilitates employment, i.e. has a profession, but cannot find a job, then he/she interacts with the "pole of employment";
2) if the person requires a long period of social adaptation associated with low skills, lack of skills and organization of normal life, he/she interacts with regional social services, cash family benefits, together with the municipal authorities and non-profit organizations;
3) if those who have a profession need social assistance to enter into employment – related health conditions, lack of housing, debt for housing, lack of space in the kindergarten and the like, the dossier is also maintained by a regional social service and family allowances ticket office.

The second phase – the maintenance phase. To organize the maintenance of social adaptation at the regional level, a group of representatives involved in this work is created (the General Council of the region, Pole employment Cash family benefits, etc.). When implementing the system of social contracts in France, there is information exchange between organizations (insurance, family benefits, pension funds, the Internal Revenue Service, Employment Service, health insurance).

In the UK, the reform of the welfare began in 1997. The "New Deal" was intended to encourage the transition from welfare to work. The program includes consultations with specialists of employment centres in order to develop skills in the area of client job search and job interview (Максимова, 2002). If, after 4 months job search is inconclusive, the customer must choose one of four options in order to continue to receive benefits:

- subsidized jobs in the private sector;
- subsidized jobs in the non-profit sector;

- full-time education or vocational training;
- work in a task force on environmental protection.

Refusal to choose one of the options is to stop unemployment benefits. According to estimates of the Department of Employment and Pensions in UK, over the past 10 years the "New Deal" helped almost 3 million people to find jobs and created 1,729,000 new jobs. The number of households where no one was working fell by 200,000. The employment rate in the UK at the moment is close to 75%, it is one of the highest rates in the world (Прокофьева, 2010).

The disadvantage of the program is its high cost: the average net cost of creating one job is about 580 pounds. Over a period of 10 years of the ""New Deal", taxpayers have spent 1 billion pounds more than if they were recipients of unemployment benefits. In addition, the use of subsidized jobs leads to the fact that potential employers are program participants and hire them at the end of training that is paid by the state. And those members who cannot find work are often forced to accept low unstable employment, a part time job, a job with limited career opportunities, and have a high risk of leaving this job soon. As a result, there are about two thirds of applications for unemployment benefits every year, or 1.6 million cases – are repeated applications (Прокофьева, 2010).

In the Netherlands, the social security reform began in 2004 and presupposed the transition from the distribution of social benefits to promotion of employment. Recipients of social assistance make up more than 2% of the population. When applying for a personal social service manager, the municipality explores the circumstances of need and creates the "reintegration plan" with the recipient. Having compiled a personal reintegration plan, the municipality announces a competition among private, non-state enterprises, specializing in the fields of employment, for public order reintegration (Антропов, 2007).

Social assistance in the Netherlands is based on a strict means test. Unique personal social security numbers were introduced for this system, which are held on the basis of identification of any and all social assistance recipients. The numbers are assigned to all newborns and accompany people throughout their lives. It accumulates information about all their social benefits, subsidies and insurance claims in different periods (subsidies to education, social and health insurance, pensions, etc.). Each client is required to promptly update the information regarding their welfare (Байгереев, 2004).

Consequently, the implementation of targeted social protection requires sound planning of budget expenditures for these purposes, the development of control mechanisms over the implementation of the beneficiaries' contractual conditions, as well as making informed sanctions for refusal to search a job. It should be borne in mind that the social contract should not only be a mechanism for formal eradication of poverty, but also a way of potential labour development in every resident of the region based on his/her individual characteristics. The implementation of a system of social contracts under the

modernization policy should lead to unnecessary jobs. It is advisable to develop the economy, by investing in the creation of really needed productions.

The Russian Federation refers to transition economies. The country needs to develop modern social support. The aim is to reduce the number of social dependents and to stimulate people to work. To optimize the distribution of social support resources and to ensure its fairness, it is necessary to develop ways of improving the process in transition economies.

First, it is important to use the most individualized approach to social assistance recipients. It is necessary to supplement registers of social support recipients with information about the needs of each recipient. It is very important to reveal and to evaluate all the incomes of the family (by direct and indirect methods).

Secondly, in order to comply with the principle of result-oriented funding, it is necessary to target the social security authorities to investigate the effect of financial assistance from the public. An important government's activity is to develop techniques for analyzing the efficiency of provision of material support to the population, not only in terms of the number of recipients, and the amount of financial resources spent for these purposes. It is necessary to develop mechanisms for tracking the results of material assistance to the population using the indicators to improve the material conditions of individual families, the availability of sufficient skill level to find decent jobs, and the possibility of returning to a state of vulnerability.

It is necessary to raise interest in achieving a positive effect, for example, by encouraging the social workers to access a family in a difficult situation, by stimulating the labour. It is important to implement the principle of interest in the fate of each client, and this is difficult for low- wage social workers, taking into account their degree of psychological stress. These factors cause a large turnover in the social security agencies and reduce the interest in a positive work result.

To facilitate the transition to self-sufficiency, it is necessary to:

- develop the rules for calculating earned income that should motivate family to receive their income by employment;
- develop an interagency set of services specifically for each family to help its unemployed members overcome barriers to employment. They can be not only the services to promote employment, but also many other: someone cannot leave a child, while someone needs the treatment from drug or alcohol addiction;
- provide for a system of financial sanctions against families, which do not comply with the requirements of the program, in particular the terms of the contract concluded with the authority of social protection;
- assign a specific employee body of social protection for work with families involved in the program (social patronage);

- provide a condition for the unemployed family members to register with the employment service and receive its services, such as training;
- develop individual plans to enter the family self-sufficiency on a collective basis (family members, together with specialists of social protection), to maintain flexibility in decisions about care and periods of its provision, taking into account the seasonal nature of many activities engaged in low-income families that could improve their incomes, especially in rural areas.

The proposed directions allow for reducing the number of social protection participants from 10–15% and raising the benefit for one participant by keeping the available resources volume, through 3–4 years.

Conclusions

Thus, the state support for the poor is an integral part of social policy, in both developed and developing countries. Methodical approaches to assisting vary depending on the socio-economic characteristics of prevailing traditions. At the same time, in the international practice, financial support is increasingly provided in exchange for a commitment to work and independent search for livelihood.

It should be noted that the Russian Federation's task of equitable resource distribution among the neediest populations is also relevant. The estimate of the need for financial assistance is complicated by a high share of the shadow economy in the country. According to Rosstat, in 2010, 13 million people in Russia were employed in the informal sector. The volume of undeclared goods and services produced by these people is 16% of GDP, or about $ 7 trillion rubbles (excluding criminal sectors of the economy, such as drug and arms trafficking, prostitution, production of counterfeit goods). However, according to the World Bank and other reputable organizations, the share of the shadow economy in Russia is about 49% (Кокшаров, 2010).

To improve the targeting of social assistance, a system of social contracts was introduced. It is based on the experience of foreign countries. Optimization of allocation of social support among the poorest requires improvement of the regulatory framework at the federal and regional levels, in order to more accurately identify beneficiaries and budget savings.

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COMPARATIVE EVALUATION OF TRANSPORT ENTERPRISES THAT USE SELF-ORGANIZING MAPS

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Abstract

The present article examines the construction and use of self-organising maps to assess the economic potential and performance of the trucking companies. Specificity of the trucking industry in Latvia is associated with the activity of a large number of enterprises that significantly differ in key economic indicators. Comparative evaluation of trucking companies based on traditional financial performance is difficult because of the large flow of information that needs to be analysed and summarised. Self-organising maps eliminate disadvantages of traditional economic analysis as they summarise and facilitate reading of large amount of complicated information.

***JEL Code**: G3*

***Keywords**: trucking companies, efficiency, financial performance, self-organising maps*

Introduction

The trucking industry is currently one of the most important and largest sectors in the Latvian economy, both in the number of employees and the share of GDP. Thus in 2013, the share of the transport sector in GDP was 11.4 %, ranking it the 2nd immediately after the trade sector, which accounted for 17.7% and the manufacturing sector – 14%. The value of the transport sector to the economy of Latvia is significantly higher than for most of the EU countries, as evidenced by a comparison of value added. On average the EU transport sector takes less than 4% of the total value added; for Latvia this indicator is three times higher.

It should also be noted that the transport industry is one of the largest according to the number of employees. In 2013, more than 11 % of the working population in Latvia was involved in efforts to ensure transportation and servicing of transit goods, ranking the 2nd, right after the trade and manufacturing sectors.

In recent years, the pace of development of the transport sector accounted for 3.6% in 2012 and 1.3% in 2013, and was slightly lower than in the whole economy of Latvia. However, the role of road transport in recent years has increased substantially. In 2013 the volume of transportations using road transport increased by 15.2%, the volume of transportations by rail traffic decreased by 7.9%, while using sea transport decreased by 6.3%.

These data indicate that the development of transport largely depends on the general economic development of the Republic of Latvia. Therefore, the key task is to increase the usage of the industry resources.

The presence of a significant number of companies significantly differentiated both in terms of assets and the net turnover is characteristic of the trucking industry, making it difficult to assess their relative efficiency through traditional economic indicators. In Latvia, there are more than 3,500 businesses, which mention "freight transportation by the road transport" as one of their activities. Of these, 95% are limited liability companies. Only five companies are joint-stock companies. The vast majority of the companies – 83%, have a turnover of up to EUR 700,000.

Road haulage market in Latvia is not uniform in its structure. The main market participants are: managers, carriers and logistics companies. In turn, carriers and logistics companies are divided into a number of sub-types:

- private traders – the owner of the transport is driving;
- carriers with a small number of cars (1–5);
- transport companies with more than 15 cars;
- transport companies with more than 200 cars.

It should be noted that this classification is highly conditional, and is used to designate the real status of the participant of the road transportation of goods.

Private carriers are quite common participants of the road transportation market in Europe and in the United States. The advantages include high speed delivery – often the driver is the owner of the car, and does not comply with the existing mileage standards. The disadvantages – lack of planning when transporting the goods.

Carriers with a small number of cars are one of the major market participants. These carriers often play a crucial role in pricing.

Transport companies with more than 15 vehicles occupy not the largest segment in the market of road transport in Latvia. Given the riskiness of the transportation business, not many people want to invest in the development and procurement of a large number of road trains. Often these companies have a department in charge of complete control and quality execution of applications for their freight customers. Degree of responsibility for entrusted goods is far higher than for dispatchers without the rolling stock – in fact, in case of damage or loss of cargo, the carrier actually has something to indemnify, and the owner of the cargo can always surcharge the value of lost or damaged cargo in the court.

Transport companies with plenty of their own vehicles rarely have a department dedicated to outsourced carriers – they often simply do not need it. The main advantage is obvious – it is efficient execution of customer requests. However, they often lack flexibility with respect to the client, and claims arising from the quality of transport services are often lost due to bureaucratic delays. There are a few similar companies in Latvia.

In general, in the structure of the market haulers in Latvia, large enterprises with more than 20 trucks represent only 4%; 7% of enterprises have from 11 to 20 cars, 13% have from 6 to 10 cars, 24% – from 3 to 5 cars, and 52% – less than 3 trucks.

The essential differentiation of motor transport enterprises predetermines the necessity to improve methods of the financial analysis.

The aim of this study is to substantiate the employment and elaboration of self-organized maps for a group of Latvian motor transport enterprises, permitting to hold a multi-measured comparative estimate of financial condition.

Methodology

The financial statements are the basis for evaluation of the economic efficiency of resource usage in the trucking industry. Based on the financial statements, the present methodological apparatus, evaluating the effectiveness of the company allows for the calculation of financial ratios, cash flow, and other indicators, using different approaches, the most common of which is cost. The following indicators are widely used in international comparisons: ROA, ROE, ROS, ROI, EVA, EBITDA, CFS.

Financial ratios – the relative performance based on determining the balance between the various financial statements (or absolute measures). The calculated values of financial ratios are compared with a base, such as regulatory, industry averages; corresponding figures of previous years (periods); performance of competing companies. Profitability ratios are the coefficients widely used to evaluate the performance of enterprises. They reflect the use of complex material and financial resources, and also show the ratio of net profit to assets, to finance and fixed assets, which is particularly important given the capital intensity of this activity. The results of operations of selected trucking companies in this article are evaluated using the following indicators:

- Rate of return on sales (return on sales) – shows share of net profit in the amount of sales of the company. The main and most often cited indicator of profitability.
  Calculated by the formula:
  *ROS = (net profit / net sales) * 100%* (1)
- Return on equity (return on shareholders' equity) is a key indicator for strategic investors. This ratio allows you to determine the efficiency of capital invested

by the owner of the enterprise. Normally this figure is compared with a possible alternative investment in the shares of other companies. The equity is usually understood as the amount of the share capital and reserves, formed from the profits of the enterprise. Return on equity shows how much net profits each unit invested by the company owners earned. ROE also characterises the efficiency of the management of the issuer. If from many companies in the same industry return on equity is much lower in comparison with other companies, then the company may have the potential for growth under certain conditions and hence increase the value of shares.

Calculated by the formula:

$$ROE = (\text{Net income} / \text{equity}) * 100\% \quad (2)$$

- Net profit ratio of enterprise assets (return on assets) is used to determine the effectiveness of the use of company assets. Return on assets ratio shows how much of net profit each asset unit earned. Return on assets characterises the efficiency of the financial managers and specialists in the field of management accounting.

  Calculated by the formula:

  $$ROA = (\text{Net income} / \text{assets of the company}) * 100\% \quad (3)$$

- Net profit ratio of non-current assets (return on fixed assets) demonstrates the ability of the company to generate sufficient amount of profit in relation to the fixed assets of the company. The higher this ratio, the more efficiently the fixed assets are used, as well as the faster pay off new investments in fixed assets.

  Calculated by the formula:

  $$RFA = (\text{Net income} / \text{non-current assets}) * 100\% \quad (4)$$

- ROI (return on investment) shows how many monetary units were needed for the enterprise to get one unit of the profit. This is one of the most important indicators of competitiveness and investment attractiveness.

  Calculated by the formula:

  $$ROI = (\text{net profit} / \text{equity} + \text{long-term of assessed.}) * 100\% \quad (5)$$

For comparative evaluation of the financial condition 9 trucking companies were selected with net turnover of more than EUR 700 thousand. Calculation of financial ratios was conducted according to the financial statements for the five years. Among them were: AN TRANSPORT; ATD TRANSPORTS; AVE TRANS; ADELANTEKS; GAJA PLUSS; GRT LATVIA; ADRIA 19; DINOTRANS; KREISS. Table 1 provides estimates of profitability ratios for 2011

Table 1

Profitability Ratios (%)

Companies	ROS	ROE	ROA	ROI	RFA
AN TRANSPORT	9.58	18.6	13.46	78.98	18.29
ATD TRANSPORTS	3.69	16.5	5.56	10.85	6.34
AVE TRANS	8.44	21.25	12.60	18.43	16.68
ADELANTEKS	13.05	48.98	17.03	20.88	22.69
GAJA PLUSS	3.02	11.73	5.79	7.56	9.51
GRT LATVIA	3.47	15.12	6.66	13.01	24.24
ADRIA 19	3.32	10.09	5.63	9.33	9.36
DINOTRANS	3.92	10.06	4.36	9.62	6.31
KREISS	12.16	47.32	8.19	12.96	12.16

As you can see, comparing the five coefficients for the nine companies over five years using traditional methods would require the assessment of each of the 225 indicators independently. Specificity of the financial ratio analysis is that they each represent a certain aspect of the company for a specific period of time. The use of averages is limited in this area.

These indicators are successfully used for integrated assessment of individual companies or comparing a relatively small number of similar objects.

Calculation of certain financial ratio, reflecting the effectiveness of the company refers to a one-dimensional method, involving the processing of each variable independently. Comparison of a significant amount of trucking companies, even on limited criteria is technically difficult because of the volume of the analysed information that hinders a comprehensive evaluation of the companies.

Therefore, large groups of variables require the use of multivariate methods of analysis.

One of the methods of multivariate analysis eliminating the disadvantages of traditional financial analysis is the use of self-organising maps. The self-organising map is competitive neural network learning without a teacher, performing the task of visualisation and clustering. Application of self-organising maps greatly facilitates the evaluation and allows you to work with large data volumes.

The idea of the network was proposed by Finnish scientist T. Kohonen (2001). This method projects multidimensional space into a space of lower dimension.

The self-organising map is a neural network without feedback. Through a process called self-organisation, self-organising map forms a topological representation of the original data elements received at the output. Self-organising map refers to a general class of neural network methods, using non-linear regression. It can be taught to recognise or find the relationship between inputs and outputs or to organise the data in a certain way to identify hitherto unknown patterns or structures.

Self-organising map is a method, involving training without external interference. In the neural network techniques, which involve supervised learning, in order to find the image or the relation between the data, it is required that one or more outputs are exactly defined together with one or more inputs. Self-organising map, on the contrary, displays the data of higher dimension on the map of smaller dimension, consisting of a grid of neurons.

The algorithm is based on self-organising map of competitive learning without a teacher. It provides a topology – preserving mapping from the space of large dimension in the map elements. Map elements, or neurons, typically form a two-dimensional lattice. Thus, this map is a mapping of large dimensions on the plane. Property to preserve the topology means that self-organising map distributes similar input vectors to neurons, i.e. points located in the entry space close to each other appear to closely spaced elements of self-organising map. Thus, self-organising map can serve as a means of clustering and visualisation tool for data of large dimension.

Experience indicates that the analysis of financial indicators in one year does not give a reliable picture of the real state of the company. This is precisely the case, when in order to detect financial problems, it is required to analyse the financial condition of the company for a longer period and in comparison with other companies.

Because of these differences, the self-organising map method is the most appropriate tool for the analysis of financial data. By the help of the self-organising map, it is possible to detect more subtle behaviours of the companies than using some more traditional analytical means. With the help of self-organising maps, it is possible to analyse and synthesise very different financial information.

E. Carlson and P. Rahkila (2004) are using self-organising maps for real estate assessment. Reste, M. (2009) uses self-organising maps for making trading decisions to forecast financial markets. The issues concerning the application of neural networks in finance are also addressed in the works of Eric de Bodt (2007).

Use of Self-organising Maps to Assess the Financial Performance of Transport Companies

The preliminary analysis of the data of transport enterprises shows that when working with a large sample, the volume of information grows even more and the process of analysis and visual representation of the data becomes difficult. Self-organising maps are designed to help us cope with this problem, allowing to process the collected data and to visualise the results.

To build self-organising map, the nine trucking companies used the demo version of the program Viscovery SOMine 2.1 and calculated profitability ratios for five years.

As a result, five self-organising maps were built, a map for each year, as well as five map components – one for each coefficient of profitability.

Figure 1 shows a self-organising map in 2007. In the upper left corner of the image a self-organising map is displayed, the rest are the components of the map. On the self-organising map, the most successful businesses are in the upper left corner, while the most unstable companies are in the lower right corner.

The scale at the bottom of each map component displays the values of the coefficients in accordance with the gradient. Gradient on the map component facilitates visual perception and varies, depending on the rate of increase in the following order: light blue – blue – green–yellow– red.

Black lines indicate the boundaries of clusters. The self-organising map clusters are also colour-coded to ease the reading. The self-organising map is set up so that each cluster is essentially a single company.

Enterprises are numbered as follows : 1) AN TRANSPORT; 2) ATD TRANSPORTS; 3) AVE TRANS; 4) ADELANTEKS; 5) GAJA PLUSS; 6) GRT LATVIA; 7) ADRIA 19 ; 8) DINOTRANS; 9) KREISS.

With these numbers, you can locate and track a particular position on a self-organising map, and map components.

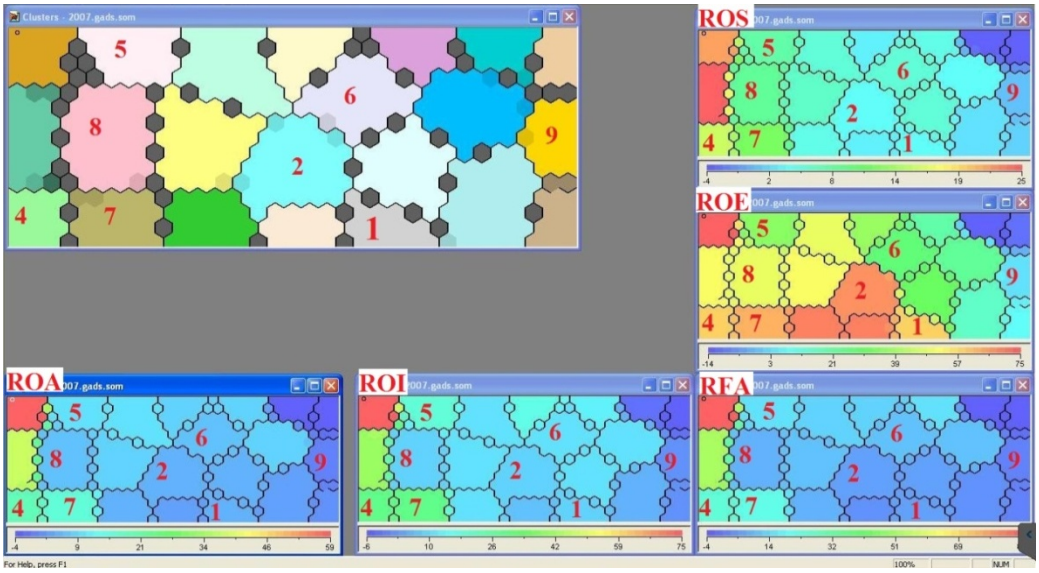

Figure 1. Self-organising map for nine Latvian transport enterprises based on profitability indicators (2007)

.

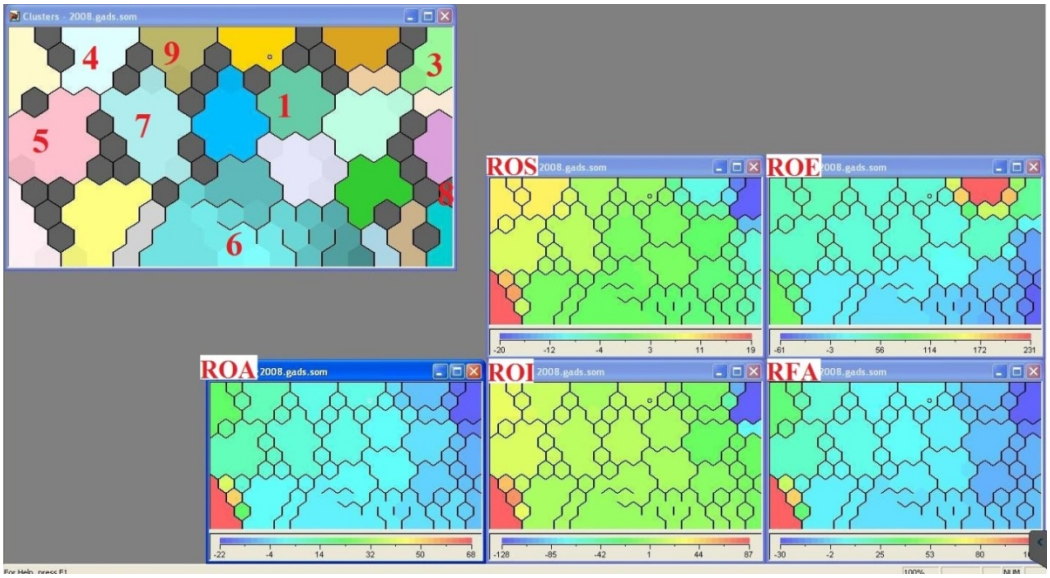

Figure 2. Self-organising map for nine Latvian transport enterprises based on profitability indicators (2008)

As time passed, the self-organising map and the map components have changed, as well as the position of enterprises on these maps.

Gradient on the map component allows for determining the average value for a particular factor among all businesses. The average value is shown in green or greenish colour, extremely low values – blue, extremely high values – red. You can also see the colour for each year and how its distribution on the component maps is changing. It is possible to determine which way this set of companies is moving.

For example, Figure 3 shows that in 2009 low coefficients of profitability dominated among all enterprises, reflecting the state of crisis in which the economy was.

The self-organising map shows that enterprises are almost divided into two groups: those with numbers 5 to number 9 and number 1 to number 4. We can say that businesses in these groups are more similar to each other with regard to their financial situation.

If you visually compare the profitability ratio maps of 2010 with maps of 2009, you see that the range has narrowed significantly, which corresponded to a general improvement in the economic situation.

The most noticeable changes on the self-organising map for 2011 are in the arrangement of the total indicators.

Thus, self-organising maps allow the trucking companies to more clearly reflect the economic processes taking place in the enterprise, both in time and space.

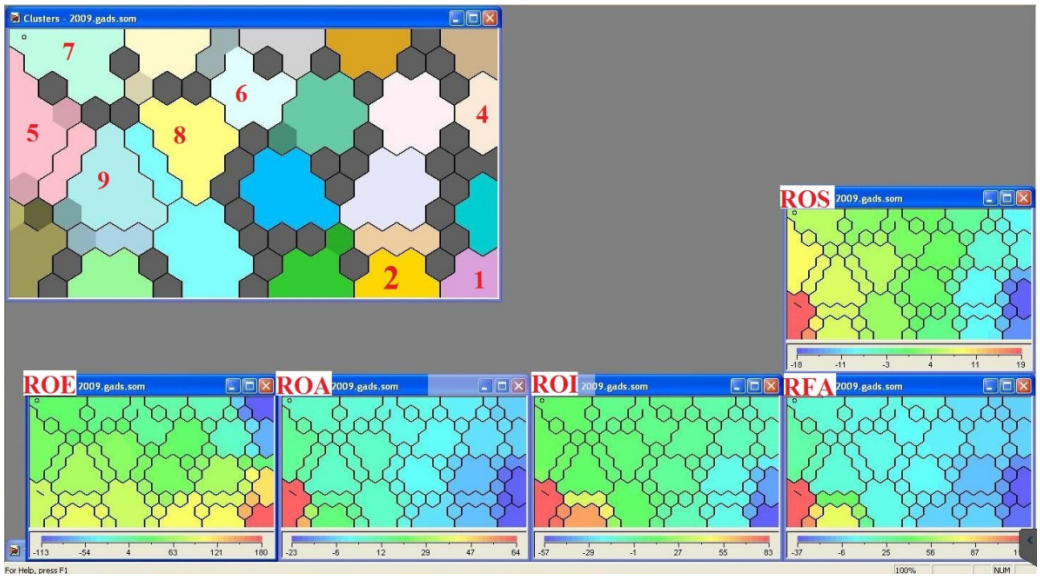

Figure 3. Self-organising map for nine Latvian transport enterprises based on profitability indicators (2009)

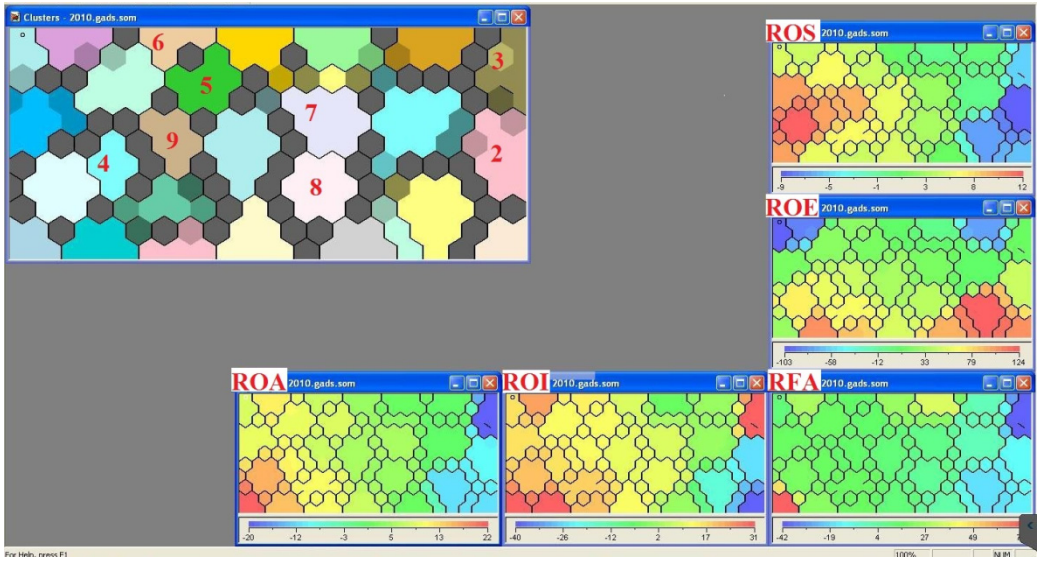

Figure 4. Self-organising map for nine Latvian transport enterprises based on profitability indicators (2010)

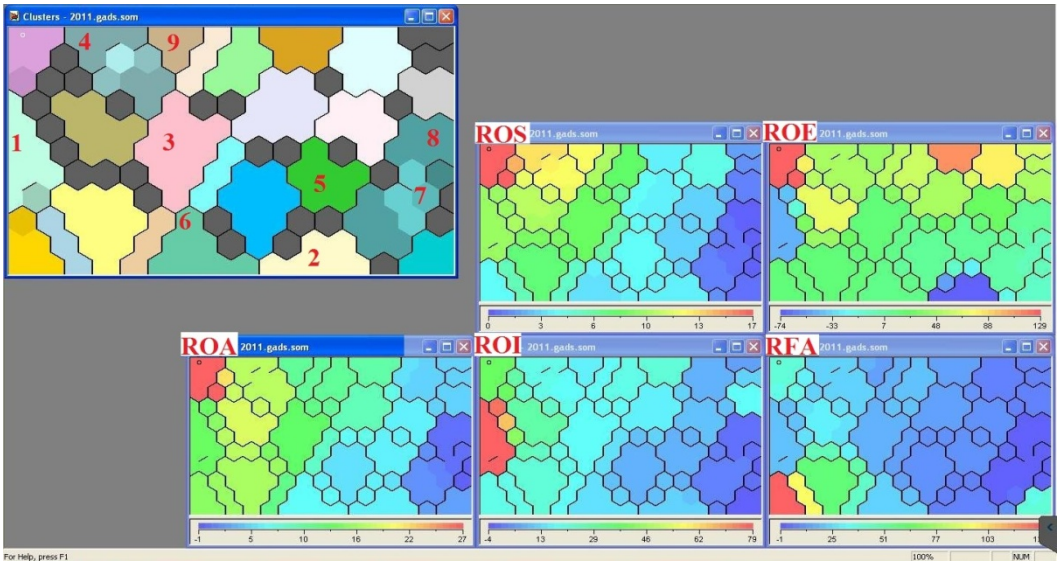

Figure 5. Self-organising map for nine Latvian transport enterprises based on profitability indicators (2011)

Conclusions

1) The main advantages of using self-organising maps for the analysis of financial data are related to the fact that this method is numerical; it does not require any assumptions about the distribution of the data, it allows you to discover in the data sets previously unknown structure, using unsupervised learning.
2) Self-organising maps as a method of visualising large amounts of data of financial statements can be a useful tool for comparative financial analysis.
3) Self-organising maps can help create visual diagnostics of the financial condition for individual groups of companies and entire sectors of the economy.

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Creating Shared Value in Knowledge Based Society: Expertise, Innovation, Continuity in Translation and Interpreting

LATVIAN EQUIVALENTS OF FOREIGN PLANT NAMES IN MODERN BILINGUAL DICTIONARIES

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Abstract

Dictionaries are an effective tool of translators, and their quality is vital, hence the research of the lexis they include is of great importance. General bilingual dictionaries include both general and partially specific lexis. E. Worbs (Worbs, 1997: 497–510) specifies that bilingual dictionaries reflect the correlation of two cultures, and the lexicographer compares these two systems, analyses and sums up information of different nature, as well as offers translators the results of work. Worbs says that the disadvantage of bilingual dictionaries lies in non-qualitative lexicographical description; as the result, they do not contribute to an optimal translation variant. This research is aimed at the analysis of special lexis – plant names – included in six general bilingual dictionaries. Considering the fact that new dictionaries are compiled on the basis of dictionaries issued earlier, it is important to collate the traditions and experience of compiling both new and old dictionaries.

Keywords: *bilingual dictionaries, plant names, Latvian equivalents*

Theoretical Principles of Choosing Equivalents

One of the common methods of compiling general bilingual dictionaries is to take another bilingual dictionary that was compiled earlier as a basis for finding equivalents or translation in target language. However, a lexicographer in this process should decide what to do if there are synonymic equivalents or there are no equivalents in target language. J. Mugdan (Mugdan, 1992: 40–41) believes that considering medium or large-sized dictionaries, it is risky to provide different equivalents in target language for one lexical unit in source language without any additional references. If the meaning of any target language word is not clear out of a train of unmarked equivalents, the dictionary should help the users to find the most corresponding equivalent by denominating a specific field it is used in. A. Bojate writes that, when translating some words from a source language having different equivalents – words or collocations, the frequency of use and their consecution should be taken into account (Bojāte, 1968: 219). A. Veisbergs specifies that the largest part of lexis given in modern dictionaries does not have enough specific references. He emphases that when dealing with several

synonyms in target language it is important to take into consideration the fact that people who are not experts in one specific field and who usually use printed dictionaries – mainly choose the first equivalent given in a train of synonyms (Veisbergs, 2004: 172–173). J. Mugdans notes that it is difficult to choose only one of the equivalents that have different regional applicability, and the user of a dictionary needs more specific information about each of the equivalents (Mugdan, 1992: 34–37). He emphases that additional references provided to each equivalent or a group of synonymic equivalents will instil confidence in users concerning the choice of the most appropriate equivalent.

A lexicographer shall develop and follow some specific guidelines concerning the way of providing target language equivalents. In case of Latvian equivalents of plant names, the guidelines might be as follows: if the plant name is not considered to be generally known, additional specific references must be added as well as a reference to the field of use; if there are synonymic lexical units, the first equivalent given must be an official or a terminological one; if there are equivalents of different origin, the first one given must be a native equivalent, not a borrowing. It is not easy to follow these guidelines in real practice, thus, when elaborating plant names, lexicographers should often make unregulated decisions.

Analysis of Latvian Plant Names Included in the Dictionaries

In this research, Latvian equivalents of foreign plant names are analysed. The examples are exerted from several medium-sized general dictionaries: German–Latvian; English–Latvian; Russian–Latvian. For each language pair two dictionaries were chosen (published in approximately 50 years' period). In the group of German–Latvian dictionaries the 'German–Latvian Dictionary' by K. Granta and E. Pampe published in 1954 (Granta & Pampe, 1954) with 46 000 entries (hereinafter – GLD 1954) was chosen as the oldest source in the given time period, and as the newest one is the 'German–Latvian Dictionary' by L. Vjatere of 2002 (Vjatere, 2002) with 42 000 entries (hereinafter – GLD 2002). In the group of English–Latvian dictionaries the oldest edition is the 'English–Latvian Dictionary' compiled by the group of authors and revised by M. Stradiņa (Belzēja et. al. 1957) published in 1957 with 45 000 entries (hereinafter – ELD 1957) and the newest in this language pair is the 'English–Latvian Dictionary' compiled by the group of authors and revised by I. Birzvalka (Belzēja et. al. 2000) of 2000 with 45 000 units (hereinafter – ELD 2000). In the group of Russian–Latvian dictionaries the oldest edition is the 'Russian–Latvian Dictionary' compiled on the basis of Ed. Ozoliņš and E. Ozoliņa manuscript book (Ozoliņš & Ozoliņa, 1950) that includes 42 000 words (hereinafter – RLD 1950) and the newest edition is the 'Russian–Latvian Dictionary' compiled by a writing team in 1997 (Darbiņa et. al. 1997) with about 40 000 entries (hereinafter – RLD 1997). In order to analyse Latvian equivalents of foreign plant names in all the dictionaries chosen for this research, two tables were

drawn up (see Appendix) that include 10 different randomly chosen plant names (*bukši – box-wood, pulkstenītes – bluebell, tūjas – thuja, uzpirkstītes – foxglove, vilkābeles – hawthorn, rododendri – rhododendron, irbulenes – furze, irbenes – viburnum, spriganes – touch-me-not, lapegles – larch*) and their presentation in the dictionaries. The first table includes foreign plant names and their Latvian equivalents excerpted from the oldest editions (RLD 1950, GLD 1954, and ELD 1957), but the second one includes foreign plant names and their Latvian equivalents excerpted from the newest editions (RLD 1997, GLD 2002, and ELD 2000).

The Latvian equivalents of the foreign plant names given in the oldest (see Table 1) and newest (see Table 2) dictionaries were analysed considering the following:

1) if there are references to the field of use of the word – botany (shortened bot.) and if there are any additional references that specify the meaning;
2) if Latvian equivalents were taken from special literature available at the time when the dictionary was compiled;
3) if there is one or more Latvian equivalents provided.

References to the Field of Use

From the examples given in the tables, one can see that in the older editions almost by each Latvian equivalent there is a reference to the botany as the field of use (bot.). However, it should be noted that in the GLD 1954 and the ELD 1957 the way of giving references is not consistent: in the GLD 1954 in four cases by the entry *vilkābele* (*hawthorn*) this reference is given, but in one (by the Latvian equivalent of German *Aarkirsche*) the reference is absent. In its turn, in the ELD 1957 by the entry *pulkstenīte* (*bluebell*) in two cases the reference to the field of use is given, but in one case (by the Latvian equivalent of English *bluebell*) it is not provided. Inconsistency when giving references within one dictionary was found also in newer editions (see Table 2), e.g. in the ELD 2000 by the Latvian equivalent of English *box-wood* the reference is given, but by the Latvian equivalent of English *box*[c] it is not given. Similar cases of providing specifying references were also present in case of *pulkstenīte* (*bluebell*) in the ELD 2000 and *vilkābele* (*hawthorn*) in the GLD 2002 (in two cases the reference is given and in one (by the Latvian equivalent of German *Weißdorn*) it is not given).

As to examples excerpted from the RLD 1997, there is the fewest number of references to the field of use. If by the entries *rododendrs* (*rhododendron*), *irbulene* (*furze*), *spriganes* (*touch-me-not*), *lapegle* (*larch*) in the GLD 2002 and the ELD 2000 the specifying reference is given, then in the RLD 1997 there is no such reference. It means that compilers of the newer dictionaries had different opinions about the fact that the users of these dictionaries might consider some plant names to be generally known, so there is no need for references. In the newest dictionaries of all language pairs there are fewer references to the field of use comparing to the older dictionaries analysed herein.

Inconsistency in giving specifying references to the field of use is also seen in the newest dictionaries analysed. By the entries *tūja* or *dzīvībaskoks* (*thuja*) in the GLD 2002 this reference is given inconsistently, e.g., the German equivalent *Lebensbaum* has a reference, but the German equivalent *Thuja* has no reference. Also in the ELD 2000 specifying references to the field of use are given inconsistently for the Latvian entry *pulkstenīte* (*bluebell*), nevertheless *buksis* (*box-wood*), *irbenājs* (*Viburnum*), and *tūja* or *dzīvībaskoks* (*thuja*) are given without any reference. Lack of references might be explained by the fact that the compilers of those dictionaries considered that these plant names are generally known, so there is no need in providing reference. The cause of inconsistency behind it might lie in insufficient lexicographical processing. It proves that the compilers of the dictionaries did not have any specific guidelines about adding references to the field of use. Probably, the whole list of plant names provided in the dictionaries was not proofread separately from the rest of the entries. That explains why one and the same plant name within one dictionary may have and may not have a reference.

Other additional specifying references to the examples analysed are given in two cases. The Latvian equivalent of the English *bluebell* in the ELD 1957 has a reference explaining that in Northern England this term is used to name *pulkstenīte*, but in the ELD 2000 there is no such reference given. The RLD 1997 has a reference given in brackets by the Russian entry *калина*, explaining that this word means a snowball tree. After having analysed these examples one can come to conclusion that there are no traditions in giving specifying references in general bilingual dictionaries aimed to concretize the difference between equivalents, however in some cases it is important to do so, for instance, if there are two Latvian equivalents of one foreign word given.

Compliance Assessment of Latvian Equivalents in the Special Field Literature

The material included in the tables proves that some Latvian plant names included in the dictionaries were not compared with the plant names provided in special botanic literature available at the time of compiling. For instance, the RLD 1950 and the ELD 1957 offer the plant name *uzpirkstenes*, however the 'Botanic Dictionary' by P. Galenieks issued in 1950 (Galenieks, 1950: 63) provides the name *uzpirkstītes* (Latin *Digitalis*). The compilers of the ELD 1957 should have been taken it into account, but the compilers of the RLD 1950 could also not include this variant as the 'Botanic Dictionary' and the Russian–Latvian Dictionary were issued in the same year. Besides, the textbook 'Botanic' by P. Galenieks issued in 1945 (Galenieks, 1945: 271) offers the name *uzpirkstenis*, but 'Floriculture' by P. Dindonis (Dindonis, 1947: 81) includes the term *uzpirkstenes*, which was probably used by the compilers of the dictionary. It should be noted that in the RLD 1950, this plant name is presented differently: *digitals* (as the Latvian equivalent of Russian *дигиталис*) and *uzpirkstenes* (as the Latvian equivalent of Russian *наперстянка*) – the entries are given inconsistently within one dictionary.

Inconsistency in providing terminological and non-terminological Latvian plant names is also present in newer dictionaries analysed, e.g. in the ELD 2000 the only Latvian equivalent of English *bell-flower* is *zvaniņš*, that is not an official terminological word (Latin *Campanula*), but the entries *bluebell, campanula*, and *harebell* have an official terminological Latvian translation – *pulkstenīte* (Latin *Campanula*) (Agronomijas terminu vārdnīca, 1973: 220). *Zvaniņš*, in its turn, is a regionalism (Ēdelmane & Ozola, 2003: 300) that stands for several different plants. In this case the reference is needed and an official Latvian name should be given. These examples prove once again that the compilers did not proofread plant names separately and they did not have any unifying vision in choosing Latvian equivalents within one dictionary.

In the RLD 1950 and the ELD 1957 the plant name *buksuss* is given, but the 'Botanic Dictionary' by P. Galenieks (Galenieks, 1950: 12) offers the Latvian equivalent *buksis* (Latin *Buxus*). If the compilers of the RLD 1950 could not use the 'Botanic Dictionary' by P. Galenieks, then the compilers of the ELD 1957 could do that, but did not take this plant name into account for inexplicable reasons. In the GLD 1954 the Latvian equivalent of German *Buchsbaum* is *buksis*, but in the GLD 2002 this plant name is absent. Also the Latvian equivalents *buksuss* for English *box* and *box-wood* in the ELD 2000 was not checked in special literature, as, for instance, in the 'Dictionary of Agronomical Terms' published in 1973 (Agronomijas terminu vārdnīca, 1973: 60) this plant name is given as *buksis*. Also the RLD 1997 offers different variants of this plant name: the equivalent of Russian *букс* is *buksis*, but of Russian *самшит* – *buksuss*. These examples show that also the compilers of newer dictionaries did not consult with special botanic literature.

None of the older dictionaries chosen for this research include the term *rododendrs* (Latin *Rhododendron*) offered in the 'Botanic Dictionary' by P. Galenieks (Galenieks, 1950: 52). The compilers of the GLD 1954 and the ELD 1957 apparently used the 'Spelling Dictionary of the Latvian Language' of 1951 (Latviešu valodas pareizrakstības vārdnīca, 1951: 166) where the term *rododendrons* is given. This example shows that the compilers of the dictionaries followed special philological literature, however, now the most common is the Latvian term offered by Galenieks – *rododendrs*. Sometimes it is difficult to explain the process of adapting one or another variant. Probably the domain experts used a shorter plant name offered by Galenieks – *rododendrs* – that is why this variant now is more common. All the newer dictionaries analysed herein offer the term *rododendrs*. Some of the entries provided in the table have two equivalents in Latvian, and these cases are described further.

One or More Equivalents in Latvian

One of the peculiarities characteristic to the Latvian plant names is a high diversity, wide synonymy, and a range of parallel forms. When having analysed Latvian plant names, a philologist I. Ēdelmane came to conclusion that one and the same name of a

plant in different Latvian regions may refer to absolutely different plants (Ēdelmane, 1991: 156). The entries arranged in the tables herein show that compilers of the older dictionaries in five cases from ten provide one or two Latvian plant names as the equivalents of foreign plant names, e.g., *dzīvībaskoks* and *tūja* (*thuja*), *paērkšķis* and *vilkābele* (*hawthorn*), *lapegle* and *skujmete* (*larch*), but this tendency is not consistent: in one of the dictionaries two Latvian names are given, but in another – one. If there is synonymic Latvian equivalent, it is also advisable to give references to the most optimal variants out of equivalents listed. That would help dictionary users to decide which of the equivalents given is better to choose when translating fiction, because in this case a translator has more freedom, but when translating scientific literature, in its turn, the equivalent must be absolutely precise. Sometimes a lexicographer needs to solve the problem with a synonymic Latvian name by using some researches in dialectology. In the 'Atlas of Dialect Forms of the Latvian language' (Bušmane et. al. 1999), in the chapter devoted to lexis, there is a rich material about flora and fauna. For instance, in the 'Dictionary of the Literary Latvian Language' (Latviešu literārās valodas vārdnīca, 1986: 129) the entry *paērkšķis* (*hawthorn*) has a reference *dialectism*, but in the RLD 1950 and the ELD 1957 this name is given as the first of two Latvian equivalents provided. In its turn, the RLD 1997 as the Latvian equivalent for an entry *боярышник* offers only *vilkābele* (*hawthorn*), but the ELD 2000 – the same as the ELD 1957 – gives two Latvian equivalents, providing as the first of them a dialectal word *paērkšķis*, but as the second – *vilkābele*. In these cases it would be preferable to give an additional reference by each of the two Latvian equivalents. Sometimes non-official Latvian plant name is much more common than a terminological one, so again giving specific references to the Latvian equivalents would be very advantageous.

In the material included in the tables one can notice also a so-called 'tendency of lexicographical inertness' (Baldunčiks, 2012: 150) when the first equivalent provided in the dictionary is a literal translation of a foreign plant name or calque, e.g. in the GLD 2002 as the equivalents of German *Lebensbaum* in Latvian *dzīvībaskoks, tūja* are given, but of the German *Thuja – tūja, dzīvībaskoks*, i.e. the first equivalent is a borrowing. In the RLD 1940, the Latvian equivalent of Russian *дигиталис* is *digitals*, but in the same dictionary the translation of *наперстянка* is *uzpirkstenes*. This tendency is also characteristic of the GLD 1954 where the Latvian equivalents of German *Alm[en]rausch* and *Alpenrose* are *rododendrons, alpu roze*, and for German *Lärche – lapegle, skujmete*. The same situation is with both the GLD 2002 (German *Lärche*) and the RLD 1997 (Russian *лиственница*) where the Latvian equivalents are *lapegle, skujmete*.

Conclusions

Language material gathered and analysed in the tables attached proves that compilers of the dictionaries analysed herein did not use any specific guidelines concerning the choice whether to give or not to give some specific references to the field of use, viz. botany. Even in the same dictionary there is inconsistency in providing references. It was also noticed that not in all examples gathered and analysed an official or terminological plant name is given as the first Latvian equivalent. In some cases compilers offer two or more Latvian equivalents for foreign plant names. It implies a wide synonymy. In particular cases, when giving two Latvian equivalents, it is very advisable to give additional references. Several examples analysed above suggest that the plant names included in the dictionaries were not proofread separately from the other entries, since even in one and the same dictionary the Latvian equivalents of plant names are given differently; moreover, the Latvian equivalents are provided according to the 'principle of lexicographical inertness' when the first equivalent given is the literal translation of a plant name.

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Appendix

Table 1

Presentation of Plant Names Excerpted from the Oldest Dictionaries

Plant name in Latvian, Latin	RLD 1950	GLD 1954	ELD 1957
bukši (*Buxus*)	самшит *bot.* buksuss	Buchsbaum, der *bot*. buksis	box *bot*. buksuss
			box-wood 1. *bot*. buksuss
pulkstenītes (*Campanula*)	колокольчик 2. *bot*. pulkstenīte	Glockenblume, die *bot.* pulkstenīte	bluebell 2. (*Anglijas ziemeļos*) pulkstenīte
			bell-flower *bot*. pulkstenīte
			harebell *bot*. pulkstenīte
tūjas, dzīvībaskoki (*Thuja*)	туя *bot*. tuja, dzīvības koks	Lebensbaum, der *bot.* dzīvības koks, tūja	thuja *bot.* tuja, dzīvības koks
uzpirkstītes (*Digitalis*)	дигиталис *bot.* digitals	Fingerhut, der 2. *bot*. uzpirkstīte	fingerflower *bot.* uzpirkstene
	наперстянка *bot*. uzpirkstenes		fox-glove *bot.* uzpirkstene
vilkābeles (*Crataegus*)	боярышник *bot.* paērkšķis, vilkābele	Aarkirsche, die vilkābele	hawthorn *bot.* paērkšķis, vilkābele
		Hagedorn, der bot. vilkābele	thorn 2. *bot.* paērkšķis, vilkābele
		Heckdorn, der *bot.* vilkābele	
		Rotdorn, der *bot.* vilkābele	whitethorn *bot.* paērķškis, vilkābele
		Weißdorn, der *bot.* vilkābele	
rododendri (*Rhododendron*)	рододендрон *bot.* rododendrons	Alm[en]rausch, der *sk.* Alpenrose *bot*. rododendrons, alpu roze	rhododendron *bot*. rododendrons
		Alpenrose, die *bot*. rododendrons, alpu roze	
irbulenes (*Genista*)	дрок *bot*. irbulenes	Ginster, der *bot*. irbulenes	whin *bot*. irbulene, irbene
			furze *bot.* irbulene
			genista *bot.* irbulenes
			gorse *bot.* irbulenes
irbenes (*Viburnum*)	калина *bot*. 1. irbenājs; irbenāji; 2. irbenes	Hirschholder, der *bot*. irbene	whin *bot*. irbulene, irbene
		Schneeball, der 2. *bot*. irbenes	viburnum *bot.* irbenājs
spriganes (*Impatiens*)	nav	Balsamine, die *bot*. sprigane	touch-me-not 1. *bot*. sprigane
		Rührmichnichtan, das 1. *bot*. sprigane	
lapegles (*Larix*)	лиственница *bot.* lapegle	Lärche, die *bot*. lapegle, skujmete	larch *bot*. lapegle

Table 2

Presentation of Plant Names Excerpted from the Latest Dictionaries

Plant name in Latvian, Latin	RLD 1997	GLD 2002	ELD 2000
bukši (*Buxus*)	букс *bot*. buksis	not included	box[c] buksuss
	самшит *bot.* buksuss		box-wood *skat*.box[c] buksuss
ulkstenītes (*Campanula*)	Glockenblume, die *bot.* pulkstenīte	колокольчик *bot*. pulkstenīte	bluebell 2. pulkstenīte
			bell-flower *bot*. zvaniņš
			campanula *bot.* pulkstenīte
			harebell *bot*. pulkstenīte
tūjas, dzīvībaskoki (*Thuja*)	туя *бот.* tūja, dzīvības koks	Lebensbaum, der *bot.* dzīvībaskoks, tūja	thuja tūja, dzīvības koks
		Thuja, die tūja, dzīvībaskoks	
uzpirkstītes (*Digitalis*)	наперстянка *bot*. uzpirkstīte	nav	digitalis *bot.* uzpirkstīte
			fox-glove *bot.* uzpirkstīte
vilkābeles (*Crataegus*)	боярышник *бот.* vilkābele	Weißdorn, der vilkābele	hawthorn *bot.* paērkšķis; vilkābele
		Hagedorn, der *bot.* vilkābele	whitethorn *bot.* paērķškis, vilkābele
		Rotdorn *bot*. vilkābele	
rododendri (*Rhododendron*)	рододендрон rododendrs	Rhododendron, der *bot.* rododendrs	rhododendron *bot*. rododendrs
irbulenes (*Genista*)	дрок *бот.* irbulene	Ginster, der *bot*. irbulene	broom 2.*bot*.irbulene
			furze *bot.* irbulene
			genista *bot.* irbulene
			gorse *bot.* irbulenes
irbenes (*Viburnum*)	калина *ед.* 1. (*кустарник*) irbenājs	Schneeball, der 2. *bot*. irbene	viburnum irbenājs
spriganes (*Impatiens*)	бальзамин-недотрога sprigane	Rührmichnichtan, das 1. *bot*. sprigane	touch-me-not 3. *bot*. sprigane
		Springkraut, das *bot.* sprigane	
lapegles (*Larix*)	лиственница lapegle, skujmete	Lärche, die *bot*. lapegle, skujmete	larch *bot*. lapegle