

# **ECONOMIC SCIENCE FOR RURAL DEVELOPMENT**

**1. Marketing and Sustainable Consumption**

**2. Rural Development and Entrepreneurship**

**3. Home Economics**

**№ 35  
Jelgava  
2014**

## TIME SCHEDULE OF THE CONFERENCE

Preparation: October 2013 – 20 April 2014

Process: 24-25 April 2014

University of Economics, Prague	Czech Republic
Estonian University of Life Sciences	Estonia
BA School of Business	Latvia
Baltic International Academy	Latvia
Latvian State Institute of Agrarian Economics	Latvia
University of Latvia	Latvia
Latvia University of Agriculture	Latvia
Riga International School of Economics and Business Administration	Latvia
Latvian State Forest Research Institute "Silava"	Latvia
Institute for National Economy Research	Latvia
Riga Technical University	Latvia
Rezekne Higher Education Institution	Latvia
State Priekuli Plant Breeding Institute	Latvia
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Warsaw University of Life Sciences	Poland
Poznan University of Economics	Poland
West Pomeranian University of Technology in Szczecin	Poland
University of Agriculture in Krakow	Poland
Institute of Agricultural and Food Economics - National Research Institute, Warsaw	Poland
Welfare Projects Academy of Sciences in Lodz	Poland
South Dakota State University	USA
Pennsylvania State University, State College	USA
Russian Academy of Sciences	Russia
Saratov State Socio-Economic University	Russia
Kazakh Economic University	Kazakhstan

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All reviewers were anonymous for the authors of the articles.

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The conference and its proceedings are dedicated to topical themes of rural development, such as primary and secondary agricultural production and cooperation; integrated and sustainable development; finance and taxes; resources and sustainable consumption; home economics and other.

The Editorial Board is responsible for, among other, preventing publication malpractice. Unethical behaviour is unacceptable and the authors who submit articles to the Conference Proceedings affirm that the content of a manuscript is original. Furthermore, the authors' submission also implies that the material of the article was not published in any other publication; it is not and will not be presented for publication to any other publication; it does not contain statements which do not correspond to reality, or material which may infringe upon the intellectual property rights of another person or legal entity, and upon the conditions and requirements of sponsors or providers of financial support; all references used in the article are indicated and, to the extent the article incorporates text passages, figures, data or other material from the works of others, the undersigned has obtained any necessary permits as well as the authors undertake to indemnify and hold harmless the publisher of the proceedings and third parties from any damage or expense that may arise in the event of a breach of any of the guarantees.

Editors, authors, and reviewers, within the International Scientific Conference "**Economic Science for Rural Development**" are to be fully committed to good publication practice and accept the responsibility for fulfilling the following duties and responsibilities, as set by the *COPE Code of Conduct and Best Practice Guidelines for Journal Editors of the Committee on Publication Ethics (COPE)*.

It is necessary to agree upon standards of expected ethical behaviour for all parties involved in the act of publishing: the author, the editor, the peer reviewer, and the publisher.

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#### **Publication decisions**

The Editorial Board is responsible for deciding which of the articles submitted to the Conference Proceedings should be published. The Editorial Board may be guided by the policies of ethics and constrained by such legal requirements as shall then be in force regarding libel, copyright infringement and plagiarism. The editor may confer with other editors or reviewers in making this decision.

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Unpublished materials disclosed in a submitted manuscript must not be used in an editor's own research without the express written consent of the author.

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Peer review assists the editor in making editorial decisions and through the editorial communications with the author may also assist the author in improving the paper.

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Authorship should be limited to those who have made a significant contribution to the conception, design, execution, or interpretation of the reported study. All those who have made significant contributions should be listed as co-authors. Where there are others who have participated in certain substantive aspects of the research project, they should be acknowledged or listed as contributors.

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If the work involves chemicals, procedures or equipment that have any unusual hazards inherent in their use, the author must clearly identify these in the manuscript.

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All authors should disclose in their manuscript any financial or other substantive conflict of interest that might be construed to influence the results or interpretation of their manuscript. All sources of financial support for the project should be disclosed.

### **Fundamental errors in published works**

When an author discovers a significant error or inaccuracy in his/her own published work, it is the author's obligation to promptly notify the editor or publisher and cooperate with the editor to retract or correct the paper.

### **Editorial Board**

## Foreword

Every year the Faculty of Economics and Social Development, Latvia University of Agriculture holds the international scientific conference "Economic Science for Rural Development" and publishes internationally reviewed papers of scientific researches, which are presented at the conference. **This year** researchers from various European countries representing not only the science of economics in the diversity of its sub-branches have contributed to the conference; they have expanded their studies engaging colleagues from social and other sciences, thus, confirming inter-disciplinary and multi-dimensional development of the contemporary science. The conference is dedicated to topical themes of rural development; hence, the research results are published in 4 successive volumes (No 33, No 34, No 35, and No 36). The first volume of scientific conference proceedings was published in 2000.

The following topical themes have been chosen for the conference:

- Production and Co-operation in Agriculture
- Integrated and Sustainable Regional Development
- Finance and Taxes
- Marketing and Sustainable Consumption
- Rural Development and Entrepreneurship
- Home Economics
- New Dimensions in the Development of Society

Professors, doctors of science, associate professors, assistant professors, PhD students, and other researchers from the following higher education, research institutions, and professional organisations participate at the International Scientific Conference held on 24-25 April 2014 and present their results of scientific research:

University of Economics, Prague	Czech Republic
Estonian University of Life Sciences	Estonia
BA School of Business	Latvia
Baltic International Academy	Latvia
Latvian State Institute of Agrarian Economics	Latvia
University of Latvia	Latvia
Latvia University of Agriculture	Latvia
Riga International School of Economics and Business Administration	Latvia
Latvian State Forest Research Institute "Silava"	Latvia
Institute for National Economy Research	Latvia
Riga Technical University	Latvia
Rezekne Higher Education Institution	Latvia
State Priekuli Plant Breeding Institute	Latvia
Ventspils University College	Latvia
Aleksandras Stulginskis University	Lithuania
Kaunas University of Technology	Lithuania
Vilnius University	Lithuania
Mykolas Romeris University	Lithuania
Lithuanian University of Health Sciences	Lithuania
Vilnius Gediminas Technical University	Lithuania
Szczecin University	Poland
University of Warmia and Mazury in Olsztyn	Poland
Warsaw University of Life Sciences	Poland
Poznan University of Economics	Poland
West Pomeranian University of Technology in Szczecin	Poland
University of Agriculture in Krakow	Poland
Institute of Agricultural and Food Economics - National Research Institute, Warsaw	Poland

Welfare Projects Academy of Sciences in Lodz  
South Dakota State University  
Pennsylvania State University, State College  
Russian Academy of Sciences  
Saratov State Socio-Economic University  
Kazakh Economic University

Poland  
USA  
USA  
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The comprehensive reviewing of submitted scientific articles has been performed on international and inter-university level to ensure that only high-level scientific and methodological research results, meeting the requirements of international standards, are presented at the conference.

Every submitted manuscript has been reviewed by one reviewer from the author's native country or university, while the other reviewer came from another country or university. The third reviewer was chosen in the case of conflicting reviews. All reviewers were anonymous for the authors of the articles, and the reviewers presented blind reviews. Every author received the reviewers' objections or recommendations. After receiving the improved (final) version of the manuscript and the author's comments, the Editorial Board of the conference evaluated each article.

All the papers of the international scientific conference "Economic Science for Rural Development" are arranged into the following four thematic volumes:

**No 33 Finance and Taxes**  
**New Dimensions in the Development of Society**

**No 34 Production and Cooperation in Agriculture**

**No 35 Marketing and Sustainable Consumption**  
**Rural Development and Entrepreneurship**  
**Home Economics**

**No 36 Integrated and Sustainable Regional Development**

The publishing of the Proceedings before the conference promotes exchange of opinions, discussions, and collaboration of economic scientists on the international level. The research results included into the Proceedings are available worldwide to any interested person.

**The Conference Proceedings are indexed in ISI Web of Knowledge, AGRIS, CAB Abstracts and EBSCOHost Academic Search Complete databases.**

The Conference Committee and Editorial Board are open to comments and recommendations for the development of future conference proceedings and organisation of international scientific conferences.

We would like to thank all the authors, reviewers, members of the Programme Committee and the Editorial Board as well as supporting staff for their contribution organising the conference.

On behalf of the conference organisers

**Ingrida Jakusonoka**

Professor of Faculty of Economics and Social Development  
Latvia University of Agriculture

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# **1. Marketing and Sustainable Consumption**

**AWARENESS OF CORPORATE SOCIAL RESPONSIBILITY ASPECTS IN LATVIA  
AND THE EUROPEAN UNION****Gunta Grinberga-Zalite**<sup>1</sup>, Dr.oec.

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**Abstract.** Both in the European Union and in Latvia, the role of corporate social responsibility issues is increasing and becomes an important factor in the building of company's reputation. In Latvia, mostly the opinion that a company must donate a part of its profit to society, in which it operates, has prevailed so far. However, corporate social responsibility should be perceived much wider – not only as charity but also as company's values that find their expression in company's involvement in tackling environmental and social issues. In modern economy sectors, especially in service industries, human capital becomes more important than the physical capital, thus, comprehensive investors should stop cooperation with partners that fail to reduce such risks.

After Latvia's recovery from the 2008 financial *crisis*, which stemmed from the global financial *crisis* of 2008–2009, the country's welfare level has still a strong impact on the consumers' choice. Consequently, Latvian households pay little interest to the overall behaviour of corporate citizens rather than are interested to obtain the largest possible total utility for every spent monetary unit, regardless of what expense it is provided for customers.

In scope of the present research, the author has analysed Latvian and the EU citizens' awareness of corporate social responsibility issues. The research results revealed that in Latvia, there is still a corporate social responsibility information gap – almost two thirds of Latvian respondents are interested in what companies do to behave in a responsible way, whereas only one third of respondents say they feel informed in this area.

**Key words:** corporate social responsibility, corporate citizens, consumption.

**JEL code:** M140

**Introduction**

Corporate social responsibility (CSR) reflects company's relations with the society. The term "corporate social responsibility" is not a new term, it became popular already in the 1960s and has remained a term used indiscriminately by many to cover legal and moral responsibility more narrowly construed (Wood D., 1991). CSR is titled to aid an organisation's mission as well as a guide to what the company stands for and will uphold to its consumers (Hollensen S., 2011). Development business ethics is one of the forms of applied ethics that examines ethical principles and moral or ethical problems that can arise in a business environment. ISO 26000 is the recognised international standard for CSR. Public sector organisations (e.g. the United Nations) adhere to the triple bottom line (TBL). It is widely accepted that CSR adheres to similar principles but with no formal act of legislation. The UN has developed the

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Principles for Responsible Investment as guidelines for investing entities. Although there are many followers to the famous economist Milton Friedman viewpoint claiming that there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud (Friedman M., 1970), both in the European Union (EU) and in Latvia, the role of social responsibility issues is increasing and becomes an important factor in the building of company's reputation. In Latvia, mostly the opinion that a company must donate a part of its profit to society, in which it operates, has prevailed so far. However, CSR should be perceived much wider – not only as external activities of a company (e.g. charity, sponsoring etc.) but also as values of company's shareholders, which find their expression in dealing with supply chain partners, environment problems, and relations with employees. In modern economy sectors, especially in service industries, human capital becomes more important than the physical capital, thus, comprehensive investors stop cooperation with partners that fail to reduce such risks.

At Latvia level, overall studies regarding customers' awareness of corporate social responsibility aspects have not been performed yet, whereas, in the EU, as a part of the new policy on corporate social responsibility agenda, in 2013 a survey was designed to investigate the views of Europeans about the influence companies have on society. Among many different aspects, the survey investigated:

- levels of interest and information about what companies do to behave responsibly towards society;
- perceptions of the efforts companies in different sectors make to behave in a socially responsible way;
- perceptions of the overall influence of companies on society - is it positive or negative;
- who should take the lead in influencing companies to behave in a more responsible way towards society?

In scope of the present research, the author's **aim** was to evaluate Latvian and the EU citizens' awareness of corporate social responsibility issues. The aim of the research has set the following **tasks**:

- 1) compare the levels of interest and information about corporate social responsibility issues in Latvia and the EU;
- 2) identify the main negative effects of companies on the society in Latvian and the EU consumers' view;
- 3) analyse Latvian and EU consumers' opinion on problems of taking responsibility of corporate social responsibility principles.

In scope of the paper development, the following economic research methods were applied: analysis and synthesis, induction and deduction, monographic method and graphic method. For secondary data analysis, the author has used the publications of the European Commission documents, various Internet sources as well as publications in Latvian and international newspapers.

## **Research results and discussion**

Corporate social responsibility defined by the European Commission as "the responsibility of enterprises for their impacts on society", underpins the Europe 2020 objectives for "smart, sustainable

and inclusive growth" (A Renewed EU Strategy..., 2011). To further the integration of CSR into business practice across the European Union, the Commission published a new policy on corporate social responsibility (CSR) in October 2011. This policy aims to enhance the positive impacts of companies on society, and to prevent or minimise possible negative impacts. The policy also sets out a plan of actions for the period 2011-2014, which includes:

- raising the profile of CSR within the EU and within the Member States and promoting and rewarding responsible business conduct;
- tracking the level of trust citizens have in business;
- improving regulation mechanisms and working towards new legislation around CSR.

In Latvia, Sustainability Index has been applied since 2011, which is a strategic management tool developed on the grounds of global methodology aimed to help Latvian enterprises establish the level of sustainability and corporate responsibility. It also sets objective criteria for the community as well as public and non-governmental organisations. Another purpose of the initiative is to praise and support the enterprises contributing to the long-term sustainability of Latvian economy, environment, and society. The Sustainability Index methodology has been developed by a wide range of Latvian experts based on the best global examples (Dow Jones Sustainability Index and CR Index by Business in the Community) and in line with the corporate responsibility standard SO 26000 and the Global Reporting Initiative (GRI) guidelines. The index has been adapted to the local audience evaluating the local performance of enterprises as regards to economic, social, and environmental issues, taking into consideration global corporate responsibility and sustainability criteria.

Sustainability Index is a great opportunity for managers sharing the following values:

- strategic improvement of the operation;
- understanding the diverse aspects of sustainability and corporate responsibility;
- reliable evaluation of non-financial operation of the enterprise and clear recommendations;
- communicating the results to internal and external stakeholders – employees, suppliers, investors, export markets, sponsors etc.

The results of **Sustainability Index** are reported at the annual closing event. The individual results of the participants (companies) are ranked by four categories (Platinum, Gold, Silver, and Bronze) showing approximate level of their sustainability index score (Sustainability Index, 2013). Nevertheless, despite this initiative, consumers often have rather different considerations regarding their loyalty to companies and brands. In general, the consumption in a country reflects the result of important economic and social dimensions' indicator interaction which is determined by characteristics of the particular economic cycle phase. After the reduction of consumption expenditure amount due to the 2008 **Latvia** financial **crisis**, which stemmed from the global financial **crisis** of 2008–2009, even now, in after crises period, Latvian consumers' revenues have not returned in the before-crises period level. Consequently, even in after-crises period, Latvian households are still tended to obtain the largest possible total utility for every spent monetary unit. Therefore, in Latvia functional consumption type still prevails which is also evidenced by the ratings of Latvia top of most loved brands. In 2013, Latvians' most loved brand top, which was composed in collaboration with "DDB Latvia" and the research company "GfK Custom Research Baltic", revealed that the top positions in brand rankings were taken mostly by

those brands that were user friendly and practiced value pricing or everyday low pricing<sup>2</sup> (Miletako zimolu tops, 2013). However, the tragic events that took place in Latvia on 21 November 2013 due to Riga supermarket "Maxima" roof collapse<sup>3</sup> proved that often it takes a crisis to precipitate attention to CSR. Because the collapse occurred during peak shopping hours, it was suspected that at least a hundred people might have been in the store during the collapse. The disaster killed 54 people including three rescue workers; another 39 were injured and received medical attention. This was the worst disaster in Latvia since 1950. Eyewitnesses said that shortly before the collapse, a fire alarm was set off and there were announcements made that the store should be evacuated. The store's security verified that there was no fire and afterwards did not carry out an evacuation, but rather treated it as a false alarm and called a technician to turn it off. After the tragedy, not only Latvian Prime Minister Valdis Dombrovskis resigned from office on 27 November 2013 (Valdis Dombrovskis pazino..., 2013) but the incident even caused some tension between Latvia and Lithuania after the top management of the Lithuanian-owned chain refused to take any responsibility for the incident. In Latvia, "Maxima" stores were boycotted due to the statements expressed by "Maxima" management after the supermarket collapsed, and also due to reports of exploitation of workers and poor product quality (Steinfelde I., 2013). Several employees, including those who worked in the collapsed store, told media that they had received insufficient safety instructions, fire escape doors had been blocked, they had not been allowed to leave work without permission even to visit toilet and would have their pay reduced if they failed to comply. The stores would also keep only few checkout counters open in order to save money causing long lines to form, requiring employees to work long hours, while paying minimum wage. "Maxima" also was criticised for apparently intimidating workers to keep them from reporting discrepancies to authorities, talking to media or joining trade union (Puke I., Brauna A., 2013). In response to the events in Latvia, later there were also protests organised against "Maxima" stores in Lithuania. Since reputation in the community is an ongoing measure to ensure the company's brand visibility (Blumberga H., Ivans U., 2009), "Maxima" brand reliability in Latvia has seriously been undermined by this tragic event. Moreover, "Maxima" tragedy gives evidence that not only wrong management of the companies and inactivity of public authorities are to be blamed in a disaster but often public indifference and low level of awareness of corporate social responsibility issues cause the occurrence of such situations.

Since corporate citizens nowadays significantly influence not only the business environment but also social environment of countries, in 2013 a survey was designed to investigate the views of Europeans about the influence companies have on society in their countries. The survey conducted in 2013 by TNS Political & Social at the request of the European Commission comprised 25 567 respondents from all the EU-27 Member States who were 15 years old and older, including 1001 respondents from Latvia (TNS Political & Social, 2013).

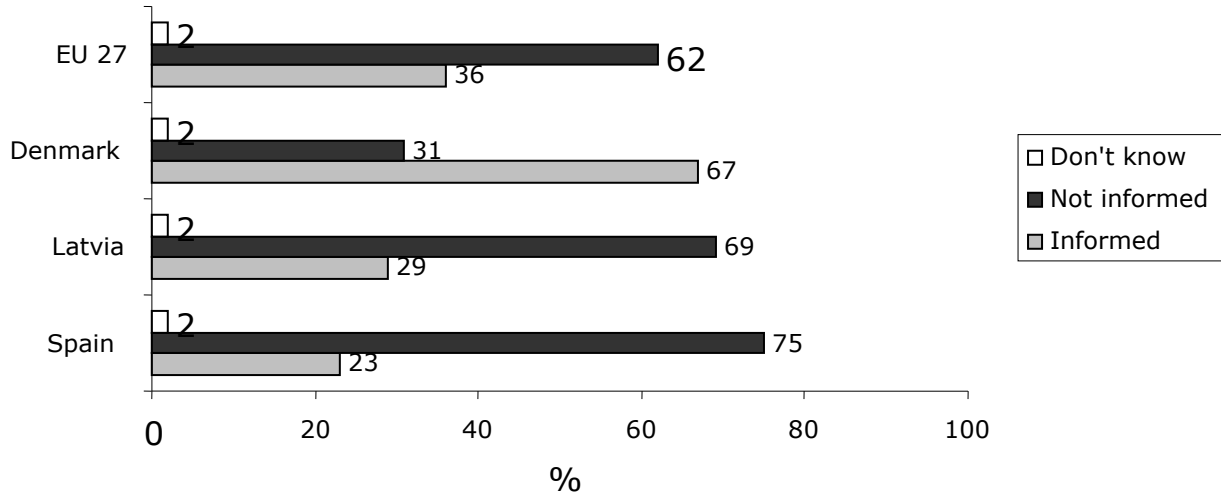
Firstly, the EU-27 countries' citizens were asked if they feel well informed, not very well informed or not informed at all about what companies do to behave socially responsible. The proportion of

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<sup>2</sup>1<sup>st</sup> place – GOOGLE; 2<sup>nd</sup> place – INBOX; 3<sup>rd</sup> place – NOKIA; 4<sup>th</sup> place – SKYPE; 5<sup>th</sup> place – DRAUGIEM; 6<sup>th</sup> place – SWEDBANK; 7<sup>th</sup> place – MAXIMA.

<sup>3</sup> "Maxima" is a retail chain operating in Lithuania, Latvia, Estonia, Poland and Bulgaria and it is the largest Lithuanian capital company and the largest employer in the Baltic States. "Maxima Group" has 478 stores (as of 2012) in Lithuania, Latvia, Estonia and Bulgaria. The group employs more than 29 500 people.

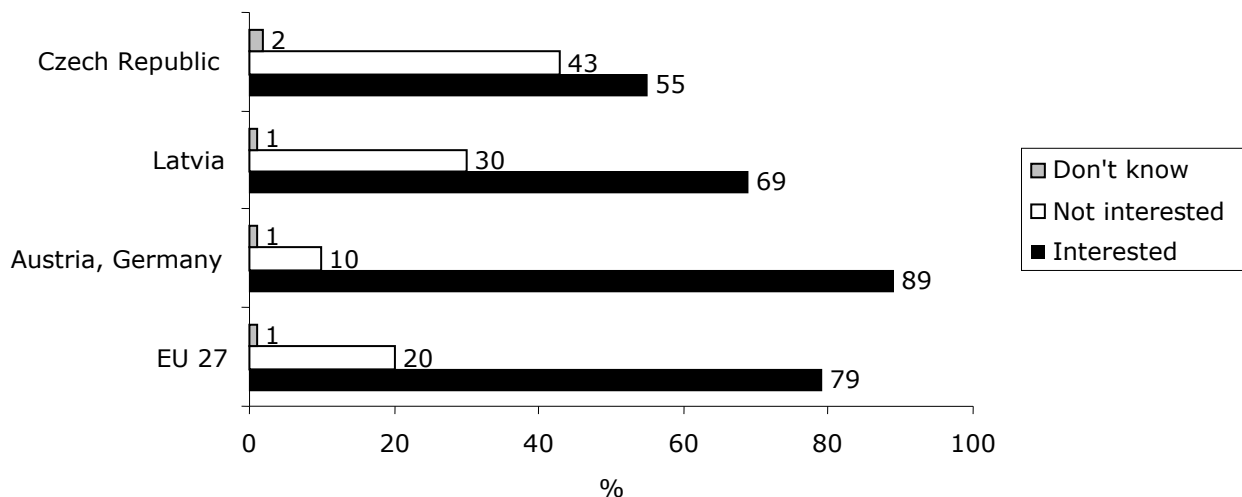
respondents who feel informed about what companies do to behave responsibly towards society varies dramatically across the EU countries. Figure 1 shows that in the EU-27, 36% of citizens on average have claimed that they are well informed.



Source: author's construction based on TNS Political & Social, 2013

Fig. 1. Respondents' awareness of companies' compliance with social responsibility principles towards society in the country, % of consumers

The best result of citizens' awareness of CSR issues was detected in Denmark where 67% of respondents are most likely to say they feel informed in this area and they are much more likely to take an active part in information search and dissemination.



Source: author's construction based on TNS Political & Social, 2013

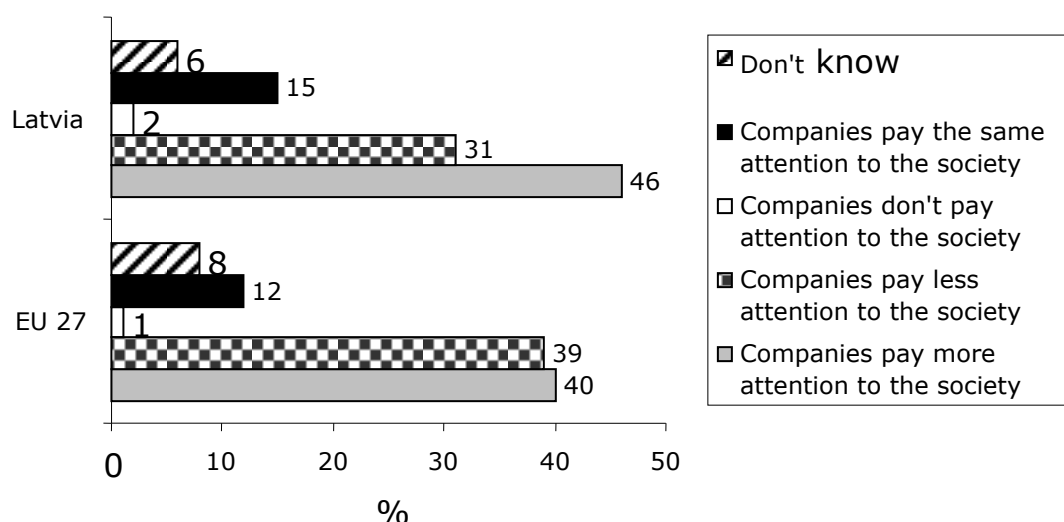
Fig. 2. Respondents' interest in what companies do to behave responsibly towards society, % of consumers

Latvian respondents' awareness level is the second lowest (29%) and is just ahead of Spain, in which only 23% feel informed of companies' socially responsible behaviour.

The second question tried to find out if consumers are interested in what companies do to behave responsibly towards society in their countries (Figure 2).

Turning to the European results, almost all respondents in Germany and Austria (both 89%) say they are interested in what companies do to behave responsibly towards society. Whereas, Latvia again is almost in the last place in the EU-27, it is just ahead of the Czech Republic. Consequently, Latvian consumers themselves pay less interest to the overall behaviour of corporate citizens, rather than are interested to obtain the largest possible total utility for every spent monetary unit. This fact also gives evidence that the country's welfare level has a strong impact on the consumers' choice, as the less interest in CRS was detected right in those EU Member States that joined the EU in 2004, i.e. Poland (25%), Slovakia (26%), Lithuania (27%), Estonia (26%), Malta (28%), Latvia (30%), and the Czech Republic (43%).

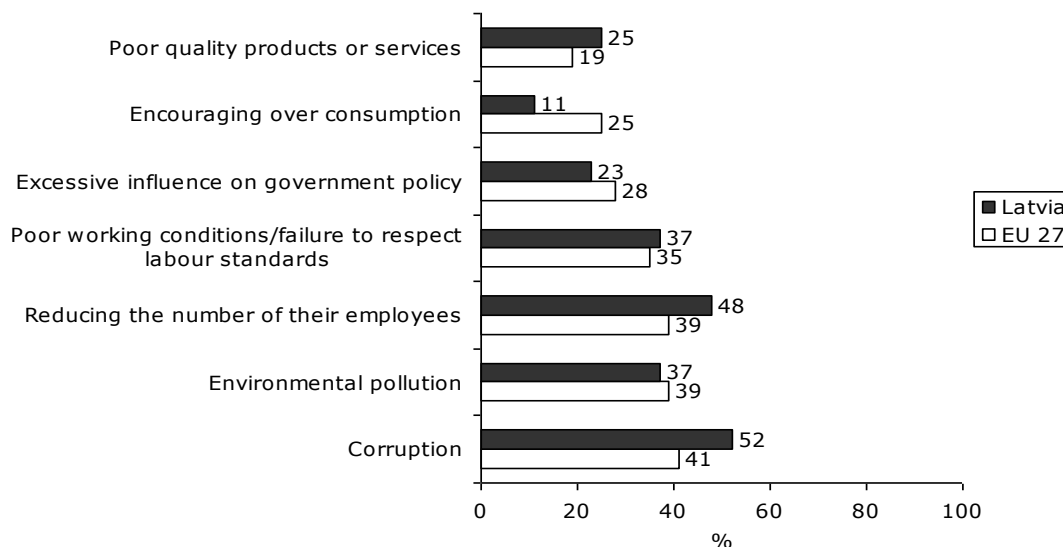
Figure 3 demonstrates that within the EU, 46% of Latvian respondents are more likely than the EU average (40%) to think that companies now pay more attention to their influence on society compared with the situation 10 years ago. The same situation is observed also in the majority of the new EU Member States (except Poland, Hungary, and the Czech Republic) which suggests that after 10 years in the EU implying its policies and regulations the companies have had to assess critically and admit their impact on environment and society which has been noticed by consumers.



**Source:** author's construction based on TNS Political & Social, 2013

**Fig. 3. Citizens' awareness of companies paying attention to their impact on the society compared with 10 years ago, % of consumers**

Among many different sectors' companies, Latvians have especially well evaluated the efforts of retail and supermarket companies to behave responsibly towards society, i.e. 72% which is a better result than in the EU on average (67%). This phenomenon again suggests that in Latvian consumers' view, often a responsible market player is regarded the one who enables customer to obtain larger possible total utility for consumers' every spent monetary unit regardless of what expense it is done.

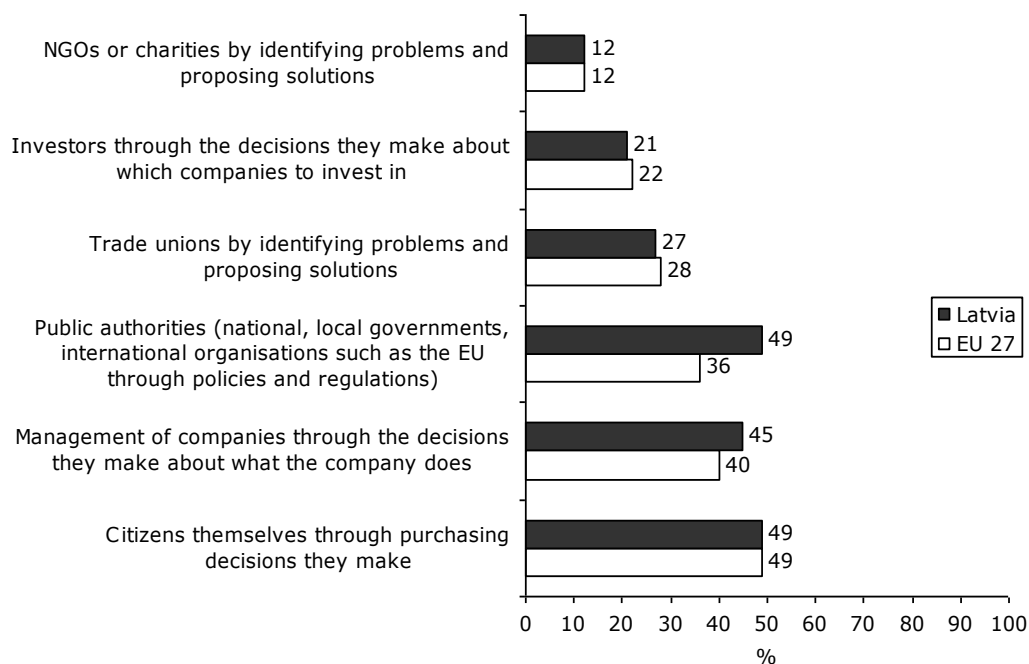


**Source: author's construction based on TNS Political & Social, 2013**

**Fig. 4. Main negative effects of companies on the society in citizens' view, %**

In Figure 4, regarding the main negative impacts companies have on the society, 48% of Latvian respondents have clearly mentioned that it is their reducing the number of employees. In the EU-27, the same argument is also topical but not as distinctive as in Latvia (39%). Another problem that Latvian consumers are upset with is corruption (52%). This indicator confirms the results of "Corruption Perceptions Index 2013". In 2013, Latvia scored 49 on the "Corruption Perceptions Index" and of the 177 countries surveyed, Latvia was ranked in the 54<sup>th</sup> place. This year, Latvia's score is 53 and the country shares 49<sup>th</sup> spot with Costa Rica and Rwanda (Latvia shares 49<sup>th</sup> place..., 2013). Consequently, Latvians have reasonable basis for such concerns. Figure 4 also suggests that sustainable consumption issues that are lately topical in the old EU countries (e.g. Belgium – 43%, the Netherlands – 42%) have not yet become of interest in Latvia.

Although, Figure 5 shows that the same rate of Latvians and the EU-27 citizens think that they themselves can influence corporate citizens through their purchasing decisions, it is important to mention that Latvia has indicated the second highest score after the Netherlands (51%) among all the EU-27 countries (49%) in their trust to public authorities' ability to influence companies activities, which conflicts with respondents' answers on the previous question about corruption.



**Source:** author's construction based on TNS Political & Social, 2013

Fig. 5. Citizens' opinion about the leading actor influencing companies' actions, %

Consequently, further CSR studies focusing on leading actors, i.e. opinion leaders, public authorities, and NGO sector participants that would best of all involve both consumers and corporate citizens in reciprocal and constructive dialogues and social marketing campaigns would be advisable at Latvia level.

### Conclusions, proposals, recommendations

1. The ratings of Latvia top most loved brands give evidence that top positions to large extent are taken by those brands that are user-friendly and cost-friendly to consumers which shows that functional consumption type prevails in Latvia.
2. There is a CSR information gap in Latvia: although 69% of respondents say they are interested in what companies do to behave in a responsible way, only 29% say they feel informed in this area.
3. In the survey, 46% of Latvian respondents consider that corporate citizens lately pay more attention to their influence on society compared with 10 years ago, which is comparatively higher rate than in the EU-27 on average (40%). This situation suggests that after Latvia's 10-year membership in the EU, implying its policies and regulations, Latvian companies have had to assess critically their impact on environment and society and take some noteworthy measures towards its negative effects which have been appreciated by Latvian consumers.
4. Within different types of businesses, Latvians are especially aware of efforts of retail and supermarket companies to behave responsibly towards society, i.e. 72%, which is higher than in the EU on average (67%). This phenomenon suggests that in Latvian consumers' view, often a responsible market player is regarded the one who enables customer to obtain larger possible total utility for customer's spent monetary unit regardless of what expense it is done.

5. Almost half (49%) of Latvian and the EU-27 respondents are equally aware that they themselves can influence corporate citizens through their purchasing decisions. Whereas, unlike the respondents of other new EU Member States, Latvian respondents have showed a comparatively solid trust to public authorities' ability to influence companies' activities.
6. The survey results give evidence that CSR issues in Latvia have not been sufficiently advocated so far. Unfortunately, in Latvia it had to take a crisis to precipitate attention to CSR, which resulted in "Maxima" stores' boycotts. Therefore, in order to minimise the occurrence of such incidents in the future and raise consumers' awareness of CSR issues, the Ministry of Welfare of the Republic of Latvia in collaboration with NGO sector should develop and implement a comprehensive social marketing campaign on the importance of CSR in modern consumerism environment.

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**ASPECTS OF CONSUMERS' BEHAVIOUR MAKING ENVIRONMENTALLY-  
CONSCIOUS PURCHASES**

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**Marks Moskvins**<sup>3</sup>, Mg.oec.

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Abstract. Rising consumption levels are contributing to the key environmental problems such as climate change, air and water pollution, land use and waste. Therefore, consumers should be encouraged to make sustainable and responsible choices. As perhaps one would expect, consumers are less apathetic on environmental issues than they have been in the past. The paper presents actual aspects of consumers' behaviour in the EU and Latvia making environmentally conscious purchases. Therefore, the aim of the paper is to analyse the aspects of consumers' behaviour and the factors that influence consumers' behaviour making environmentally conscious purchases. The study is based on the review of the European Commission's documents on statistical data available from the European Commission's Analytical reports, Eurostat and the EU Consumer Conditions Scoreboard conducted in 2008-2012. Descriptive method and secondary data analysis was applied in the study. Environmentally conscious consumers, in general, are socially conscious and educated consumers in the 25-54 age groups with better knowledge of consumer rights. Women are more likely to consider environmental impact than men are. Although most consumers are willing to pay a small premium for green products if they believe the products are healthier, safer, or better for the environment, the research results show that 33% of the respondents in the EU think that environmentally friendly goods and services are too expensive. The price level of environmentally friendly goods and services for Latvian consumers is even more important, comparing with almost all the EU countries. Product's labelling, information as a whole and the information's credibility play dominant role in consumers' decision-making process making environmentally conscious purchases.

**Key words:** environmentally responsible consumer, sustainable consumption, consumers' behaviour, green marketing, purchasing decisions.

**JEL code:** M310, M390, Q560

## **Introduction**

One term that has been used extensively by the markets and development and conservation professionals is sustainability. Going green is now the common phrase used to characterise the environmental side of the sustainability movement (Stein J., Koontz A., 2009).

Natural Marketing Institute (NMI) is a market research and business development company specialising in the health, wellness, and sustainable marketplace which began conducting research on the

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US LOHAS (Lifestyles of Health and Sustainability) marketplace in 2002, when sustainability was novel enough that it was only relevant to the approximately 20% of the population that was a LOHAS consumer. Now, according to the NMI data (Rogers G., 2012), sustainability has mainstreamed and now approximately 80% of adults are somehow engaged in sustainability in some way. This incremental portion of the population is referred to as the Sustainable Mainstream, and while certainly this larger swatch of the population does not have the passion or knowledge of LOHAS consumers, they are engaged in sustainability in their own way.

However, according to the European Commission research data (European Commission, 2013<sup>A</sup>), the situation in Europe remains problematic. Consumption levels are rising and have negative influence on the key environmental problems such as climate change, air and water pollution, land use and waste. The EU's food waste alone — currently estimated to be about 90 million tons per year — could be reduced by 60% through more efficient management of resources. Therefore, consumers should be encouraged to make sustainable and responsible choices.

In this connection, the aim of the paper is to analyse the aspects of consumers' behaviour and the factors that influence consumers' behaviour making environmentally conscious purchases. In the framework of the research, the following tasks were undertaken: 1) to analyse tendencies in consumers' behaviour and their readiness to make environmentally-conscious purchases; 2) to find out the reasons for not making environmentally-conscious purchases; 3) to characterise an environmentally-conscious consumer; 4) to analyse factors that influence consumers' decision to make environmentally-conscious purchases.

The study is based on the review of the European Commission's documents and Internet sources as well as on the statistical data available from European Commission's Analytical reports, Eurostat and the EU Consumer Conditions Scoreboard conducted in 2008-2012. Descriptive method and secondary data analysis was applied in the study.

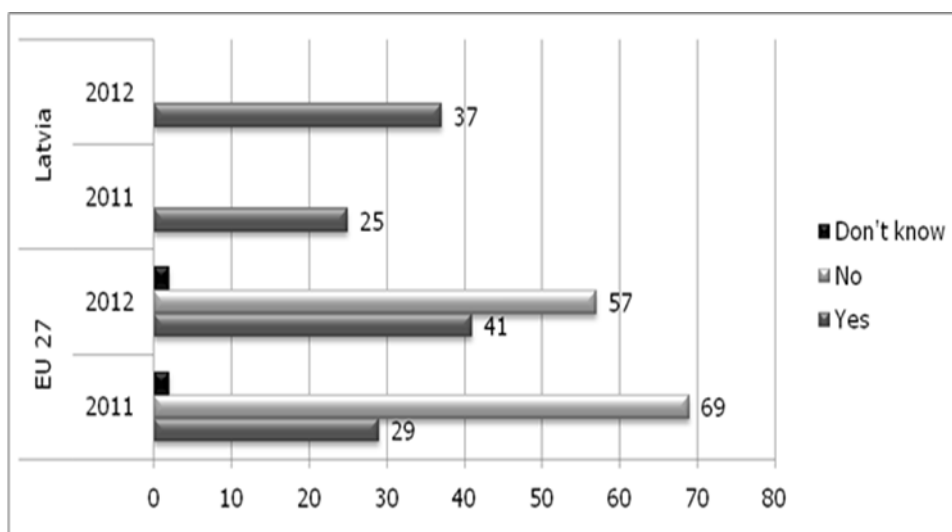
## **Research results and discussion**

The power of the educated and wired global consumer, and the non-governmental organizations that organise and mobilise these consumers, continues to expand and evolve so that products take into account both environmental and social issues. Even with a weak global economy, the evidence shows that green and socially responsible products have an upward trend in sales. Strong green sales have continued in the US, Europe and elsewhere with more consumers purchasing green products. These same consumers are often willing to pay a premium for green products deemed to be of higher value than conventional products (Manget, J., Roche C., Munnich F., 2009). This makes sustainability much more attractive to brands, and in fact increases the business imperative since consumers are already engaged.

Market research companies refer to these green leaning consumers by various labels (Lifestyles of Health and Sustainability or *LOHAS* consumers, Cultural Creatives, Influentials) but there is unanimity regarding their influence. A snapshot of the LOHAS consumer reveals a passionate, environmentally and socially responsible consumer segment, and shows them to be early adopters who can be used as predictors of upcoming trends. They tend to be influential over friends and family, are more brand loyal than other consumers especially to companies whose values match their own, and most importantly, are

willing to put their money behind their beliefs and values (Stein J., Koontz A., 2009). LOHAS consumers have strong attitudes regarding personal and planetary health which are widely reflected in their behaviour. They are heavy users of sustainable products and exude a strong influence over others. Hence, LOHAS consumers can be a prime target for companies marketing green, socially responsible, or healthy products.

Across both purchase behaviour and lifestyle behaviours, consumers are increasingly more engaged than in the past. Fewer consumers report “they just do not do much to protect the environment” and fewer also think that their actions do not make a difference (Consumers & Individual..., 2013). Four out of ten (40.7%) consumers in Europe claim that the environmental impact of goods or services influenced their purchasing decisions (Figure 1).



**Source: authors' construction based on European Commission, 2013 <sup>B</sup>**

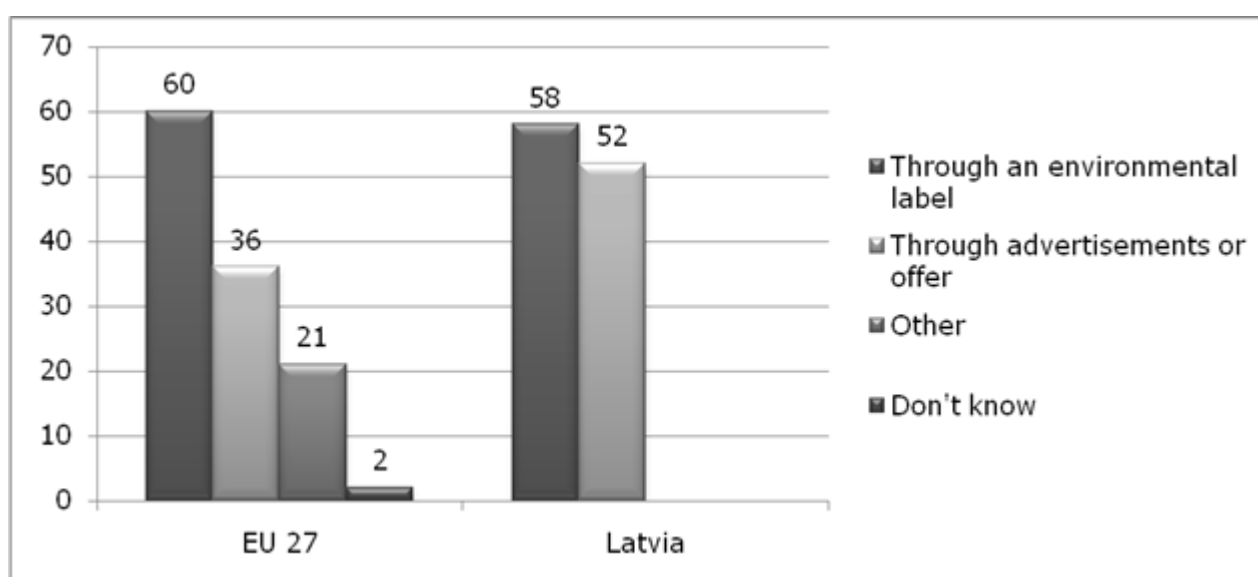
**Fig. 1. Consumers being or not being influenced by the environmental impact of goods and services when purchasing, % of consumers**

Environmental considerations play a relatively lower role in Latvia (37% of consumers, respectively). It should be noted that these data are based on a self-reported behaviour which may be biased due to an attitude-behaviour gap (as consumers tend to depict themselves in a socially acceptable light). However, there was a substantial increase (29%) of those people choosing this answer compared with 2011. The same increase of 12% in 2012 was detected in Latvia comparing with 2011 (TNS Opinion & Social, 2013 <sup>A</sup>).

Women are more likely than men to say the environmental impact of goods and services influenced their purchasing decisions, by a margin of 44% to 38% (TNS Opinion & Social, 2013 <sup>A</sup>). The likelihood of considering environmental issues in purchasing decisions seems to be positively influenced by the level of education. Only 30% of persons who left education aged 15 or under are influenced by the environmental impact of what they buy, compared to 37% among persons with medium education and 48% among persons with higher education. Respondents with better knowledge of consumer rights are also more likely to consider environmental impact: 45% among those who gave four correct answers to the questions on consumer rights, compared with 34% of those who gave no

correct answer. Respondents in the 25–39 and 40–54 age groups (45% and 44% respectively) are more likely to consider environmental impact than younger or older people (34% and 38%), perhaps reflecting lower spending power (European Commission, 2013<sup>B</sup>).

Six out of ten consumers (59.8%) whose choices are influenced by the environmental impact of goods and services, use environmental labels as a source of information on this impact, while advertisements and offers play a relatively less important role (35.7% of consumers) where multiple answers were possible (European Commission, 2013<sup>B</sup>). Around one out of five consumers (20.7%) use other sources of information. In Latvia, 52% of respondents say that they obtained their information through advertisements or offers (TNS Opinion & Social, 2013<sup>A</sup>) (Figure 2).

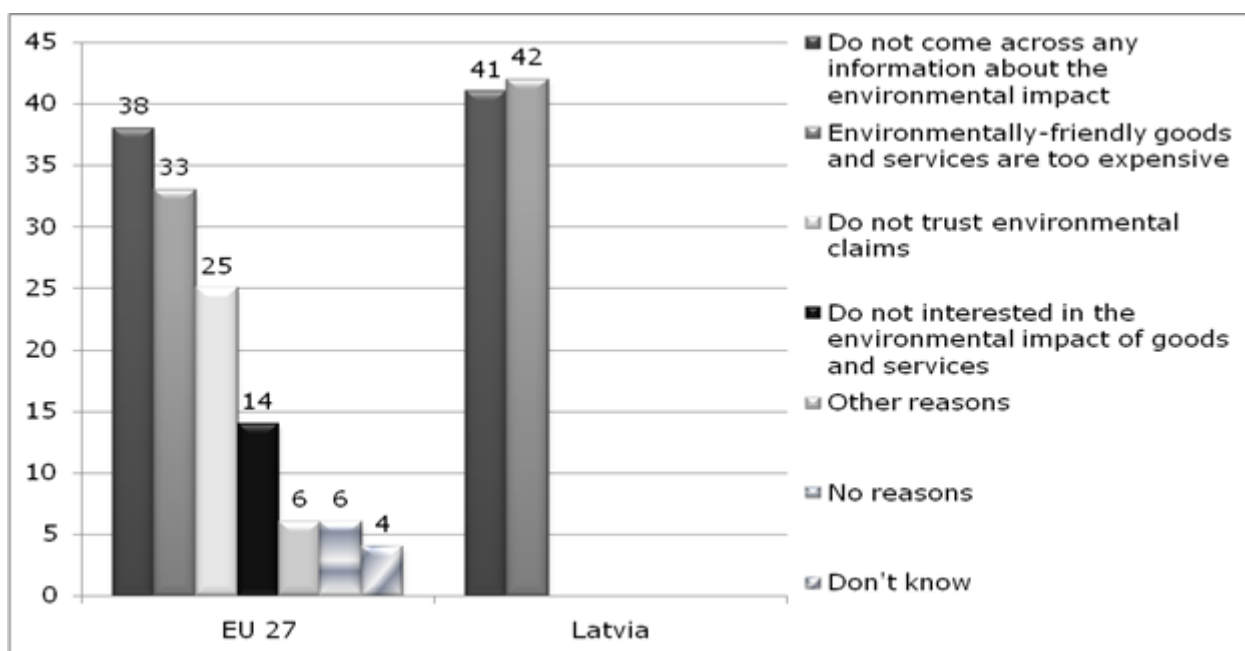


**Source: authors' construction based on TNS Opinion & Social, 2013<sup>A</sup>**

**Fig. 2. Sources of information on the environmental impact of the goods or services, % by country**

Although, the majority (57%) say that the environmental impact had no influence on their decision, the number of people holding such opinion has decreased from 69% in 2011 (Figure 1) (TNS Opinion & Social, 2013<sup>A</sup>). Next, respondents who said that the environmental impact of the goods or services they bought did not influence their choices were asked to say more about why they did not take environmental considerations into account.

The most common explanation, given by 38% of respondents in the EU-27, is that they had not come across any information about the environmental impact of the goods or services. Meanwhile, one person in four (25%) says that they do not trust environmental claims, while 14% say that they are not interested in the environmental impact of goods and services. Whereas, 6% spontaneously give 'other' reasons, and a further 6 % say spontaneously that there was no reason for their decision (Figure 3).

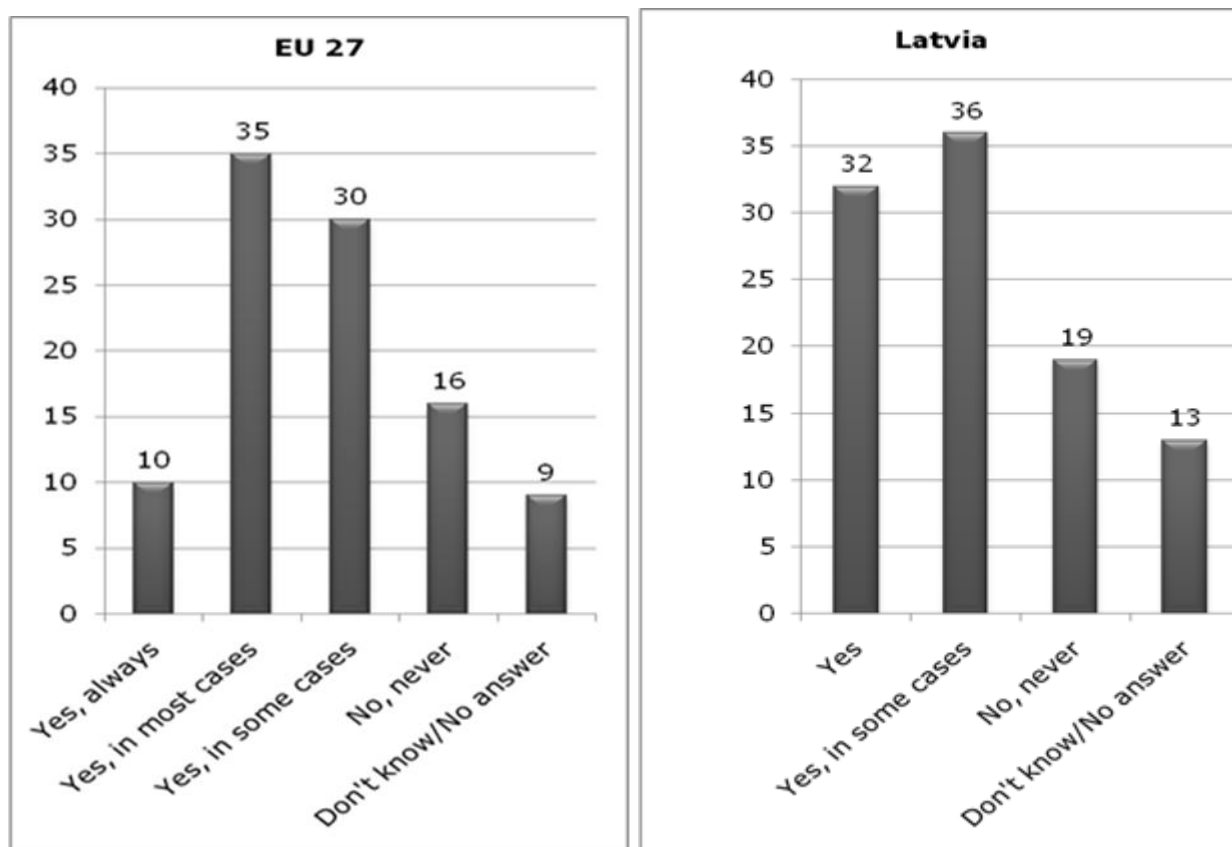


Source: authors' construction based on TNS Opinion & Social, 2013<sup>A</sup>, European Commission, 2013<sup>B</sup>

Fig. 3. **Reasons for not being influenced by the environmental impact of goods or services, % the EU-27 and Latvia**

Not having come across any information about the environmental impact of goods or services is the most common answer given in the 16 EU countries. In 10 countries respondents are more likely to say that environmentally friendly goods and services are too expensive than that they simply did not come across any information. An absolute majority of people in Latvia (42%) think so (Figure 3). From socio-demographic point of view, women are more likely than men, by a margin of 38% to 28%, to say that they find environmentally friendly goods or services too expensive. Men tend more to say that they do not trust environmental claims than women (27% vs. 22%). The younger the respondents are the more likely say that they did not come across any information about the environmental impact of goods or services.

While 25% say that they do not trust environmental claims (Figure 3), 59.8%, whose choices are influenced by the environmental impact of goods and services, use environmental labels as a source of information on this impact (Figure 2). It proves the fact that product's labelling and information as a whole play dominant role in consumers' decision-making process making environmentally-conscious purchases. Also information's credibility is a pressing factor since only one in ten retailers in the EU-27 say that always trust the statements from competitors about the environmental impact of their products (10%). Moreover, 16% of retailers say they never trust statements and offers made by competitors about the environmental impact of their products (Figure 4). Latvian retailers are the most likely to trust them only in some cases (36%) and 19% of retailers say they never trust these statements made by competitors. Further research is necessary for finding out the reasons for such retailers' opinion (TNS Opinion & Social, 2013<sup>B</sup>).



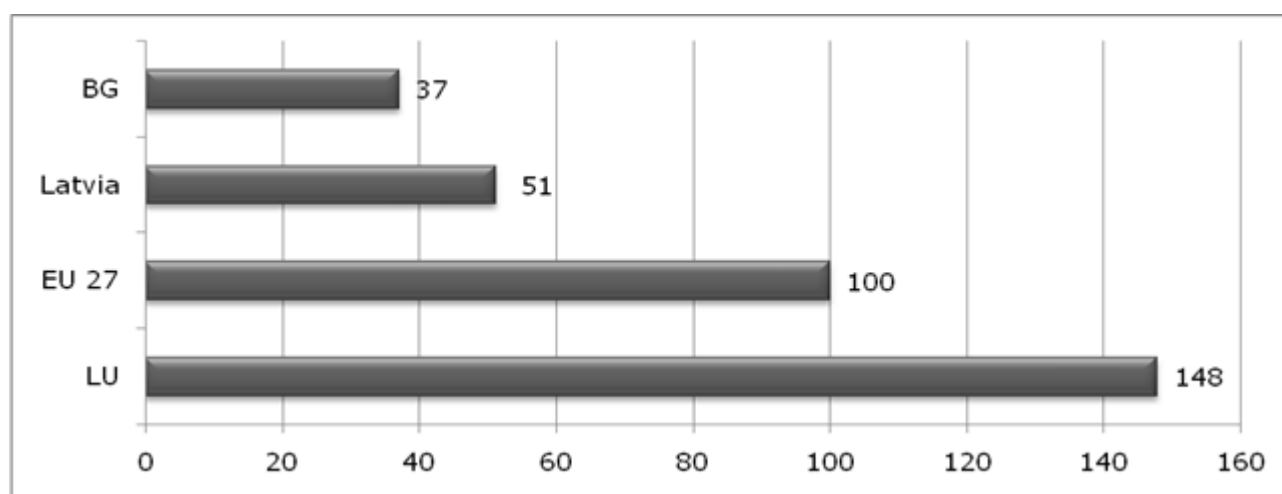
Source: authors' construction based on TNS Opinion & Social, 2013<sup>B</sup>, European Commission, 2013<sup>B</sup>

Fig. 4. Trust in environmental statements and offers made by competitors in the EU-27 and Latvia, % of respondents

One response to the growing consumers' scepticism is the Eco-Label or Trust Label to build credibility for product claims. There are challenges and opportunities related with these labels. Currently, there are over 400 labels available in the marketplace; although, only a handful of these are global in nature, and many of these labels are related or overlap. Critics of Eco-labels claim this proliferation creates consumer confusion and they predict a shakeout warning that weaker, less transparent, and less meaningful labels will not survive. There are some efforts underway to harmonise across labels to reduce consumer confusion. The International Social and Environmental Accreditation and Labelling, or ISEAL, Alliance is working towards standardisation and Codes of Good Practice with many of the largest and most established certification schemes as founding members. Another critique of eco-labels is that funding, monitoring and running these organisations is costly and labour intensives and there are barriers to entry for small companies that cannot afford expensive application or certification fees (Stein J., Koontz A., 2009).

According to Stein and Koontz (Stein J., Koontz A., 2009), most of the green consumers are willing to pay a small premium (between 5–10%) for green products if they believe the products are healthier, safer, or better for the environment so combining functionality with the right price is imperative. This opinion is proved by the fact that one-third (33%) of the respondents in the EU-27 say that environmentally friendly goods and services are too expensive. The price of green products was

important factor making environmentally-conscious purchases in 10 countries, since respondents are more likely to say that environmentally-friendly goods and services are too expensive than that they simply did not come across any information. An absolute majority of people in Latvia (42%) agree that environmentally friendly goods and services are too expensive (Figure 3). However, the difference between the respondents' opinions in the EU-27 and Latvia, and also readiness for paying higher price for green products could depend on people's capacity to afford the goods and services they need and want to purchase. Affordability can be measured by the gross adjusted disposable income that is available to consumers for spending or saving (European Commission, 2013<sup>B</sup>). The ability of consumers to afford the same goods and services continues to vary very significantly across the EU (Figure 5).

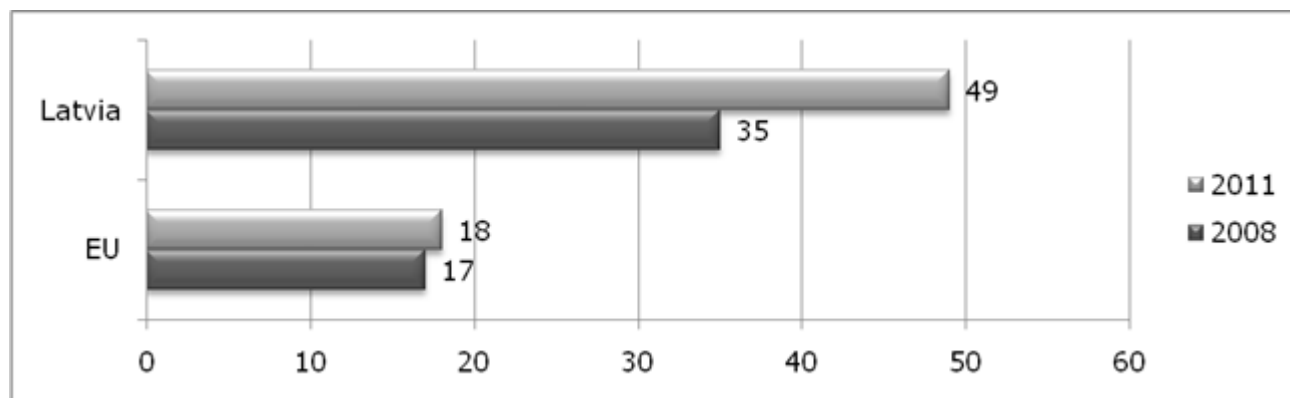


*Source: authors' construction based on European Commission, 2013<sup>B</sup>*

**Fig. 5. Gross adjusted disposable income of households per capita by Member State – the EU27=100 in 2011**

There are sizeable differences in the level of the gross adjusted disposable income of households per capita, measured in Purchasing Power Standards (PPS), which takes account of differences due to different price levels between the countries (Figure 5). The index (EU-27=100) ranges from 37 in Bulgaria to 148 in Luxembourg. In Latvia, it is only 51.2, which is the third lowest level among the EU-27 countries.

Additional insight into the social conditions in Latvia and the EU-27 can also clarify consumers' behaviour making environmentally conscious purchases. The material deprivation rate monitors the proportion of the most economically vulnerable consumers in individual Member States and in the EU as a whole. It reflects the percentage of the population who cannot afford at least three of the nine following items: unexpected expenses; a one-week annual holiday away from home; rent, mortgage or utility bills; a meal with meat, chicken or fish every second day; keeping their home warm enough; a washing machine; a colour TV; a telephone; or a personal car. The material deprivation rate went up from 17.3% to 18.3% between 2008 and 2011 (Eurostat, 2013; European Commission, 2013<sup>B</sup>) (Figure 6).



Source: authors' construction based on Eurostat, 2013, European Commission, 2013 <sup>B</sup>

Fig. 6. **Material deprivation rate, 2008 and 2011, %**

This means that almost one out of five consumers in the EU cannot afford some basic consumption items. In Latvia, this indicator went up from 35.2% to 49.2% between 2008 and 2011. It means that the price level of environmentally-friendly goods and services for Latvian consumers is even more important comparing with almost all the EU countries except Bulgaria due to the proportion of people that were materially deprived in Latvia was the second highest among the EU countries.

### **Conclusions, proposals, recommendations**

1. Environmentally conscious purchases have increased in the US, Europe, and elsewhere with more consumers purchasing green products. In Europe, 41% consumers claim that the environmental impact of goods or services influenced their purchasing decisions. Environmental considerations play a relatively lower role in Latvia; although, there was also increase in sales in 2012 comparing with 2011.
2. Recent surveys show that there are many shades of environmentally conscious consumers and, in general, they are socially conscious and educated consumers in the 25–54 age groups with better knowledge of consumer rights. Women are more likely to consider environmental impact than men are.
3. LOHAS consumer reveals a passionate, environmentally, and socially responsible consumer segment and shows them to be early adopters who can be used as predictors of upcoming trends. They tend to be influential over friends and family, are more brand loyal than other consumers especially to companies whose values match their own, and most importantly, are willing to put their money behind their beliefs and values.
4. Sixty per cent of consumers whose choices are influenced by the environmental impact of goods and services use environmental labels as a source of information on this impact, while advertisements and offers play a relatively less important role.
5. The reasons why majority still say that the environmental impact had no influence on their decision were that they had not come across any information about the environmental impact of the goods or services.



6. Product's labelling, information as a whole, and information's credibility play a dominant role in consumers' decision-making process making environmentally-conscious purchases, since 25% consumers do not trust environmental claims.
7. Although, most consumers are willing to pay a small premium for green products if they believe the products are healthier, safer or better for the environment, the research results show that 33% of respondents in the EU think that environmentally-friendly goods and services are too expensive. For respondents in 10 EU countries, including Latvian consumers, price is the most important factor making environmentally conscious purchases. Moreover, taking into account proportion of people that were materially deprived in Latvia with the second highest among the EU countries, the price level of environmentally-friendly goods and services for Latvian consumers is even more important comparing with almost all the EU countries. It means that the "right" price level for environment-friendly products or services is essential for companies.
8. The readiness for paying higher price making environmentally conscious purchases depends on people's capacity to afford the goods and services they need and want to purchase. Affordability can be measured by the gross adjusted disposable income that is available to consumers for spending or saving. In Latvia, this index is only 51.2 and is the third lowest level in all the EU-27 countries.

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## **INNOVATIVE COMPETITIVE ADVANTAGE DETERMINATION MODEL**

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**Abstract.** Nowadays, in the times of globalisation, competitive business environment, market saturation, and the increased consumer power, the client becomes increasingly more definitive in manufacturer's and client's interrelations. Therefore, an efficient satisfaction of client needs becomes increasingly significant in achieving business success. Driven by all these forces, the companies are looking for opportunities to define and develop their competitive advantages. There are developed various methodologies how to determinate competitive advantage. Various scientists have given their input to polish and clarify methodology routes to determinate competitive advantage but the authors of the article challenge achievements still far and propose new input, based on theoretical base, expert surveys, and empirical experience.

The **aim** of the article is to provide effective methodology of company`s competitive advantage determination. The **tasks** of the article are: 1) to inspect various approaches or competitive advantage determination; 2) to evaluate most recognisable opportunities of competitive advantage determination; and 3) to introduce and evaluate new competitive advantage determinant model.

**Research methods:** theoretical observation of existing competitive advantage determinant methods, expert survey of 35 entrepreneurs and representatives of executive management, representing international companies.

**Research object:** competitive advantage determination models.

**Research subjects:** competitive advantage and its constituent components.

**Hypothesis:** existing competitive advantage determination methods are rather too generic or too academically complex to be applied in empirical cases. The empirically useful and effective way to determine competitive advantage is to follow nine logical steps that are defined in the competitive advantage Iceberg model developed by the authors.

**Key words:** marketing, competitive advantage, strategic goals.

**JEL code:** M31

### **Introduction**

The legendary GE CEO Jack Welch has once said: "If you don't have a competitive advantage, you don't compete." The authors of the article could not agree more. Competitive advantage as theoretical subject is considered as a must for successful and efficient company, yet, it is rarely visible in the practice. The authors of the article have identified that Latvian entrepreneurs and executive leaders know generally what is competitive advantage but they have difficulty to identify an understandable way to determinate it, which indicates that the knowledge of competitive advantage is more theoretical, and rarely is implemented in the practice. A theoretical observation shows various methods how to determinate competitive advantage, rather too generic or too academically complicated to implement into

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empirical environment. Lack of effective step by step approach to competitive advantage has made companies to become competitive advantages naturally oriented on internal-functional coordination or on competition driven by short term economic benefits, thus, forgetting other possible directions. Common company practice is to choose one of M. Porter`s defined competitive advantage routes as companies competitive advantage, without deeper investigation where the considered advantage is routed and linked with companies operations and targets. Competitive advantage is much more complicated decision, the company is grounded within cost, innovation, differentiation leaderships, or focusing on operational effectiveness Excellency. Well investigated and defined competitive advantage has power to guide company more efficiently towards its strategic and tactical targets. The article presents a new approach to competitive advantage determination – simple and well understandable but, meanwhile, commodious of substantial information of particular company and its micro and macroeconomic background. Classic approach relies on M. Porter`s value chain model which has later been modified by various researchers. The authors of the article assume that the classic value chain has become an insufficient tool to identify and develop competitive advantage for a modern company. Therefore, the authors investigate competitive advantage development models by using various sources. Based on theoretical background, expert survey and empirical experience, the authors propose a new competitive advantage determination model – the competitive advantage Iceberg model, according to which companies can determine their competitive advantage by following logical step by step order. The model is proposed to be an original method for determining company`s competitive advantage.

### **1. Explanation of competitive advantage**

The main subject of the article is **competitive advantage**. M. Porter defines competitive advantage as the strategic advantage one business entity has over its rival entities within its industry. The term competitive advantage is the ability gained through various attributes and different level resources to perform at a higher level than others in the same industry or market. A competitive advantage exists when: 1) the company is able to deliver the same benefits as competitors but at a lower cost of goods (cost advantage); or 2) deliver benefits that over exceed those of competing products (differentiation advantage). A competitive advantage enables the company to create extra superior value for its customers and/ or superior profits for the company (Chaharbaghi, K., Lynch R., 1999).

A Dictionary of Economics by Oxford University Press defines competitive advantage as advantage a company possesses over its competitors. There are numerous sources of competitive advantage, including more efficient production techniques, brand image, consumer loyalty, and location. Possession of a competitive advantage should deliver a company a higher level of profit than obtained by its rivals (Black, J., Hashimzade, N., Myles, G., 2012).

An advantage over competitors is gained by offering consumers greater value, either by means of lower prices or by providing greater benefits and better servicing facilities that could justify higher prices. This advantage may be achieved in various ways, including increased product performance, superior distribution methods, or creative advertising. Most forms of competitive advantage cannot be sustained in the longer term because competitors will initiate or find substitutes for the innovations that created it. A company is said to have sustainable competitive advantage (SCA) when it has resources that cannot readily be imitated or substituted (Oxford University Press, 2009).

J. Caune and A. Dzedons, strategic management scientists in Latvia, determine competitive advantage as follows: “competitive advantage is values formative operations and resources which ensure profitability of over average profitability level within industry, and are capable to maintain it in long-term conditions” (Caune, J., Dzedons, A., 2009).

## 2. Competitive advantage determination by various methodologies

### 2.1. M. Porter’s approach

According to M. Porter, competitive advantage can be identified through the value chain model – basic tool for analysing the sources of competitive advantage (Figure 1) (Porter M. E. 1998).



*Source: authors` construction based on M Porter*

Fig. 1. **M. Porter value chain**

To achieve a competitive advantage, the company must perform more value creating activities or assets in a way that create more total value than company`s competitors. In competitive terms, value is the amount buyers are willing to pay for what a company provides them. The value chain represents all the activities that are performed to design, market, deliver, and support the company’s product. All the operations that construct the value chain can be divided into two broad groups – primary activities or primary business processes, and support activities or support business processes. Primary activities are the activities involved in physical creation of the product and its sales as well as after-sales assistance. Any or all of these primary activities may be vital in developing a competitive advantage. Support activities support the performance and operation of primary activities as well as each other by providing purchased inputs, technology, human resources, and other related functions (Porter M. E. 1998).

Porter’s concept of competitive strategies explains that competitive advantage for a company exists when the company is able to 1) deliver the same benefits as competitors but at a lower cost of goods (cost advantage); or 2) deliver benefits that over exceed those of competing products (differentiation advantage). Competitive advantage enables the company to create extra superior value for its customers and/ or superior profits for the company. Another important aspect that has to be taken into account, according to Porter, is how broad or narrow is the company’s served market segment. Based on this aspect, Porter formed a matrix that can help companies identify a set of generic strategies – cost leadership strategy, differentiation strategy, and focus strategy. The company can achieve the above-average performance in an industry by implementing one of these three strategies (Porter M. E., 1998).

Cost leadership strategy may be the clearest of the three generic strategies. It usually targets a broader aspect of the market and it is being the low cost producer in an industry for a particular level of quality and segment. The company that implements cost leadership strategy sells their products at

average industry prices to earn a profit higher than competitors, or even below the average industry prices to gain greater market share. The company may even operate in other related industries implementing this strategy – the company’s breadth is often important to maintain its cost advantage. According Porter, in the occurrence of price war, the company can still maintain profitability while its rivals suffer losses (Porter M. E., 1998).

In a differentiation strategy, a company seeks to be unique in its industry along those dimensions that are important to buyers. It means that, by implementing differentiation strategy, a company seeks to develop such product or service that offers any type of unique attributes that are valued by customers and that customers perceive to be better than competition. Differentiation can be based on the product itself, the delivery system, the marketing approach as well as on other factors (Porter M. E., 1998).

While cost leadership differentiation strategies seek competitive advantage in a broad range of industry segments, the strategy aims at cost advantage (cost focus) or differentiation (differentiation focus) in a narrow segment. This is the greatest difference between focus strategy and other two strategies. The premise is that the needs of the target audience can be better serviced by focusing entirely on it (Porter M. E., 1998).

The generic strategies are not by premise compatible with one another. If a company attempts to achieve an advantage on both cost leadership and differentiation, it may end up with achieving no advantage. For example, the benefits of optimising the company`s strategy for one specific segment (focus) cannot be gained if a company simultaneously serves a broad range of segments (i.e. adapts the main elements of cost leadership and/or differentiation strategies) (Porter M. E., 1998).

**2.2. Value chain modifications and criticism**

M. Benkenstein has provided interpretations on the services value chain. He modified the value chain so it could be more appropriate for product as a service – for project type services and for continuous type services (Figure 2). For project type services, four activities are highlighted as primary: new clients attraction, incoming logistics, contact phase, and post sales activities.

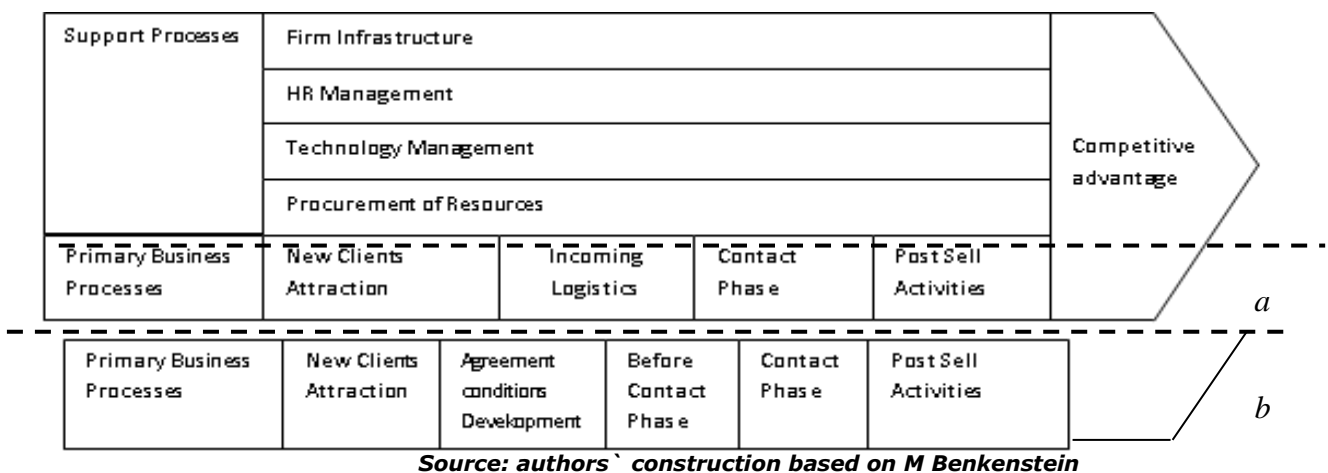


Fig.2. **M.Benkenstein’s value chain for project type services (a) and continuous type services(b)**

For continuous type services, the following activities are highlighted as primary: new clients’ attraction, agreement conditions development, before contact phase process; and post sales activities.

However, Benkenstein's provided value chains for services have not highlighted a company's marketing importance; besides, contact phase is versus Porter's sales and marketing connected activities. Another aspect that should be taken into account is that Benkenstein represents the German management school that merges marketing and sales as one structure within a company (Benkenstein, M., Uhrich, S., 2009).

Porter's model has later been modified by several other scientists. It can be concluded that known scientists have amended Porter's approach of determining company's competitive advantage. Besides, the popularity of very first classic approach and its later modifications, challenge of merging theory, and strategy still remains.

The previous analysis identifies fragmented approach to analyse. Main disadvantages of currently existing competitive advantage determination models include: 1) lack of accomplished strategy flow and instruments system; 2) fragmented highlights of one or several particular aspects; and 3) controversial hierarchy flows of the functional, business level, global and corporate strategies.

After considering all the criticism and the authors' personal practical experience, the authors concluded that the classic Porter model was not the most sufficient tool for identifying and developing the company's competitive advantage. Challenge still remains how to set competitive advantage step by step.

### **2.3. Other authors approaches to competitive advantage determination**

Although, M. Porter value chain is classical and the most known approach to set competitive advantage, there are a lot of other authors who tried to distanced from Porter's approach and have developed their own methodologies for determining competitive advantage. For instance, Rindova and Fomburn in their developed model "Systematic model of competitive advantage" look at the company's competitive advantage development as logical outcome of six processes. These six processes are: strategic investments, industry paradigms, resource allocations, strategic plots, strategic projections, and definitions of success. All six processes are interrelated. Throughout their research, Rindova and Fomburn have concluded that competitive advantage development process is interactive, and it is built through a social influence process. Rindova and Fomburn also suggest that competitive advantage development process is a learning process (Rindova, V. P., Fomburn, C. J., 1999).

Also Garry L. Adams, a researcher, claims that learning based culture is an important aspect in achieving the competitive advantage. He claims that a company can revitalise its products and processes as well as create new attractive ones by continuously developing learning and innovation processes. In his developed model "KMS-sustainable competitive advantage development process model", Adams states that companies develop their competitive advantages through bundling and synergistic merging of various company resources. Its main idea is that organisations achieve competitive advantage through the systematic application of learning, knowledge acquisition, and knowledge application via product, service, and process innovation (Adams, G., L., Lamont, B. T., 2003).

## **3. Overview of the CA Iceberg model**

After all the considerations that were made throughout the paper, the authors provide their concept on determining the competitive advantage. It provides empirically easy usable structure for

determination of competitive advantage. The main innovation in the CA Iceberg is the ability to link each component of company processes, starting from stakeholder goals to operational activities, in accurate and simple to follow order. During expert surveys, the authors of the paper have identified that the majority of experts, entrepreneurs, and managing directors do not link theoretically made competitive advantage with functional, business, global and corporate strategies. The CA Iceberg model consists of 9 logically sequenced steps.

Step 1 starts with shareholders goals. It is rare when strategic management theory authors speak about goals initially, before initial methodologies of competitive advantage. The authors believe that every company exists in order to satisfy its stakeholders' interests. Those goals, whatever kind - either profit maximisation, long-term business developing, serving hobby, either growing share of market, or surviving always determinate company's available resources which is the key component of competitive advantage. Therefore, the very first step of model is to determine the stakeholder's strategic goals according to one of goal setting methodologies. According to the authors' conclusions on the expert survey, qualitatively settled goals of a stakeholder are hard to be announced, even for an entrepreneur itself.

Comprehensive strategic audit in company's key areas should be performed In Step 2. This part includes limited amount of external audits. The tools can vary upon industry, product or service components and latest available instruments. The authors of the paper highlight several most popular and empirically used ones. Key component at Step 2 is to use various methodologies, meanwhile, keeping stakeholder goals as guideline. In particular edition of CA ICEBERG, the following audits are highlighted: resources audit, value chain analysis, portfolio analysis, product added value analysis, core competences analysis, market and lifestyle trends analysis, competitors analysis, existing performance analysis, and consumer and their need states analysis. Various methodologies can be linked with strategic audit; the key point in CA ICEBERG model is to have strategic audit made from various angles.

The company's strategic orientation has to be identified in Step 3, taking into account the key findings of strategic audit. There are 4 available orientations - customer, inter-functional, competitors, or market. Orientation route should be guided based on stakeholder's goals and strategic audit. During the expert survey, the authors of the paper identified that some of entrepreneurs and managing directors guessed their company orientation. It is impossible to define company's competitive advantage before setting the company orientation but despite hundreds of strategic management approaches, still it is a reality.

Step 4 in the CA Iceberg Model is related with the definition of company's superiority potential. Here two general options are available - cost leadership or differentiation. A lot of new information and approaches have been generated as other superiority angles, like innovation superiority, process innovation etc. but the nature of those aspects reflect on leadership differentiation. As mentioned, direction of competitive advantage is only Stage 4 after definitions of smart stakeholder's goals, strategic audit, and company's orientation profile.

Step 5 opens gates to strategy setting. According to the defined competitive strategy, goals and orientation, growth strategy can be defined theoretically observed by various scenarios upon available resources and time pressure in the goals. Then, in accordance with the company's competitive advantage, managers should be able to identify the most effective and appropriate stakeholders' goals for the company's growth strategy.

Step 6 is the first step that can be seen externally without professional analysis, and it is related with corporate strategy development. The authors of the paper assert importance of hierarchy of strategy setting. Tactical strategy developments before business unit or corporate strategy setting lead to company's controversial actions which have a nature to weaken the company. Corporate strategy sets the rules of company game, after knowing very well goals, available resources, environments, consumer demands, and company superiority versus other players- competitors.

Steps 7, 8 and 9 define business unit, functional and operational strategies. Business unit strategy reflects companies where various business units are involved and their strategy. Functional strategies include various departments' strategies. Operational strategies can be developed after setting functional strategies. If to follow step by step the CA ICEBERG model, company managers in all levels should have clear guidelines to act in accordance and beneficially to company targets.

Permanent circulation is an important aspect of the CA Iceberg model between results back to stakeholder goals and up on according the steps. Competitive advantage setting within the CA Iceberg model is not a permanent process; it is permanent and regular information circulation, decision revision and upgrading if required in order reconsidering profitability and sustainability of the determined competitive advantage.

## **Research results and discussion**

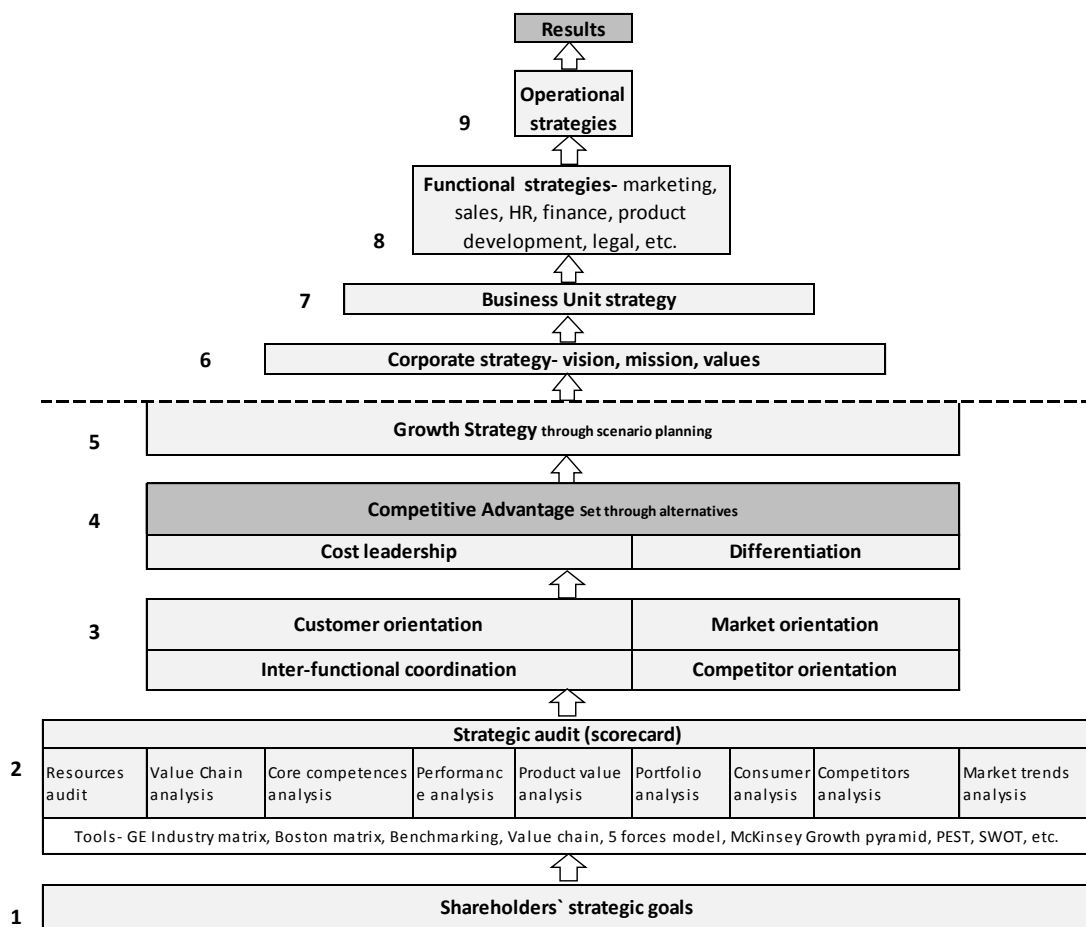
The research results are integrated in the CA Iceberg model. The CA Iceberg model is illustrated in Figure 3.

According to the model's description, its structure is formed by 9 logically sequenced steps that can be divided into two main levels – "below the borderline" level and "above the borderline" level. All the elements in "below the borderline" level are the most essential ones for the company and these elements are known to internal stakeholders only, while elements in "above the borderline" level can also be seen by external stakeholders.

Opinions about the developed CA Iceberg model widely vary. For instance, experts Oleg Goussev (SPI Group) and Andris Putnins (University of Latvia) rate the model's usage effectiveness regarding company's competitive advantage determination as excellent and very useful, while an expert Dr.oec. Janis Caune mentions that the result the authors' have provided is no model. Model's empirical usage index is evaluated on 7, 16 from maximum 10 points by experts. Experts highlight several comments for the model. One is related with the existing situation in business environment that competitive advantage is hard to achieve with the exiting methodologies and the CA ICEBERG does not disperse doubts. "The model is great and very detailed. The reason for the "mark 7" is that it seems that in the business world - competitive advantage is much harder to achieve than it is presented in the Iceberg model. In the Iceberg model, competitive advantage is defined/achieved in Step 4. From my experience, Step 4 is where the company's management just realises that there is an opportunity to create a competitive advantage. You are absolutely right, they realise it probably after analysing Steps 1,2,3. In Step 4, they know there is an opportunity and have an idea what needs to be done to create this competitive advantage. Then, the model correctly points out; they would design their corporate strategy (Step 6). Then, they would go through Steps 7, 8, 9 to implement this strategy. And only then, if Steps 6,7,8,9 have been implemented successfully and your competitors have not managed to do the same – the



company has truly achieved competitive advantage, which can be very hard to do in practice and where most businesses fail. For my company, competitive advantage sits somewhere next to "Result", right on top of the Iceberg (Step 10), just because it is so difficult to achieve in practice. I know what my competitive advantage can be, but I have not achieved it yet. In order to achieve it, I need to get Steps 6,7,8,9 right. Also, I need to make sure that I do it better than my competitors. And do it faster." Another comment is: "For a practical use, it contains too much information (nine layers - difficult to remember) but the concept - Iceberg with the SH interests being the defining factor is very intuitive and conceptually reflective of the nature of competitive advantage."



Source: authors` construction based on the research results

**Fig. 3. The CA Iceberg model**

Experts appreciate and highlight models organisational structure: "CA Iceberg model is a good approach to visualise and conceptualise what is the competitive advantage in action - what consists of and what the tools of building and further keeping it alive are within the organisation. It is a good example of holistic cross-functional strategic management approach to business." Meanwhile, the experts highlight challenge of human aspect to be able to implement model in business environment daily: "This is a very disciplined approach, and would force people to think specifically and strategically about aspects of day to day business that they may otherwise pay little attention to. As with all models of this nature, their effectiveness relies so heavily on the individual and the importance of disciplined marketing activities to him and the organisation for which he works." Experts highlight need to be more focused on

precise tools: "The models appears efficient but it would be interesting to review some additional more in-depth materials, covering individual research tools, in order to access the applicability of these technologies / tools in respect of company."

### **Conclusions and proposals**

The authors have made the following **conclusions**.

1. Iceberg principle unites instant competitive advantage determination methods and approaches in one supplemented holistic method.

2. Iceberg principle provides competitive advantage integrity between the company shareholders tasks and growth strategy in a consequent built.

3. Iceberg principle identifies and highlights contiguity of shareholders tasks, company mission and values, its competitive advantage and corporative, business unit and operation strategies.

**Proposals** for further research.

1. Develop further Step 2 in details to differentiate precise tools for strategic audit to various industries.

2. Consider visual streamline opportunity referring on the expert comments to facet for more laconic construction.

3. Include information flows in the Model, to make it more understandable.

4. Empirically approbate model in the environment with expert methods.

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**TRADE SHOWS AND EXHIBITIONS AS A FORM OF PROMOTION OF REGIONAL,  
LOCAL AND TRADITIONAL PRODUCTS****Agnieszka Smalec<sup>1</sup>**, PhD<sup>□</sup><sup>1</sup> Faculty of Management and Economic Services, Szczecin University, Szczecin, Poland

**Abstract.** In the European Union countries as well as in Poland, the interest in the local, regional, and traditional products grows every year. They create the chance for a community development, especially for rural communities and their "ambassador" for their specific and unique character and engagement of the society in the development of the local entrepreneurship. Therefore, such a promotion is of crucial importance. This article is a review in character, and its author's aim is to bring inspiration for discussion within the theme presented. Its main aim is demonstrate the growing role of trade shows and exhibitions for the promotion of local, regional, or traditional products by given examples from the Polish market. Manufacturing of such products has a significant influence on the image of a given region; however, appropriate promotional actions are necessary for informing the buyers.

The article is a case study, and the main research method used herein is a comparative and documentary analysis. The author of the article, based on the secondary sources and her own observations, has presented selected trade shows and exhibitions in Poland and emphasised their importance for the promotion of regional, traditional, and local regional products. It is crucial to make consumers aware of the unique character of the products offered, as they usually have a higher price, which may be an obstacle to their purchase. Trade shows are a significant factor influencing the behaviour and choices of consumers. The objectives of the trades shows involve, among others, attracting buyers, presentation of their success and, most importantly, of own distinct character.

**Key words:** trade shows, exhibitions, local, regional, traditional product, promotion.

**JEL code:** M3, Q13, R11

**Introduction**

It is difficult to say if the Polish market of local, regional, and traditional products has become already matured. Certainly, this market has grown dynamically, there is a large group of producers, and there have been established organic food shops, yet, there is a lack of intermediary level – that is organised distribution. Single shops seek contact with producers and they organise delivery by themselves. One priority of the European Union is the promotion of high-quality products that reflect the tradition of a given region. For this reason, the EU countries register traditional products manufactured by custom methods and label them by special symbols. Local, regional, and traditional products in the EU countries may be awarded with the following labels: PDO – Protected Designation of Origin, PGI – Protected Geographical Indicators, or TSG – Traditional Specialty Guaranteed. By selecting such a product, the consumer has a guarantee of purchasing a high quality product, simultaneously consumer learns about its concept's author or producer and its natural and cultural environment. Most frequently they are agricultural and food products but they can be also material products (for instance tablecloth), or other

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products of human activity such as, for instance, structures connected with a specific service. Appropriate promotional actions are necessary to make the products noticed by the buyers, so they could learn about the products, see their uniqueness, and eventually buy them. Trade shows and exhibitions are one of significant forms of promotion to serve these purposes.

Therefore, the aim of this article is to demonstrate the growing role of the trade shows and exhibitions as an efficient method for reaching the buyers. Trades and exhibitions are also a good meeting point for both demand and supply as well as an opportunity for finding suppliers, agents or production groups. The main research method is the comparative analysis and documentation analysis. It presents selected examples of trade shows and exhibitions that were organised in Poland in 2013.

Appropriate promotion and protection of regional, local, and traditional products facilitates the tourism attractiveness of the rural areas, whereas the production of them becomes a significant source of income for local inhabitants. These products are a chance for small communities and a great attraction for consumers. They can serve as “ambassadors” of a village, community or county, or even the whole region. The objective of each “little homeland” should be the preservation of local products, their identification and inventory, the quest to maintain their specific good quality, their protection from counterfeit and promotion.

## **Research results and discussion**

### **1. Regional, local, and traditional products**

A regional product is a product or food produced in a given region and characteristic for this region. Their production process takes place in that region. A local product is a product or service, with which local inhabitants identify themselves and which is manufactured by a non-mass and environment-friendly methodology from locally available ingredients. Local products made or offered in a particular region relate with its tradition, culture, history, base on available ingredients and nature and are made by local inhabitants. They often relate with the specific features of the area of origin and are connected with a particular place. Local products are characteristic only for a particular geographical area, are prepared in it, and afterwards are offered in non-mass distribution channels. Such product is a thing regarded as traditional and common by inhabitants of a particular area and by persons from the outside – as specific and unique. Geographical location is another characteristic property of them. Most frequently, the local products are material products or services local communities identify with (Paul J., 2008). Nearly all local products are environmentally friendly and use local resources to create their uniqueness. Local products are available in a limited area, regional – in a larger area, whereas, national – in the territory of a given country.

The protection of regional, local, and traditional products involves, among others, awarding them with a special label, including the so-called PGI or PDO. Both labels suggest which the region of origin is for a particular product. The difference between them is that in case of PGI, it is sufficient that the product is produced, prepared or only processed in a particular region, whereas, in case of PDO it must unconditionally originate from a specifically defined area. In practice, that means that the product quality or its characteristic features mainly or solely must be related with a specific geographical location and its characteristic natural and human features. An example of a European product with the status of Protected Designation of Origin is honey from Corsica with its regional and original name of Miele di Corsica. The application of the label is a guarantee that this product has been produced from ingredients

that are found only in Corsica, thus, it has been produced and processed there, and the whole procedure involved active participation of inhabitants of that region. In Poland, an example of such a product is, for instance, oscypek (a smoked cheese made of salted sheep milk exclusively in the Tatra Mountains region of Poland).

In case of regional products labelled with Protected Geographical Indicators (for instance rogal swietomarcinski (St. Martin's croissant)), such a strict approach is not implemented in terms of the origin. The product that aspires to that status must originate from a particular place, be related with it but it does not require as strong relation as in case of PDO. For instance, product ingredients may come from a different region than its origin. One example of a product with Protected Geographical Indicators is Tiroler Bergkäse – mountain cheese from Tirol, round in shape, as a rule prepared in 12-kilogram portions. The milk for its production comes from the Northern or Eastern part of Tirol. Its production is conducted solely with proven trusted ingredients and ecological methods (Traditionelle Lebensmittel...).

Traditional products are strongly related with the tradition of the specific region, and their properties are the evidence for this relation. The specification of the traditional product is conditioned by its place of origin. Traditional products are confirmed with the so-called TSG – Traditional Specialty Guaranteed which determines their specific character. It is a guarantee of their connection with the tradition; it certifies that the product has features adequate for its heritage, which differentiates the product from others. TSG includes products which have a minimum 30-year history of production in their traditional character. Their ingredients or production method must be traditional (for instance old Polish meads "poltorak", "dwojniak", "trojniak", and "czworniak" – with names directly related to the proportions in their recipes). Unlike Protected Geographical Indicators and Protected Designation of Origin, the products labelled with TSG can be produced in the territory of a particular country, provided that their properties meet the conditions specified. In Poland, the most active voivodeships, which promote their products in this respect, are Subcarpathian, Pomeranian, Silesian and Lublin voivodeships (Table 1).

Based on the figures from the Ministry of Agriculture and Rural Development, Poland specialises in ready-made products (for instance, black stuffed cabbage from Kruzewniki, Kuyavian sour rye soup, peas and cabbage) as well as in meat products (for instance, marinated back fat, Jordanowska smoked sausages) and baked goods (for instance bagels, kaimak, fruit fritters).

Table 1

**Number of traditional products per voivodeship registered by the Polish Ministry of  
Agriculture and Rural Development**

No	Voivodeship	Number	No	Voivodeship	Number
1.	Subcarpathian	154	9.	Swietokrzyskie	62
2.	Pomeranian	136	10.	Opole	55
3.	Silesian	136	11.	Kuyavian-Pomeranian	52
4.	Lublin	114	12.	Podlaskie	47
5.	Lesser Poland	106	13.	Lower Silesian	41
6.	Greater Poland	89	14.	West Pomeranian	25
7.	Lodz	75	15.	Warmian-Masurian	25
8.	Masovian	65	16.	Lubusz	24

**Source:** *Lista produktow regionalnych (The List of Traditional Products)*. Retrieved: <http://www.minrol.gov.pl/pol/Jakosc-zywnosci/products-regionale-i-traditionale/Lista-productow-traditional/>. Access: 4.01.2014.

Designation of the product with one of the three official EU symbols protects their producer against unfair competition, distinguishes the product among other mass-produced goods and guarantees the consumer the quality in taste. Cultivation of the traditional manufacturing methods of regional, local and traditional products is often connected with the local entrepreneurship. Through their activity, locations where such goods are made attract tourists and contribute to the creation of new work places. Purchases made by the tourists become the onset of an interesting relation and often a more profound connection to the culture, tradition, history, inhabitants and the nature of a given area.

Because of the small distances and the product properties, the regional, local and traditional products are often delivered via direct channels of distribution that is from the producer to the consumer (King R.P., 2010). On the one hand, it follows from the small scale of production, and on the other hand – from the specification of the products, which are often unprocessed, and also require specific conditions for storage and sales. Regional, local and traditional products are unique for their ingredients and recipe as well as the history related to them. For instance, the meat from local pig farms is used for the preparation of the Jordanowska smoked sausage, and then the recipe includes garlic, salt, pepper; thus, the prepared product is smoked, roasted or dried. In case of traditional smoking, oak, beech or alder wood is used and it is sprayed with extracts of local herbs, which provide the sausage with unique flavour and scent. The perceived authenticity of the product is strongly connected with its origin, which is expressed by the factors of time (history), place (area), socialisation (local community), and naturalness (ingredients).

In case of regional, local and traditional products, the manufacturing technology and ingredients are often more important than their appearance and purpose. The appeal to tradition relates with the need for the point of reference, trust and stability. However, these are usually more expensive products. Such products will be attractive for the buyer, if he or she has been informed properly. For this reason, these products need a specific approach in their promotion.

## **2. Trade shows and exhibitions as a form of promotion**

The subject literature includes multiple definitions of the trade shows and exhibitions. Frequently, trade shows are not clearly included in the promotional tools (Hansen K., 1996), as they have been treated as an instrument of personal selling since very recently. It follows from the fact that such events were perceived only as venue for commercial meetings, which end in transaction, as nowadays they also realise the informational and promotional function as well as a platform for integration. Their highly significant function is the activation of the regional economic development as well as the stimulation of human activity in its territorial aspect.

According to the Management Encyclopaedia, trade shows are places for commercial meetings organised regularly, most often in the same venue, in defined periods of time, with predefined limited time length. They are supposed to allow exhibitors to present their offer in order to conclude business transactions. Trade shows and exhibitions facilitate the contact of multiple sellers with multiple buyers. Demand and supply meet under the same roof. Sellers present their offers, usually accompanied with exhibiting the goods or their samples for the public view. Events of this type are often organised in places which are not owned by the exhibitor or visitors or in a given region. A neutral venue helps the visitor freely select from the range of information offered, which is positively received for the lack of pressure involved.

Exhibitors may make relations with others and start a production group together, which will provide, among others, more significant support. The producer of regional, local and traditional goods is usually a micro- or small-sized agricultural enterprise, which has a limited force or impact. Trade shows and exhibitions are the drivers for human activity, as they provide the means as well as educate and indicate behavioural patterns and methods (Szromnik A., 2007). Their crucial advantage is building relations and creation of brand image through personal experience, as they provide real-life experiences among buyers. The specific character of such events involves their interactive characteristics (Smalec A., 2012).

One crucial objective of the trade shows and exhibitions is informing the buyers of the existence of regional, local and traditional product market, as many of them still do not possess such awareness or do have the knowledge of details of their availability. The argument for the trade shows to be treated as tools of promotion of such products is, for example, their interactive character – their participants become the party of the dialogue, and the integral element of the communication process. It is worth emphasising that the market for traditional, local and regional products is by no means random; as these actions are undertaken by the regions whose strategy involves such products. Therefore, it is worth discussing this subject and act in partnership with the parties of interest, including manufacturers of ingredients, producers, non-government organisations, inhabitants, local and regional authorities. It is extremely important as such actions may be funded, for instance, from the EU funds. The basic and indispensable condition for the protection and promotion of the product is, however, the creation of the production group which will apply for the funding. The support covers the activities within the field of public relations, advertising and participation in trade shows in the country and abroad. Producers cover only 20% of costs (Ochrona...). It is important that they should be held on regular basis. It is necessary to plan carefully and continuously coordinate them. Close cooperation with all parties of interest is of top importance.

Trade shows and exhibitions provide an active participation of all parties of interest, which, thus, become participants of the dialogue. Trade shows and exhibitions are the forms of direct contact which enables obtaining feedback, differentiates them from other forms of promotion; moreover, in comparison with the personal selling, the feedback is more spontaneous. Frequently the trade shows and exhibitions are the stimulus for the interest of the media. Thanks to that, in a non-pushy way one can reach a larger group of buyers. By the participation in the trade show, the buyer has an opportunity to obtain information and learn about the unique character of the regional, local and traditional product. The shows, fairs and exhibitions are aimed at stimulation of the activity of their participants and drawing their attention. It is even more important, because, as indicated by, for instance J. Civil, our perception of the message includes only 7% of information we hear, 38% - written message, and 55% - non-verbal part of the message (Civil J., 1997). L.A. Woolcott and W.R. Unwin claim that an average person remembers 10% of what they have read, 20% of what they have heard, 35% - of what they have seen, and 50-70% of what they have seen and heard simultaneously (Woolcott L.A., Unwin W.R., 1983). Therefore, such events have a significant importance in the promotion of the regional, local and traditional products as well as the development of a given region. The buyer is by no means a passive observer, but has the opportunity to participate and experience, and this influences their reactions more intensively than other forms of promotion. The exhibitors have the possibility to directly obtain information of the needs, expectations and preferences of the buyers as well as draw attention of clients and convince them.

Nowadays, it is not only the offer in the exhibition stall that creates the image of a given exhibitor, but also a method of its presentation.

The further part of the article presents selected examples of trade shows, which contribute to the promotion of local, regional and traditional products.

### **3. Selected regional, local and traditional product trade shows in Poland**

It is complicated to enumerate the trade shows and exhibitions in a particular country because of their large number. Selected ones (more significant ones) are held in exhibition centres in Poland among others in Warsaw, Poznan, Wroclaw. However, a growing number of them also accompany various events organised in a particular region, for instance, Dozhinki (Harvest Festival), pre-feast shopping days, fair, topical days. They are held both outdoors and in the shopping centres. Due to the limited length of this article, it includes only a few most famous examples of the trade shows and exhibitions held in Poland in 2013.

One example of a significant trade show or exhibition that is aimed at the promotion of the local, regional and traditional products and has been held regularly since 2012 is the Regional Product Trade Show "Regionalia", which was held in 2013 between 19 and 21 April in the venue of MT Polska Trade Fair and Congress Centre in Warsaw (Podsumowanie...). The leading topic of this event was healthy, traditional and organic food. The claim that such actions are effective is backed, among others, by a very large number of its visitors – ca. 25 thousand people. Local Polish and overseas products as well as proposals for holidays close to nature, including ca. 250 regional and local products, were presented by nearly 500 exhibitors. Visitors could taste food specialties, including meats, bread and baked goods, sweets, aromatic honey as well as traditional dairy products. In special competition among 61 proposals, there were also awarded the best regional products. This trade show was accompanied by cooking presentations, workshops and interesting topical meetings. The trade show occurred to be an effective tool for reaching buyers to inform them and raise their interest in buying regional, local and traditional products.

On 10-15 August 2013 in Zakopane, the 4<sup>th</sup> European Trade Show of Regional Products was held there, which is characterised by the presence of multiple regions and cultures as well as a wide range of regional products. During the trade show, every visitor could participate in shows, tasting or meetings in order to learn more about the flavours and nutrition facts of these products. One of the important elements was the conferences on regional products in terms of broadly defined agriculture, animal husbandry, marketing, sales as well as legislation. That event also involves presentation of folk artists and their art passed from generation to generation, which still has a great appeal. Such trade show provides festivities and mutual active participation of all interested parties.

Another festival for lovers of traditional Polish foods prepared according to traditional recipes is also the Regional Flavour Trade Show (Smaki...). That event is held in September and accompanies the Polagra Food International Trade Fair and Polagra Gastro – International Trade Fair for Gastronomy in Poznan. Its main aim is the promotion of certified natural traditional foods. The exhibitors come from all regions of Poland. In 2013, for the first time the exposition was co-prepared by all Polish voivodeships, and the number of visitors exceeded 25 thousand. It proves the ever-growing increase in both of the demand and supply, and both sides have the need for interaction, which may be facilitated by such an event.



III Kiermasz Zywnosci Ekologicznej i Produktow Regionalnych (the 3<sup>rd</sup> Ecofood and Regional Product Fair) was held in May in Hala Stulecia in Wroclaw and it was the chance for presentation of organic food and products of traditional cooking as well as the promotion of folk art and craftsmanship. During this fair, one could try and buy organic and regional products including cheeses from all over Poland; traditionally cured meats; bread and baked goods produced according to family recipes; sweets; herbal teas; honey and bee products (III Kiermasz Zywnosci...).

Such fairs may be connected with other events, thus, reaching a wider scope of recipients. One example may be the actions involved in the Swieto Rogala Swietomarcinskiego (St. Martin's Croissant Festival), which is its official and protected name. It is a regional product protected by the European Union law. This product is also the most important article sold during the "nameday" of the St Martin Street that is the annual feast in Poznan on the 11<sup>th</sup> November (Imieniny...). Over 400 tonnes of St Martin's croissants are sold around this period. This event attracts not only inhabitants of Poznan and Greater Poland but also tourists from abroad, mainly Berliners and Germans from the region of Brandenburg.

More frequently trade shows and exhibitions are organised on a smaller scale and regard only one region. They may be held in shopping centres. For instance, between 10 and 12 May 2013 in the Galaxy Shopping Centre in Szczecin Regional Product Fairs were held, during which regional cuisine and handcrafted ornaments were presented there. Exhibitors' offered top quality foods made by themselves as well as hand-made jewellery, clothes, and ceramic goods. It was also an opportunity to taste products made according to old Polish recipes such as hard and cottage cheeses made of Polish milk, leavened bread, natural honey, exquisite meats and cured meats, sour cucumbers or lard. On one occasion, each visitor could taste and buy various high-quality food products of best flavours.

Another more and more appealing event is also "Piknik nad Odra" ("Picnic on the Oder") held in May in the Waly Chrobrego (the Chrobry Embankments) in Szczecin, which includes a trade fair. In 2013, it was held between 11 and 12 May and involved, among others, the 22<sup>nd</sup> Targi Turystyczne Market Tour (Tourism Trade Fair), the 9<sup>th</sup> Organic Food and Ecofood Fair and the West Pomeranian Flavour Avenue. Its scale is confirmed by the number of visitors – it was visited by ca. 50 thousand people. The West Pomeranian Flavour Avenue gathered producers of regional products and foods. One could taste and buy regional specialties as well as learn their recipes and related traditions. The products included gingerbread and "paszteciki" (pasty) from Szczecin, and typical for the region, though less known Swedish kishka, cucumber from Kolobrzeg, or rose fruit products. The event's central point was the preparation of annual large grate, on which regional foods were cooked in a gigantic 2500-litre pot. In 2013, Zur Kapitanski (the Captain's sour rye soup) was cooked (Piknik nad Odra...). It is a regular event whose objective is to spread information on the regional and local products as well as to encourage tasting and then buying them. The integration of the participants is another reason behind this event.

Therefore, one could notice that trade shows and exhibitions (more and more often linked with other marketing events) are a significant form of promotion of regional, local and traditional products, which brings advantages not only to the exhibitors but also to the visitors. The growing numbers on both sides as well as of such events confirms the growth of interest in such promotion of non-mass-produced goods. Local fairs, exhibitions and other smaller events are also important. They need to ensure the contact with makers of the regional and local products, building positive emotions, and affecting all senses of the consumer. Their undeniable advantage is interactivity as tourists or inhabitants most often remember

what they have experienced actively, as it intensifies their experiences and positive impressions. The market of traditional and regional products will not develop if consumers do not know these products. That form of promotion serves as the creator of the market, as the product is presented to find its buyers.

### **Conclusions, proposals, recommendations**

Worldwide, one can find numerous products whose quality and unique features are based on the region of origin or traditional production methods. Many of them have become the pride and “ambassadors” of those regions. Regional, local and traditional products are available nowadays not only on the fairs, festivals and markets, but also on special stalls in the shopping centres, in chain stores, and also in smaller local shops. It is worth emphasising that significant demand is noted for products with history and tradition, made according to traditional recipes, characterised by top quality and unique features. The strengthening of this market is influenced by the policy of the EU, which promotes the broadly defined development of rural areas, including the production of local, regional, traditional foods. Poland has favourable prospects for the development of this market, though it is distanced from other EU states. The market share of such products in Poland is estimated at 1–3%, as compared with Austria where it is even 10%, and Sicily – as much as 60% (Produkt..., 2013).

This article indicates the growing market for regional, local and traditional products, both on the demand and supply side. It stems mainly from the consumers’ need for higher quality of products and disappointment in degrading quality of the mass-produced food. The growing demand determines the market growth for such products. Based on the examples, it has been emphasised that crucial role for the promotion of such products and significant role in this respect is played by trade shows and exhibitions. As regional, local and traditional products are of best quality, manufactured in natural, traditional and ecological way from local ingredients, one needs to emphasise they are not mass-produced on a large scale. Such products are always more expensive due to their production methodology and high quality. The demand is influenced by the preferences of the consumers this is why it needs to be shaped consciously. For this reason, the appropriate promotion is needed, connected with interactivity – which is facilitated by such events as trade shows and exhibitions. Nowadays, the buyer wants not only to see, admire but also to actively participate, experiment and experience.

These products are a chance for the development of smaller communities, regional and local development, mainly of rural areas. They can become the pride and “ambassador” of a given region, or even a small village. It is important that such products should be properly labelled, as even local inhabitants may have trouble in recognising them. Thanks to the promotion of these products, one can increase their profitability, retain traditional skills, for instance in cooking, create their image or attract new buyers. Trade shows and exhibitions are effective forms of promotion of regional, local and traditional products and give the opportunity of direct meeting with potential clients as well as finding partners for cooperation. They are a significant platform for information exchange and sales, especially for specialised products such as regional and local products. Therefore, it is necessary to implement appropriate actions for the products to be recognised and even sought in the market.

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**IMPORTANCE OF BRANDED PRODUCTS IN EUROPEAN CONSUMPTION  
CULTURE****Aivis Bikernieks**<sup>1</sup>, Mg.sc.soc.; **Aija Eglite**, Dr.oec.

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**Abstract.** This article focuses on local and regional products seeking a theoretical explanation of the role of product's brand in its consumption. In scope of COBEREN (COConsumer BEhaviour ERasmus Network) activities, the authors have analysed survey data to determine the importance consumers of European countries assign to the brand of a product.

The main conclusion is that a consumer does not pay great importance to brands, although, prefer branded products. This article was a detailed analysis of the data on the role of brand products among consumers in different countries. The paper aims to show the general trend.

**Key words:** local product, brand, consumption.

**JEL code:** Q00; D10

**Introduction**

This article aims to clarify the principles how a consumer chooses products, i.e. either focuses on brands or chooses more famous brand, and tries to find out whether a consumer or his/her sense of national identity is linked to the consumption of locally produced products.

In this article, the authors will study if the brand of the product is linked to local products. The study is based on the COBEREN survey data. COConsumer BEhaviour ERasmus Network (COBEREN) is a network of expert partners in consumer behaviour in Europe, and its purpose is to analyse and disseminate knowledge on consumer behaviour. This article will examine if the following statements are true: there are no significant differences in respondents' consumption habits - consumers pay attention to brand and prefer most famous brands; respondents pay equal attention to brands and choice of locally made products; consumers' choices of locally made products and most famous brands are equal; the consumer's choice for locally produced products is determined by compliance with their national identity.

**Regional and local foods**

Regional products and local products are by definition geographical phenomena (Parrott N., 2002). According to the definition of the US Congress, local food is a product that is created locally and distance that a product can be transported and still be considered a "locally or regionally produced agricultural food product" is less than 400 miles from its origin, or within the state in which it is produced (Martinez S., 2010) or 100 miles from home (Conner D., 2010). Fritz and the authors have found that consumers consider a product as local food if the distance between local food producer and consumer is less than 30 miles (Fritz M., 2009). In 1994, British scholars introduced another term – food miles. Food miles are a term that refers to the distance food is transported from the place of its production until it reaches the consumer (Melece L., 2012). The concept of food miles was based on the idea that growing

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and consuming local produce is inherently less wasteful than importing it from elsewhere (Kemp K., 2010). Austrian scholars have detected that interrelation between a product and its geographic origin is one of major aspects of local food (Hambrusch J., 2006). In order to encourage regional tourism, local governments can use the term local food to increase the consumption of locally produced food (DeSoucey M., 2010). This opinion is shared by Martinez who has extended the concept of local food by specifying the personality and ethics of its grower; the attractiveness of the farm and surrounding landscape; and other factors that make up the "story behind the food" (Martinez M., 2010).

### **Product brand**

Not only national but also traditional and local products can symbolise belonging to a nation or to a local ethnic group. The sense of belonging associates with such products that are identified with a particular nation, ethnic group, or local area. However, the products may not be produced in the country the identity of which they are related with. In this case, the identity of the state and local ethnic group is linked to the products with the brand. Product branding has existed for centuries as a way to distinguish items from one another, while the modern concept of branding has its roots in the 19<sup>th</sup> century. According to this concept, a brand can be perceived as a legal instrument, logo, company, system identification, character, personality, relationships, or added significance (Konecnik M., 2007).

Product brands as symbolic meanings can help customers achieve business goals and identity. Therefore, consumer and brand's identification associates with a consumer and brand's unity that is true and impressive expression of our identity search (Stokburger-Sauer N., 2012).

Some scientists believe that the agents established by ethnic-based subcultures can build community's brands. Brand community is a community of people brought together by emotional attachment to the product or brands. There is a close relationship between brands, individuals, and cultures (Veloutsou C., 2009). There are several brands' classifications: national brands, store brands, and discount brands (Batte M., 2010).

Based on theoretical knowledge, it can be concluded that for a consumer, a branded product can mean belonging to a national, ethnic group, local community, certain lifestyle behaviours, quality, and added interest requirements. Food products meet all of these consumer expectations. Food visibility ensures trademark – local, regional, or national level mark. The paper will focus on two types of brands – local and national and on consumers' attitudes towards local foods. The present study will try to find out if the analysed product is associated with the national identity. In the analysis, the authors have used the COBEREN survey data.

## **Research methodology**

### **COBEREN survey**

Considering the large number of participants and the heterogeneity of the group, the research methodology of COBEREN was defined in a very specific way. Researchers have implemented a mixed methodological approach, combining qualitative and quantitative techniques and have used a various range of numerical, verbal, and even pictorial measurements. The framework for covering different dimensions of the consumer culture was made as open as possible; however, it had to remain acceptable from the point of view of the survey response process.

A qualitative data collection allows capturing an in-depth description of consumption behaviour and meanings without any specific preconceived rational model. To which extent do the spontaneous

evocations of the respondents match or do not match with some classical references regarding needs, motivations, or habits? In this respect, explanatory research can lead to the definition of inductive clusters based on the consumption profiles that can be interpreted in terms of consumption style or culture sub-clusters. To which extent are they global or country-dependent? Are they affected by general attitudes and values towards consumption?

Mixed qualitative and quantitative analysis of a very large data set of 30 European countries allowed the COBEREN team members to investigate the interactions between individual features and preferences, social habits and representations, national belonging, culture and consumption behaviour and ideology.

### **1. Internet surveys**

The European COBEREN survey was mainly conducted through a common on-line questionnaire from January to March 2011. The final raw total sample collected by the COBEREN survey consisted of 12 608 units. The final size of the "calibrated" sample was 5 250 units.

The researchers decided to design a common Web questionnaire that would be translated into all the involved 23 different European languages and afterwards the survey would be disseminated through various procedures, according to the most adopted options in each of the countries. Consequently, three different Internet data collection protocols were developed in scope of the study.

- Dissemination through the web access panels' members in Austria, Sweden, and the United Kingdom. In general, the procedure was possible in the countries located in the centre and in the north of the continent.
- Snowball procedure, for which the link is sent to some specific target people who are successively requested to circulate the survey to other personal contacts etc. Such a specific process was implemented in Greece where it was really successful.
- Students or research assistants enrolled "Pre-recruited" participants. Those persons had agreed to give us their email address and to participate specifically in our COBEREN research project. This method was successfully used in Iceland, Italy, and Romania. We wrote a common invitation e-mail mentioning the identity of the correspondents, the general objective of the study and some privacy information.

### **2. Face-to-face interviews**

In order to complement the main data collection method and be able to reach some of the target respondents, especially in older age categories, we agreed on conducting some face-to-face interviews in the countries where senior people could not be easily contacted through Internet questionnaires, i.e. in Lithuania or Portugal. Printed versions of the COBEREN questionnaire were produced for their particular usage.

In most of the COBEREN partner countries where an Internet access panel was not available or was not chosen (17 cases/30 countries), a multi-channel data collection method was conducted for a proper reaching of all the pre-defined targets from all the different age groups (Santos K., 2013).

The COBEREN survey was used with regard to non-alcoholic drinks. The authors sought to determine whether the product users pay attention to the local product or not, the importance of local production, the importance of product brands, and whether the product associated with the national identity.

**Statistical methods**

The data of the COBEREN research database relating with consumers' choice of products and answers to the principles of national identity were analysed by statistical methods. The studied variables were coded in the study. A respondent, according to the gender, was assigned a code "Male" = "1" and "Female" = "2". Respondent's answer was coded "I totally disagree" = "1"; "I rather disagree" = "2"; "I do not know" = "3"; "I agree rather" = "4"; "I totally agree" = "5"; and A) "Far apart" = "1"; B) "Small overlap" = "2"; C) "Moderate overlap" = "3"; D) "Large overlap" = "4"; E) "Complete overlap" = "5".

In order to determine whether there is a correlation between the answers given by respondents for the product selection and usage habits, the authors statistically compared users' responses with the questions whether they chose the most familiar brands or paid attention to brands, or opt for locally made products. To verify consumers' responses, the authors used pair correlation method to verify nominated statements applying Student t test method.

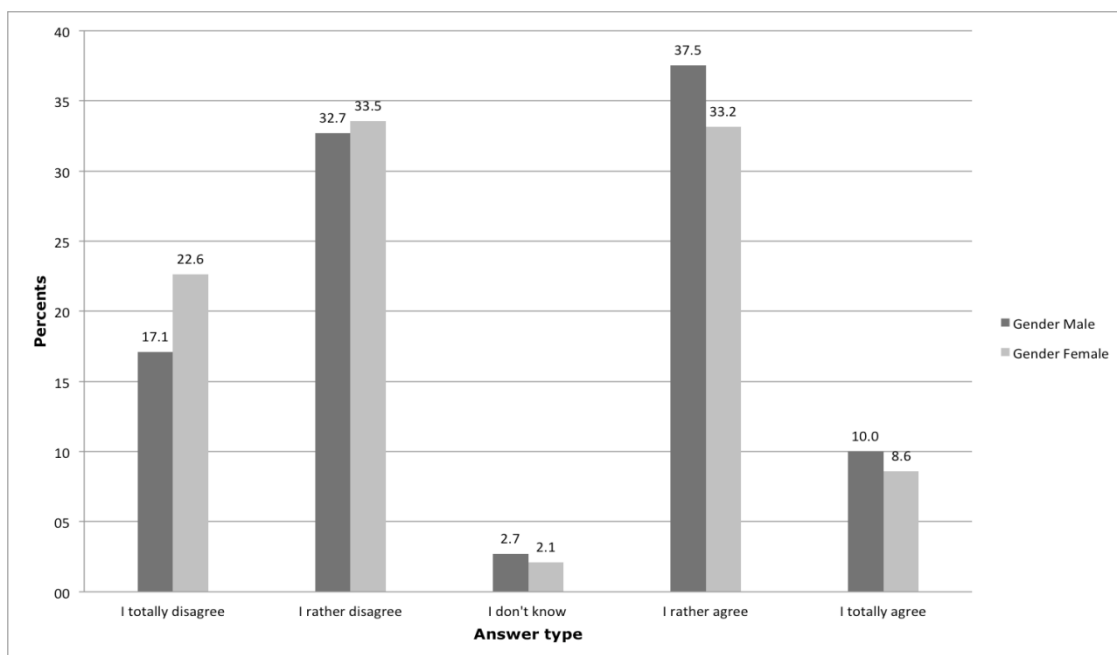
**Research results and discussion**

The conducted COBEREN study involved 30 countries. In total, 5258 questionnaires were obtained from respondents. Scientists set a goal to get as close as possible to the number of questionnaires from each country involved in the study. The numbers of respondents both in numbers and as a percentage was 178 respondents or 3.4% of total number of respondents, which was similar for the all countries involved in the study. Cyprus and Liechtenstein were exceptions due to the smaller number of respondents. The COBEREN study involved 160 respondents or 3% of total number of respondents from Cyprus and 106 respondents or 2% of total number of respondents from Liechtenstein. There were also countries in which respondents' questionnaires were received in larger amount than other countries, for example, Germany and France. The two countries involved 182 respondents in the COBEREN study. The percentage of respondents from France and Germany was 3.5 from each country. The analysis of the CORBEREN study data allowed obtaining information about the criteria of respondents' product selection.

**1. Respondents' choice of more famous brands**

This part of the article will examine whether there is a significant correlation between male and female respondents' choices of more famous brands.

The study shows that there are not significant differences between the principles of female and male product choices (Figure 1). The correlation calculations obtained the correlation coefficient  $r = 0.969295612$ , which for both genders is indicative of a significant correlation. There was no specific polarisation observed in the choice of product. Moreover, 22.6% of females and 17.1% of males do not choose the products of the most famous brands. However, the proportion of those respondents who choose the most famous brand products is not large – 10% of males and 8.6% of females. Those respondents who tend to disagree with the statement that they choose the most famous brand are 32.7% of males and 33.5% of females. A similar proportion was detected among those respondents who mostly agree that they purchase the most famous brand product - 37.5% of males and 33.2% of females.



**Source: authors' construction based on the COBEREN research data**

**Fig. 1. Respondents' choice of more famous brands**

A similar situation can be observed by looking at the COBEREN survey results regarding respondents' attention to brands.

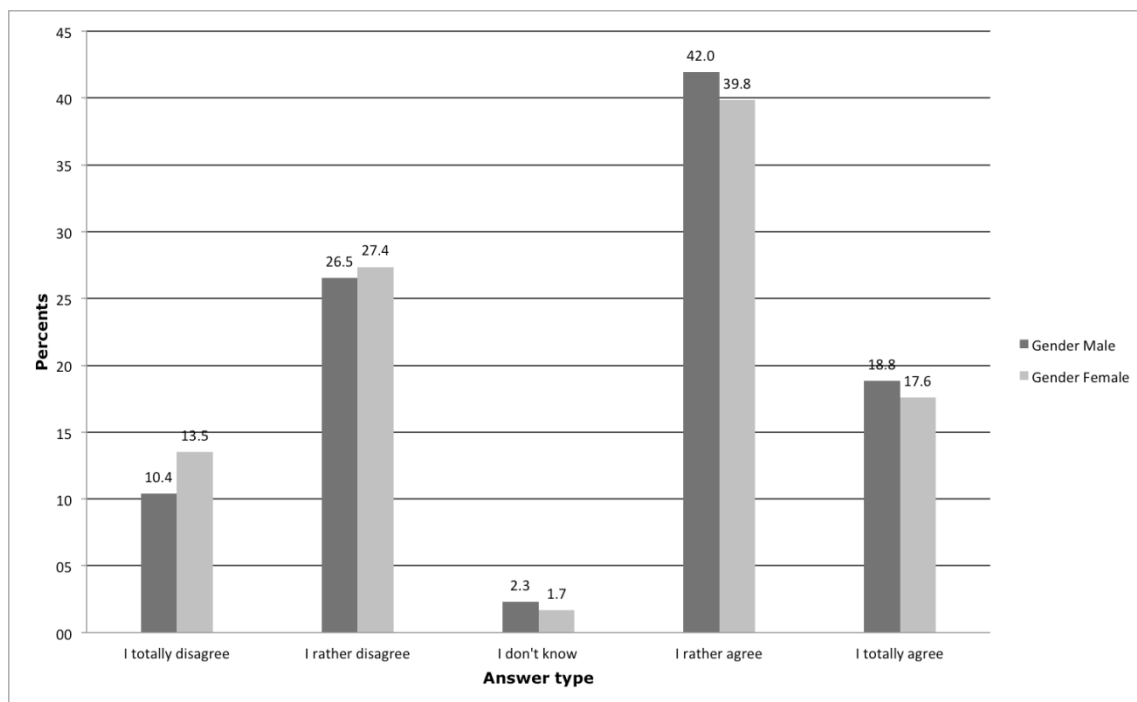
The Bartlett test results showed the data sets that contain respondents' answers to the question whether they pay attention to brands and/or choose more famous brands, and here the variance differs significantly with  $p = 2.2e-16 < \alpha = 0.05$ . Therefore, the Student's t-test calculation method has to be chosen according to the groups with significantly different variances. The Student's t-test p-value ( $p < 2.2e-16 < \alpha = 0.05$ ) obtained by the method leads to the conclusion that there are significant differences between the groups of respondents regarding the choices of the most famous brands and attention to brands.

The results of Student's t-criteria analysis led to the conclusion that respondents' perceived the brands differently. Nevertheless, the pair correlation between male and female answers was similar. The Student's t-test results lead to the conclusion that the statement "There is no significant difference in respondents' consumption habits - consumers pay attention to brands and prefer the most famous brands" is not correct.

## **2.Respondents' attention to brands**

This part of the article will examine whether there is a significant correlation between male and female respondents regarding the attention paid to brands.





Source: authors' construction based on the COBEREN research data

Fig. 2. Attention to brands

The numbers of respondents who said that they paid special attention to brand products constituted (Figure 2) – 18.8% of males and 17.6% of females who claimed that they totally agree with the statement about the focus on brands. The proportion of respondents who agree with the statement that they rather pay attention to brands was 42% of males and 39.8% of females. Their position with regard to the focus on brands could not explain 2.3% of males and 1.7% of females. In the survey, 26.5% of males and 27.4% of females rather disagree with the statement that they pay attention to brands, but 10.4% of males and 13.5% of females completely disagree that they pay attention to brands. The correlation coefficient  $r = 0.992047058$  shows a very strong correlation between male and female views of the focus on brands. In examining the correlation between the males' choice of brand products and focus on brand products, the authors obtained the correlation coefficient of  $r = 0.900200927$ , which shows significant correlation between males' brand choices and awareness of the importance of brand products. The correlation coefficient between female brand choices and focus on brand products shows different situation. The resulting correlation coefficient  $r = 0.849529598$  shows that the correlation is strong; however, it is different from the figures derived from the responses of male respondents.

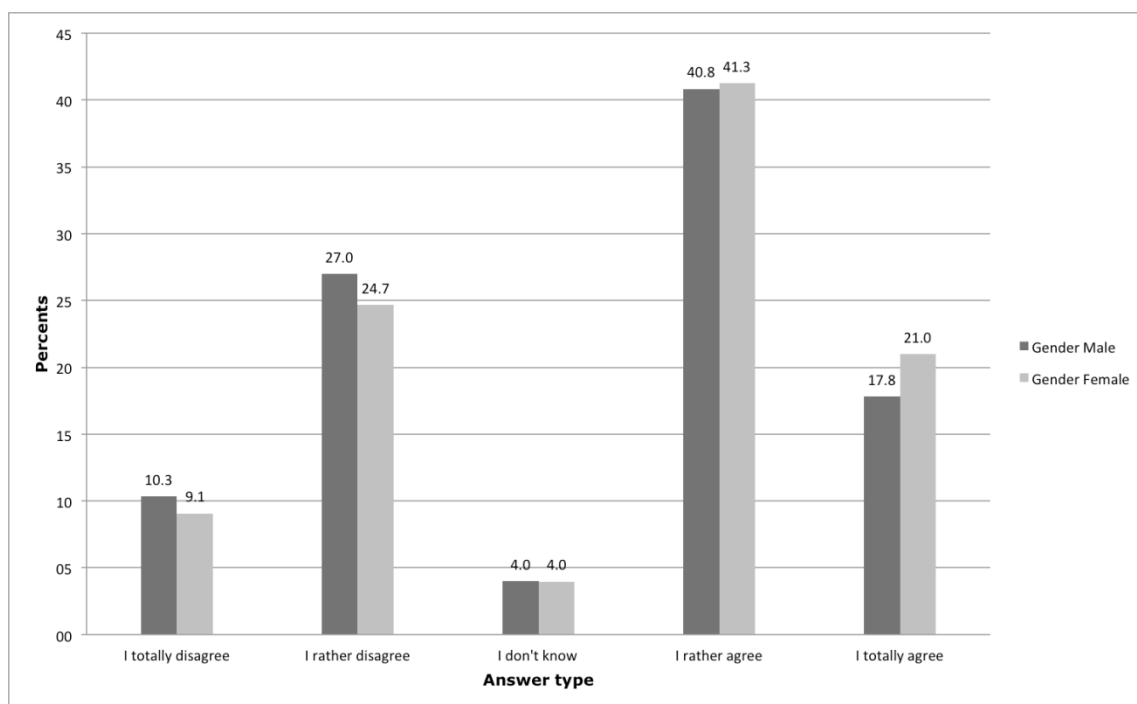
By using the Bartlett test, the results showed the data sets that contain respondents' answers regarding the questions whether they choose to pay attention to brands and whether they choose locally manufactured products. In this respect, the dispersions were significantly different with  $p = 2.2e-16 < \alpha = 0.05$ . Therefore, the Student's t-test calculation method should be chosen according to the groups with significantly different variances. The Student's t-test p-value ( $p < 2.2e-16 < \alpha = 0.05$ ) obtained by this method leads to the conclusion that there are significant differences between the groups of respondents in their focus on attention to brands and choice of locally made products. Although, the two-factor

correlation data between males and females are similar regarding the correlation coefficients, there are still some differences.

The Student's t-test results lead to the conclusion that the statement "respondents equally pay attention to brands and choice of locally made products" is not correct.

### 3.Choice of locally made products

This part of the article will examine whether there is a significant correlation between male and female respondents' choice of locally made products.



**Source: authors' construction based on the COBEREN research data**

**Fig. 3. Choice of local products**

After the analysis of the COBEREN research data relating to the respondents' attitudes towards local products, it can be concluded that the respondents' attitudes are not extremely polarised in this area. In the study, 17.8% of males and 21% of females totally support local consumption choices. Unlike in Figure 1 and Figure 2, it is observed that 40.8% of male and 41.3% of female respondents would rather support a local product choice. Almost half of the respondents would rather not support local product choices: 27% of males and 24.7% of females but 10.3% of males and 9.1% of females absolutely do not support local product choices. The correlation coefficient  $r = 0.989856926$  shows a very strong correlation between male and female's views of consumption of local products. After examining the correlation between males' local product choices and focus on brand products, the authors obtained a correlation coefficient of  $r = 0.998361849$ , which suggests that there is a strong correlation between the male's local product choices and focus on brand products. The situation is similar with the correlation coefficient between female's local product choices and focus on brand products. The resulting correlation coefficient  $r = 0.9728535$  shows that the correlation is very important.

In studying the correlation between the male's local product choices and most famous brand choices, the correlation coefficient  $r = 0.911473239$ , which suggests that there is a strong correlation between the males' local products choices and most famous brand products. A different situation is revealed by the correlation coefficient between the females' local product choices and most famous brand choices. The resulting correlation coefficient  $r = 0.708480413$  shows that the correlation is strong, however, different from the figures derived from the male responses.

The Bartlett test showed that the variance of the data sets differ significantly with  $p = 0.05653 > \alpha = 0.05$ . These clusters were included in the respondents' answers to the questions regarding consumer behaviour in selecting the most famous brand and locally made products. Therefore, the Student's t-test calculation method should be chosen according to the groups with significant variances. The Student's t-test p-value ( $p < 2.2e-16 < \alpha = 0.05$ ) obtained by this method leads to the conclusion that there are significant differences between the groups of respondents regarding their choice of locally made products and choice of the most famous brands. By The Student's t-test results it can be concluded that the statement "consumers' choices of locally made products and most famous brands are equal" is not correct.

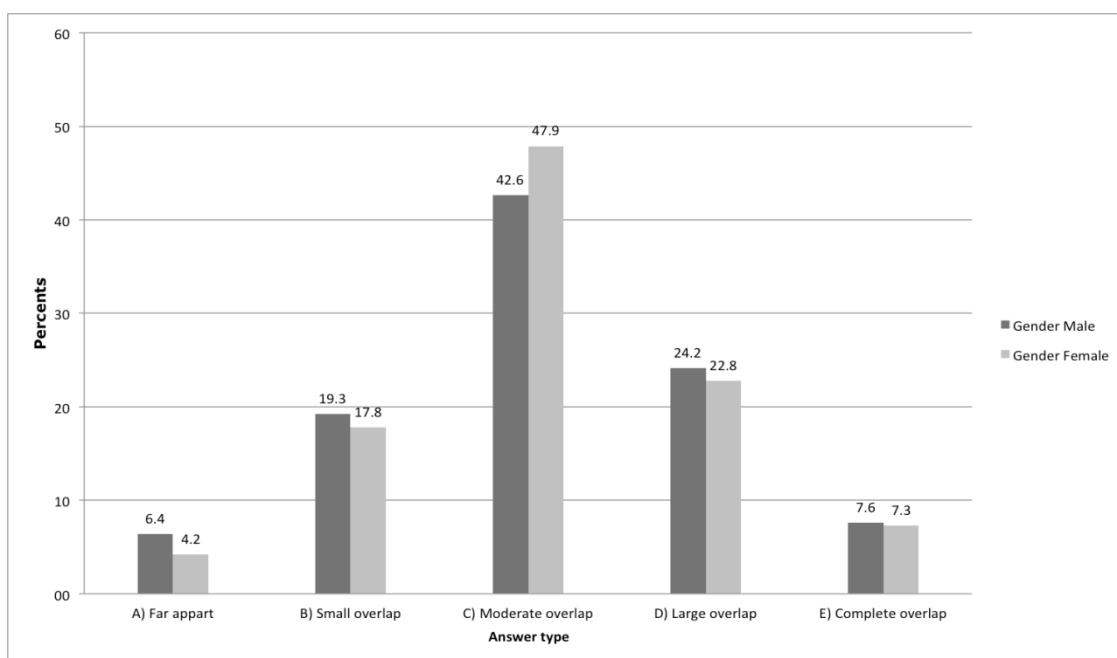
#### **4. Conformity to national identity**

This part of the article will examine whether there is a significant correlation between male and female respondents regarding their national identity.

COBEREN researchers tried to find out what factors contribute to the consumption of the products. One factor was the national identity. The study respondents were prompted to imagine two circles, one of which meant the personal identity and the second - national identity. Respondents were asked to mark the reply that best reflects the personal and national identity relationship.

COBEREN survey respondents only partially associated their personal identity with national identity. This fact is evidenced by the data aggregated in Figure 4 where 6.4% of males and 4.2% of females are not bound by their personal identity to national identity. The situation is similar regarding the respondents' personal identity linking to the national identity, which constituted 7.6% of males and 7.3% of females. Personal identity was closely bound with national identity for 24.2% of males and 22.8% of females. Personal and national identity was partly bound for 42.6% of males and 47.9% of females. Weak link between national and personal identity was indicated by 19.3% of males and 17.8% of females.

The correlation coefficient  $r = 0.995181627$  shows a very strong correlation between male and females' views on correlation between personal identity and national identity. In examining the correlation between males' national identity and local product choices, the authors obtained a correlation coefficient of  $r = -0.143018379$ , which suggests that the local male's choices and focus on brand products have a weak correlation. The situation is similar with the correlation coefficient between females' national identity and local product choices. The resulting correlation coefficient  $r = -0.235133031$  shows that the correlation is weak. In studying the correlation between the male's local national identity and attention to brands, the authors obtained a coefficient  $r = -0.187438525$ , which suggests that the correlation of males' local product choices and most famous brand products is a weak.



Source: author's construction based on the COBEREN research data

Fig. 4. National identity

A similar situation was detected regarding the correlation coefficient between the females' national identity and attention to brands. The resulting correlation coefficient  $r = -0.34009023$  shows that the correlation is weak, however, different from the figures derived from male responses.

In examining the correlation between national identity and choice of more famous brands, the authors obtained a correlation coefficient of  $r = -0.187357782$ , which suggests that the males' national identity and choice of the most famous brands have a weak correlation. The situation is similar regarding the correlation coefficient between women's national identity and choice of most famous brand. The resulting correlation coefficient  $r = -0.393909351$  shows that the correlation is very weak.

The obtained correlation coefficients lead to the conclusion that there are no significant differences between the respondents by gender. The relationship between males' selected locally made products and consumer's national identity is very weak regarding the locally manufactured product choice. The relationship between females' selected locally made products and consumer's national identity is also very weak.

The Bartlett test showed that the variance of the data sets differ significantly with  $p = 0.05653 > \alpha = 0.05$ . These clusters were included in the respondents' answers to the questions revealing consumers' behaviour in relation to their national identity and locally made products. Consequently, the Student's t-test calculation method should be chosen according to the groups with significant variances. The Student's t-test p-value ( $p < 2.2e-16 < \alpha = 0.05$ ) obtained by this method leads to the conclusion that there are significant differences between the groups of respondents' choice of locally made products and choice of the most famous brands. The Student's t-test results allow to conclude that the statement "consumers' choice of locally made products and most famous brands is equal" is not correct.

**Conclusions**

The used statistical methods lead to the conclusion that there are significant differences in respondents' consumption patterns. Consumers' attention to the conversion of brand and choice of the most famous brands are not similar. There are significant differences between male and female consumption habits; whereas, consumers' attention to brand and choice of locally made products are not similar. In this respect, there are differences between male and female consumption habits. Moreover, consumers' choice of the most famous brands and choice of locally made products are not similar. There are also differences between male and female consumption habits.

Consumers' conformity to their national identity and choices of locally made products are not similar. No significant differences were detected between the male and female consumption habits.

The analysis of COBEREN survey data leads to the conclusion that there are quite significant differences in respondents' awareness of national identity and local products. Respondents are not bound by national identity to the use of local products. Perhaps, the results of analysis of other products related to the national identity could have been different.

Consumers do not choose products only by brand. They pay attention to brands, but it is not decisive factor in the choice of a product.

The consumer's perception of local products is very closely related to the brand product.

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**LOYALTY OF CONSUMERS TO FOOD IN LATVIA**

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**Abstract.** Food is a specific group of products, the choice of which by consumers is affected by a number of various factors. In the consumer basket in Latvia, food expenses are one of the key items, and a large role in the consumer's choice of food is played by the price of products and related factors. For this reason, it is important to ascertain the loyalty of consumers to particular producers and the factors affecting it, so that domestic food producers could increase their sales and their competitiveness on the market of Latvia. The present research uses the data of surveys of consumers and retail stores for the period of 2010-2013 and concludes that higher consumer loyalty to certain brands or producers can be observed for several groups of food products, while the key factors affecting the loyalty of consumers are the taste of food, whether the product's raw materials are natural, and a lower price.

**Key words:** food, consumer behaviour, consumer loyalty, competitiveness.

**JEL code:** D10; L66

**Introduction**

The choice of food by consumers is a complicated issue, which is determined by many and various factors. The behaviour of consumers in the food and beverage sector can sharply change, thus, affecting the efficiency of performance of enterprises engaged in this sector. It is important to gain higher loyalty of consumers to domestic food products to ensure higher competitiveness of food producers of Latvia. Therefore, it is urgent to conduct studies on the key factors that determine the loyalty of consumers to particular producers and products.

The **research aim** is to identify the loyalty of Latvia's consumers to particular food brands and the factors affecting it.

To achieve the aim, the following **research tasks** were set:

- 1) to analyse the key indicators of Latvia's food industry;
- 2) to examine the factors affecting the behaviour of consumers in the choice of food products;
- 3) to assess the loyalty of Latvia's consumers for various groups of food products.

To solve the research tasks, the following methods were applied - analysis, synthesis, statistical analysis, the logical and constructive. To research the topic, the common indicators of food processing industry were analysed using data of the Central Statistical Bureau (CSB) of Latvia and the Ministry of Agriculture (MoA). The data collected within the project "Comparative Analysis of Competitiveness Indicators of the Latvian Food Industry" (CACI) funded by the Ministry of Agriculture of Latvia were also used in the present research.

**Characteristics of food production in Latvia**

The food and beverage industry is one of the most significant and dynamic manufacturing industries. The food industry is vital for any country and is the largest among the manufacturing industries in the

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Baltic States. This diverse industry is a significant exporter, and its final products are competitive both in the domestic and in the international markets (Upite I., 2012). The production of food and beverages is the largest manufacturing industry in Latvia in terms of output and jobs.

Table 1

**Main indicators of the food processing industry in Latvia for years 2006-2012**

Indicators	2006	2007	2008	2009	2010	2011	2012
Added value in food processing industry, mln EUR	338.6	426.3	500.7	526.9	534.7	589.1	605.4
Value of sold production in food processing industry, mln EUR	1224.1	1369.0	1536.3	1239.3	1248.9	1365.4	1407.7
<i>Increase from base year, %</i>	-	11.8	25.5	1.2	2.0	11.5	15.0
Share of export in food processing industry, %	24.3	24.0	24.2	23.8	27.5	30.3	33.9

**Source: authors' calculations based on the data of the CSB and the Ministry of Agriculture, 2013**

The industry, to a great extent, focuses on the domestic market, where 2/3 of its output is sold. As the domestic demand decreased during the crisis, the output also considerably declined. Although the proportion of exports in the output of the industry rose over the recent years, the industry's recovery was quite slow, as the demand in the domestic market increased at a moderate rate (Ministry of Economics, 2013). Accordingly, it is of great importance to strengthen and increase the loyalty of Latvia's consumers to domestic products.

#### **Factors affecting the choice of food products**

Consumer behaviour is an individual's reaction on various factors, which directly depends on the individual's personal characteristics, psychological and emotional state, experiences, and disposable resources, and on the qualities and price of a good (service) (Andersone I., 2012). The loyalty of consumers may emerge as an entirely voluntary devotion at the consciousness level, based on trust, which is characterised by conscious behaviour of consumers, reducing the possibility the consumer leaves the vendor of goods or services. It is usually based on the customer's satisfaction with the products consumed before. As loyalty emerges, the consumer believes that every time he/she comes back, the product, its quality, and service will be the same, most satisfactory, or even better (Griffin G., 2002).

Nowadays, the food industry's enterprises face challenges associated with the rising standards in the fields of food safety and sustainability, changes in the understanding of healthy diets, the increasing demand for domestic products, the ageing of the population and related changes in consumption as well as the rising loyalty to private trademarks. Most authors, when defining the factors affecting the choice of food products, outline the following key groups of factors (Table 2).

The price and quality of products were recognised as the key factors affecting the choice of consumers. The term quality is referred to as a set of characteristics that involve the food's sensory properties and whether it is fit for consumption (taste, aroma, ingredients, freshness, harmlessness, healthiness etc.). The understanding of quality changes depending on the consumer's individual wishes and notion of quality, yet, such an explanation of the term allows finding out what characteristics of food products – qualitative or economic – are dominant.

Table 2

**Factors affecting the choice of food products**

<b>Groups of factors</b>	<b>Factors</b>
Biological factors	Hunger, appetite, taste
Economic factors	Price, income, availability
Individual factors	Education, skills (incl. cooking), time available, age
Social factors	Culture, family, fellows, eating habits
Psychological factors	Mood, stress level, sense of guilt
Marketing and advertising	Advertisements, communication, discount sales, loyalty to brands
Attitude to one's health	Dietary products, weight control, food safety, food preservatives and dyes, genetically modified commodities
Sustainability	Organic food, local products, packaging, fair trade

**Source: authors' construction based on the data of the European Food Information Council, 2011; the International Markets Bureau, 2011**

Surveys of consumers in the USA and studies conducted by the European Commission suggest that the main factor affecting the choice of food, which is a specific group of products, by consumers is taste (quality), and only then followed by price. In the EU Member States, on average, 96% of consumers consider quality an important, while 65% – a very important – factor in their choice of food; the role of price is less important (91% and 54%, respectively) (The International Food Information..., 2011; TNS Opinion & Social, 2012).

In contrast, studies conducted in Latvia indicate that the key factor is the price of food products, which is determined by the income level of Latvia's population and the household consumption pattern. In 2010 in Latvia, food expenses as a proportion of total expenses were the third highest in Europe (Kalnberzina K., 2011). In 2005, the key factor determining the choice of food by consumers was taste, and price was the second most important factor, while in 2011, the role of price was emphasised by 88% of respondents (when purchasing necessities of life, 53% always pay attention to prices, while 35% do it in most cases), and it indicates considerable changes in the market (SKDS, 2011).

Yet, the behaviour of modern consumers is complex, as they are interested not only in the taste and price of food products but also in the origin of food, the effects of food production on the surrounding environment, the quality of raw materials used as well as in the effect of their purchase decision on producer incomes. In consumer surveys, the term sustainability usually refers to various processes being friendly to the surrounding environment and the economy, for instance, domestic organic food products packed in environmentally-friendly packaging (biodegradable or multiple use packaging) and produced in accordance with fair trade practices. There are many discussions about the effects of sustainability factors on consumer decision-making. Yet, regardless of the choice of food products, consumers expect enterprises to actively engage in tackling environmental protection, economic, and social problems, thus, making the consumer's decision-making easier (International Markets Bureau, 2011).

The place of origin of food products is one of the sustainability factors, and the formation of consumer loyalty is an essential precondition for ensuring the competitiveness of domestic food producers. On average, 55% of consumers in the world believe that purchasing domestic food is an important or very important factor for them. Yet, studies show that only 28% of consumers really buy mainly domestic food



and beverages. Such discrepancies are characteristic of consumer surveys, as they indicate a difference between the ideal purchase imagined by consumers (consumers believe that it is important to support domestic producers) and their actual action when there is no motivation to reject the favourite imported products. One more reason for such a tendency is a psychological one, as consumers believe that they are sufficiently significant to make a considerable influence on general purchase trends (International Markets Bureau, 2011).

According to the study by the European Commission, the place of origin of food is an important factor affecting the choice of products for more than half of respondents in all the EU Member States, except the Netherlands. In the EU, on average, 71% of consumers consider the place of origin of products an important factor, while 34% regard it a very important factor; in Latvia, the loyalty of consumers to domestic products is higher, 77% and 45%, respectively (TNS Opinion & Social, 2012).

It has to be noted that consumers, when answering the question about whether the country of origin is important to them, often associate this question with particular producers and products rather than the country as a whole. Therefore, the *country of origin is important if viewed through the producer prism*.

The effects of food product brands or producers on food purchase decisions considerably differ among the EU Member States. The quality, price, and place of origin of food are important to the majority of the EU's population, while their attitude to a brand or producer is much more different among various Member States. The brand as a factor affecting the choice of food is more important in Poland and Italy (66% and 68%, respectively, of the consumers considered it an important factor). An opposite trend could be observed, for instance, in the Netherlands, where only 21% of respondents mentioned this factor as important. In the EU Member States, on average, 47% of consumers believe that the brand is important, while 15% - very important; however, the loyalty of consumers to particular food producers is higher in Latvia, 55% and 21%, respectively (TNS Opinion & Social, 2012).

After analysing all the groups of factors affecting the choice of food products, one can conclude that a decision to buy a particular food product is made owing to the complex interaction of many factors that relate to the individual's personal traits, experiences, and national traditions as well as psychological reaction on food.

### **Loyalty of consumers to food products**

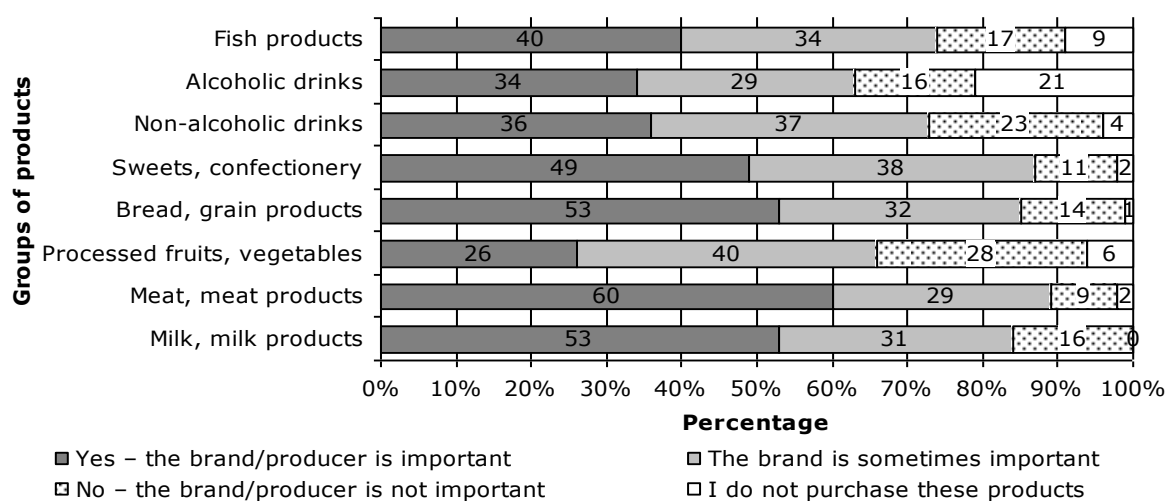
Regardless of the fact that the place of origin of food is important or very important for a great deal of Latvia's consumers, but there are also other factors that influence consumer choice. In 2010, only 25% of consumers mentioned the producer and 23% - the country of origin - as one of the three most important factors affecting the choice of food (SKDS, DnB Nord Barometer of Latvia No 24, 2010), thus, proving an assumption that the place of origin of products is often associated with particular producers. However, a survey conducted in 2011 showed that 35% of the population pay attention to where the product is produced and prefer products produced in Latvia. A similar proportion of the population, 33%, believe that even though the country of origin is an important factor, other factors (price, ingredients, and quality) are even more important (SKDS, 2011).

The survey of consumer loyalty to domestic products showed that in 2010, 67% of Latvia's population chose only products of domestic enterprises when buying dairy products. More than half, 56% of respondents did the same regarding meat and its products, 36% - vegetables and their products, and 33% - flour products. A slightly smaller number, i.e. 28% of the population admitted that they chose domestic confectionary products, 22% - fish and their products, 17% - flour and sugar confectionary

(biscuits, chocolate, etc.), and 16% - fruits and their products. As regards the most often preferred imported products, 40% of the population mentioned imported fruits and their products and 26% - alcoholic beverages. In total, 19% of the population did not prefer any group of imported food products (SKDS, 2010).

Although, in general, the choice of food in Latvia is mainly affected by the ratio of price and quality, it is important to ascertain the extent of loyalty of consumers to particular brands or producers for various groups of food products. This information would allow domestic food producers to identify the groups of food with greater potential for attracting long-loyal consumers.

The survey conducted within the present research indicates that, in general, the brand or producer is important when shopping for food products (Figure 1). The brand plays the greatest role in the consumer's choice of meat and meat products, as the brand is important to 60% of respondents, while to 29% - sometimes important.

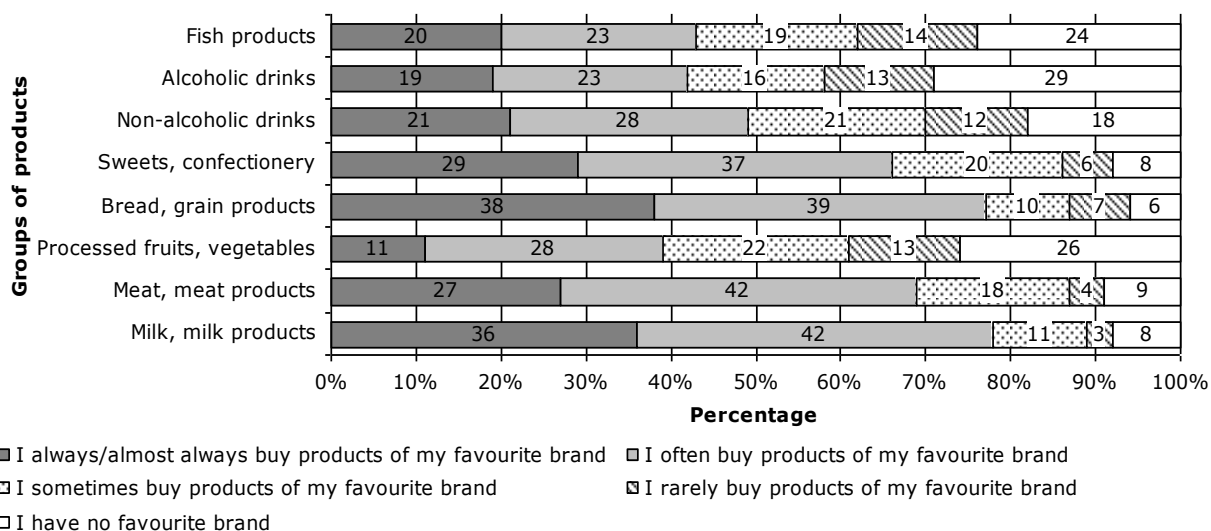


Source: authors' construction based on the survey within the CACI project, 2013

Fig.1. Choice of the brand of food broken down by group of food products in Latvia in 2013

For the groups of dairy products, bread and grain products as well as sugar and flour confectionary, the role of brands in the consumer's choice of food is equally important. The brand plays the smallest role in the choice of processed fruits and vegetables (the brand is important to 26% of respondents, while 40% consider it important only sometimes). In the consumer's choice of non-alcoholic and alcoholic beverages, the role of the brand is relatively low (the brand is important to 34% and 36%, respectively, of the respondents and sometimes important to 37% and 29%). In the choice of fish products, the brand is important to 40% of the survey's participants, sometimes important – to 34%, while 17% admitted that when shopping for fish products, the brand or producer is not important to them. To ascertain the consumer behavioural loyalty to favourite food products, the survey included a question about the regularity of buying favourite food products, broken down by group of products (Figure 2).

According to the survey results, the highest behavioural loyalty is observed for the groups of bread and grain products and dairy products, as 38% and 36%, respectively, of the respondents pointed that, when buying products of these groups, always or almost always choose the products of their favourite brand, while 39% and 42% do it often. Relatively, high behavioural loyalty is observed for the groups of meat products and sweet and flour confectionery.

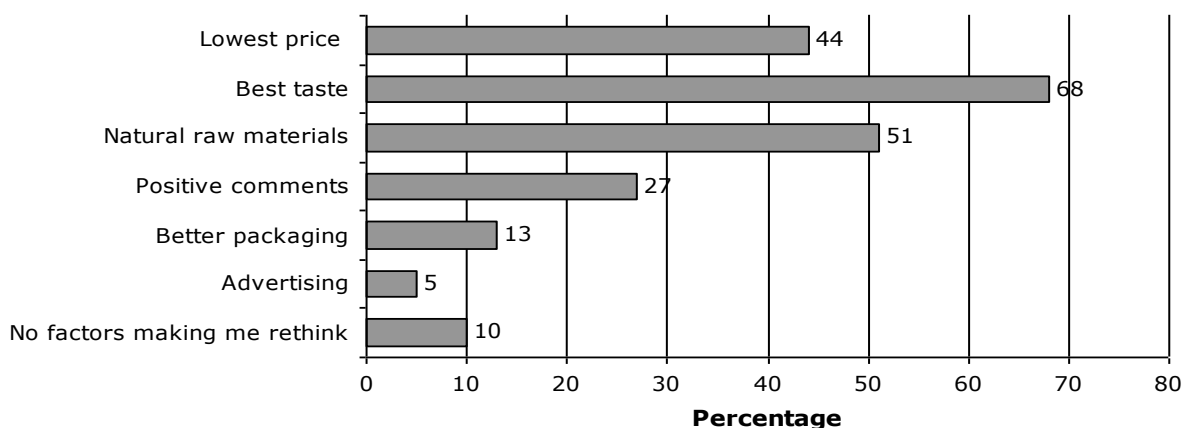


Source: authors' construction based on the survey within the CACI project, 2013

Fig.2. Consumer behavioural loyalty to food products broken down by group of food products in Latvia in 2013

In contrast, the lowest one, according to the survey, is specific to the groups of processed fruits and vegetables and fish products, as only 11% and 20%, respectively, of the respondents always buy products of their favourite producers, and 28% and 23% do it often. The highest proportion of the respondents who have no favourite producer or brand (22% and 19%, respectively) is observed for the groups of processed fruits and vegetables and fish products.

Of the respondents, 21% said that they had no favourite brands for the group of alcoholic beverages, yet, such a reply most likely might mean that these people do not consume alcoholic beverages (19% of respondents noted that they do not buy products of the group of alcoholic beverages).



Source: authors' construction based on the survey within the CACI project, 2013

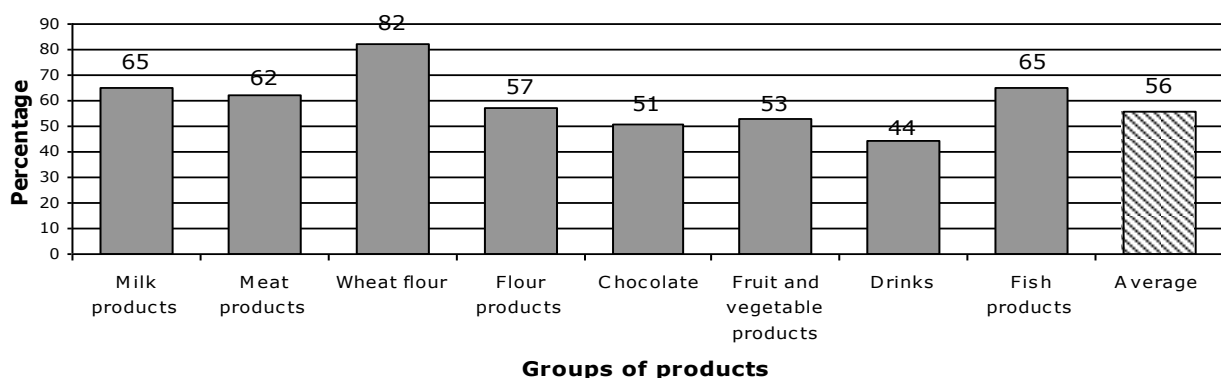
Fig.3. Factors affecting the stability of consumer behavioural loyalty to food products in Latvia in 2013

According to the survey, the stability of loyalty is affected not only by price factors, but also by product quality characteristics. For all the groups of products, the most often mentioned factors that can make the respondent to choose a similar product of another producer instead of the favourite products are better

taste (68% of respondents), natural raw materials used (51%), a lower price (44%) as well as positive comments on the product (27%).

According to the survey, a better packaging and better advertisements are the factors that may least contribute to the shift in the choice of food products by the respondents. Based on the survey results, one can conclude that implementing such a non-price factor affecting the consumer's choice of food products as marketing activities might not lead to the expected result. Given the fact that the consumers are ready to change their consumption habits owing to better taste as well as more natural raw materials used in production, the most effective marketing activities could be product tasting as well as informative campaigns about the product's raw materials and ingredients.

The availability of domestic food at the sales sites is also a significant factor affecting the choice of food that may contribute to or, vice versa, hinder the formation of consumer loyalty to particular food products. Therefore, a study on the availability of products at retail stores was conducted to find out the proportion of domestic products for various product groups (Figure 4.). In total, 10 small self-service stores in Jelgava city and Dobele town and in the municipalities of Jelgava and Bauska were studied by the authors. At these stores, the average proportion of food goods produced in Latvia was equal to 56%. The highest proportion of domestic food products, according to the study, was identified at ELVI stores, followed by the stores of AIBE, VESKO, and LATS. The assortment policy within a retail store network may differ, which is evidenced by the study in which several stores of a retail network were examined by the authors.



*Source: authors' construction based on the survey within the CACI project, 2013*

**Fig.4. Proportion of food products manufactured in Latvia for various food groups at self-service stores in Latvia in 2013**

Among various groups of food products, the highest proportion of domestic goods was observed for wheat flour (82%), while the proportions of domestic products for the groups of fish, dairy, and meat products were similar, ranging from 62% to 65%. The lowest proportion was observed for the group of beverages, which was caused by the low proportion of domestic products for the group of distilled alcoholic drinks.

The study of the assortments of small self-service stores shows that price and other factors have large impacts on the choice of products available at retail stores, while lobbying domestic producers is a policy of only few retail networks.

A greater proportion of domestic goods at small self-service stores might be observed for:

- groups of products with shorter expiry periods (for instance, dairy products);
- products with a high unit weight and a low value-added (for instance, flour, drinking water);
- traditional Latvian products (for instance, rye bread, beer, smoked meat, canned fish);
- products of industries with a historically strong production basis in Latvia (for example, juices, drinking water, beer, canned fish).

For some groups of food products, in contrast, the availability of domestic products is quite limited (for instance, canned fruits and vegetables, lemonades, biscuits, wafers, vodka), and the formation of consumer loyalty to domestic products is accordingly problematic.

### **Conclusions, proposals, recommendations**

1. The consumer's choice of food as a specific group of products is affected by many and various factors of biological, economic, and social nature. Yet, increasingly greater effects are made by the so-called sustainability factors, including consumer loyalty to domestic food producers.
2. Consumer behaviour studies conducted in the world suggest that the main factor affecting the choice of food by consumers is taste and other quality characteristics, and only then followed by price. In contrast, consumer studies conducted in Latvia indicate that the key factor is the price of food products.
3. Given the fact that the food industry is oriented towards the domestic market, it is important for Latvia's producers to gain and retain the loyalty of consumers in order to increase their sales and their competitiveness on the domestic market.
4. Consumers often associate the place of origin of food with particular food producers and favourite products; thus, the place/country of origin is viewed through the producer prism.
5. The loyalty of Latvia's consumers to particular brands or producers is higher than on average in Europe. According to the survey of consumers, higher consumer loyalty to particular producers as well as higher behavioural loyalty may be observed for dairy products, bread and grain products as well as meat products.
6. For domestic food producers, it is important to gain and retain the loyalty of consumers to the groups of food products that present higher consumer loyalty indicators. In contrast, for the groups of food products with lower consumer loyalty to particular brands, the main competitive advantages relate to a lower price or higher quality.
7. A significant consumer loyalty factor is the availability of products of domestic producers at sales sites, as the highest proportion of domestic goods was observed for the groups of dairy, meat, and flour products at the studied retail stores of Latvia.
8. To stimulate the sales of food products and the formation of consumer loyalty, product's tasting as well as informative campaigns about the product's raw materials and ingredients have to be held, as they are the main factors that can affect the loyalty of consumers to traditional food products.

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## **REGIONAL DIFFERENCES ON ENTREPRENEURS' MOTIVATION TO START BUSINESS**

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**Abstract.** Motivating factors of willingness to start business are analysed around the globe in different parts of the world, in different countries; and even in different regions of one country; the results differ. The aim of the current paper is to analyse the results of motivating factors of new business starters in Latvia. The present research uses the same motivating factors as in the research performed in the USA, Canada, and Mexico. The comparisons with other countries are used as well. The survey (conducted at the end of 2013) of starting entrepreneurs is used as an empirical research method. The evaluation scale for evaluation of different motivation aspects is in the range from one to five, where one is the lowest evaluation and five is the highest evaluation for each of the factors. The authors used indicators of descriptive statistics and methods of statistical hypothesis testing for the survey data analysis. For the data processing, one of multivariate statistical methods - factor analysis is used to indicate the complex factors and compare them with the results obtained in other countries. The results of the research indicated that the evaluations of motivation factors are very high for new business starters in Latvia but the average evaluations differ within the regions of Latvia. In general, they correspond with the results in other countries.

**Key words:** business start, motivating factors, entrepreneurs.

**JEL code:** M13; M54; D20

### **Introduction**

Entrepreneurship is one of the driving forces for the economic development, thus, different aspects of entrepreneurship are covered in research worldwide including motivation to start business. The data of the statistical register of Latvia (Lursoft – the Enterprise Register of the Republic of Latvia, 2014) has shown that the number of newly founded businesses during the past two years has increased approximately by 3.1% in 2013 in comparison with 2012 and by 9.3% in comparison with 2011. This article investigates the motivation of entrepreneurs to create new companies. The empirical research is based on the survey of starting entrepreneurs. This approach is based on the research performed in the

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USA, Canada, and Mexico by initiative of Canadian researchers to compare results in different countries. The present research uses the same motivating factors that were used for the research in the USA, Canada, and Mexico. Comparisons with other countries are used as well. The survey of starting entrepreneurs is used to have opinions of new business starters in Latvia and to compare results with the results in other countries and regions of Latvia. The evaluation scale for evaluation of different motivation aspects is set in range from 1 to 5, where 1 is the lowest evaluation and 5 is the highest evaluation.

### **Theoretical background**

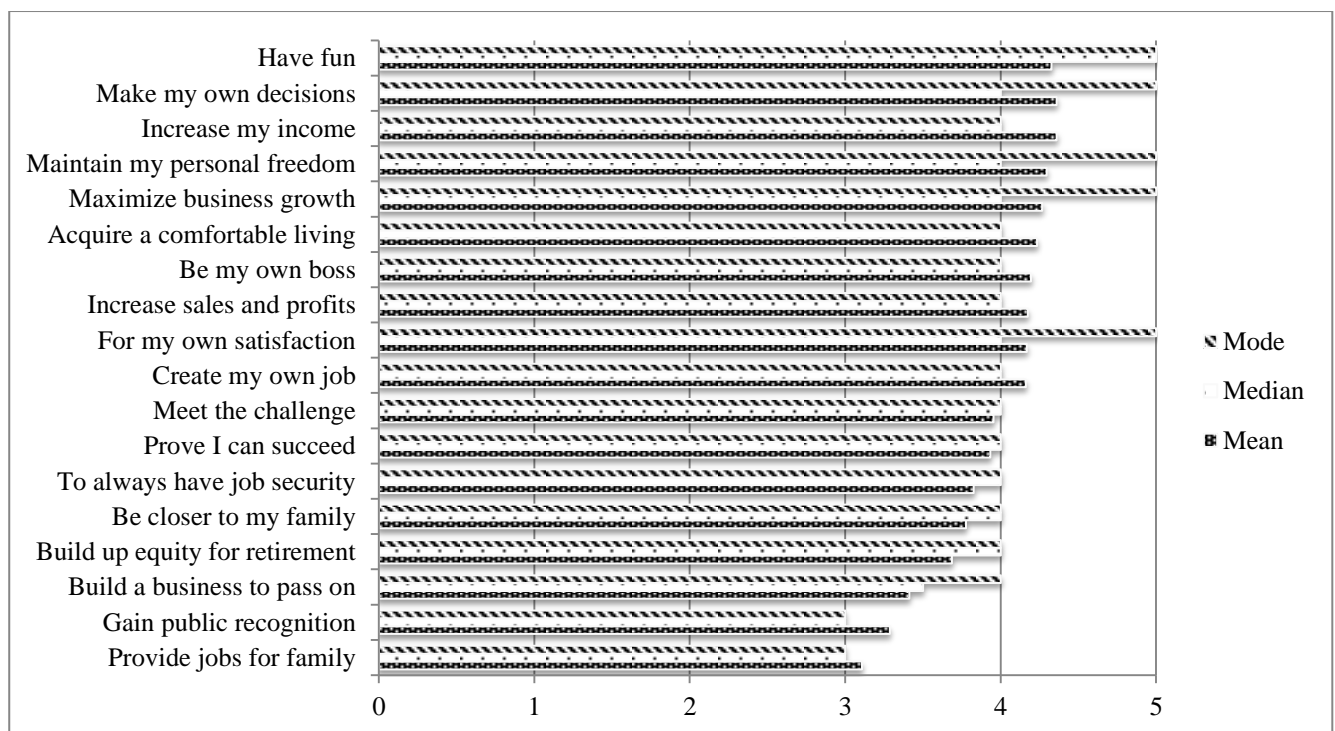
Academic research on business start has been performed around the globe, as this is one of the most important issues for the economic development. The factors affecting success in business, i.e. many management theories and tools, have been examined versus practicing changes (Makridakis, 1996). Regarding the influence of motivation and environment on business start-ups, some hints for public policies have been examined and evaluated to find the best practical and applicable recommendations (Dubini, 1989). Andrea N. Kiss, David W. Williams, and Susan M. Houghton, the researchers from the Netherlands have researched details of risk bias and the link between motivation and new venture post – entry international growth (Kiss et al., 2013). The researchers from Canada and the Netherlands have evaluated the entrepreneurs' mode of entry, business takeover, or new venture start (Parker et al., 2012); whereas, the motivation to start or not to start the business has been researched by scientists from the United States (Townsend, 2010). Gavin Cassar, a French researcher (Cassar, 2014) has researched new firm performance. Moreover, the researcher group from Canada, the United Kingdom, and Belgium has made investigations and comparisons of motivation factors of new business start in different countries (Clrerq et al., 2012). Virginia Barba-Sanchez and Carlos Atienza-Sahuquillo have examined 101 entrepreneurs – company founders and have evaluated different aspects of entrepreneurs' motivation to start a business as well as they have established that making money or being one's own boss does not appear to be sufficient reasons to create a new venture (Barba-Sanchez and Atienza-Sahuquillo, 2012). The key factors motivating tomorrow's workforce are covered in the research by studying the indicators of workforce (Latham & Ernst, 2005). The questions on importance of entrepreneurial goals and resource allocation in new owner-managed firms have been on the research agenda for many researchers who have found different approaches (Dunkelberg et al., 2013). Many researchers have studied the issues of gender influence on business start-ups and women business owners in traditional and non-traditional industries. The studies have investigated the issues of those women entrepreneurs who have made a change from employment to small and medium business ownership and challenges in those aspects as well as linking family-to-business enrichment and support to entrepreneurial success. Many researchers' studies have tried to answer the research question whether female and male entrepreneurs experience different outcomes (Anna et al., 2000; Xavier et al., 2012, Powel and Edellston, 2013). Different approaches and success stories of small business financing have been analysed and some recommendations suggested for better solutions (Vos et al., 1999). International commitment, post-entry growth, and survival of international new ventures are the topics of the research agenda for several researchers (Sleuwaegen et al., 2014). Several methods have been applied for researching of start-ups, including the use of personality and the five-factor model to predict



new business ventures from outplacement to start-up (Wooten et al., 1999) and the use of empirical investigation of competency factors affecting e-business success in European SMEs (Elkebrokk and Olsen, 2007). Moreover, a study has been carried out on investigation of innovation and SMEs exploring perspectives and goals among entrepreneurs and academics (Masa and Testa, 2008).

**Research results and discussion**

A survey of starting entrepreneurs was conducted in 2013 to compare the motivation factors of business start in different countries. The average evaluations (arithmetic mean, mode, and median) are reflected in Figure 1.



Source: authors' construction based on the entrepreneurs survey in October - December 2013 (n=150)  
Estimation scale 1 – 5 (where 1 – not significant, 5 – very significant)

Fig. 1. Entrepreneurs' average assessments of the significance of motivation variables in business start in Latvia

Statistical indicators of motivation statement evaluations are reflected in Table 1.

Table 1

**Statistical indicators of motivation variables' significance**

Motivation variables	Mean	Std. Error of Mean	Median	Mode	Std. Deviation	Range	Minimum	Maximum
Make my own decisions	4.36	0.055	4	5	0.668	3	2	5
Acquire a comfortable living	4.23	0.058	4	4	0.709	4	1	5
Build up equity for retirement	3.69	0.084	4	4	1.024	4	1	5
Maximise business growth	4.27	0.070	4	5	0.857	4	1	5
Meet the challenge	3.95	0.079	4	4	0.972	4	1	5
Prove I can succeed	3.93	0.084	4	4	1.034	4	1	5
Create my own job	4.16	0.072	4	4	0.878	4	1	5
Increase sales and profits	4.17	0.065	4	4	0.801	4	1	5
Be my own boss	4.19	0.068	4	4	0.836	4	1	5
Increase my income	4.36	0.053	4	4	0.648	3	2	5
Gain public recognition	3.29	0.087	3	3	1.064	4	1	5
Provide jobs for family	3.11	0.091	3	3	1.116	4	1	5
For my own satisfaction	4.17	0.073	4	5	0.888	4	1	5
To always have job security	3.83	0.086	4	4	1.048	4	1	5
Build a business to pass on	3.41	0.092	3	4	1.124	4	1	5
Maintain my personal freedom	4.30	0.068	4	5	0.834	4	1	5
Be closer to my family	3.78	0.089	4	4	1.081	4	1	5
Have fun	4.33	0.067	5	5	0.823	4	1	5

**Source: authors calculations based on the entrepreneurs' survey in October - December 2013 (n=150) Estimation scale 1 – 5 (where 1 – not significant, 5 – very significant)**

The authors have used factor analysis for identifying the key factors that motivate entrepreneurs to start business and determining the mutual statistical relations of the factors. After factor analysis, the initial 18 factors through six iterations (by using the Varimax rotation with Kaiser Normalisation) of principal component analysis were grouped into six complex factors (Table 2).

Table 2

**Analysis of motivation factors in Latvia**

(Complex factors' matrix after rotation)

	Factors					
	F1	F2	F3	F4	F5	F6
Be my own boss	<b>0.866</b>	0.068	0.010	-0.011	-0.007	0.170
Create my own job	<b>0.802</b>	0.215	0.140	0.014	0.229	0.067
Make my own decisions	<b>0.614</b>	-0.056	0.091	0.253	0.082	0.109
Provide jobs for family	-0.014	<b>0.790</b>	0.063	0.050	-0.050	0.228
Build a business to pass on	0.075	<b>0.732</b>	0.286	0.021	0.329	-0.021
Be closer to my family	0.152	<b>0.715</b>	-0.096	0.323	0.125	0.092
To always have job security	0.426	<b>0.543</b>	0.116	-0.220	0.196	0.083
Prove I can succeed	0.198	0.185	<b>0.821</b>	0.040	0.001	0.003
Gain public recognition	-0.072	0.028	<b>0.763</b>	0.036	0.068	0.060
Meet the challenge	0.087	-0.004	<b>0.687</b>	0.228	0.270	0.129
Have fun	0.060	0.040	0.102	<b>0.814</b>	0.130	0.165
For my own satisfaction	0.086	0.091	0.416	<b>0.674</b>	0.169	-0.005
Maintain my personal freedom	0.520	0.243	-0.186	<b>0.522</b>	0.025	0.040
Increase sales and profits	0.275	0.250	0.080	0.047	<b>0.809</b>	0.037
Maximize business growth	0.006	0.081	0.254	0.279	<b>0.773</b>	0.102
Acquire a comfortable living	0.165	0.037	0.060	0.249	-0.074	<b>0.758</b>
Build up equity for retirement	0.035	0.245	0.267	-0.042	0.017	<b>0.702</b>
Increase my income	0.201	0.079	-0.146	0.013	0.347	<b>0.653</b>

Extraction method: principal component analysis

Rotation method: Varimax with Kaiser normalisation

a. Rotation converged in 6 iterations.

**Source: authors' calculations based on the entrepreneurs' survey in October - December 2013 (n=150)**  
**Estimation scale 1 - 5 (where 1 - not significant, 5 - very significant)**

The interpretation of the identified complex factors with regard to the indicators with which the initial indicators have relatively high burdens:

- 1) the complex factor F1: independent entrepreneurial activities - the factor has relatively high burdens on the following motivation variables: to be my own boss; to create my own job; to make my own decisions;
- 2) the complex factor F2: job to support family - the factor has relatively high burdens on the following motivation variables: to provide jobs for family; to build a business to pass on; to be closer to my family; to always have job security;
- 3) the complex factor F3: personal motivation of realisation - the factor has relatively high burdens on the following motivation variables: to prove I can succeed; to gain public recognition; to meet the challenge;
- 4) the complex factor F4: personal job satisfaction - the factor has relatively high burdens on the following motivation variables: to have fun; for my own satisfaction; to maintain my personal freedom;

5) the complex factor F5: profit generation factor - the factor has relatively high burdens on the following motivation variables: to increase sales and profits; to maximise business growth;

6) the complex factor F6: income factor - the factor has relatively high burdens on the following motivation variables: to acquire a comfortable living; to build up equity for retirement; to increase my income.

The authors checked entrepreneurs' average evaluation of two motivation variables in different statistically significant regions of Latvia. The motivation variables - "to build up equity for retirement" and "to always have job security" were significantly different in Riga and Kurzeme regions (Mann-Whitney test:  $z = -2.141$ ,  $p=0.032$ ;  $z = -1.888$ ,  $p=0.050$ ). The main calculation results of the analysis of motivation factors (to build up equity for retirement and to have always job security) are reflected in Table 3.

Table 3

**Mann-Whitney test**

	<b>Build up equity for retirement</b>	<b>Always have job security</b>
Mann-Whitney U	1214.500	1262.000
Wilcoxon W	2925.500	2973.000
Z	-2.141	-1.888
Asymp. Sig. (2-tailed)	0.032	0.050

**Source: authors' calculations based on the entrepreneurs' survey in 2013 October - 2013 December (n=112) Estimation scale 1 - 5 (where 1 - not significant, 5 - very significant)**

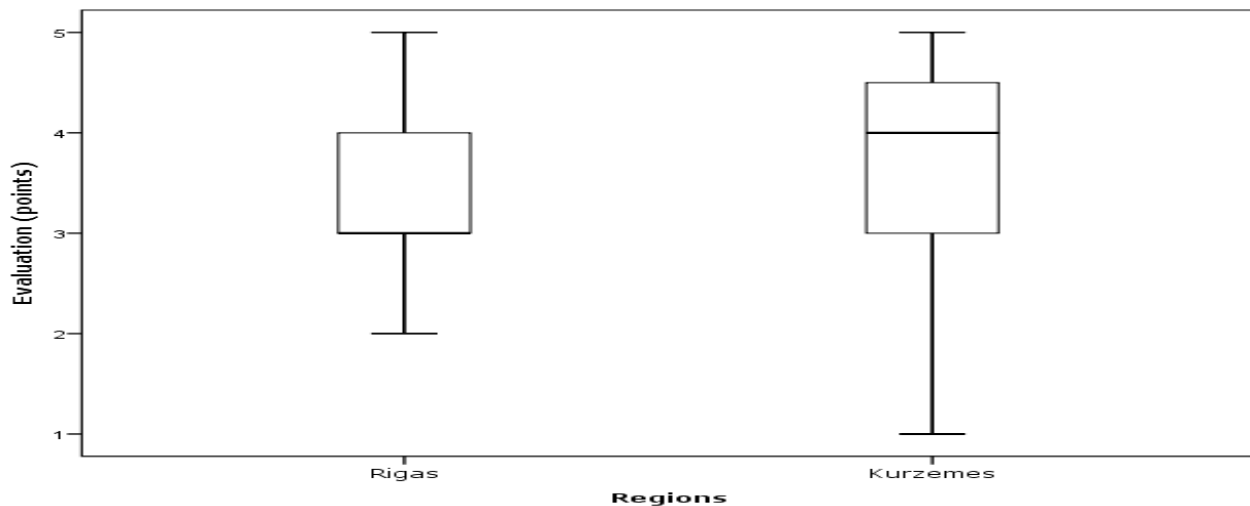
Figure 2 reflects the average evaluations and the variability of evaluations of new business starters regarding their willingness to have job security.



**Source: authors' construction based on entrepreneurs' survey in October - December 2013 (n=112) Estimation scale 1 - 5 (where 1 - not significant, 5 - very significant)**

**Fig. 2. Assessment of the significance of the motivation variable "to always have job security" in the regions of Riga and Kurzeme in Latvia**

The evaluations of the statements claimed by business starters regarding their willingness to have job security are higher in Kurzeme region in comparison with Riga region but the variability of evaluations in Riga region greatly differ in comparison with Kurzeme region. The average values of evaluations and the variability of evaluations of new business starters are reflected Figure 3.



**Source:** authors' construction based on entrepreneurs survey in 2013 October - 2013 December (n=112). Estimation scale 1 – 5 (where 1 – not significant, 5 – very significant)

Fig.3. **Assessment of the significance of the motivation variable "to build up equity for retirement" in the regions of Riga and Kurzeme in Latvia**

The evaluations of the statement claimed by business starters regarding building up equity for retirement are higher in Kurzeme region in comparison with Riga region and the variability of evaluations in Kurzeme region greatly differ. The main statistical indicators of evaluations of new business starters are reflected in Table 4.

Table 4

**Statistical indicators of motivation variables "to build up equity for retirement and "to always have job security" significance**

Statistical indicators	Build up equity for retirement		Always have job security	
	Riga region	Kurzeme region	Riga region	Kurzeme region
Mean	3.46	3.90	3.64	4.06
Standard Error of Mean	0.151	0.120	0.160	0.127
Median	3	4	4	4
Standard Deviation	1.128	0.855	1.197	0.904
Range	4	4	4	4
Minimum	1	1	1	1
Maximum	5	5	5	5

**Source:** authors' calculations based on the entrepreneurs' survey in October - December 2013 (n=112) Estimation scale 1 – 5 (where 1 – not significant, 5 – very significant)

The evaluations of the future material security for starting businesses are covering a full range of the evaluation scale but average evaluations are higher in Kurzeme region in comparison with Riga region.

## Conclusions

1. Latvia has big challenges for starting new businesses as, in general, new business starters in Latvia are less than in other countries, and many companies are closed down in the first years of operation.

2. Generally, motivating factors of starting a new business vary within different countries, especially within different parts of the world.

3. In Latvia, new business starters most of all are willing to have fun (gave higher evaluations) than are willing to make own decisions and only then to increase income.

4. The complex factors of factor analysis on new business starters in Latvia are independent entrepreneurial activities, job to support family, personal motivation of realisation, personal job satisfaction, profit generation factor, and income factor.

4. The evaluations of starting entrepreneurs regarding their motivating factors differ among the starters in Latvia, but average values (arithmetic mean, mode, and median) of all the evaluated factors are rather high in comparison with evaluations in other countries. Moreover, the variability of responses (especially in Riga region) varies within different regions of Latvia.

5. It is necessary to perform a more detailed analysis for comparison of different regions of Latvia.

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**POSSIBILITY OF APPLYING MODERN FORMS OF COMMUNICATION OF  
AGRITOURISM FARMS WITH ENVIRONMENT GROUPS**

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**Abstract.** Modern tools of communication in the promotion of agritourism farms seem to be an indispensable element in the strategy to reach potential clients. Well-designed web pages are not enough, not to mention other traditional tools of communication. One possibility is the skillful use of the potential of social media. The article presents social networking sites as an important communication tool between agritourism farms and the environment groups. The study used omnibus quantitative research carried out by the Public Opinion Research Centre (CBOS) and research conducted by MEGAPANEL PBI/GEMIUS. Agritourism business just like any other business activity has to be promoted in a continuous and a well-planned way. Recommendation of satisfied clients is not enough if an agritourism businessperson wants to achieve good financial results. The presence in social media can be a huge opportunity to become known among its users - potential clients. Especially that according to the research, the number of social networking sites' users has increased in the past five years by almost 12 million. Only 57.5% of Internet users visited a social networking site in 2006. In January 2011, more than 99%, so virtually every Internet user was a guest on the pages of social networking sites<sup>2</sup>. The most popular social networking sites in Poland are: YouTube, Facebook, and Our Class (NK). In October 2011, 12.3 million people visited YouTube, nearly 11.8 million people used Facebook, which gave it the range of 62%. NK portal had the range of 58% at that time and over 11 million users<sup>3</sup>.

**Key words:** social media, prosumer, promotion, agritourism farm.

**JEL code:** M3

**Introduction**

Internet has become the main tool of communication and gathering information. Forums, blogs discuss products, brands and companies. They considerably influence customers' purchasing decisions and their attitudes. Online communities have different functions. Initially their aim was to entertain, help in the search for school friends or a partner, socialise or facilitate the discussion. Consumers learned quickly to exchange independent experiences about products and services. The aim of this paper is to recommend social networking sites as an important tool of communication used by agritourism farms with people from the environment. It was assumed that the use of social media could be an effective tool for the promotion of agritourism farms. The potential of the Internet users is invaluable. It is much easier to reach potential agritourism farms' customers instead of using traditional communication channels. The article was written to recommend social media to agritourism farms.

**Methodology**

The study used omnibus quantitative research reports carried out by the Public Opinion Research Centre (CBOS) on 5-11 May 2011 (N = 1189) and 30 June - 6 July 2011 (N = 1080). The study population comprised a representative sample of adult Poles. In addition, a study carried out by

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<sup>2</sup> Polish Internet Research, Megapanel PBI/Gemius, Internet users aged 7+, I 2011

<sup>3</sup> Megapanel Polish Internet Research/Gemius, October 2011. The number of respondents: N=12 771. The group included in the research 7+)



MEGAPANEL Polish Internet Research/GEMIUS was used in the research. This study is a standard measurement of websites audience ratings in Poland. The study covered about five thousand Polish and foreign Internet websites. Polish Internet Research POLL "PRIVACY AND SELF-IMAGE" – a survey conducted by the Polish Internet Research (PBI) on, a representative for the Internet users in Poland, sample of 510 Internet users aged 18-54 years. The omnibus research was completed in January 2011 among the registered participants of IMAS OnLine panel ([www.imasonline.pl](http://www.imasonline.pl)). Gemius S.A. Internet Standard "Internet users versus Social Media and Social Commerce" is a study conducted in Poland on a representative group of 1701 Polish Internet users aged 15 years and more. The study was conducted in the form of a questionnaire with 23 questions on 30 November - 3 December 2010.

### **Agritourism farms in Poland**

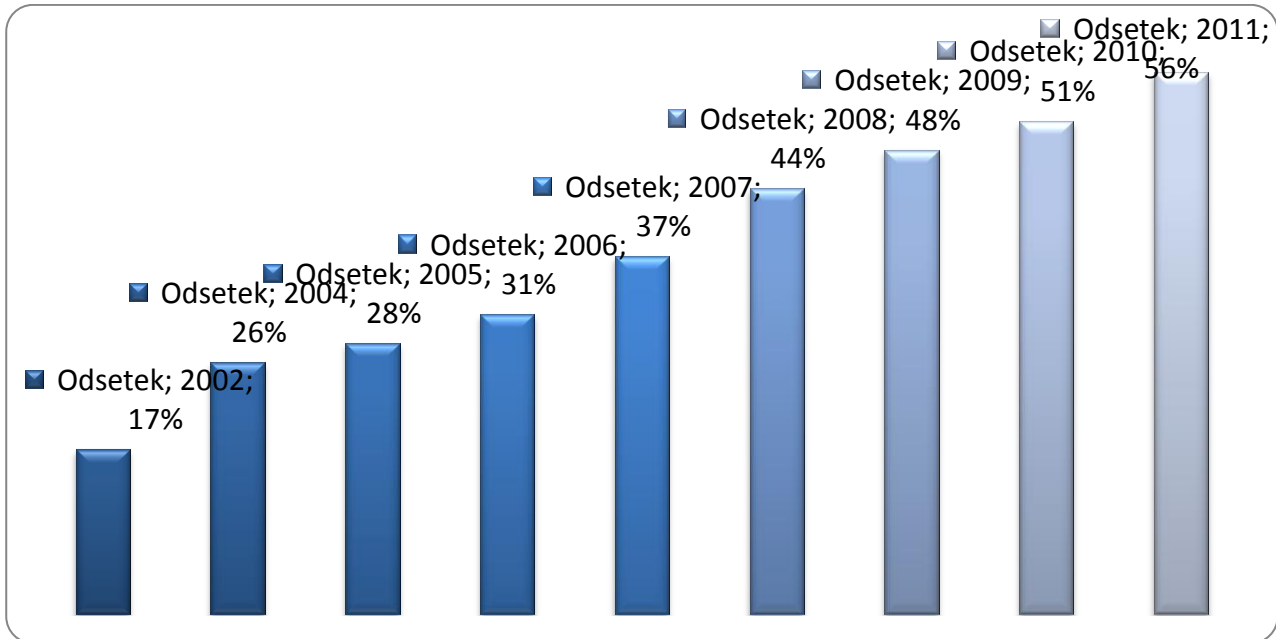
The concept of an agritourism farm appeared towards the end of the 20<sup>th</sup> century in Polish literature. It was created as a merger of two words: agri and tourism. The prefix "agri" is derived from the Greek term meaning agros and agronomos relating with the management of agricultural assets (Sznajder L., Przezborska L., 2006). The agritourism farm is a place based on active farm. The discussed business activity in Poland is an additional source of income. Rural tourism is gaining a large group of followers who fulfil their needs in the following way (Majewski J., Lane B., 2003):

- spending holidays away from the main tourist centres and preferring independent form holidays;
- various types of leisure and opportunities to develop special interests offered in rural areas;
- individual, independent travel in order to discover previously unknown places and buildings.

The available data gathered from the Institute of Tourism shows that in 2002 there were 5523 agritourism farms and 8790 farms in 2007. Their number is different in each province. Most agritourism farms are situated in the province with the richest tradition of summer resorts, i.e. Lesser Poland. The CSO data for 2011 show that the number of agritourism farms decreased to 7852 entities in comparison with 2007. In 2010, there were 9017 agritourism farms. The largest share in the discussed market comprises farms with an area of 5-10 acres, and the smallest share farms - over 100 hectares (Balinska A., Zawadka J., 2013).

### **The characteristics of Internet users in Poland**

In 2011, more than half of adult Poles (56%) used the Internet. Over the ten years, the percentage of Internet users has increased by almost 40 percentage points (Figure 1). This is extremely valuable information for all those who want to have a good rapport with the environment groups.



**Source:** Public Opinion Research Centre a survey on a representative sample of adult Poles 5-11.05.2011 (n = 1189) and 30.06-6.07.2011 (n = 1080)

Fig. 1 Internet users in 2001-2011, %

Most of the users of the Internet were people professionally active. In the analysed occupational groups, the biggest group of Internet users comprised learners, up to 99% of pupils and students. Another large group comprised senior executives and specialists with higher education (97%). Urban dwellers used the Internet more frequently (over 63%) than rural area residents (45%)<sup>4</sup>. Therefore, it is urban dwellers that should be seen as a target group of agritourism farms.

People aged 18-34 years used the Internet most intensively because according to the survey, they spent as many as 14 hours per week. People over 35 years used the Internet less by 4.5 hours on average than the younger users, i.e. about 9.5 hours a week. To sum up, Internet users spent 15 hours a week on average, so it is 1 hour and forty minutes per day. The research carried out, showed that nearly 95% of the users used the Internet at home, 41% at work and at school. It is worth mentioning that mobile services are growing rapidly in Poland. More than half of Internet users used wireless Internet (55%), the result is 10 percentage points higher than in 2010. Undoubtedly, so dynamic growth of mobile services was because the scope of other technologies is limited in Poland as well as the fact that mobile services are becoming cheaper, and the development of technology allows to receive data transfer similar to broadband Internet. Not without significance is the fact that mobile devices with the Internet access, such as laptops, netbooks, and tablets have become cheaper and more accessible to the average Pole.

### Social media in Poland

The number of social networking sites' users has increased in the past five years by almost 12 million. Only 57.5% of Internet users visited a social networking site in 2006. In January 2011, more than 99%, which is virtually every Internet user, was a guest on the pages of social networking sites<sup>5</sup>.

<sup>4</sup>Public Opinion Research Centre did a survey on a representative sample of adult Poles 5-11 May 2011 (n = 1189) and 30 June-6 July 2011 (n = 1080)

<sup>5</sup> Polish Internet Research, Megapanel PBI/Gemius, Internet users aged 7+, I 2011

The respondents also stated that they often had an account on nk.pl (78%) and facebook.pl (68%). Other social networking sites cannot be taken into account, since the level of their popularity diverged significantly from the leading portals and rarely exceed 10%<sup>6</sup>. This is a clear indication where specific groups of customers can be found.

The most popular social networking sites in Poland include: YouTube, Facebook, and Our Class (NK). In October 2011, 12.3 million people visited YouTube, nearly 11.8 million people used Facebook, which gave it the range of 62%. NK portal had the range of 58% at that time and over 11 million users<sup>7</sup>.

The data are dynamically changing. According to Megapanel / Polish Internet Research data for September 2010 and the research carried out in September 2010, 12 million people visited nk.pl portal that gave it the range of 67%. Facebook, at that time, had only the range of 45% and its community was little more than 8 million people. The number of Facebook users increased by 5.7 million people in Poland in September 2009. The result is impressive and demonstrates the immense popularity and capabilities of the portal.

Internet users, in the study by Gemius, were asked about the time they spent on social networking sites. Over 60% of respondents spent there an hour per day, 27% of respondents from one to four hours, and only 5% more than 4 hours<sup>8</sup>.

The reasons for the respondents to visit social networking sites were different. Most of all, they wanted to maintain contact with friends from work and school. The respondents also admitted that they had read willingly the posts published by others and had written comments about them. Fewer people made friends through social networking sites, fewer were interested in games and quizzes as well as fewer wanted to inform their friends about the events of the respondents' lives<sup>9</sup>.

In the same study, conducted by Gemius, the respondents were asked how they got to know about a certain brand or company profile, which they added to their group of friends or they became a fan. The research showed that it was men who got to the social networking sites by the company's website. In the survey, Internet users indicated that they learned about official brand profiles on social networking sites by using the search engines available (25% of the respondents), 18% indicated that their friends recommended the brand profiles, 17% of the respondents indicated that from the brand's official website and the same percentage that from the brand's representative. Mailing advertising was indicated by 12% of respondents.

The respondents who added brands and companies to their friends became friends for various reasons, namely, 50% of the respondents indicated attachment and habit, while 43% of the respondents declared willingness to track current events connected with the company. The opportunities to participate in

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<sup>6</sup> Polish Internet Research survey, all the respondents N=510, March 2011

<sup>7</sup> Megapanel Polish Internet Research/Gemius, October 2011. The number of respondents: N=12 771. The group included in the research 7+)

<sup>8</sup> Gemius SA, Internet Standard; "The Internet Users versus Social Media and Social Commerce", December 2010. Base: the respondents who visited social networking sites, where they have their account, at least once a week in the last three months, N=1075

<sup>9</sup> Gemius SA, Internet Standard; "The Internet Users versus Social Media and Social Commerce", December 2010. Base: the respondents who visited social networking sites, where they have their account, at least once a week in the last three months, N=1075

contests, awards as well as the ability to participate in discussions and express their opinion appeared to be a strong motivation.

The question whether you are a fan of several competing brands divided loyal and less loyal fans into two almost equal groups, namely, 37% of the respondents were loyal to one brand. The fans of more than one brand created a group of 40%, while 23% of the respondents could not answer this question. It could mean that for this group of people, loyalty to one brand or the company did not have the slightest importance.

The survey shows that Internet users expected information about new products, special offers and discounts from the official brand/company profile. They searched for photos and multimedia materials, discussions on products or services. It should be noted that only 14% of respondents looked for games and applications on companies' profiles.

The fact of being a fan of a company or a brand did not mean that the respondents bought their favourite brands' products more often, which was confirmed by nearly 60% of the respondents. A little more than 40% admitted that they actually bought products of brands/ companies they were fans. More than 54% of the respondents declared that the fact of being a fan of a certain brand or a company made them recommend the products to their friends.

### **A dialogue with communities in tourism**

Communication on the Internet constantly undergoes the process of transformation. Initially, it was confined to e-mails, the next step were forums, then instant messaging, blogs. Currently, the virtual communities are the fastest growing form of communication on the Internet. The business world is not indifferent to them and it sees a great chance for itself to communicate with its consumers. Andrew Jaszczek stated in the debate - Effective Marketing on social media platforms Harvard Business Review Poland "Social platforms may be the place of effective contact with customers. However, this requires companies to have greater knowledge about the Internet communities, and the platforms gathering them. The behaviour of the users of such services, their expectations and reactions are still different from the responses of classic groups of consumers on the market" (Piskorski J., 2010).

Internet does not know any boundaries, thus, it helps exchange opinions on every subject including products and services. Agritourism farms, which do not use the opportunity to communicate with their customers, are convinced that if they were not part of the communities then there are no conversations about them. Nothing could be further from the truth because there is usually a group of people who takes up this dialogue. The public is able to mobilise and integrate at a time when the need arises. The existence of social media is a great opportunity for small and medium-sized enterprises located in rural areas, including farm tourism. Social media (SM) tools can affect the sales of the product by, among other, creating potential and gaining new clients, increasing sales by improving access to customers' feedback about products and services. If one analyses the benefits, e.g. for tourists enjoying the charms of the country, it will be important to give an account of their stay, making suggestions and giving new ideas related with running agritourism farms.

Nowadays, when the market is rapidly changing and the competition is increasing, more and more tourists who make decisions about choosing a holiday destination and the purpose of travel, become interested in the individual offerers and their actions. Public interest in the functioning of the supply in

tourist services makes companies take action to create a positive image (Jaska E., Skoczek T., 2013). The ability to build easily a community around a brand or a product, a relatively large range and relatively low cost are the reasons why it is worth engaging in a dialogue with communities online. Despite, the relative user-friendliness of social networking sites, few agritourism farms decide to take such a step. They should, thus, consider creating a fan page because it is a fast way to advertise a product or a brand at little amount of work. Polish prosumers <sup>10</sup> are also very active on corporate blogs and thematic forums. Crowdsourcing, i.e. gathering the ideas from "the crowd", can also be used. Giving the opportunity to comment on the product is an extremely valuable source of information, provided that we are prepared for different opinions both positive and negative.

Using prosumption in business, namely tourism, requires a lot of consequence. The dialogue needs to be continued. Openness to criticism is an additional source of knowledge about the product and the market needs and in fact can be turned into a successful sale and customer loyalty. All the market participants should be aware that a modern consumer often becomes, not always consciously, a prosumer. Often a single voice of the recipient can be decisive for the receipt of information by the users of SM. If the relation is guided properly, the company can win its ambassador, who will build a positive image. If improperly, it will create an enemy who will try to discredit a company or a brand.

The emergence of new media and social networking, together with the character and habits of a modern prosumer, makes fundamental changes to be introduced in marketing communication and the way it is perceived as well as changes in dealing with customers marketing message and verifying the understanding of the function of the sender and recipient of messages. The traditional methods of promotion, branding and creating customer loyalty lose their importance for new solutions, where the pace of change needs to keep up with the innovation of the modern consumer (Kachniewska M., 2013).

## **Conclusions**

Agritourism, just like any other business activity, should be promoted in a continuous and planned way.

The research has shown that the contractors use only the following forms of promotion: Internet web pages, information on a board to a household, leaflets given by tourist offices, associations, agritourism associations, or promotion during domestic or foreign fairs (Jaska E., Skoczek T., 2013). It is not enough to be recommended by satisfied clients if you want to achieve satisfactory income from agritourism. The presence in social media can be a great opportunity to appear among its users - potential clients.

Prosumer can act as the best brand ambassador who with his enthusiasm and knowledge will encourage others - in the end the customers will trust more a private person than advertising, often perceived as "too intrusive". Prosumer can also be the greatest curse because offensive attack on the brand can destroy a reputation built over the years. Marketers should, thus, do everything to exploit

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<sup>10</sup> Prosumer, a term introduced in the late 1970s by Aliva Toffler, a writer and a futurist. A prosumer is someone more than a consumer. It is a person who has got broad knowledge about products or services of their favourite brand and shares with the knowledge. It is somebody who wants to participate actively in creating products and services of the brand, and somebody who is more aware while doing the shopping. In other words, a prosumer is an active consumer who is not only a passive recipient of promotion materials, after: <http://www.internetstandard.pl/news/136802/Prosument.czyli.aktywny.konsument.html>

positively the potential of this narrow but influential group of people. According to various estimates, prosumers comprise from several percent to double figures of customers and their purchasing decisions have an impact on the decisions of others<sup>11</sup>.

However, one has to bear in mind that social media gives agritourism farms a chance of active promotion. There is a conviction that every sender of the message on the network expects an answer from the receiver. If somebody who runs an agritourism farm begins this dialogue, it cannot be left without the answers and specific monitoring. Social media is currently developing a marketing innovation environment that should be taken into account as a host in agritourism.

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## **2. Rural Development and Entrepreneurship**

**CONDITIONING OF MILK MARKET DEVELOPMENT IN POLAND WITH  
PARTICULAR REGARD PAID TO PRICE VOLATILITY**

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**Abstract.** The aim of the paper was to recognise price efficiency of milk and its products in Poland. The authors used data from the Main Statistical Office in Poland and the USDA data. The authors used statistical methods to measure the changes of prices. The authors presented a spatial differentiation of milk production in Poland. The highest production was observed in Mazowieckie province (543.42 thousand cows) in 2010 and Podlaskie province (457.68 thousand cows in 2010). The authors found the decrease in the number of cows and total milk production in Poland and the increase of milk yield per unit. The price of milk and milk products changed in the years 2003-2013. The prices of milk products were more volatile than the farm milk price. Therefore, the authors can conclude that milk products' volatility depends on the market conditions, whereas, system intervention and milk quotas reduce the volatility of the farm milk prices. The price of milk depended on the price of milk products.

**Key words:** milk market, price volatility, milk, efficiency.

**JEL code:** Q11, Q14

### **Introduction**

Dairy cattle provide a variety of valuable food products. Milk and dairy products can provide essential nutrients needed for proper development. One of these components is a protein called casein, a basic building block that is indispensable in the diet of each individual. Raising cattle for milk production is an important part of the agricultural economy of numerous countries. Raw milk is a valuable raw material in the manufacturing of various dairy products, creating food-processing employment, often in rural areas.

According to Majewski E. et al. (2007), Polish farms specialising in milk production had a slightly lower income than households with different specialties did. Nevertheless, dairy farms had less risk of loss. The reason for this stability was that the farm milk price was very stable. However, it changed in 2007.

According to Koloszycz E. (2012), one problem affecting milk producers is the continuing price volatility. It is essential for dairy farms to have a financial stability, because milk production is continuous, milk must be marketed immediately, and farms cannot change production levels easily or quickly.

The ratio of agricultural output prices to costs incurred for production determines the degree of profitability of production in agriculture and farm income. Often farmers respond to reduced income by increasing production. When a reduction in demand for agricultural products lowers prices, farmers may increase production, which is defined as an "anti-conjunctural reaction of farms" (Juchniewicz M., 2002).

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Many changes in Polish dairy production can be observed, for example, the quality of milk has improved, farmers have adjusted farms and buildings equipment to the EU standards, and the number of farms with the fewest number of cows has decreased (Borawski P., 2006).

The aim of this paper is to present a differentiation of milk price and its products in Poland after integration into the European Union. The authors used statistical methods to present the changes of milk prices and dairy product prices. The results were presented in tables and figures. The authors wanted to answer the following questions to develop the problem of milk price volatility.

1. How did the price of milk change in Poland after integration with the European Union?
2. How is the production of milk diversified regionally?
3. How does the price of milk change during the year?
4. Are there any linkages between milk and dairy products' prices?

The authors have used regression analysis to measure the impact of human capital on farms' economic results according to the equation (Sobczyk M., 2005):

$$\hat{Y}=F(X)=\varepsilon_0+ \varepsilon_x X + \varepsilon \tag{1}$$

where:

$\hat{Y}$  – theoretical value of regression function  $F(X)$  responsible for level of  $x$  variable;

$\varepsilon_0, \varepsilon_1$  – parameters of the structural function of the regression on  $Y$  according to  $X$ ;

$X$  – matrix of explanatory variables;

$\varepsilon$  – residual or error term.

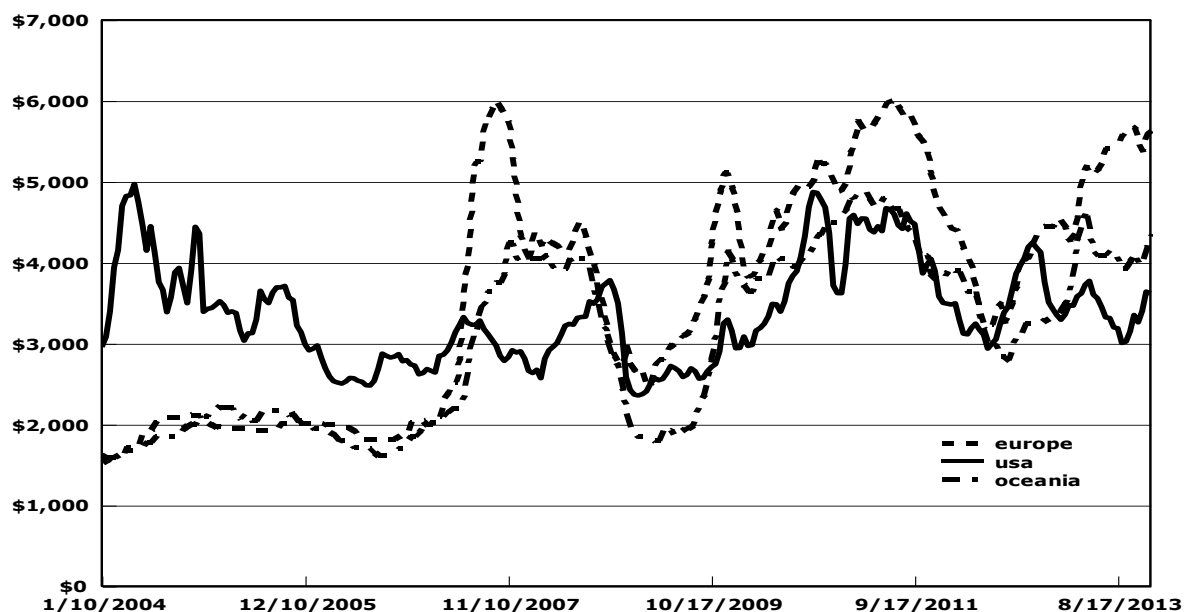
The authors measured the impact of prices of extra butter fabricated, Edam ripened cheese and whole milk powder on retail milk prices. The authors have put in the table the evaluation of regression, standard error, t test to evaluate the regression equation and the level of importance ( $p=0.05$  most important).

## Research results and discussion

Since 2007, milk prices have shown wide fluctuations in Poland and on the world markets. Figure 1 reveals an example with the price of butter. Other dairy products and farm milk prices have shown a similar volatility.

The market economy has caused changes in the level and structure of livestock production. There has been a decline in population of dairy cows while increasing milk yield per unit (Figure 2). This trend is typical of changes in dairy production in many countries – more milk from fewer cows.

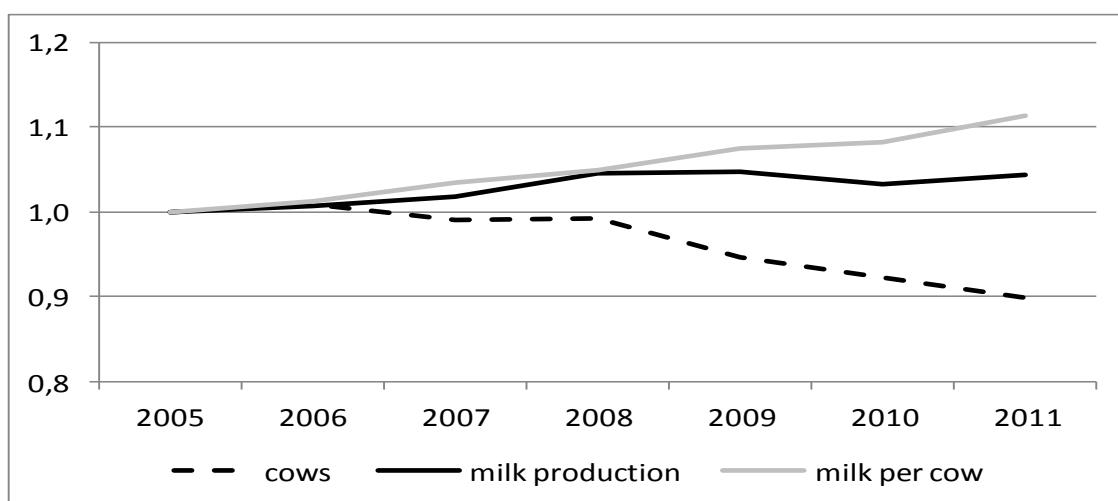
In 2011, Poland produced about 4 100 million litres of milk. Average annual milk yield in 1990 was 3.1 thousand litres per cow, growing to 4.6 thousand litres by 2007; an increase in productivity was of almost 50% (Zietara W., 2009). The number of cows in 2010 was 2 657.39 thousand head. The analysis presented in Figure 3 shows the number of cows in thousands of animals in 2010, it can be seen that the largest number was in the Mazowieckie (543.42 thousand cows in 2010) and Podlaskie (457.68 thousand cows in 2010), while the region of Lubusz (28.28 thousand heads in 2010) had the fewest number of cows in Poland.



Source: authors' construction based on the USDA data

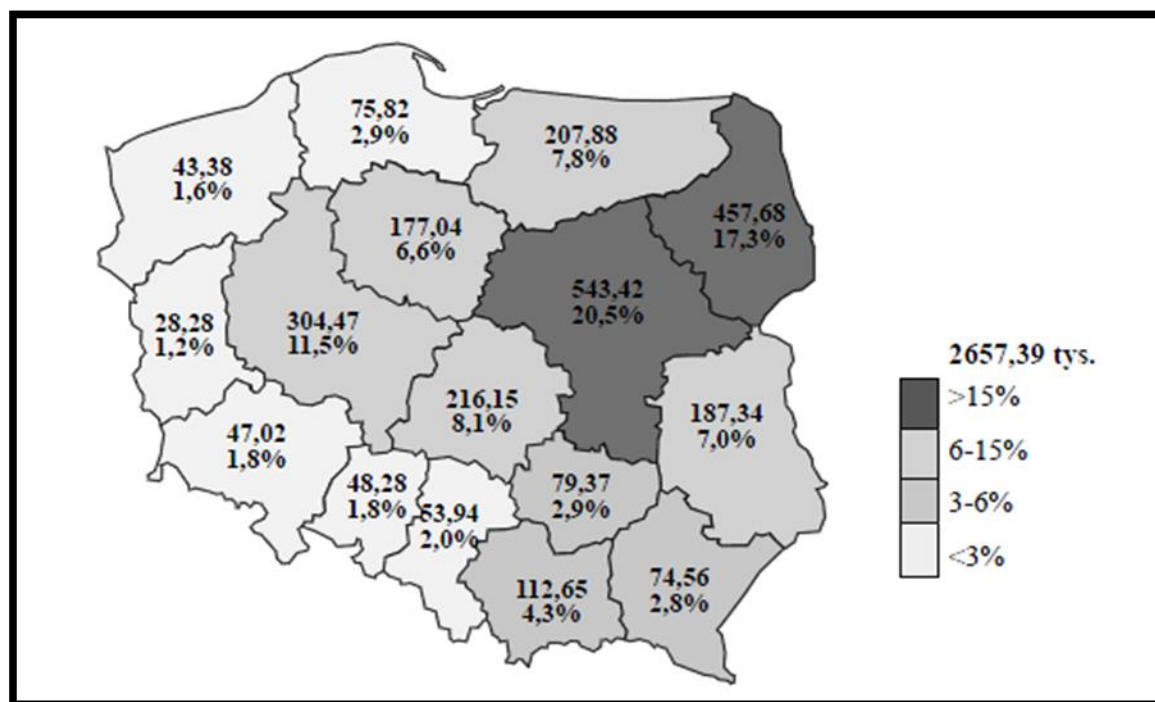
Fig. 1. International butter prices 2004-2013 (USD)

The Western provinces, for example, Lubusz (1.2%), Lower Silesia (1.8%), Opole (1.8%) and Silesia (2.0%), had very few dairy cows. The provinces of Mazowieckie and Podlaskie had almost 38% of the Polish population of cows in 2010. The size of the Polish dairy herd decreased and the number of milk producers also decreased. The number of farms with fewer than nine cows decreased sharply, reflecting the progressive process of concentration and intensification of milk production.



Source: Main Statistical Office data (MSO 2003-2012)

Fig. 2. Index of the number of cows, milk production and milk yield in Poland for 2005-2011 (2005=1)



Source: *Powszechny Spis Rolny 2010*

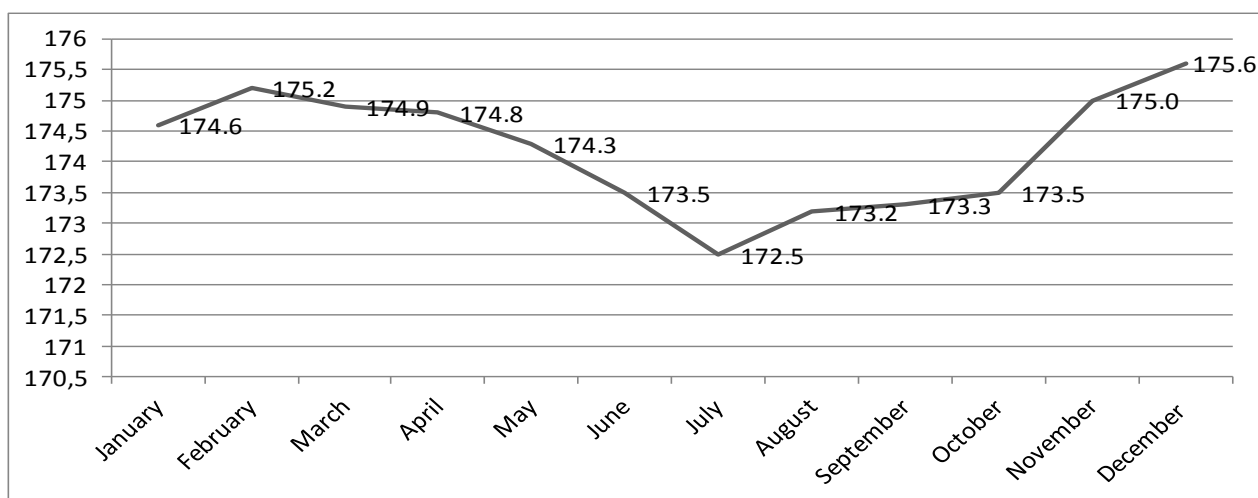
Fig. 3. The number of cows in thousand head in 2010 (as of June)

After the Polish accession to the European Union, drinking milk quality regulations became much more stringent. Many owners of small farms were unable to meet the minimum standard of quality and this has led to their elimination from the market (Zietara W., 2012). The number of small producers fell by about one third, while holdings from 100-199 cows increased by more than 50%. Farms with more than 200 dairy cattle have increased their production (Milk Market, 2012). These changes were an expected result of joining the European Union (Dunn J. W, 2005, Pawlewicz, A., 2011). The stabilisation of the milk market took place in 2010. Since then, milk prices have improved steadily. From 2008 to 2012, the consumption of milk on farms decreased from 2.110 to 1.853 thousand tonnes.

The analysis of the imports and exports of cow's milk indicates net exports. However, the trade balance in dairy products is deteriorating. The value of imports is steadily increasing, as opposed to exports. In 2008, the value of imports amounted to 585 thousand tonnes, while in 2012, it reached 1.050 thousand tonnes (Central Statistical Office, 2012).

Figure 4 shows the average monthly price of milk in 2012, and the price movement during the year. Beginning with February, prices gradually declined until July when prices climbed once again. The average price paid for milk in February of PLN 175.2 per 100 kg was 1.6% greater than the average price of milk recorded in July. After July, the average price of milk began climbing steadily, peaking in December with the highest price – PLN 175.6 per 100 kg. The reason for the highest milk prices in December reflects a lower milk supply and increased demand for dairy products for the holidays (Matysik-Pejas R., 2007). This pattern is typical for a dairy because milk production is highest in spring and then declines as the year progresses. When children go back to school, the demand increases, and after mid-summer factories build inventories of storable products, which are used around Christmas and

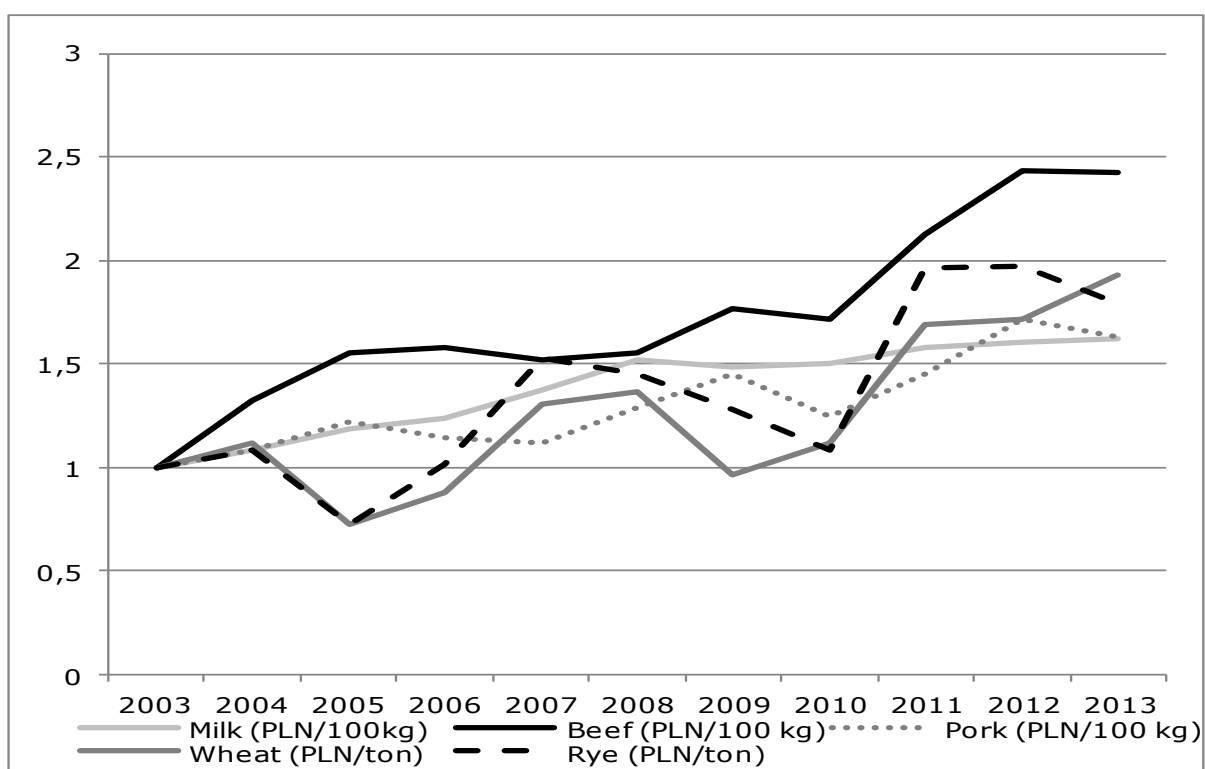
until production increases again in spring. These price differences are not large but are a typical seasonal pattern. The year-to-year changes are the important ones.



Source: authors' construction based on the data from the Statistical Yearbook of Agriculture and Rural Areas, MSO, Warsaw

Fig. 4. Average monthly price of retail milk in 2012 in Poland (PLN/100kg)

The price indices in Figure 5 show that the price of milk in Poland is the least variable and the most stable of the agricultural products illustrated for the period of 2003-2013.



Source: authors' construction based on the data from the Statistical Yearbook of Agriculture and Rural Areas, MSO, Warsaw

Fig. 5. Price indices of agricultural products in Poland in the years 2003-2013 (2003=1)

The stability of milk price is the result of the milk quota system which does not allow manufacturers to produce too much milk. The situation may change with the abolition of production quotas. Price volatility will likely be larger, as farmers are able to produce more, which will lower the price of milk. However, if the price of milk falls, farmers can reduce or completely abandon the breeding of dairy cows, which will induce a deficit of milk on the market, followed by an increase in its price. Since drinking milk has a very inelastic own-price elasticity of demand, and other dairy products have inelastic demand as well, relatively small changes in production can lead to wide swings in milk prices. Certainly, that is the experience in the world markets (Figure 1).

Table 1 lists the prices of the main dairy products produced in Poland. After analysing the average annual price of butter extra fabricated, it can be seen that the butter price was unstable and fluctuated in 2004-2013. In 2011, the price of butter reached its highest level in the period and averaged PLN 15.7 per kilogram. In 2012, the butter price fell by 10.6%. The lowest average price of extra butter was recorded in 2006 at PLN 9.9 per kilogram.

Table 1

**Annual average prices of selected dairy products in Poland (2004-2013)**

Years	Specification		
	Extra Butter (PLN/kg)	Edam ripened cheese (PLN/kg)	Whole milk powder (PLN/kg)
2004	10.4	11.5	10.2
2005	10.5	11.0	9.2
2006	9.9	10.9	8.9
2007	11.2	12.8	11.8
2008	10.5	11.4	9.2
2009	11.5	11.0	8.2
2010	13.8	12.0	10.6
2011	15.7	13.5	12.1
2012	14.2	13.4	11.4
2013	14.7	14.1	12.3

*Source: authors' construction based on the data from the Ministry of Agriculture and Rural Development*

The greatest annual increase in the butter price occurred in 2010, when it increased by PLN 2.30 (20%). The overall increase in butter prices over the period shown was 41.3%.

After the Polish accession to the European Union, average annual prices of Edam ripened cheese initially fell. This situation continued until the year 2007, when the price of cheese rose to 12.8 PLN/kg (17.4%) over the 2006 value. The price of cheese decreased in 2008 once again (by 12.3%). The

average annual price of cheese has risen since 2009. The highest average annual price of Edam ripened cheese was 14.1 PLN/kg in 2013, and the lowest was in 2006 (10.9 PLN/kg). The largest increase in cheese prices occurred in 2007 compared with 2006. Average annual price of Edam cheese over the period 2004-2013 increased by 17.4%. The average annual price of whole milk powder was the most variable of these dairy products. Like the average annual price of cheese, after the accession to the European Union the whole milk powder price fell. In 2007, the price of milk powder increased sharply to PLN 11.8 per kilogram, or up to 32.6% from 2006. In 2008, powder prices fell once again, by 28.3%. The lowest average annual price of whole milk powder was in 2009 (PLN 8.2 per kilogram). The highest milk powder price was in 2013, when it reached PLN 12.3 per kilogram, about 50% higher than the lowest price in the period. The increase in the whole milk powder price over the period of 2004-2013 was PLN 2.1 per kilogram, which is 20.6%. These dairy product prices were highly volatile. Compared with the prices of farm milk, the dairy product price fluctuations during the period of 2004-2013 were greater. Over this period, the prices of all the analysed dairy products increased.

Table 2

**Descriptive statistics of average prices of selected dairy products in Poland  
in 2004-2013**

Specification	Specification			
	Retail milk (PLN/100kg)	Extra Butter (PLN/kg)	Edam ripened cheese (PLN/kg)	Whole milk powder (PLN/kg)
Mean	153.68	12.24	12.16	10.39
Median	161.40	11.35	11.75	10.40
Minimum	117.20	9.90	10.9	8.20
Maximum	175.50	15.70	14.1	12.30
Standard deviation	20.66	2.13	1.19	1.47
Coefficient of variation	0.13	0.17	0.09	0.14
Slant	-0.61	0.44	0.41	-0.05
Kurtosis	-1.06	-1.43	-1.38	-1.46

*Source: authors' construction based on the data from the Ministry of Agriculture and Rural Development*

There are various factors having an impact on the price volatility of milk. The US price of class III of milk depends, for example, on export and import, price information, milk price scheme and cost settlement of milk futures contracts. The price of milk is also determined by feed cost, for example, corn price (Dong F. et al., 2011). Moreover, milk price volatility depends on dairy policies designed to help

farms and firms manage milk price volatility and help to insulate the US from global dairy price fluctuations. The policies help manage business risk of dairy products (Yonkers B., 2005).

The descriptive statistics of milk and milk products in Poland are presented in Table 2. The average price of milk in the years 2004-2013 was 153.68 PLN/100 kg. The prices of milk products changed in the years 2004-2013, too. The highest milk products' prices were observed in extra butter 12.24 PLN/kg and Edam ripened cheese 12.16 PLN/kg. The highest coefficient of variation was observed in extra butter (0.17) and whole milk powder (0.14).

At the end of the analysis, the authors wanted to measure the relation between milk and milk products in Table 3. Therefore, the authors measured whether the milk product prices have impact on retail milk prices, while the impact was negative. One could see that Edam ripened cheese and whole milk powder had impact on milk price. When the price of milk powder and Edam ripened cheese rises, the price of milk decreases. It means that there are some linkages between the price of milk and milk products.

Table 3

**Regression analysis for average prices of selected dairy products in Poland  
in 2004-2013**

Specification	Variables		
	Extra butter	Edam ripened cheese	Whole milk powder
Coefficient	-0.580	-0.610	-0.610
Standard deviation	8.319	8.127	7.8036
T statistics	19.233	19.743	20.424
R <sup>2</sup>	0.339	0.3684	0.3727
P value	0.059	<b>0.047</b>	<b>0.046</b>

*Source: author's calculations based on the data from the Ministry of Agriculture and Rural Development*

## Conclusions

There is a strong differentiation of milk production in Poland. Most of Polish milk is produced in Mazowieckie, Podlaskie, and Wielkopolskie provinces. The domination of these provinces will be bigger in the future because these are the regions with significant resources of meadows and pastureland.

In comparison with other farm products, the price of farm milk has the least volatility. The volatility of milk prices is the most similar to the volatility of beef. The price of pork behaves much differently.

The prices for dairy products are much more volatile than the price of retail milk. Market forces such as supply and demand regulate the prices of dairy products. Milk quotas and the Common Agricultural Policy regulate the price of retail milk.

Price volatility for extra butter, Edam ripened cheese, and whole milk powder is similar and does not exceed 50%. In the analysed period (2004-2013), there was an increase in milk product prices. For extra

butter fabricated, the price growth was the highest and amounted to 41.3%, whole milk powder was characterised by a rise in price by 20.6%, while the lowest increase in prices was characterised by Edam ripened cheese (17.4%).

The statistical analysis proved a relation between milk and milk products' prices. The price of milk depended on the price of milk products. The impact was negative. Higher Edam ripened cheese, extra butter, and the price of milk powder reduced the price of retail milk.

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**COURSES OF DEVELOPMENT OF COMMUNES IN SWIETOKRZYSKIE  
VOIVODESHIP IN THE OPINION OF ITS INHABITANTS**

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**Abstract.** The main aim of this article is to present courses of development of the communes in Swietokrzyskie voivodeship in the opinion of its inhabitants, expressed in a questionnaire. The research regards the situation after the integration with the EU.

The protected areas cover 33.1% of the territory of Poland, and the region with the highest proportion of those areas is the Swietokrzyskie voivodeship where 62% of the land are classified as a protected area. There are 72 municipalities (gminas, communes) in the Swietokrzyskie voivodeship among which in 49 the protected areas cover more than a half of the territory. These areas are usually landscape parks and protected landscape areas.

The poll was conducted among 102-178 inhabitants who expressed their opinions in questionnaires after the EU integration. This paper presents the courses of development preferred by the inhabitants of communes in Swietokrzyskie. The research was based on inhabitants' opinions concerning particular courses of development, i.e. tourism, services, handicraft, industry, agriculture, food processing, and environmental protection.

The results show that agriculture and tourism after the integration with the EU are the most preferred courses of development in the rural areas of municipalities.

**Key words:** courses of development, opinions of inhabitants, instruments, Swietokrzyskie voivodeship.

**JEL code:** Q15, Q56

**Introduction**

At the end of 2003, spatial forms of nature and landscape preservation constituted 33.1% of total country area (in Poland). Landscape parks together with national parks, nature reserves, and protected landscape areas make up the system of protected areas as a set of mutually complementary forms of nature preservation. Because of their specificity, protected areas are subject to particular legal statutes, which define admissible human activity depending on the level of protection. The conditions of the development in the protected areas result from the potential of natural resources in this area as well as from objective conditions shaping their position in the region.

As a protected area, a landscape park is supposed to protect nature on its territory in accordance with the legislation in force; whereas, the development of rural areas located in such parks is usually closely connected with agriculture. The two elements are frequently a source of conflict between farmers and park management. The directions of correct development of these rural areas are, thus, an essential argument for looking into possibilities of development of protected areas. The findings of studies on the

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possibilities of developing these areas in line with nature conservation objectives and with an appropriate consideration for all the aspects of the development may solve or at least alleviate such conflicts. The interests of all parties involved in a certain protected area should be carefully considered and taken into account, while also observing the legislation in force.

The need to conduct studies on the development of protected areas situated in rural areas was the impulse for addressing this problem in this research project. An additional argument for pursuing this problem was the fact that the literature on the subject, in the case of the protected areas in Swietokrzyskie voivodeship<sup>2</sup>, was either very scarce or addressed only selected aspects. In Poland, the only areas where studies on the development of rural areas in landscape parks were conducted are the "Green Lungs of Poland" territory and Wielkopolska voivodeship. There are also very few publications on the development of landscape parks in Mazowieckie and Malopolskie voivodeships.

The necessity of carrying a research on the development of protected areas was a reason to refer to this problem in this publication, and its aim is to show the courses of development preferred by the inhabitants of communes in Swietokrzyskie voivodeship after the EU accession.

## **Materials and methods**

The research composed of setting the courses of development of protected areas in Swietokrzyskie voivodeship includes, among others, recognising nature and landscape value of protected areas in the Swietokrzyskie voivodeship. This research has been carried out since 1998. The stock-taking of environment components was limited to basic factors conditioning multifunctional and eco-development of rural areas and agriculture.

Residents who showed initiative and were interested in the development of their municipality were selected to participate in the questionnaire, similarly to participating farmers. The selection of residents was made after obtaining preliminary information from gminas offices and with their participation, and as a result of consultations with municipality authorities.

The basic research instrument was an interview using a questionnaire prepared by the author, supplemented by direct observation and meetings with residents and authorities, concerning the development of the gminas. The survey was prepared specifically for the purpose of examining the possible development of protected areas; the respondents included municipality residents with various levels of education, mainly persons considered to be community leaders (including representatives of farmsteads). This type of questionnaire can be regarded as a quota sampling of the whole population of the area; even though it is not random, in the case of such an approach to the problem, this kind of a procedure is possible and correct, and frequently used in English-language literature.

This paper is based on the author's own research, in particular: survey results, meetings with authorities of municipalities and inhabitants, which concerned the development of the area. The surveys were prepared to present the prospects of the protected areas' development. People of different levels of education took part in it, including mainly people considered as leaders according to the notion presented by Siekierski (2004) and Zawisza & Pilarska (2003) who claimed that mainly such people set the courses of development actions within a particular rural community.

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<sup>2</sup> *Voivodeship* is one of the sixteen provinces in Poland

The carried out survey concerned: favoured courses of development of the research area, ecological awareness, possibility of maintaining agricultural and tourist activity, problems of everyday life hindering the development, some demographic aspects, development chances and obstacles. The research was based on inhabitants' opinions concerning particular courses of development, i.e. tourism, services, handicraft, industry, agriculture, food processing, and environmental protection.

The study also used publications issued by statistical offices, conservation plans (finished or in preparation), and the documentation of the voivodeship Inspectorate of Environmental Protection in the city of Kielce.

The obtained data were examined by analysing the structure of results, especially questionnaire results which were checked for interrelations by means of a chi-squared test applied to qualitative features for the 45 municipalities in which the survey was conducted.

## **Research results and discussion**

The very idea of the local self-government in rural municipalities having an influence on the local development is extremely important since no other institution is more aware of what needs to be done urgently and what should not be developed in a particular territory. Economic factors play the most important role in local development; their structure, shape, height, or all these elements combined, can encourage or discourage development. Economic factors should be shaped in such a way as to encourage entrepreneurship and local development in accordance with the principles of sustainable development. The task can be implemented by means of correctly using the instruments available to self-government authorities. The instruments that influence budget revenues of a self-government unit, i.e. duties and taxes, play an important role here. Taxes are essential in influencing entrepreneurship and development, as they go into the municipality budget which finances investments and, mainly, the gmina's current activity. It should be taken into account that the development of municipalities would be restricted in a situation of a lack of financial means. It should be emphasised that restrictions connected with the EU directives on supporting and protecting competition enforce the introduction of only those instruments which are based on fiscal policy (mainly tax reductions and exemptions).

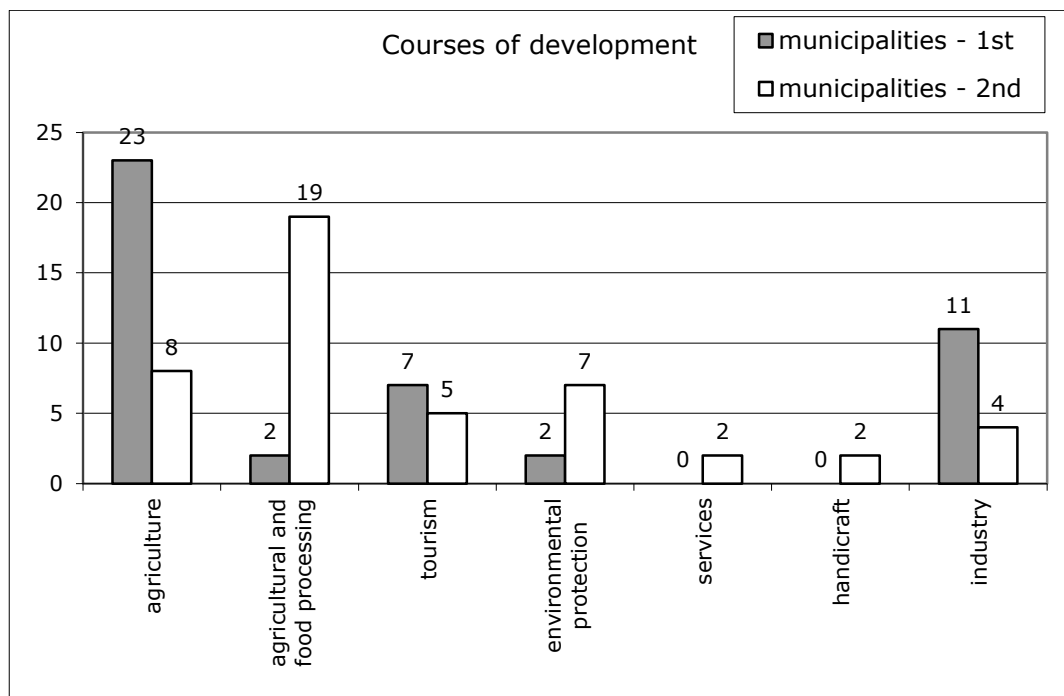
According to the Polish law, the most important local taxes include property tax, motor vehicle tax, land tax, agriculture income tax, forest tax, inheritance and gift tax, and flat-rate income tax paid in the form of tax card. Each of the listed taxes brings revenues to the budget to a different extent, and some of the taxes do not have an influence on local development at all. The idea of using the instruments of stimulating local development by means of tax reductions and exemptions, i.e. by lowering the tax burden, is somewhat conflicting, since it is assumed that by sacrificing the current income one will achieve its increase in the future, e.g. through the growth of entities obliged to pay taxes. In many cases, increasing the number of entities is a positive effect in and of itself, since fully satisfying the needs of a community (the number one objective of a municipality), e.g. achieving a lower unemployment rate or a bigger number of jobs outside agriculture, is paramount to the growth of municipality revenues as such. These instruments (reductions, exemptions) enable the municipality to increase targeted revenues in the future, without which it would be difficult to accomplish the main objective (i.e. the maximum

possible satisfaction of the needs of a given community) which is supposed to lead to a better standard of life for the inhabitants.

Restrictions following from the EU directives on supporting and protecting competition mean that only instruments based on fiscal policy can be introduced, mainly tax deductions and exemptions as well as fixing tax rates; the inhabitants of the protected areas were thereby asked what economic instruments should be used for the development of a certain direction.

The respondents believed the following courses of economic development to be of the highest importance for the commune (Figure 1):

- agriculture – 23 municipalities (51.1% - 1st), 8 gminas (17.8% - 2nd);
- agricultural and food processing – 2 municipalities (4.4% - 1st), 19 gminas (42.2% - 2nd);
- tourism – 7 municipalities (15.6% - 1st), 5 gminas (11.1% - 2nd);
- environmental protection – 2 municipalities (4.4% - 1st), 7 gminas (15.6% - 2nd);
- services – no municipality (0% - 1st), 2 municipalities (4.4% - 2nd);
- handicraft – no municipality (0% - 1st), 2 municipalities (4.4% - 2nd);
- industry – 11 municipalities (24.4% - 1st), 4 gminas (8.9% - 2nd).



**Source: author's construction**

**Fig. 1. The courses of development to be of the highest importance for the commune**

Subsequently, the respondents answered the questions concerning opportunities for development in the above-mentioned courses of development (Figure 2).

The results are described below (Poplawski L. 2012).

The respondents have most frequently chosen the following support instruments for agriculture:

- property tax allowances and exemptions - 2 municipalities (4.4%);
- hire of state property or self-government's property on preferential prices - 3 municipalities (6.7%);
- free economic and legal consultancy - 12 municipalities (26.7%);

- means of transport tax allowances and exemptions - 2 municipalities (4.4%);
- credit guarantees - 23 municipalities (51.1%).

The respondents have most frequently chosen the following support instruments for the development of agricultural and food processing:

- property tax allowances and exemptions – 5 municipalities (11.1%);
- hire of state property or self-government's property on preferential prices - 3 municipalities (6.7%);
- free economic and legal consultancy - 12 municipalities (26.7%);
- means of transport tax allowances and exemptions - 2 municipalities (4.4%);
- credit guarantees - 20 municipalities (44.4%).

The respondents have most frequently chosen the following support instruments for the development of tourism:

- property tax allowances and exemptions - 3 municipalities (6.7%);
- hire of state property or self-government's property on preferential prices - 2 municipalities (4.4%);
- free economic and legal consultancy - 16 municipalities (35.6%);
- means of transport tax allowances and exemptions – no municipality;
- credit guarantees - 14 municipalities (22.2%).

The respondents have most frequently chosen the following support instruments for environmental protection:

- property tax allowances and exemptions - 8 municipalities (17.8%);
- hire of state property or self-government's property on preferential prices - 5 municipalities (11.1%);
- free economic and legal consultancy - 10 municipalities (22.2%);
- means of transport tax allowances and exemptions - 1 municipality (2.2%);
- credit guarantees - 19 municipalities (42.2%).

The respondents have most frequently chosen the following support instruments for the development of handicraft:

- property tax allowances and exemptions - 7 municipalities (15.6%);
- hire of state property or self-government's property on preferential prices - 3 municipalities (6.7%);
- free economic and legal consultancy - 13 municipalities (28.9%);
- means of transport tax allowances and exemptions - 3 municipalities (6.7%);
- credit guarantees - 18 municipalities (40.0%).

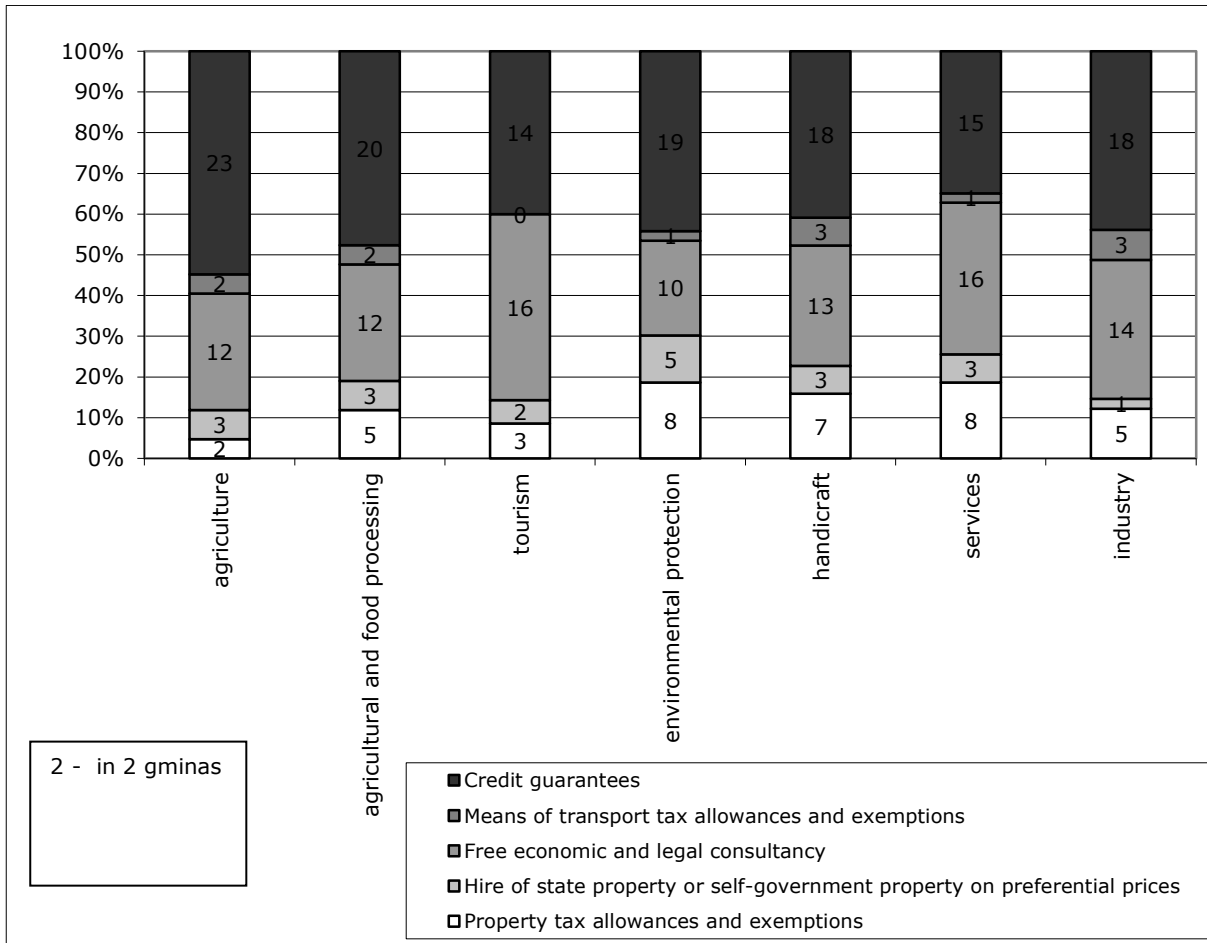
The respondents have most frequently chosen the following support instruments for the development of services:

- property tax allowances and exemptions - 8 municipalities (17.8%);
- hire of state property or self-government's property on preferential prices - 3 municipalities (6.7%);
- free economic and legal consultancy - 16 municipalities (35.6%);
- means of transport tax allowances and exemptions - 1 municipality (2.2%);
- credit guarantees - 15 municipalities (33.3%).

The respondents have most frequently chosen the following support instruments for the development of industry:

- property tax allowances and exemptions - 5 municipalities (11.1%);
- hire of state property or self-government's property on preferential prices - 1 municipality (2.2 %);
- free economic and legal consultancy - 14 municipalities (31.1%);

- means of transport tax allowances and exemptions - 3 municipalities (6.7%);
- credit guarantees - 18 municipalities (40.0%).



Source: author's construction

Fig. 2. The economic instruments for local development

The process of transforming present agriculture based on the traditional way of cultivating and using the land should lead to the multifunctional development of rural areas which also implies integrated and environment-friendly agriculture combined with recreation and tourism. Agriculture based on ecological methods should be adjusted to the local landscape and its water and soil conditions. The large size of the labour force in agriculture provides a chance for alternative solutions also in such time-consuming branches of specialised agriculture as ecological agriculture, seed production, herb-cultivation etc. Ecological agriculture should not only be recommended but also the only one permitted in the protected areas. Considering the food production in such areas, it seems appropriate to promote the most environmentally friendly direction of the development, i.e. ecological agriculture (Siekierski, Dudek 2000). The development of tourism (ecological tourism) ought to be supported and treated as an alternative source of income for farmsteads. A similar point of view has been presented by E. Gaule and G. Zilinskas (2013), A. Grzelak (2008), A. Biernat-Jarka (2010), S. Jarka (2012), and I. Pilvere (2012).

The implementation of long-term initiatives undertaken in the protected areas requires the activity aimed at the further development of the infrastructure which conditions not only the bettering of life

conditions but also makes the area more attractive for tourists and prospective investors. It concerns particularly the improvement in the technical and agricultural infrastructure.

The efficiency of the multifunctional development policy in protected areas depends on the acceptance of the commune authorities; it should also be consistent with the development of the commune. Another indispensable aspect of the prospective success is a dynamic syllabus of courses organised for local inhabitants, which would comprise all economic spheres of the commune. If the development policy is adopted properly, the comprehensive courses for the inhabitants are offered and the commune is sufficiently promoted, the socio-economic development is bound to take place in many years to come.

The activities in the area of introduction and use of ecological methods in agriculture should be an integral part of environment protection activities and eco-development of legally protected areas. Among the factors, which favour the activities, you could mention the willingness of respondents, presented in their opinions and declarations, to use the ecological methods. They are also interested in getting to know the eco-farms managed in other areas, concurrently with taking burdens of these undertakings manifested by some of questionnaire's participants. The outcomes indicate the possibility of implementing the eco-development and agriculture, ecological production in communes. The survey's participants represented different levels of ecological knowledge, eco-development principles and ecological production methods.

## **Conclusions**

Municipalities are not allowed and have no chance to directly support private companies but they can support them by other means. They can offer companies tax reductions and other financial incentives (e.g. tax exemptions). The gmina's number one obligation is to ensure the development of its territory. However, offering tax reductions and exemptions decreases its revenues which are supposed to finance its own activities. Municipalities can have a direct influence on their own development, e.g. through tangible investments, such as developing the technical infrastructure, and through financial investments, such as contributing to or purchasing companies. Decentralisation has led to self-governments' more important role and increased influence on the economic development of their territory, especially through the development of private entrepreneurship. Fiscal instruments (taxes, fees) are a commonly used tool of stimulating development.

Based on the research in the field of courses of development in communes in the Swietokrzyskie voivodeship, the conclusions are as follows:

- agriculture – 23 municipalities (51.1% - 1st), 8 gminas (17.8% - 2nd);
- industry – 11 municipalities (24.4% - 1st), 4 gminas (8.9% - 2nd);
- tourism – 7 municipalities (15.6% - 1st), 5 gminas (11.1% - 2nd);
- agricultural and food processing – 2 municipalities (4.4% - 1st), 19 gminas (42.2% - 2nd);
- environmental protection – 2 municipalities (4.4% - 1st), 7 gminas (15.6% - 2nd).

In relation to the all offered courses of development, the respondents have most frequently chosen the following support instruments:

- credit guarantees - from 14 municipalities to 23;

- free economic and legal consultancy - from 10 municipalities to 16;
- property tax allowances and exemptions – from 2 municipalities to 8;
- hire of state property or self-government's property on preferential prices - from 1 municipality to 5;
- means of transport tax allowances and exemptions – from no municipality to 3.

These principles are also binding for local development, for which self-government is responsible. The mandatory inclusion in the territory of the Natura 2000 network and protection of habitats and bird nesting sites is and will be the main source of conflict among self-governments, inhabitants, and institutions responsible for nature conservation. The inhabitants of these areas, although they own public goods that serve the present generations, not only do not get paid for conservation efforts (protecting habitats and bird nesting sites), but also suffer losses, such as the decreased value of land under protection. The problem will grow despite the fact that the new Common Agricultural Policy for 2014-2020 very strongly emphasises this issue. The inhabitants who are not farmers are not entitled to compensation (at present). It is only a matter of time before the inhabitants who do not receive compensation for restricted use of their own property will demand damages.

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**BARRIERS TO DEVELOPMENT OF THE INNOVATION POTENTIAL IN THE SMALL  
AND MEDIUM-SIZED ENTERPRISES IN POLAND****Dagmara K. Zuzek<sup>1</sup>, PhD**

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**Abstract.** Small and medium enterprises have an important role in the Polish economy. They are a dominant type of business entities. In Poland, great importance is paid to the creation of conditions for the development of the sector of small and medium enterprises.

The trend of the last several decades towards increased integration of global markets or globalisation has meant that many companies are experiencing continuously increasing pressure to remain viable as their markets expand, and they begin competing with a larger number of companies. The SMEs in particular are vulnerable to these factors, since they tend to be disadvantaged relative to larger firms that generally have better access to funding and other resources. The ways in which SMEs operate to remain economically viable and contribute to the economic performance is of special interest to governments given the prominent roles that they play in most economies.

For SMEs, innovation is one way of surviving. In this paper, the author has presented the role of the innovation process in small and medium enterprises in Poland. The article presents the results of research on barriers to innovation in small and medium-sized enterprises located in the Malopolska province. The study was conducted in 2013.

**Key words:** small and medium-sized enterprises, barriers, innovation.

**JEL code:** Q18

**Introduction**

The sector of small and medium enterprises covers over 99% of all the enterprises in the Polish economy and they generate 35% of GDP. According to the investigations, over 65% of all the people employed by the Polish economy are employed in small and medium enterprises. Small and medium enterprises have a big impact on the improvement of functioning market competition mechanisms. The condition of efficient functioning of the market is the economy based on operation of a high number of small enterprises.

The number of small and medium enterprises in the economy considerably improves functioning of the mechanisms of market competition. A precondition for efficient functioning of the market is the economy based on a high number of small enterprises. Underdeveloped sector of small and medium enterprises results in the economic slowdown (Dziadkiewicz M., Calus T., 2011).

Several authors have highlighted various barriers faced by SMEs, such as non-supporting legal and regulatory environment, which is connected with complicated and unstable legal regulations; lack of market access due to negative image of SME work treated as an incompetent entity; limited access to

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finance, which contributes to low credit credibility that results in the impossibility of raising external capital; educational barriers, which manifest themselves in the imperfection of education, especially in the scope of marketing, finances and managing, limited business premises, lack of access to resources and technology, poor infrastructure, bureaucratic hurdles and a lack of managerial competencies (Goodwell M., Karabo M., Battle K., Mbohwa C., 2013).

The article presents the results of the research on barriers to innovation in small and medium-sized enterprises located in the Malopolska province. The study was conducted in 2013 and 250 companies took part in it. The research questions were related with innovation and the barriers to its development. This article also shows the characterisation of the SME sector as well as classification of the main barriers to the development of innovation in small and medium-sized enterprises.

## Results and discussion

### General characteristics of the SME sector

Small and medium-sized enterprises constitute the most important element of each economy. The highest increase in newly created jobs is noted in this sector, and such companies lose work much slower in case of the market collapse than larger businesses. The condition for efficient operating of the market is economy that is based on a big number of small enterprises.

The literature on the subject distinguishes two ways of determining the size of an enterprise including:

- quantitative criteria, based on the use of absolute magnitude measures, e.g. the number of employed persons, value of fixed assets or value of turnover etc.;
- qualitative criteria referring to non-measurable features, comprising among others innovativeness, creativity or management system on the basis of which the state or position of an enterprise among the other enterprises may be assessed (Piasecki B., 2001).

Experiences of many countries show that over the past decades small and medium-sized enterprises have been the group of businesses that in a decisive manner have affected the processes in economy.

Table 1

#### Defining small and medium-sized enterprises according to the European Union criteria

Criterion	Micro-enterprises	Small	Medium-sized
Number of employees	<10	<50	<250
Annual income	-	< EUR 7 million	< EUR 40 million
Balance sheet	-	< EUR 5 million	< EUR 27 million
Independence	-	No more than 25% of capital or votes at the partner meeting may be owned by an enterprise that is not a SME	

**Source: Broda M., Szubra M., 2000, *Small and medium-sized enterprises in the EU, Malopolska Investment Market*, 1, pp. 11-13**

According to the classification recommended by the EU directives, there are three types of enterprises: micro (employing up to 10 persons); small (employing between 10 and 49 persons) with annual turnover of less than EUR 7 million and the annual balance within EUR 5 million); medium-sized (respectively

between 50 and 249 employees, EUR 40 million, EUR 27 million) and big enterprises employing over 249 employees (Broda M., Szubra M., 2000).

A vast majority of companies in the SME sector are private businesses; thus, primarily private companies of this sector participate in generating of GDP (Zuzek D., 2008).

### **Innovation concepts**

The term "innovation" can be understood or defined in many different ways that use common or opposed elements. Innovation can be defined as a change that leads to gaining profit for an individual, an enterprise, or for the whole society; moreover, this profit is not regarded as accounting profit but economic profit (Tabas J., Beranova M., Vavrina J., 2011).

Innovation is meaningful, dynamic, and developing process, which results in a positive change oriented towards improving of transformation process in enterprises and better satisfying of customer needs (Jac I., Rydvalova P., Zizka M., 2005).

Joseph Schumpeter is often referred to as the first economist who assigned significance to the concept of innovation in economics. The innovation has been specified as:

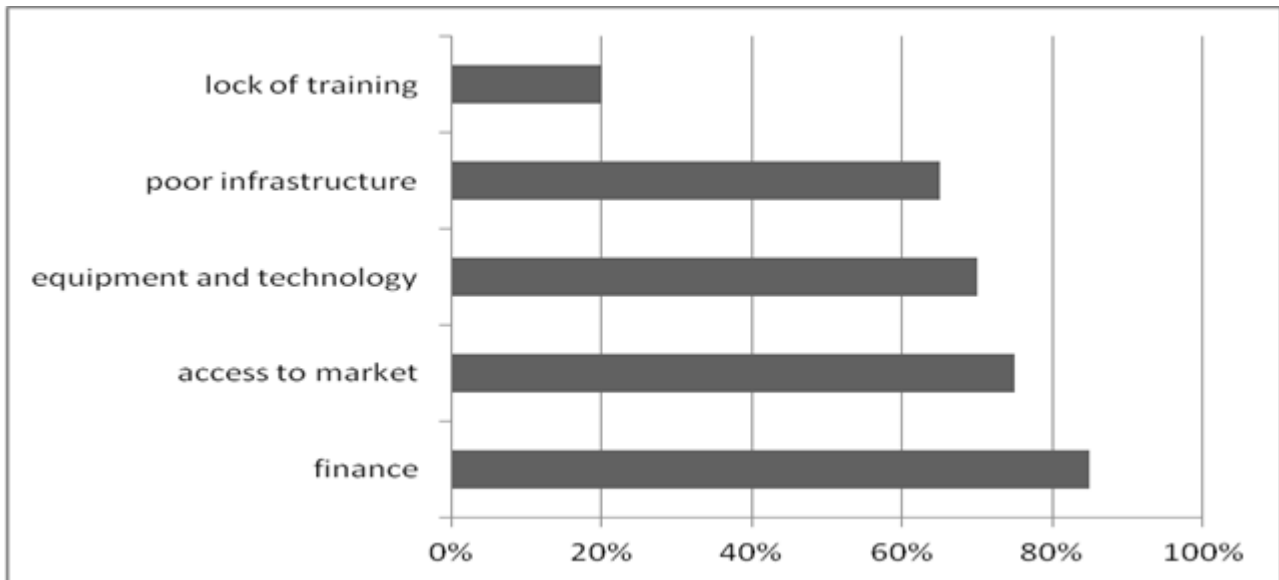
- the introduction of a new/improved product, generally referred to as *product innovation*;
- a new/improved process to a particular industry, commonly referred to as *process innovation*;
- changes in industrial organisation, both inter-organisational and intra-organisational such as the creation of a monopoly firm or a change in management structure. This is commonly termed as *organisational innovation*;
- opening of a new market: this includes targeting a niche market for the first time and is very likely to involve product innovation for obvious reasons; this gives a rise to the notion that these various types of innovation are often interconnected;
- new sources of supply of inputs into production: this strategic type of innovation includes inputs that may be raw materials and/or supplier products (Olsen J., Lee BC., Hodgkinson A., 2006).

The OECD definition describes an innovation as a restoration and widening of products and markets' portfolio as a new designing, manufacturing and distributing methods, implementation of changes in work organisation and labour force skills etc. This definition recognises product, technological, and organisational innovation.

The present approach to innovation claims that innovation is a key word for entrepreneur and emphasises global approach to innovation as a philosophy (the way of managing enterprises), which influences all parts of transformation process in enterprise (marketing, research and development, planning, manufacturing, managing etc.) (Jac I., Rydvalova P., Zizka M., 2005). The ability to compete in innovation plays a very important role as a factor of enterprises' competitiveness.

Innovation in all European countries is declared to be their priority, and many various programmes within the European Union are developed in order to support innovation activities in small and medium enterprises.

The most important barriers to enterprise development in Polish small and medium enterprises' sector are shown in Figure 1.



*Source: author's construction based on the Statistical Yearbooks, Warszawa, 2011*

Fig. 1. **The most important barriers to enterprise development in Poland**

Innovation activities are supported primarily by those business entities that are motivated by the competitive pressure, the necessity to develop and implement new technologies, to make production more effective, to penetrate into new markets, or react to the changes of business environment (Lesakova, 2007). There is no doubt that one can consider innovation to be a result, an instrument, and a way at the same time that enables an enterprise to overcome the mentioned necessities.

Innovation can be essential precondition for competitiveness of enterprises. However, there are many objective and subjective factors that limit the innovation potential of enterprises or that can even eliminate any innovative activities of enterprises. Therefore, these factors are regarded as barriers of innovation.

### **Specification of innovation barriers**

Innovation barriers can be primarily divided into two groups, external or exogenous barriers, which cannot be influenced from the side of business entity, and internal or endogenous barriers objectively or subjectively occurring on the side of an enterprise where these barriers can be minimised or eliminated by the actions of a business entity.

The supply side barriers involve, e.g. scarcity of raw materials or unavailability of financial resources. The demand side barriers are connected with customers' needs and their attitude to risk of innovation and with limitations of domestic or foreign market. The barriers of general environment consist of different government regulations, anti-trust interventions of the relevant government authorities etc.

The endogenous factors can be further divided into the factors that are connected with resources, i.e., for instance, lack of internal resources, technical and technological facilities or lack of time as well as those related to the corporate culture and corporate systems, e.g. obsolete management system and mainly the factors of human nature like manager's perception of risk or employees' attitudes toward changes (Tabas J., Beranova M., Vavrina J., 2011).

The author can distinguish the following barriers to innovation:

- internal barriers:
  - 1) lack of financial resources;
  - 2) inappropriate human resources;
  - 3) high costs;
  - 4) high risk.
- external barriers:
  - 1) business environment;
  - 2) lack of external opportunities;
  - 3) lack of information;
  - 4) lack of government support.

Innovation requires permanent overcoming of both types of innovation's barriers mentioned above consisting especially of the forthcoming changes, which are inevitably connected with innovation processes. In its substance, innovation inevitably forces an enterprise to face more or less serious risk of both exogenous and endogenous factors (Tabas J., Beranova M., Vavrina J., 2011).

Table 2

**Selected barriers to innovation**

TYPE OF BARRIER	CHARACTERISTICS
Financial limitations of SMEs	<ol style="list-style-type: none"> <li>1. High costs of innovation</li> <li>2. Accessibility of external financial resources</li> <li>3. High economic risk</li> </ol>
Lack of qualified personnel	<ol style="list-style-type: none"> <li>1. Finding and keeping qualified employees</li> <li>2. Employee resistance to change</li> <li>3. Management resistance to change</li> <li>4. Training of employees</li> </ol>
Market	<ol style="list-style-type: none"> <li>1. Growing competitiveness</li> <li>2. Limited demand</li> </ol>
Resulting from the policy regarding SMEs	<ol style="list-style-type: none"> <li>1. Unfavourable government policy</li> <li>2. Excessive fiscalism</li> <li>3. Complicated tax system</li> <li>4. Vagueness of tax regulations</li> <li>5. Limited public aid</li> </ol>
Organisational barriers	<ol style="list-style-type: none"> <li>1. Limited internal know-how of innovation management</li> <li>2. Managing style</li> <li>3. Bureaucratisation of business entity</li> <li>4. Corporate culture</li> </ol>
Infrastructural	<ol style="list-style-type: none"> <li>1. Difficulties and high costs of access to infrastructure</li> <li>2. Technological parks and incubators</li> <li>3. Knowledge sharing</li> <li>4. External partners' cooperation</li> <li>5. Information about technologies</li> <li>6. Marketing know-how</li> </ol>
Social	<ol style="list-style-type: none"> <li>1. Low mobility of the labour market</li> <li>2. Inability to accept self-employment</li> </ol>

**Source: author's construction based on G. Michalczuk (ed.), *Factors and Tools of SME Development*, Published by University of Białystok, Białystok 2009, p. 27; TABAS, J., BERANOVA, M., VAVRINA, J.: *Barriers to Development of the Innovation Potential in the Small and Medium-Sized Enterprises*. Acta univ. agric. et silvic. Mendel. Brun., 2011, LIX, No. 7, pp. 447–458**

Economic practice and the literature on the subject regarding the operation of small and medium enterprises in Poland enable one to differentiate a variety of barriers and difficulties that the SME sector encounters (Table 2).

The most important innovation's barriers are defined as high costs of innovation, which have to be spent during the innovation process. If the factor of high innovation costs is put together with risk and uncertainty, which are inevitably connected with innovation process, another barrier to innovation appears.

It is the lack of internal financial resources needed and difficulties to access external financial resources. A significant risk of innovation, which is derived especially from high costs of innovation, is related with managers' attitude to risk. Corporate management's attitude to risk seems to be a serious innovation barrier, especially in SMEs, which usually have to face extremely limited financial resources.

This problem area is also associated with a lack of financial resources in SMEs. SMEs, compared with larger companies, are more sensitive to loss of qualified labour force than larger companies are, because the last ones are financially more stable business entities and usually present themselves as an attractive and prestigious brand.

## Conclusions

Poland's accession to the EU requires fast adjustment of Polish economy to the economies of other EU Member States in all aspects of its functioning. The whole adjustment process refers also to SME sector, and its chances to achieve competitive position on a common market largely depend on its ability to break down the barriers to development.

The aim of the paper was to determine the barriers to innovation, respectively the barriers to the development of innovation potential of small and medium-sized enterprises in Poland.

Based on the results of the given assessment, these barriers are as follows:

- lack of financial resources;
- structure of tertiary education that does not answer future needs of the industry;
- insufficient mutual relation between the research and development and business entities.

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**PUBLIC GOODS AND SUSTAINABLE DEVELOPMENT  
OF AGRITOURISM - LOOKING FOR THE VALUATION INDICATORS<sup>1</sup>****Agnieszka Brelik<sup>2</sup>**, PhD

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**Abstract.** Issues related with identification of public goods in rural areas are the subject of the work of theorists and practitioners, the study of dynamic economic phenomenon. The aim of this article is to specify the mutual interdependence between agritourism, which is a division of the tourism sector, and providers of public goods in terms of micro and macroeconomics, and to enrich perspective research identifying these links. The main aim of this article is to identify indicators of valuation of public goods by agritourism and to provide mechanisms for measuring these goods. The aim of this article is to recognise the relationship between the economic situation of tourism farms and the level of economic activity. The research problem refers to determining the impact of agritourism on the farm's income achieved through the knowledge of public goods. In order to achieve the purpose of the research, the author used both Polish and foreign literature as well as methods of descriptive statistics (analysis of the structure and dynamics of phenomenon), evaluation of correlation (correlation and regression, independence test  $\chi^2$ , test ANOVA, Kruskal Wallis test grade), and Median test.

**Key words:** valuation, public goods, agritourism.

**JEL code:** Q18

**Introduction**

The main problem associated with the occurrence of public goods is a matter of measuring them, and the greatest difficulty is the need for a multidimensional study. This measurement at the regional or local level is particularly important for two reasons – firstly, because of the degree of socialisation (participation), and secondly, due to the design of measures (indicators) for regional development.

Revaluation of existing agricultural models that focus primarily on the function capacity, perceiving agriculture only as a supplier of food, caused the search for other directions of its development. This leads to the intensification of agricultural production functions or outflow of resources to other uses in accordance with the existing needs. The consequence is the presence of numerous negative externalities and reduction in the provision of public goods to a non-agricultural sector of the economy. Intensification of the production function led to the "washout" of the resources from agriculture and partly supported activities within the agricultural policy. This process intensified the efficiency of labour in the agricultural sector but hindered the natural ability to create public goods. This approach led to the limitation of the ability to maintain long-term growth due to dilation "price scissors" and economic surplus drain from agriculture to non-agricultural sectors. Structural transformations struggled to adapt, and the benefits of cheap food policies were gradually running out. This was observed especially in the developed countries where there had been decreased

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spending on conventional bulk agricultural products and, thus, benefit from the reduction in their prices. However, there is a growing social need for implementation of a wide range of targets that could be filled with a limited dysfunction market mechanism (Czyzewski A., Kulyk P., 2011).

Agritourism as a tool for the development of municipalities, existing in symbiosis with the multi-functional development of rural areas, could alternatively serve a basic function enabling the diversification of local economy or act as a catalyst for the quality of life of the municipality residents and tourists. The factors affecting tourist's experience of a tourist farm depend to a significant degree on the level of tourist appeal, natural assets, and the quality of tourism offer in a given village, i.e. the so-called free goods, public goods, and external effects. The quality of public goods chiefly influences the form of tourism offer, recreational quality for tourists but above that – all the residents' quality of life (Brelik A., Matuszczak A., 2013). Landscape needs to be protected due to the disturbed capacity for self-regulation which will keep the balance and its characteristic features. Landscape protection is to maintain the current value, i.e. the original / natural and man-made value through the correct practice of farming. The uniqueness of Polish agricultural landscape is determined by the cultural heritage of rural areas and the creation of conditions for recreation and relaxation (agritourism). The possibility of communing with nature is partly paid by the acquisition of private goods (agritourism recreation).

The concept of sustainable and constant development associates with a huge competition in the form of globalisation in a strictly economic area. Reassessment objectives of agricultural policy<sup>3</sup> must be sufficiently accompanied by the formation of non-economic instruments, legal and organisational issues that enable the implementation of desirable development. Production of desired products by farmers on farms creates a whole range of externalities that do not find their expression in market transactions. Therefore, in parallel with goods on the market, farm's produce does not associate with trade, market value, and price but are the nature of public goods. The external effects of agricultural management can also have undesirable character for the environment, as is case of practicing agritourism, environmental contamination may occur due to irrational management of manure.

Therefore, the concept of the multifunctional use of agricultural land and non-productive functions of agriculture requires the creation of methods and tools to assess the merits of these functions, their valuation and finding appropriate methods of rewarding the owners of tourist farms for their contribution to the renewal and development of natural and cultural villages, rural landscapes, and open clean and friendly rural spaces. Agritourism integrated into the system of balanced and sustainable development of rural areas can be an important justification for other types of support which will replace the undesirable market intervention mechanisms. The emerging paradigm of multifunctional agriculture, including agro-tourism will be the foundation of both philosophy and solutions applicable in practice.

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<sup>3</sup> Literature review on the subject of agriculture policy conducted by Majchrzak A., Smedzik-Ambrozy K. (2010). *Agricultural Land Market in Poland in View of Economy Fluctuations*. Management 2010(1), Univeristy of Zielona Gora, pp-357-371; Grzelak A. (2013). *Reproduction Processes in Agriculture in Poland Considering Production Types of Farms (in the Light of the Data from Agricultural Accounting System FADN)*. Economic Science for Rural Development, No. 32, p. 184-189 and Jarka S. (2012). *Vertical Integration in Large-Scale Farms in Poland*. Proceedings of the International Conference on Management of Human Resources 2012: Management - Leadership - Strategy - Competitiveness: Godollo, Hungary, 14-15 June 2012. Vol. 2. pp. 527-532.

**Aim and scope of the paper**

The fundamental objective of this paper is to identify the indicators for valuation of public goods through agritourism and to provide the mechanisms for measuring these goods.

It is necessary to recognise the relationship between the economic situation of the tourism farms and the level of economic activity for the purpose of the sub-classification. The research problem refers to determining the impact of agritourism on farm income achieved by them through the knowledge of public goods.

The nature of the analysis implemented in the paper required to carry out additional research involving Western Pomeranian agritourism farms. The research was carried out in 2012 by qualified interviewers working at Agricultural Advisory Centres, i.e. inspectors with extensive experience in the implementation of this type of research. This approach made it possible to obtain reliable statistical material with a relatively high degree of credibility and formal correctness. In the first stage, the sample was composed of 450 agritourism farms, of which there were some farms with 4 ESU. Since the element of economic activity resulting from agricultural production was important, the sample size in the end amounted to 150 farms. This sample can be assumed as sufficient to give rise to the pre-test to verify the hypotheses. The research enabled providing brief conclusions on the studied phenomenon on a national scale regarding agritourism farms' economic strength over 4 ESU. In order to achieve the aim of the research, the author used both Polish and foreign literature as well as methods of descriptive statistics (analysis of the structure and dynamics of phenomenon), evaluation of the correlation (correlation and regression, independence test Chi-Square, test ANOVA Kruskal Wallis test grade), and Median test.

**Methods for valuation of public goods - the conceptualisation of the problem**

Creation of the indicators of sustainable development system associates with a number of difficulties in data interpretation, though, the biggest gripe is the aggregation of sustainable development, as environmental and social indicators are rarely expressed as a single aggregated index. There have been attempts to build up an aggregated index, although, there is a kind of paradox that aggregated indicators "but with" cause the complexity of the system which is inherent in sustainable development<sup>4</sup>. In addition, the difficulty arises in determining the weights of sub-indices. In relation with the units of local government, it is essential for rural municipality to measure the functioning of economic, social, cultural, natural, institutional, and spatial climate which are the most important spheres of society. The concept of full economic value (total economy value concept) can be considered as a basis for the valuation of natural resources. The concept is based on the assumption that each resource has its own value (Wos A., 1995).

It is necessary to ensure an effective role of institutions in each their plans due to the failure of market mechanism in the area of remuneration for providing public goods. Public goods provided by agritourism are primarily environmental qualities - goods the value of which is derived from the fact of their existence, thus, their conservation is necessary to serve future generations (Cooper J., 2005). The

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<sup>4</sup> More information about the subject is available in Czyzewski B., Brelik A. (2013). *Public Goods and Intrinsic Land Productivity – Deliberations in the Context of the Paradigm of Sustainable Agriculture*. Acta Scientiarum Polonorum seria Oeconomia, No.12 (4) 2013

role of institutions is not only to ensure the remuneration for the provision of public goods but it is also to determine the level of this remuneration adequate to the value of the goods supplied (Czudec A., 2009).

There are different methods used for valuation of public goods in agritourism, and the author has aggregated them in Table 1.

Table 1

**Methods for valuation of public goods provided by agritourism**

<b>Methods</b>	<b>Characteristics</b>
<b>Contingent valuation method</b>	Contingent valuation is a survey-based economic technique for the valuation of non-market resources such as environmental preservation or the impact of contamination. While these resources do give people utility, certain aspects of them do not have a market price as they are not directly sold, for example, people receive benefit from a beautiful view of a mountain but it would be tough to evaluate it by using price-based models. Contingent valuation surveys represent a technique that is used to measure these aspects. Contingent valuation is often referred to as a stated preference model in contrast to the price-based revealed preference model. Both models are utility-based. Typically, the survey asks how much money people would be willing to pay (or willing to accept) to maintain the existence of (or be compensated for the loss of) an environmental feature such as biodiversity. DAVIS applied this method for the first time in 1963 to estimate the benefits of an area of recreational properties in Maine (Szechter M., 1996).
<b>Hedonic price method</b>	This method (HPM) assumes that the price of a good related with environment can be made up by the sum of attributes that constitute this good. The most common examples in the literature for using this method relate to the impact of air quality on the price of the property. Based on a large collection of information about immovable property transactions in a variety of areas (environments), it is possible to determine the property price(s) depending on its separate attributes, for example, area ( $x_1$ ), age ( $x_2$ ), architecture ( $x_3$ ), air quality ( $x_4$ ), landscaping ( $x_5$ ): $y = d_1x_1 + d_2x_2 + d_3x_3 + d_4x_4 + d_5x_5 + d_0$ Regression coefficients (d) specify how immovable property prices change alongside with the quality or level of one of the attributes and are included in the model. The coefficients of $d_4$ and $d_5$ express the value of these attributes of the environment for which property buyers are willing to pay more in comparison with other areas.
<b>Travel cost method</b>	One of the methods most commonly used by economists is a method of travel costs (TCM). This method is based on the assumption that the value to be attributed to the environment by people is the time allowed for accessing it and costs associated with travelling. The TCM method was developed and is used mainly in the United States to measure the value of recreation sites, primarily for the valuation of such natural objects as national parks, nature reserves etc. It is also used to test the demand for environmental goods used as inputs such as leisure activities (hiking, camping, fishing, swimming, wildlife observation). The economic value of environmental goods estimated by this method consists of the sum of the values: time spent on leisure activities, the costs of travel, the difference in the cost of living away from home and at home, including entry fees and other charges payable locally. The transformed and improved TCM method is also used for more complex operations, for example, to estimate the value of the improvement of the environmental quality.
<b>Willingness to pay and willingness to accept</b>	Environmental resources directly or indirectly, positively or negatively depend on their state's social welfare. In fact, environmental resources with their functions are also economic goods or services because people are willing to pay expenses connected with travelling to unique places, paying higher prices or rent for a house with an attractive location as well as in pure air. Usability also provides optional values, existential and hereditary natural resource. It is considered that the maximum amount that individuals are willing to pay for the environment of the particular good or service

	is a valid estimate of the economic value of that good or service. According to this assumption, methods for estimating the value use the theory of rational consumer behaviour and are based on the evaluation of non-market values of all resources and services' environment.
<b>Cost illness method</b>	The cost of illness approach estimates the direct medical costs associated with an illness and will sometimes include the cost to society resulting from lost earnings. Cost of illness studies do not account for pain and suffering, the value of lost leisure time, or the costs and benefits of preventive measures. This method is applied for evaluation of economic benefits resulting from the improvements in health because of environmental improvement or evaluation of losses arising from the increased number of morbidity or mortality as a result of the deterioration of the environment. The value of lost production based on the relationship between increased morbidity or mortality and the level of harmful emissions is estimated by this method.
<b>Method of social expectations</b>	This method involves an assessment of the value of the environment based on the opinion of people interviewed about the willingness to pay for improving the state of the environment, taking into account different amounts for different quality.

*Source: author's construction*

Table 2 summarises the identified effects and features of agritourism and the methods of their evaluation.

Table 2

#### **Summary of advantages and functions of agro-tourism and the methods of valuation**

Resource	Functions and values	Element of the full economic value	Evaluation methods
Agritourism	Protection of soil against erosion	indirect-use value	Market-evaluation method based on the value of land, replacement cost method etc.
	Self- cleaning air	indirect-use value	Market method by comparing with other technologies
	Landscape	indirect-use value existential value	Hedonic price method Contingent valuation method
	Biodiversity	indirect-use value optional value	Contingent valuation method Hedonic price method
	Recreation values	indirect-use value	Travel cost methods
	The function of production	direct-use value	The method of market prices
	The quality of the water	indirect-use value	Market method, a comparison with the cost of cleaning other technologies

*Source: author's construction based on Lizinski T., 2012*

#### **Research results and discussion**

The study gives evidence that the profile of persons involved in agritourism has not changed significantly over the past ten years in this region. The respondents were checked for normality of distribution by Shapiro-Wilk test (the hypothesis of normality had to be rejected for all the studied features) and it could be noticed that the owners of agritourism farms were mainly men. The study showed that the largest group of respondents (28.7%) were 46-55 years old with the high school education, there was also a group of 56-65 years old (16.7%) with the secondary school education but the group of those respondents dealing with agritourism activities for 8-11 years consisted of 80% of the

respondents. In the survey, 43% of the respondents with secondary education declared their ability to communicate in other languages than their mother tongue and most usually indicated their knowledge of English and German. It can be assumed that the knowledge of languages depends on geographical location of the respondent's entities and their willingness to service foreign customers. According to the respondents, in 2011-2012 they had provided more than 1000 accommodations (91%), and 80% of respondents had accepted more than 300 tourists per year. In the village, the phenomenon of alternative forms of farming has developed for a few years.

Table 3

**Average values of the analysed features, depending on the income of farm management and significance of differences in distributions of the characteristics examined by nonparametric tests**

The variable	$\bar{X}_2$	$\bar{X}_3$	$\bar{X}_4$	Test K-W* P	Test Median ** p
Area	26.5	23.8	24.5	0.45	0.25
Disadvantaged area	15.8	11.2	10.2	0.97	0.81
Age (category)	4.0	4.4	4.1	0.06	0.1
Education (category)	2.6	2.7	3.0	0.02	0.02
The period of agritourism activity	6.1	7.4	8.7	0.00	0.03
Number of people in a family	4.3	4.2	3.7	0.00	0.00
Number of nights per year	401.8	385.0	767.4	0.00	0.00
Annual income (excluding the agritourism activity)	76037	178928	212527	0.00	0.02
Plant production (%)	31.1	55.0	48.5	0.22	0.53
Animal production (%)	4.6	14.0	10.0	0.11	0.12
Mixed production with plant predominance (%)	28.6	22.5	23.1	0.87	0.89
Mixed production with animal predominance (%)	7.1	4.2	3.1	0.77	0.77
Structure of farm income (%)	42.5	63.0	50.8	0.00	0.06
Income structure of agritourism activity (%)	38.1	20.8	23.9	0.00	0.00
Payments area (ha)	26.5	23.8	23.8	0.52	0.25
Value of Rural Development Programme in the period 2004-2006	5357.1	4225.4	769.2	0.47	0.48
Value of Rural Development Programme in the period 2007-2013	44857	43197	46432	0.62	0.19
Refurbishment	192.9	252.1	43.1	0.01	0.01
Heating	1257.1	1366.9	1615.4	0.65	0.68
Rented labour force	71.4	69.0	332.3	0.9	0.89
Deduction	607.1	67.6	536.9	0.00	0.00
Insurance	721.4	47.9	105.2	0.00	0.00
Income from crafts	0.0	0.0	18.5	0.52	0.52
Services	2929	17437	38569	0.07	0.3
Donations	1435.7	3014.2	2800.0	0.7	0.36
Fertilisers	5750	12135	14849	0.01	0.01
Plant protection products	1800.0	5647.9	6690.8	0.053	0.19
Seeds, seedlings, crop insurance	442.9	1724.5	2090.8	0.02	0.00
Purchase of animals	85.9	2445.1	2723.1	0.58	0.64
Cost of animal treatment	0.0	73.2	244.6	0.64	0.65
Mechanical service	228.6	42.3	92.3	0.00	0.00
Materials and tools	21.4	28.2	0.0	0.18	0.18
Interests	5057.1	824.8	418.5	0.00	0.00

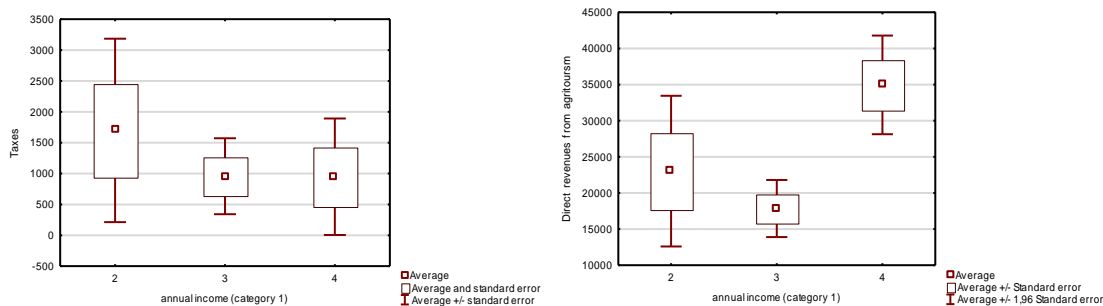
\*ANOVA rank Kruskal-Wallis test, \*\* median test

Source: author's construction

Owing to the fact that agritourism is a source of additional cash income for rural families helping improve the budget, it is expected that this process will become more intensive in the current financial situation. Income of the agricultural population can be derived from agricultural production, non-agricultural activities, and unearned income sources. This revenue is an important economic category as sets a standard of living of the rural community.

The research conducted in Lower Silesia shows that income from agritourism activities represents approximately 30-40% of all personal income of farm families. The author has also confirmed this thesis by her research which was financed by the project "Multifunctional Development of Rural Areas in Poland" and was carried out in 2005-2009. In the opinion of the majority of the respondents, the income from tourism activities remained at higher level than those derived from agricultural activities (Brelik A., 2011). In the below study, the author has described the average values of the studied features depending on the income of farm management and the significance of differences in distributions of the characteristics of respondents by nonparametric tests.

Features that had at least the ordinal scale were examined whether the income derived differentiated distributions of these characteristics. For those characteristics, the author conducted nonparametric ANOVA tests rank Kruskal-Wallis and median test (Table 3). For the examined 91 features, ANOVA rank Kruskal-Wallis test in 31 cases rejected the hypothesis of the similarity of distributions depending on their income. In contrast, median test in 29 cases pointed out that the Court must reject the hypothesis of equality of means. After analysing these characteristics, the author had to reject the hypothesis of equality of distributions or medians, depending on the level of generated income it was possible to observe the following: higher income was associated with higher revenues from the sale of meals, services and crop production. Distribution of income from agritourism was similar to the distribution of the number of annual tourist visits in scope of agritourism, the number of tourists' nights spent per year and the number of beds in total. Those farms that achieved greater income were more active in promoting, purchasing of fertilisers, seeds, seedlings, crop insurance, and fuel. The respondents of the higher income category were on average more educated and had higher average experience in running agritourism.



Source: author's construction

Fig. 1. Features relative to income for those traits in which ANOVA rank Kruskal-Wallis test detected the significance of differences of distributions and median test

In order to identify factors differentiating the prevalence of public goods and the relationship between them, the author used  $\chi^2$  test of independence, which distinguishes the statistical significance of the relationship between two variables, both measurable and non-measurable. This test is based on comparing the number of responses obtained in numerically pointed studies setting an assumption that there is no relationship between the analysed variables. The values of  $\chi^2$  and degrees of freedom (df)

are working and are generally not evaluated in the test. Interpretation primarily presents the level of probability ( $p$ ), on the basis of which it is possible to confirm the existence of dependence or lack thereof.

In the article, the research adopted a critical level  $p < 0.05$ . The first of the analysed factors was the gender of the owners of agritourism farms. The results revealed that sex generally does not differentiate knowledge of the term "public good". In the contrast to the gender of the respondents, their age largely differentiated knowledge of the term public goods among the owners of tourism farms. The study showed a significant statistical difference between the age of the head of agritourism farm and knowledge of terminology. Nearly half of the respondents (48%) aged 26-35 years demonstrated this knowledge; however, there were also such people (3.33%) who did not know what a public good is.

## Conclusions

Sustainable and multifunctional rural development requires sound management of natural resources occurring in those areas. Rational management is impossible without a full assessment of the value of these resources and their functions. These resources often perform the functions of public goods which do not reflect the full value of market economic categories.

The article presents the concept of the full economic value of natural resources and the basic methods for determining that value, i.e. the willingness to pay (WTP), contingent evaluation method (CVM) method, the cost of the disease (COIM), hedonic price method (HPM), and a method of travel costs (TCM). The study tried to detect the relationships occurring between the variables and the role of public goods provided by the owners of tourism farms to the public and rewards for their delivery. The study showed a statistically significant relationship between the variables. Assuming that agritourism farms create and cultivate public goods (such as landscape, biodiversity, rural culture, tradition, food safety, and food security) speculative capital is less likely to participate in this process than that of family farms. Therefore, agricultural policy creates certain institutional barriers and favours farmers. These conditions mean that agricultural subsidies under the CAP cannot be regarded as a political survivor in accordance with their classical definition. According to the author of the Rural Development Programme, it is necessary to take into account the wages of farmers engaged in agro-tourism for the provision of specific public goods.

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## ACCIDENTS AT WORK AND OCCUPATIONAL DISEASES IN AGRICULTURE IN POLAND

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**Abstract.** The aim of this study is to analyse work accidents and occupational diseases of workers employed in agriculture and farmers in Poland in the years 2005-2010. The basic numerical material included the data derived from the Central Statistical Office (GUS) and the Agricultural Social Insurance Fund (KRUS). The analysis is based on the severity of accidents index and the occupational diseases incidence index. The results of the obtained calculation show that in the analysed period, the accident rate in agriculture remained stable, while the incidence of agricultural occupational diseases tended to increase.

**Key words:** occupational safety, accident rate in agriculture, occupational diseases in agriculture.

**JEL code:** Q19

### Introduction

Polish agriculture, which has been functioning under the conditions of market economy for a relatively short period, is unusually diverse and heterogeneous in many regards. With regard to the issue of occupational safety, this diversity associates with the existence of completely dissimilar legal and insurance-related determining factors regarding persons employed in agriculture, individual farmers, and the so-called farmer-workers (*PL - chłoprobotnik*), i.e. individuals running agricultural holdings and at the same time being employed outside agriculture (insured in the ZUS - Social Insurance Institution), which are not taken into account in accident statistics. The statistics for persons employed in agriculture indicate that in general, there are 2.3 million people employed in this branch of economy, while the number of farmers and their families that are insured in the KRUS (Agricultural Social Insurance Fund) amounts to 1.5 million. At the same time, there are circa 100 thousand persons employed on the basis of an employment relationship, whereby 47 thousand of the aforementioned number is employed in individual agricultural holdings. Another group are the so-called farmer-workers accounting for around 600 thousand. These people are insured in the ZUS, yet, without the obligatory agricultural holding occupational accident insurance but with a possible voluntary insurance.

Insurance systems essentially determine the level of coverage during work as well as the rights and obligations of the insured party. Individuals insured by the ZUS are employees and the labour protection system has been created for them. Farmers insured by the KRUS may not benefit from the above and, at the same time, are not encumbered with obligations regarding Occupational Health and Safety regulations. Pursuant to mandatory regulations, farmers and employees are obligatorily insured considering the effects of occupational accidents; however, their status as individuals entitled to accident-related benefits is varied.

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Agriculture, in particular individual farming, is characterised by a high accident rate, making the farmer's profession one of the most dangerous occupations in the Polish economy. Work in agriculture involves farmer's direct contact with plants and animals, waste products and processed agricultural products as well as farmyard manure, slurry, and liquid manure. Moreover, the use of plant protection products involves the intentional introduction of harmful or toxic substances in the workplace environment. With this in mind, the study attempts to estimate the rate of injuries and occupational diseases in Polish agriculture in the period of 2005-2010. It was a period of intense transformation in agriculture forced by Polish accession to the European Union and the ensuing obligation to meet the EU standards including those referring to occupational safety and health.

In order to present the state of occupational safety and health protection in Polish agriculture in as objective manner as possible, the authors conducted an analysis of the research reference books. The basic numerical data was constituted by the information provided by the Central Statistical Office and the Agricultural Social Insurance Fund with regard to the years 2005-2010.

The dominating group of persons employed in Polish agriculture are individual farmers who accounted for 1535461 (insured in the KRUS) at the end of 2010. The second largest group is constituted by workers employed in agricultural holdings on the grounds of employment relationships based on employment contracts, amounting to 97900 (insured by the ZUS) at the aforementioned time.

With regard to the diversity of the legal status of persons employed in agriculture, and, thus, the existence of differences in scope of the recipient and provider of payments related to social insurances, the accident statistics of individual farmers are prepared by the KRUS. While the GUS (Central Statistical Office) prepares the statistics for agricultural employees based on the cards of occupational accident statistics. Therefore, numerical data on the recorded accidents do not reflect the actual scale of the issue. That is why various accident rate indices are always used to analyse and describe the situation in scope of the accident rate.

The accident rate is the sum of all the accidents, which ensued in a given period (most often during a year) presented by the means of indices. There are two indices which are the most important in determining the measure of the accident rate: severity  $C_w$  and frequency  $W_{1000}$ .

It is worth remembering that the frequency index, usually called the accident rate index, describes the number of accidents (victims) falling on a certain number of employees (e.g. on 1000 employees). The accident severity index describes the effects of accidents and shows how many working days have been lost on average as an effect of one average accident.

Using accident rate indices enables the performance of comparisons, the scope of which may concern specific facilities, trades, or even countries as well as allows for their evaluation and classification with regard to the above (Studenski R., 1997). The comparisons, however, in principle require the use of uniformly defined indices and identically compiled statistics. Such diversity is present in not only among the EU Member States but also within Poland, where the agricultural workers' accident rate indices are being calculated differently from the indices in relation to individual farmers. The authors have performed their own calculations based on the GUS method in order to compare the accident rate indices of workers and individual farmers.

### **Research results and discussion**

The numerical data on the number of workers employed in agriculture within the analysed period and the number of accidents were acquired from the annual GUS publications "Employment in National

Economy" and "Accidents at Work". The GUS also publishes indices of severity and frequency of accidents, whereby indices for agriculture are published from 2009. Therefore, the calculation was based on the GUS data for the period of 2005-2008. Information concerning persons employed in agriculture and the entire agriculture section as well as for all trades has been listed in Table 1.

Table 1

**Persons employed in agriculture and the index of severity of accidents, 2005-2010**

Year	2005	2006	2007	2008	2009	2010
Specification						
Agricultural employees' absence caused by accidents	60470	64524	56949	66888	43197	48345
Total number of accidents	1273	1375	1283	1391	942	1029
<b>Severity of accidents affecting agricultural workers in accordance to GUS - <math>Cw = \frac{ds}{lw}</math></b>	<b>48.0</b>	<b>47.3</b>	<b>44.9</b>	<b>48.8</b>	<b>46.5</b>	<b>47.5</b>
Severity of accidents affecting persons employed in agriculture, hunting, forestry in accordance to GUS - $Cw = \frac{ds}{lw}$	49.1	48.8	47.9	49.4	47.3	47.6
Severity of accidents affecting workers of all trades in accordance to GUS - $Cw = \frac{ds}{lw}$	43.7	43.6	41.4	41.1	42.4	41.7

**Source: authors' calculations based on the GUS data 2005, 2006, 2007, 2008, 2009, 2010**

The accident severity index ( $Cw$ ) - the relation between the number of daily wages lost ( $ds$ ) as an effect of absence related with an accident and the total number of accidents ( $lw$ ), which is illustrated by

the following equation:  $Cw = \frac{ds}{lw}$ .

Within the analysed period, the index of severity of accidents, which occurred among agricultural workers, does not point to any significant change trends and oscillates around 44.4 - 48.1. The arithmetic average of this index amounts to 47.2 and determines the average period of incapacity for work caused by an accident for persons employed in agriculture. The values above the average have been noted in 2005, 2006, 2008, and 2010.

The accident severity index of persons employed in agriculture is somewhat lower than the indices for the entire agriculture, forestry, hunting, and fishery section which indicates that forestry, hunting, and fishery are characterised by working conditions generating accidents of a higher level of severity. In the analysed period, the severity of accidents in agriculture was higher by as much as 10% than the severity of accidents in all trades.

The index of frequency of accidents calculated by GUS is the number of accident victims falling on 1000 working persons (employees, employers, self-employed, co-operators, and others).

The accident frequency index - the relation between the number of accidents ( $lw$ ) and the number of employees ( $Z$ ) per each thousand employees, which is illustrated by the following equation:

$$W_{1000} = \frac{lw}{Z} \bullet 1000.$$

In order to calculate this index, an average number of working persons has been assumed, which amounts to the arithmetic average of two states - as on 31 December of a given year, i.e. the year preceding the analysed year and the state as on the analysed year without recalculating part-time employed persons into full-time employed persons (Zgierska A., 2008). The calculations presented in Table 2 have been performed pursuant to the above rule, which constitutes a practice for GUS calculations.

The data for the calculations - numerical data acquired from the aforementioned GUS publications and the calculated index  $W_{1000}$  are presented in Table 2.

Table 2

### Employment in agriculture and the index of accident frequency, 2005 - 2010

Year	2005	2006	2007	2008	2009	2010
Specification						
Employees - state as on 31 December (thousand)	109.8	110.5	110.8	109.6	91.5	97.9
Average employment for calculations (thousand)	~110.1	~110.1	~110.6	~110.2	~100.5	~94.7
Number of accidents - victims	1273	1375	1283	1391	942	1029
<b>Frequency of accidents in accordance with authors' calculations <math>W_{1000}</math></b>	<b>11.59</b>	<b>12.49</b>	<b>11.60</b>	<b>12.62</b>	<b>9.37</b>	<b>10.86</b>
Frequency of accidents in accordance with GUS - agriculture, hunting, forestry	12.65	13.69	12.59	14.11	11.40	13.4
Index of accident frequency on a general national level	7.99	8.83	8.82	8.96	7.47	8.15

**Source: authors' calculations based on the GUS data 2005, 2006, 2007, 2008, 2009, 2010**

The obtained results give evidence of the fact that **the index of accident frequency** in the analysed period has fallen from the level of 11.59 in 2005 to the value of 10.86 in 2010. The arithmetic average of this index amounts to 11.42 which means that on average this number out of each 1000 employees in a year became victims of work accidents.

In the analysed period, the calculated accident frequency rates in agriculture were lower than the corresponding rates for the section including agriculture, forestry, hunting, and fishing by 10-30%. It can be concluded that agriculture in this section does not generate the highest number of accidents but it definitely surpasses the injury rates for all industries in Poland together.

Similarly, the frequency of fatal accidents of employees of agriculture is one of the highest. The index of fatal accident frequency for agricultural workers within the analysed period has fallen from the level of 0.127 to the value of 0.116 at the end of 2010, reaching the average value of 0.125.

The KRUS conducts and publishes the accident statistics of individual farmers, yet it publishes neither the index of accident severity nor any information on the absences caused by agricultural work accidents. The measure of the accident rate in accordance with the KRUS is one index - the **accident rate index**, which is the number of accidents having effect in a single indemnity, falling on the number of insured parties in accordance with the status as at the end of the year. This is a specific index, which does not have an equivalent in GUS statistics, and is sometimes wrongly compared with the index of accident frequency in other trades. To prepare the comparison of the accident rate in individual agriculture with agriculture employees and persons working in other trades, a calculation of the index in accordance with the GUS regulations was performed, i.e. by dividing the number of recorded accidents by the average number of insured parties in a year.

The **fatal accident frequency index** calculated by the KRUS is the number of fatal accidents per 1000 insured parties.

Table 3

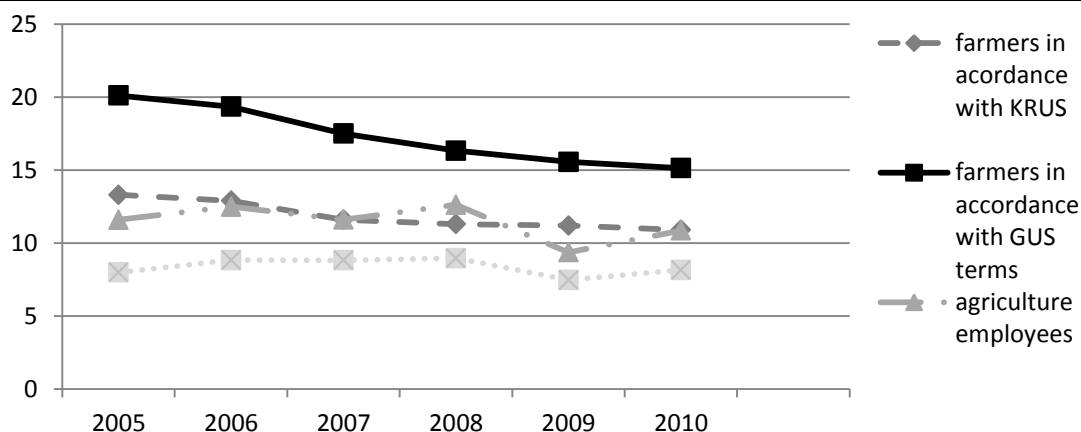
**Numerical data and results of calculations of agricultural work accident and agricultural work fatal accident frequency, 2005-2010**

Year	2005	2006	2007	2008	2009	2010
<b>Specification</b>						
Number of insured parties - state as on 31 December 2004 - 1540158	1581929	1615272	1598197	1574394	1570328	1535461
<i>Number of insured parties - average value for calculations</i>	1561043	1598600	1606734	1586295	1572361	1552894
Accidents recorded as agricultural work accidents	31394	30917	28113	25899	24461	23494
Accidents resulting in payment of single indemnities	20869	20651	18723	17956	17620	16897
<b>Frequency in accordance with the KRUS</b>	<b>13.3</b>	<b>12.9</b>	<b>11.6</b>	<b>11.3</b>	<b>11.2</b>	<b>10.9</b>
<b>Calculated frequency <math>W_{1000}</math></b>	<b>20.11</b>	<b>19.34</b>	<b>17.50</b>	<b>16.33</b>	<b>15.56</b>	<b>15.13</b>
Fatal accidents	128	123	94	95	102	89
<b>Frequency of fatal accidents</b>	<b>0.08</b>	<b>0.08</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>

*Source: authors' calculations based on the KRUS data 2005, 2006, 2007, 2008, 2009, 2010*

The value of the accident rate coefficient calculated by the KRUS shows a constant downward trend. Within the evaluated period, its value has fallen from 13.3 in 2005 to 10.9 in 2010. A similar trend is shown by the index calculated in accordance with the regulations of the GUS, which, however, is nearly 50% higher than the one officially calculated by the KRUS.

The index of frequency of accidents also shows a stable downward trend and in the analysed period, it has fluctuated in the range from 0.08 in 2005 to 0.06 in 2010. In addition, the total number of fatal accidents in this period has also fallen from 128 to 89.



Source: authors' calculations based on the GUS and the KRUS data 2005, 2006, 2007, 2008, 2009, 2010

Fig.1. Comparison of accident frequency indices in accordance with the KRUS and the GUS, 2005-2010

All numbers and indices related with agricultural work accidents indicate downward trends from 2005, however, even earlier years showed a similar direction of changes.

### Occupational illnesses in agriculture

An essential role in the discussion on occupational illness is the **index of incidence** of occupational illnesses (i.e. the number of occupational illnesses per 100 thousand employees), which is the statistical measure of incidence allowing to compare and evaluate (Izycki J., 1997). At the same time, the incidence of occupational illnesses is an index showing the level of the state of occupational safety and health in Poland.

The results of the data analysis presented in Table 4 suggest that during 2005-2010, the number of recorded occupational illnesses at the national level fell from 3249 to 2933. While in agriculture, there was a significant fall - from 196 in 2005 to 141 in 2006, followed by alternating falls and rises finally reaching the number 222 in 2010, at the end of the analysed period. This number was by 26 higher than the number recorded in 2005. Nevertheless, the number of agricultural occupational illnesses in the discussed period has risen from 135 to 170, which does not have to induce concern, as a significant problem in this case is the undervaluation, which lasted for years being the result of, among others, the lack of prophylactic health-care of individual farmers, the lack of monitoring of the work environment and the system of jurisdiction in cases of occupational illnesses, which is not adapted to cover individual farmers.

In the analysed period, the dominating illnesses among the diagnosed occupational illnesses of farmers were infectious tick-borne illnesses, including borreliosis which is being recorded consecutively more often (76 in 2005; 59 in 2006; 70 in 2007; 88 in 2008; 146 in 2009; and 134 in 2010). The increasing number of farmers diagnosed with borreliosis does imply the real growth in the incidence of the disease among farmers.

Table 4

**Occupational illnesses in agriculture in comparison with the national average,  
2005- 2010**

Year	2005	2006	2007	2008	2009	2010
Specification						
Number of occupational illnesses in Poland	3249	3129	3258	3546	3146	2933
Incidence in Poland	34.8	32.8	33.5	34.7	29.9	28.3
Number of occupational illnesses in agriculture	196	141	160	219	200	222
Incidence - employees in agriculture	177.5	128.4	144.8	197.7	198.7	234.4
Number of agricultural occupational illnesses	135	107	105	130	174	170
Number of insured individual farmers - average	1561043	1598600	1606734	1586295	1572361	1552894
<b>Incidence of agricultural occupational illnesses</b>	<b>8.65</b>	<b>6.69</b>	<b>6.30</b>	<b>8.20</b>	<b>11.07</b>	<b>10.95</b>

*Source: authors' calculations based on the GUS, KRUS and IMP Lodz data 2005, 2006, 2007, 2008, 2009, 2010*

This probably results from the fact that doctors from rural health centres have currently become better acquainted with the procedures of diagnosing occupational diseases owing to the conferences entitled "The Risk of Occupational Disease of Farmers", which were organised by the Agricultural Social Insurance Fund during the years 2008-2010, and the fact that farmers are informed about the allowances they are entitled to when diagnosed with occupational disease (Zagorski J., 2009).

### Conclusions

1. The accident rate in agriculture in 2005-2010 shows no major change trends which should be the signal for a more intense action to prevent accidents at work and occupational diseases of farmers.
2. The conducted analysis of accident statistics of employees and individual farmers insured in the KRUS has shown differences in the methods of calculating accident rate indices. As a result, the frequency of accidents aggregated and published by the KRUS is being underrated compared with the indices of other trades. When calculating this index in accordance with the GUS method, the accident frequency index of farmers insured in the KRUS is clearly higher than the value of this index for agricultural employees or for the entire national economy.
3. The fatal accident frequency index for agricultural workers is higher than the rate calculated for all industries together.
4. The incidence of occupational illnesses among individual farmers is at an unbelievably low level and its comparison with the incidence among employees reveals only the weakness of the system or rather the lack of a system of prophylactic health-care for individual farmers as well as the difficulties of diagnosing most illnesses and recognising their symptoms by family physicians in rural areas.

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**MAIN DEVELOPMENT TRENDS OF GROCERY RETAIL INDUSTRY: CASE  
STUDIES OF LATVIA, LITHUANIA AND ESTONIA****Dina Popluga**<sup>1</sup>, Dr.oec.; **Irina Pilvere**<sup>1</sup>, Dr.oec.; **Aleksejs Nipers**<sup>2</sup>, Dr.oec.<sup>1</sup><sup>1</sup> Institute of Economics and Regional Development, Faculty of Economics and Social Development, Latvia University of Agriculture<sup>2</sup> Institute of Economics and Business, Riga International School of Economics and Business Administration

**Abstract.** Dynamic development and changing trends have become the most characteristic features of grocery retail sector in almost all developed countries. Because of the rising consumer spending power and the availability of a comparatively cheap land, many modern retailers have expanded into the Eastern Europe. Therefore, the Eastern Europe, including Latvia, Lithuania, and Estonia, has become as one of the regions with the fastest growing store-based grocery retailing. Such global changes in the sphere of grocery retailing served as the basis for the research aim – to determine the main development trends of grocery retail sector in three neighbouring countries – Latvia, Lithuania, and Estonia during the period from 2006 to 2011. Research results showed that Latvian, Lithuanian, and Estonian grocery retail sectors have undergone structural changes; as a result, food products mainly are distributed through modern grocery retailers, like hypermarkets, supermarkets, and convenience stores. Although, a constant decline of traditional retailing can be observed in all the countries studied, there are signs of change. It was also concluded that Latvian, Lithuanian, and Estonian grocery retail sector could be characterised as highly concentrated.

**Key words:** grocery, retail, sector, Latvia, Lithuania, Estonia.

**JEL code:** L1, L810.

**Introduction**

Globalisation has imposed distinctive structural changes on the grocery retail industry, and worldwide grocers are undergoing significant structural and managerial changes in order to achieve both lower costs and improved services (Arkader R., Frossard Ferreira C., 2004). Recent studies (Agriculture and Agri-Food Canada, 2010; Popkowski Leszczyc P.T.L. et al., 2004) suggest that one of the key global trends in grocery retailing is segmentation. It means that a supermarket, which has been the most common format of a food store, is being displaced to some extent by larger hypermarkets on the one hand and smaller convenience stores on the other hand.

According to global retail market analysis (Agriculture and Agri-Food Canada, 2010), because of the rising consumer spending power and the availability of a comparatively cheap land many modern retailers have expanded into the Eastern Europe. Therefore, the Eastern Europe, including Latvia, Lithuania, and Estonia, has become as one of the regions with the most rapidly growing store-based grocery retailing. Such global changes in the sphere of grocery retailing served as the basis for the research **hypothesis**: Latvian, Lithuanian, and Estonian grocers are undergoing significant changes. The defined hypothesis initiated the **aim** of this study: to determine the main development trends of grocery retail sector in

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three neighbouring countries – Latvia, Lithuania, and Estonia. The following research **tasks** are advanced to achieve the set aim:

- 1) to analyse the structure of grocery retail sector in Latvia, Lithuania, and Estonia;
- 2) to define and describe the key players in grocery retail sector in Latvia, Lithuania, and Estonia;
- 3) to detect the main differences between the studied countries.

To achieve the set aim and tasks of the research, the authors have used the publications and studies of Latvian and foreign scientists, statistical data from the Central Statistical Bureau of Latvia, Lithuania and Estonia, Eurostat that covers five years during the period from 2006 to 2011 as well as authors have analysed publications and studies of Latvian and foreign scientists and information from largest grocery retailers in the studied countries. The research authors have widely applied generally accepted research methods in economics, i.e. monographic descriptive method as well as analysis and synthesis methods to study the problem elements.

## **Results and discussion**

In order to better understand and determine the main development trends of grocery retail sector in the studied countries, in this study, the authors have focused on two parameters that can be used to characterise a certain sector. These parameters were structural changes and competitive environment, i.e. key retail players of grocery retail sector.

### **1. Structural changes**

Grocery retail sector is closely linked with the level of population, i.e. consumers' welfare. Therefore, its development can be affected by many factors, e.g. political and economic situation in the country, entrepreneurial environment, amount of investments as well as other macroeconomic factors (Agriculture and Agri-Food Canada, 2010). As in other countries, also Latvian, Lithuanian, and Estonian retail sectors have undergone structural changes (Vanags A., Paalzow A., 2007) and this process is still going on.

During the Soviet times (1940-1990), in Latvia, Lithuania, and Estonia, food was sold in specialised corner shops (bread shop, dairy shop, meat shop) as well there were larger supermarkets (Univermag) that sold all types of consumer goods. These shops were state owned. In Latvia, Lithuania, and Estonia independent retail chains started their expansion in the middle of the 1990s after the countries regained their independence (Grike I., 2012). In this research, such type of grocery retailers are defined as traditional grocery retailers. This type includes independent small grocers, food/drink/tobacco specialists and other grocery retailers. Today in Latvia, Lithuania, and Estonia, structural changes in grocery retail can be observed where food products mainly are distributed through modern grocery retailers. According to the internationally accepted classification, in this research, modern grocery retailers were defined as the following types of stores:

- hypermarket - trade area, which covers more than 2 500 m<sup>2</sup> and in which non-food products occupy not less than 35% of the area. Hypermarkets are usually located on the outskirts of cities or in shopping malls;
- supermarket - trading area, occupying 400 to 2 500 m<sup>2</sup> and in which 70% of all products are food and everyday products;

- convenience store - food retail chain stores that offer a wide range of food products and have the sales area that does not exceed 300 m<sup>2</sup>. These stores are usually located in residential areas of large cities and small towns;
- discounter - trade area, which occupies from 300 to 1 000 m<sup>2</sup> and in which goods are traded with minimal price difference (5-7%);
- forecourt retailer - store, which is located next to a petrol station. These types of stores usually have extended hours and sales area of 400 m<sup>2</sup>. They trade products in the following categories: audio-visual products, fast food, the press, greeting cards, car accessories etc.

Although the overall development trends of grocery retail sector are similar in Latvia, Lithuania, and in Estonia, there can be detected specific features that are characteristic only to a particular country.

### **Latvia**

Development of grocery retail sector in Latvia has been closely related with the situation in country's economy and population's welfare level. In 2009, when Latvian economy was in the post-crisis recovery phase, the retail sector took a waiting position as retailers postponed their expansion plans and, consequently, high unemployment rate determined people to cut their spending. The situation began to change in 2010 when the situation in the economy started to improve, i.e. the number of employees gradually grew, the wages climbed, and the purchasing power of the population increased. According to the statistical data in 2012 compared to 2011, the retail sales have risen by 9.7% (Central Statistical Bureau of Latvia, 2013). However, if one compares changes in grocery retailers' sales in a longer time scale, then in 2011 it has risen by 11.2% compared with 2006.

Statistics show that the number of modern grocery retailers' outlets in 2011 has risen by 2%, if compared with 2010, while the number of traditional grocery retailers' outlets continued to decline (Central Statistical Bureau of Latvia, 2013), marking a similar trend as in other economically developed countries (Agriculture and Agri-Food Canada, 2010; Arkader R., Frossard Ferreira, C. 2004). Such a trend in the retail sector accords with the pace of the modern consumer lifestyle when shopping convenience, a wide range of products, many discounts and special offers, availability of car parking have become the determinants of retail store selection. Other scientists who have studied the situation and consumers' behaviour in grocery retail sector (Pancencko E. u.c., 2008; Popkowski Leszczyc P.T.L. et al., 2004) have also pointed out similar findings. In response to the growing demand of consumers, retailers open new stores in densely populated urban housing estates and shopping centres.

According to the statistical information (Central Statistical Bureau of Latvia, 2013), the most popular food distribution channels in Latvia are convenience stores (forming 41.2% of total grocery retailers' sales), supermarkets (23.7%), and hypermarkets (14.9%). Several below mentioned factors have contributed to more rapid development of such types of grocery retailers:

- the entrance of Lithuanian company UAB Maxima Groupe in the Latvian retail market and expansion of convenience stores network Maxima X throughout the country;
- aspirations of independent small grocers to survive in a climate of increasing competition from supermarkets and hypermarkets. Small independent players united to form trade co-operatives such as Baltstor SIA with the Vesko brand, Latvijas Tirgotāju Kooperācija AIBE SIA with Aibe, Iepirkumu Grupa SIA with top!, and the newest player, founded at the end of 2007, Latvijas Tirgotāju Savienība SIA with LaTS;

- consumers' overall swing towards large stores and shopping centres where food operators are hypermarkets as well as openings of new hypermarkets (key players - Rimi and Prisma hypermarket networks);
- new supermarkets were opened by all the core players – Maxima Latvija SIA, Rimi Latvia SIA and Palink SIA (Iki stores).

In the post-crisis period, discounters have slightly lost their popularity in Latvia and the total turnover of this type's grocery retailers showed a declining trend from 2006 to 2011. Until 2012, only two discounter's chains Supernetto (Rimi Latvia SIA) and Cento (Palink Ltd) were operated in Latvia.

While the overall sales of traditional grocery retailers are decreasing every year, chained food/beverage/tobacco specialists remain the strongest players among traditional grocery retailers. These usually belong to large local food manufacturers and mainly offer their branded products. Some chains such as Laima stores by Saldumu Tirdznieciba SIA and Latvijas Balzams by Bravo SIA, are traditional for Latvia. Other popular representatives of this type's retailers are Putnu Fabrika Kekava AS and Daudznozaru Kompanija Daugava SIA, which have significantly expanded their networks of branded stores in order to reduce their dependence on the leading modern grocery retailers such as hypermarkets and supermarkets.

### **Lithuania**

In Lithuania, like in Latvia, it is possible to observe retail sector modernisation and modern grocery retailers becoming as most popular distribution channel accounting for 86% share of the total grocery retailers' sales in 2012 (Statistics Lithuania, 2013). The analysis of the changes in grocery retailers' sales leads to the conclusion that Lithuania is the only one among the studied countries where grocery retail sector has experienced a significant decrease in sales. In 2011, total grocery retailers' sales fell by 16.8% compared with 2006. Positive development tendencies, e.g. when sales amounts in 2011 exceeded 2006 level, can be referred only to discounters and food/drink/tobacco specialists. The main factors that limited the purchasing power of consumers in relation to food were the low level of wages, rising heating bills, purchasing of other non-food products as well as the price decline of some food categories, influenced by the falling global commodity prices (Lietuvos bankas, 2011).

According to statistical information (Statistics Lithuania, 2013), the most popular food distribution channels in Lithuania are supermarkets (forming 43.5% of total grocery retailers' sales), hypermarkets (23.4%), and convenience stores (13.1%). Overall, there can be observed several main trends in the Lithuanian grocery retail sector:

- within better economic situation in the country, consumers' buying habits have changed - if earlier preference was given to lower commodity prices, then now positive shopping experience is more important. To keep abreast of these changes in 2011 and 2012, a number of grocery retailers networks modernised the existing stores as well as opened new convenience stores, supermarkets, and hypermarkets;
- the importance of traditional retailing declined over the review period; however, there are signs of change;
- the demand for exclusive delicacies and foods have increased that has contributed to the growth and development of food/beverage/tobacco specialist stores.

**Estonia**

Like in Latvia and Lithuania, also in Estonia hypermarket and supermarket segments continued to expand but the importance of small individual retailers has decreased constantly. Such store types as hypermarkets, supermarkets, and discounters have built up extensive store networks that are able to offer to consumers a very diverse range of products for competitive prices.

In the period of economic crisis, the Estonian consumers preferred discounters, because they made it possible to reduce everyday expenses. In 2011, only one discounter network Säästumarket (Rimi Eesti Food AS) operated in Estonia. Alongside with the improvement of the economic situation in the country and rising income level, consumers started to increase their purchases in supermarkets rather than in low-cost stores, i.e. discounters. Such conditions led supermarkets to maintain their leading position in the Estonian grocery retail market.

In Estonia, according to statistical data (Statistics Estonia, 2014), the amount of grocery retailers' sales has increased most significantly compared with Latvia and Lithuania. During the period from 2006 to 2011, the total amount of grocery retail sales in Estonia increased by 26%. However, such an increase is mainly related with the growing prices after adopting the euro in 2011. In Estonia, according to the statistical information provided by Eurostat (2012), in 2011, there was recorded the second fastest price increase among all the European Union Member States, comprising 5.1%.

In general, modern grocery retailers - supermarkets, convenience stores, hypermarkets, and discounters - dominate in the Estonian food retail market, constituting accordingly 27.1%, 24%, 21.9%, and 16% of the total grocery retail sector's sales. However, the role of traditional grocery retailers remains significant in rural areas with small population where modern retailers are not profitable to place their store networks.

**2. Key players in grocery retail sector****Latvia**

Main players in the Latvian grocery retail sector are foreign companies. Nearly half or 43.4% of total grocery retail turnover comes from two foreign companies - SIA Rimi Latvia, a subsidiary of the Swedish company ICA AB, and Maxima Latvia SIA, a subsidiary of the Lithuanian company Maxima LT UAB (Table 1).

The next most important players in the Latvian grocery retail are local retail companies, which actually are marketing cooperatives that unite small independent Latvian traders. One of the largest of such local companies is Baltstor SIA that acquires 7% of total turnover in the grocery retail sector. Such local companies as Latvijas Tirgotāju Savienība SIA and Partikas Tirdzniecības Apvienība SIA, representing respectively 6.1% and 6.0% of total grocery sales, take similar market shares.

The data summarised in Table 1 show that all the key players in Latvian grocery retail sector have created national store chain coverage, which allows them to attract the maximum numbers of potential consumers. However, foreign companies Rimi Latvia SIA and Maxima Latvija SIA are mainly concentrated in densely populated urban areas, mainly Riga and other largest cities.

Table 1

**Top five Latvian grocery retail companies and their characteristic features in 2012**  
(mln LVL and %)

Store chain	Company	Capital origin country	Number of stores	Turnover, mln LVL	Market share, %
Rimi, Supernetto	Rimi Latvia SIA	Sweden	113	417.2	23.3
Maxima	Maxima Latvija SIA	Lithuania	141	413.2	20.1
Vesko, Mego	Baltstor SIA	Latvia	130	146.8	7.0
LaTS	Latvijas Tirgotāju Savienība SIA	Latvia	702	111.0	6.1
Elvi	Partikas Tirdzniecības Apvienība SIA	Latvia	89	74.5	6.0

**Source: authors' calculations based on the data of Maxima Grupe, 2014a; ICA Gruppen, 2013; retail companies' websites**

Yet, in rural areas, there are available either small independent stores, which thrive due to the fact that they are also the sole players in the particular area, or independent small stores, which are the members of Latvian trade co-operations.

### Lithuania

The main characteristic of Lithuanian grocery retail market is a pronounced dominance of local retailers – 3 of 5 largest grocery retailers are Lithuanian companies. A clear leader is Lithuanian company Maxima LT UAB, which according to statistical information (Maxima Grupe, 2014b) constitutes about 40% of total grocery retail sales in Lithuania. The second largest market player is an international company Palink UAB, whose largest shareholders are German, Belgian, French, Italian, and Swiss traders union Coopernic - the second largest food retail organisation in Europe.

Table 2

**Top five Lithuanian grocery retail companies and their characteristic features in 2012**  
(bln LTL and %)

Store chain	Company	Capital origin country	Number of stores	Turnover, bln LTL*	Market share, %
Maxima	Maxima LT UAB	Lithuania	227	4.56	39.1
IKI, IKI Express un IKI Cento	Palink UAB	Germany, Belgium, France, Italy, and Switzerland	226	2.18	16.8
Norfa	Norfos Mazmena UAB	Lithuania	127	1.55	12.0
Rimi	Rimi Lietuva UAB	Sweden	32	1.12	6.5
Aibe	Aibes Mazmena UAB	Lithuania, Latvia	520	0.67	4.8

**Source: authors' calculations based on the data of Maxima Grupe, 2014b; ICA Gruppen, 2013; retail companies' websites**

The third largest food retailer in Lithuania is Lithuanian company Norfos Mazmena UAB, which occupies 12% of total grocery retail market (Table 2).

Overall, the grocery retail sector of Lithuania can be characterised as highly concentrated owing to the fact that five largest grocery retail companies control 79.2% of total market and this market share tends to increase.

### Estonia

In Estonian food retail sector, both local and foreign companies operate. Estonian grocery retailers such as Eesti Tarbijateühistu Keskühistu and Selver AS compete with Swedish company Rimi Eesti Food AS, Lithuanian company Maxima Eesti OÜ, and Finnish company Prisma Peremarket AS (Table 3).

Table 3

**Top five Estonian grocery retail companies and their characteristic features in 2012**  
(mIn EUR and %)

Store chain	Company	Capital origin country	Number of stores	Turnover, mln EUR*	Market share, %
Rimi, Säästumarket	Rimi Eesti Food AS	Sweden	83	358.0	19.0
A&O, Maximarket, Konsum	Eesti Tarbijateühistu Keskühistu	Estonia	259	327.7	18.9
Selver	Selver AS	Estonia	39	317.9	16.2
Maxima	MAXIMA Eesti OÜ	Lithuania	65	291.0	13.8
Prisma	Prisma Peremarket AS	Finland	8	147.0	6.5

*Source: authors' calculations based on the data of Maxima Grupe, 2014c; ICA Gruppen, 2013; retail companies' websites*

Foreign grocery retailers have well adapted to the Estonian consumers' tastes and in their chain stores offer products from national producers. Swedish retail company's ICA AB subsidiary company Rimi Eesti Food AS has become one of the market leaders in Estonia, the company offers a wide range of products and, in order to attract consumers, implements a significant discount policy.

Estonian company Eesti Tarbijateühistu Keskühistu, which essentially runs convenience stores, has the strongest regional coverage and the most extensive store network in Estonia. This network covers cities, towns, but especially villages in rural areas. Other leading grocery retailers run mostly hypermarkets, supermarkets, and discounters, which mostly are located in cities and towns and do not cover rural areas due to the small population.

Estonian, like Lithuanian, grocery retail sector can be characterised as highly concentrated as five largest grocery retail companies control 74.4% of total market and this figure tends to increase.

### Conclusions

1. Today in Latvia, Lithuania, and Estonia, structural changes in grocery retail can be observed where food products mainly are distributed through modern grocery retailers. The most popular food distribution channels were detected as follows:

- in Latvia: convenience stores (forming 41.2% of total grocery retailers' sales), supermarkets (23.7%), and hypermarkets (14.9%);
- in Lithuania: supermarkets (forming 43.5% of total grocery retailers' sales), hypermarkets (23.4%), and convenience stores (13.1%);
- in Estonia: supermarkets, convenience stores, hypermarkets and discounters - creating accordingly 27.1%, 24%, 21.9%, and 16% of total grocery retail sector's sales.

2. Although, a constant decline of traditional retailing can be observed in the all countries studied, there are signs of change:
- in Latvia, chained food/beverage/tobacco specialist stores that belong to large local food manufacturers remain the strongest players among traditional grocery retailers;
  - in Lithuania, the demand for exclusive delicacies and foods have increased that has contributed to the growth and development of food/beverage/tobacco specialist stores;
  - in Estonia, the role of traditional grocery retailers remains significant in rural areas with small population where modern retailers are not profitable to place their store networks.
3. Latvian, Lithuanian, and Estonian grocery retail sectors can be characterised as highly concentrated owing to the fact that five largest grocery retail companies control accordingly 62.5%, 79.2%, and 74.4% of these countries' total market.

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**ACCOUNTING MODEL AT RURAL DEVELOPMENT ORGANISATIONS IN  
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**Abstract.** This research aims to complement scientific research in the field of the accounting methodologies and financial reporting in rural development organisations. The problem of the research is whether there are material differences between financial accounting and reporting at the NPOs and business entities, and whether these differences do not prevent financial information on the activities of the LAGs and rural communities from being properly disclosed. The research results reveal the accounting and financial reporting methodologies at Lithuanian rural development organisations and compare them with the global practise. Such methodologies can be described from several perspectives: financial accounting and financial reporting are based on generally accepted accounting principles; one of the main approaches in measuring the performance and recognising financing is the accrual principle; the expenses incurred in the implementation of certain programmes are grouped in accordance with the methodology adopted by the organisation and they are reflected in the Annual Report as operating expenses; the received and used targeted financing and unpaid voluntary work are detailed in the Explanatory Note. The research identified the following areas for improvement in the NPO accounting methodology and financial reporting: income and expenditure, financing, unpaid work, long-term assets and their reconstruction costs, and capital investments. The researchers made recommendations for addressing the identified problems.

**Key words:** NPO accounting system, NPO financial statements, financing, accrual principle.

**JEL code:** M 41, M 410, L31, L33.

**Introduction**

The European Union (EU) rural development policy measures enhanced participation of rural population, promoted the development of rural communities and establishment of local action groups (LAG). The said activities further intensified after the LEADER method was included in the common EU Rural Development Policy for the period of 2007-2013. Presently, LAGs and rural communities represent the main rural development organisations in Lithuania.

LAGs and rural communities are Non-Profit organisations (NPO) (Law on Associations...). According to A. Aleksandravicius and J. Zukovskis (2011), the objective of rural communities in Lithuania is to underpin the manifestation of the sense of solidarity and community, to promote an active involvement of the citizens in public life aimed at the improvement of living conditions and prevention of social exclusion. These organisations develop new ideas oriented towards topical problems of the society. They attract financial and human resources required to implement measures addressing economic, social, and environmental issues in the living area or community. According to R. Simasius (2007), these organisations enjoy the same rights and duties as other organisations, e.g. the right to pursue non-profit and consequently economic and commercial activities, the duty of reporting etc. On the contrary, they have specific privileges, additional limitations, and obligations. They are governed by the tax law

including all specific features and restrictions that affect the structure and financial management of NPOs. The basic feature of NPOs is that the owners, members, and assistance providers or other persons may not derive a return on capital investment, while the profit generated by the organisation can only be used to finance its activities. In their operation, LAGs and rural communities may use various donated material and natural resources and unpaid voluntary work.

Increasing volumes of the EU support for LAG and rural community initiatives help community-based organisations become an equal business partner to the public sector, and thereby, it is imperative to evaluate whether the received public money is used in the most efficient way. This requires comprehensive and reliable information that can be provided by properly maintained accounting and financial statements reflecting a true and fair view.

Although, globally accounting methodologies in NPOs have been quite extensively researched, more comprehensive scientific research analysing accounting methodologies in NPO and addressing accounting and financial reporting improvement issues are still insufficient in Lithuania. The only noteworthy works by V. Bruzauskas (2011), A. Slavickiene, and D. Zinkeviciene (2007) have a methodological and practical character. This research aims to complement scientific research in the field of the accounting methodology and financial accounting in community-based organisations.

**The research problem** can be formulated in the form of a question whether there are material differences between financial accounting and reporting in NPOs and business entities, and whether those differences do not prevent financial information on the activities of LAGs and rural communities from being properly disclosed.

**Research aim is:** subsequent to the analysis of scientific literature and legislation governing NPO accounting, to project a scenario for improvement of the Lithuanian LAG and rural community accounting system.

To achieve the research aim the following **tasks** are set: to analyse the experience of accounting and financial information disclosure in foreign NPOs, described in scientific literature; to offer a critical assessment of LAG and rural community accounting and financial reporting methodologies in Lithuania and other countries, and to compare them with the accounting and financial reporting methodologies at business organisations; and to give recommendations for improvement of the LAG and rural community accounting system.

**Research methods and sources.** The theoretical basis of the research is founded on the legitimacy theory that relies on the study of previous scientific research into public sector and NPO accounting and financial reporting, supported by analysis of the Law on Associations of the Republic of Lithuania, the Law on Accounting of the Republic of Lithuania, the Law on Financial Statements of the Republic of Lithuania, the order of the Minister for Finance of the Republic of Lithuania, and scientific literature followed by generation of logical conclusions. The theoretical investigation of scientific literature and regulatory documents used the methods of analysis, synthesis, and logical comparison. The examination of the accounting methodologies took into account the needs for economic information and relied on general principles of accounting. The methods of induction and deduction were used to produce proposals for improvement of the methodology of NPO income and expenditure, financing, unpaid work, long-term asset and long-term asset reconstruction cost, and capital investment accounting and financial reporting at rural development organisations. The monographic method was used to reveal the results of the research. The research did not probe into the specific features of the activities of different NPOs but

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rather focused on the existing accounting model used to reflect the results of the activities of rural organisations in financial statements.

### **Research results and discussion**

Organisations engaged in community action have material, financial, and human resources available for the purposes of their objectives. Different stakeholders are willing to receive information on whether the ring-fenced funds provided thereby were used for the intended purpose, how the resources are used, what is the financial position of the organisation etc. (McCarthy, J. H., Shelmon, N. E., Mattie, J. A., 2012). Such evidence can only be offered by reliable financial accounting that contains imperative information for the inception and operation of a NPO. B. Howieson (2013) researched NPO accounting systems in Australia, T.P. Gordon (2013) investigated the same in the USA, while H. Irvine, C. Ryan, M. McGregor-Lowndes (2010) explored them in the UK, the USA, Australia, and New Zealand. The results of their research corroborate that the accounting and financial reporting systems used at NPOs in many countries strive to protect and manage public money and to strengthen accountability and, thus, to eliminate manipulation of the accounting information. Due to their activities, LAG and rural communities in Lithuania are a specific type of NPOs, and thereby, their accountants often face uncertainty related with accounting and financial management.

After the first LAGs and rural communities came into existence, Rules of Accounting and Financial Reporting of Non-profit Limited Civil Liability Legal Persons (hereinafter referred to as the Rules) (On the Rules...) were approved under the order of the Minister for Finance of the Republic of Lithuania. The financial accounting and financial reporting methodology described in the Rules is comparable to that of business entities prescribed in the Lithuanian Business Accounting Standards (Business Accounting Standards...). This could have been determined by the fact that pursuant to the Law on Associations of the Republic of Lithuania (Law on Associations...), rural communities may take up business activities which are not contrary to their by-laws or operational objectives and which are necessary to attain the objectives.

The analysis of the global practice of NPO accounting methodologies revealed that some countries sought conformity of the NPO accounting methodology with the business accounting practice (Herzlinger, R. E., Sherman H. D., 1980; Irvine, H., 1999; McCarthy, J. H., et al., 2012). However, some sources (Gordon, T.P., 2013; Howieson, B., 2013; Financial Accounting..., 2010) argue that there must be variances in the accounting methods of non-profit and business organisations, which stem from the differences in their mission/purpose, information users, organisation management, investment strategy, ownership, and accounting resources. The analysis of the determinants of financial accounting and reporting in organisations with different legal status (business, public, NPO), D. R. Young (2013) highlights that convergence of accounting and reporting principles and forms is more than impossible – it is even disadvantageous.

The Rules lay out the key elements of the accounting and reporting system of NPOs for the NPO accounting system to provide internal and external users of information with true and fair information on the financial position and performance of the organisation. They provide that in their accounting and financial reporting the said entities shall follow generally accepted accounting principles. Lithuanian NPOs shall abide by the Law on Accounting of the Republic of Lithuania, the Law on Associations of the Republic

of Lithuania, the Law on Financial Statements of Entities of the Republic of Lithuania, the Chart of Accounts of NPO including the recommended clarifications, and other legislation related with accounting to secure correct accumulation of the accounting information. If the financial statements of an organisation are drawn up pursuant to the general principles of accounting and the Rules but, nevertheless, fail to offer a correct reflection of the assets, equity, liabilities or income and expenditure of the organisation, they can rely on the respective Business Accounting Standards and state this fact in the Explanatory Note (On the Rules...).

Just like in the case of business entities, one of the key issues in the practical implementation of the NPOs accounting methodology is the use of the accrual principle, the benefits whereof in NPOs accounting are also highlighted in the works by scientists (Chan, J. L., 2003; Calabrese, T. D., 2011; Irvine, H., 2011; McCarthy, J. H., et al., 2012). By virtue of this principle, the collected information more accurately reflects the financial position and performance of the organisation and enables to improve the management of the resources and liabilities, to evaluate the sources available for financing the operations, and to secure a consistent implementation of the financial control. N. Kuehnis (2011) indicates that according to the accounting standards of Switzerland, NPOs are allowed to use the cash principle to measure the performance result; however, the accrual principle remains fundamental.

When the accrual principle is used in income and expenditure accounting of LAGs and rural communities, it is essential to have a clear understanding of their composition and to estimate the timing of income or expenditure. In accordance with the Rules, by 2013 LAG and rural community revenue was classified into two groups: 1) revenue for provided services and sold goods, and 2) other revenue. The expenditure was broken down into four groups: 1) the cost of provided services and sold goods; 2) other costs; 3) operating expenses; and 4) compensated costs. The compensated costs were abandoned from 2013 and the financing income group was separated in the income part. One might assume that this change is well grounded and it offers a more accurate reflection of the principle of income and expenditure comparison and the income nature as such. The financing income is understood as a part of the received or receivable financing amounts that was used over the reporting period to compensate the expenses incurred by the organisation. On the contrary, this methodology coincides with the methodology of financing income recognition in the public sector.

Viable NPO pursue commercial activities and generate substantial amounts of income (McCarthy, J. H., Shelmon, N. E., & Mattie, J. A., 2012). Income and expenditure related with potential economic and commercial activities of organisations are included in the revenue from provided services and sales of goods and the cost of such services and goods. The revenues of such activities are recognised when the services are provided and the goods are sold, while part of expenses related with the production of the sold goods or provision of the services are recognised as expenditure.

Income and expenditure related with ordinary activities, i.e. implementation of programmes or projects, direct activities of LAGs or rural communities, and the overall management of the organisation represent the main part of the LAG or rural community income and expenditure. The revenue from ordinary activities includes financing income, while the expenditure comprises operating expenses. J. H. McCarthy et al. (2012) emphasise that NPO financing and the accounting of them represent the main difference between NPO and business organisations. From 2013, the Annual Report breaks the income from financing into two groups: 1) income from financing amounts received from the government

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budget; and 2) other financing income. In financing income accounting, each organisation can detail such revenue on the basis of programmes or projects and by individual sources of financing.

Expenses related with the implementation of different programmes, sales, wages for the employees, long-term asset depreciation/amortisation, maintenance of the premises, insurance, taxes (non-deductible VAT etc., except the profit tax), transport and communications, de-recognition of the assets, doubtful debts, damages, charity and support at the expense of the organisation, previous reporting period error correction results that had an effect on the size of the expenses are attributed to operating expenses. Expenses related with the implementation of programmes and projects including other operating expenses are recognised in the reporting period when such expenses were incurred. An organisation uses the method of expenditure grouping selected thereby to organise expenses related with the implementation of individual programmes or all the ordinary activities.

The profit from long-term asset and investment transfer, received and receivable dividends, interest received in the reporting period on the money kept with credit institutions, exchange gain, penalties, and late payment fees related with trade debtors and other debts are included in other revenue. Accordingly, long term asset and investment transfer losses, exchange loss, interest payable in the reporting period, penalties, late payment fees and expenses that are not related with the ordinary activities of the economic entity are attributed to other expenses.

All the income earned by the organisation in the reporting period and all the expenses incurred in making the revenue are reflected in the Annual Report which also specifies the performance result, i.e. the profit or loss. To achieve a more detailed reflection of expenditure related with the implementation of each programme, it would be appropriate to record operating expenses attached to the overall management of the organisation and organisational activities in the Annual Report separately from the project implementation expenses.

In comparison with business entities, a specific area in the accounting of LAGs and rural communities is the requirement to account for financing. LAGs and rural communities may receive funds from their founders, members, charity and support funds or other legal and natural persons to finance their activities, while some programmes can be financed from the municipal or government budget or the EU funds. The research conducted by R. L. Fisher, A. Wilsker, D. R. Young (2011) demonstrated that the quantity and diversity of NPO financing sources depended on the nature of the activities of respective organisations. Some activities can rely on voluntary work. The contributions of the founders/owners/co-owners and the membership entry fees are recorded in the accounting as the equity of the organisation. The profit earned in pursuance of non-profit activities or incurred losses are also attributed to the equity of the community of the LAG. It is prohibited to make disbursements from profit to the founders or members of the NPO or to transfer a part of the assets of the organisation under liquidation, exceeding the membership entry fee (Law on Associations...).

The approved accounting methodology provides for the following financing methods: grants, targeted contributions, membership fees, and other financing. Since 2011, in both accounting and financial statements targeted contributions have been further divided into financing amounts from the government budget and other targeted contributions. The authors believe that this more detailed approach towards targeted contributions is well grounded and highly important. As a matter of fact, currently the EU

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support accounts for a greater part of the funds of LAGs and rural communities; however, an important factor of the future development and stability of the operations of an organisation is its ability to find other support providers (Optimisation of LEADER..., 2008). Therefore, a more detailed approach towards targeted funding, where the shares of the state and other assistance providers are separated, would help reveal still unexploited areas of the search of financing. The authors, who analysed the evaluation of the LAG performance (Optimisation of LEADER..., 2008), suggested a further break-down of the funds received from both the EU support and the private sector: e.g. the EU support funds, support provided by natural persons and business organisations etc.

In NPOs, just like in business entities, the accounting of financing sources relies on the accrual principle. Financing sources are very important to NPOs and each of them should be given due attention in the accounting and reporting of the organisation (Young, D. R., 2013). It is highly important for NPOs to know the funds required for the implementation of their mission. Based on his research into the issues of the management of receivables in NPO, G. Michalski (2012) concludes that amounts receivable and the working capital have a direct impact on the financial position of the organisation.

As compared with the accounting of business operators, one of the differences is related with accounting for grants. A grant in a LAG or a rural community is understood as assistance in the form of long-term assets. Such assistance in long-term assets can be granted by state institutions or local authorities as well as other persons. However, in business entities, grants are registered only when assistance in long-term assets is given by state institutions or local authorities. In a LAG or rural community, a grant is recognised in the accounting when the assets received on a free-of-charge basis or purchased with money from targeted funds are depreciated, i.e. throughout the whole useful life of such assets. Such method of grant recognition is also recommended by K. Steker and M.Otrusina (2011). They analysed three alternatives of grant recognition and found the above method to be the most appropriate as it best reflects the actual use of assets and grants.

Assistance received from government or municipal budgets, the European Union, Lithuanian and foreign support funds, and legal or natural persons for the implementation of narrowly defined objectives is attributed to targeted contributions. Targeted contributions are recognised and accounted for if there is reasonable assurance that: 1) due to the nature of activities prescribed in the by-laws, the entity receiving the grant complies with the conditions attached to the grant/programme; 2) there are documented decisions and other evidences that the contributions will be received. If the planned targeted contributions satisfy the attached criteria, they are recorded in the accounting as receivables, whereas, if they fail to satisfy the recognition criteria, they are accounted for as received targeted contributions only after they are actually received.

Membership fees in LAGs and rural communities are collected and used in the manner prescribed by the by-laws of such organisations or as decided by the general meeting. Since a deadline for paying membership fees is fixed, in accordance with the accrual accounting assumption, when the fees are expected to be paid by the deadline, they are carried as receivable membership fees when the obligation to pay such fees arises. By contrast, if the membership fee is not expected to be collected, such fees are accounted for only after the money is received. The accounting practice at Lithuanian rural communities shows that some of them account for membership fees as receivables, while others record them upon the actual receipt, and thus, their accounting combines the accrual principle and the cash basis.

Other sources of financing may include donations or monetary and material assistance when the giver does not prescribe a specific purpose of their use. Targeted contributions, membership fees, and other amounts of financing are recognised as income from targeted financing amounts and other financing to the extent they were used over the reporting period to compensate related costs of the organisation. If targeted contributions, membership fees, and other amounts of financing are used to acquire long-term assets, the only difference is the item of financing where the grants are increased and the targeted funding, membership fees, and other financing are decreased. The Balance Sheet of LAGs or rural communities reflects amounts of financing that were not used. The received and used targeted financing is described in further detail in the Explanatory Note where the amount of asset acquisition is carried separately. The authors believe that in the Explanatory Note it would be appropriate to break down by sources of financing not only targeted but also other financing as that would give more information for financial control and analysis.

One of the objectives of projects financed under the LEADER programme is to enhance the assets of rural communities upon project completion. A considerable part of projects within the framework of this programme are designated for renovation or reconstruction of buildings; however, most rural communities do not own such buildings but rather rent or use them on a loan-for-use basis. Therefore, such assets are neither recorded in the financial accounting of the community nor they are reflected in the financial statements. When the assistance is used to reconstruct buildings, the reconstruction costs and the income from used targeted financing amounts are registered in the accounting, and thus, the benefit of the project to the organisation fails to be reflected in its Balance Sheet. Since a rural community, which has used the EU fund support to repair property that is managed under a loan-for-use or lease agreement, will have to dispose of such property for at least the period specified in the grant terms and conditions, it is advisable to register the costs related with such property reconstruction as deferred costs rather than costs of the reporting period, and to carry them in the item of other long-term assets in the Balance Sheet. In such case, it would be appropriate to recognise the amounts of targeted financing intended for reconstruction as grants, while part of the grant should be recognised over the life of the property after the reconstruction and another equal part of it could be used to reduce the deferred costs and to increase the expenditure of the reporting period.

According to R. De Cooman, S. De Gieter, R. Pepermans, M. Jegers, (2011), members of community-based organisations are oriented towards social voluntary work; however, their work is less personalised and does not have a direct link to the performance results. In assistance project implementation under the financing packages 2007-2013, LAGs and rural communities are required to make contributions in the form of voluntary work. The fact of an unpaid voluntary work must be recorded in the register of unpaid voluntary work hours, the form whereof is decided by the organisation. The value of the unpaid work of the volunteers is expressed in an amount that would have to be paid by the organisation if it bought the services or in an average hourly pay which is fixed in pursuance of the research data of the Department of Statistics. The average value of an hourly pay per month may not exceed the average monthly salary. The Lithuanian LAG and rural community practice shows that although unpaid voluntary work in project implementation may account for up to 20 per cent of all eligible local project costs, the assistance received in the form of voluntary work fails to be recognised as financing and respective information is provided only in the Explanatory Note.

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D. R. Young, (2013), L. Mook, J. Sousa, S. Elgie, J. Quarter (2005), who researched the issues of unpaid voluntary work, discovered that the value of voluntary work is significant and accounts for almost one third of the added value at NPO. However, most of this information fails to be reflected in the financial accounting or financial statements. The results of research conducted by Mook, J. et al. (2005) in 156 NPOs in Canada revealed that although approximately one third of the organisations were keeping account of voluntary work hours, only 3 percent of them included this information in their financial statements. Furthermore, most of the accountants of the researched organisations acknowledged that financial statements failed to present a fair view on the input of the voluntary work. On top of that, E.O'Brien and S.Tooley (2013) argue that basically the disclosure of voluntary work does not exist in NPO financial reporting. The analysed works suggest to reconsider the accounting provisions and to devise accounts that best represent the input of voluntary work in NPO. The authors believe that the obligation imposed in Lithuania to disclose the input of unpaid voluntary work in a LAG or a rural community in the Explanatory Note is sufficient and relevant.

In NPO evaluation, information on its assets and liabilities is equally essential. It should be noted that a comparison with the accounting methodologies of business operators leads to a conclusion that the accounting of NPO assets and liabilities is less complicated. Intangible and long-term tangible assets are recorded at acquisition/production cost, while it is carried at book value equal to its residual value on the Balance Sheet, which is the difference between the long-term tangible asset acquisition/production cost and accumulated depreciation over its lifetime. The linear method is used to calculate the amortisation of intangible assets, while either linear or production method can be used to calculate the depreciation of long-term tangible assets. By contrast to the accounting methodology of business operators, it is not required to account for the impairment of asset value or to use the revaluation model in long-term tangible asset accounting. However, if a LAG or a rural community considers it appropriate to carry long-term assets at a revalued amount, they can pursue the procedure prescribed in the Business Accounting Standards (Business Accounting Standards...).

In the accounting, inventory is carried and disclosed at the acquisition cost, while it is reported at the acquisition/production cost on the Balance Sheet of the financial reporting. Furthermore, it is not required to write-down the inventory to net sales value.

At LAGs and rural communities, the receivables are comprised of receivable membership fees, amounts receivable from the government or municipality budget, the European Union funds, other persons, amounts receivable from the customers for provided services or sold goods, money paid out to accountable persons, and other receivables that are carried in the accounting at cost and reported on the Balance Sheet at net value calculated by subtracting bad debts from the receivable amount.

Just like in any other organisation, the liabilities of NPOs are classified as long-term and short-term depending on their term. Such liabilities include LAG's or rural community's debts and obligations to their suppliers, credit institutions, state and municipal institutions, and other legal or natural persons. It is essential that liability accounting distinguishes and separately reports under short-time liabilities on the Balance Sheet the part of the long-term liabilities that is payable within one year from the Balance Sheet date. In pursuance of the principles of accrual and income and expenditure comparison, short-term liabilities also include accrued vacation pay where the employees have not used their annual leave for vacation during the reporting period.



In modern societies, the policy of information to be provided to the stakeholders of NPO plays a very important role and relies on the legitimacy theory. Legitimacy as a requirement for the NPO financial reporting is emphasised by S. Verbruggen, J. Christiaens, and K. Milis, (2011). Therefore, such organisations are required to provide their stakeholders with financial statements and detail where and how the funds were used (Calabrese, T. D., 2011). Financial statements must reflect a true and fair view of the assets, financial position, and performance of the NPO. N. Kuehnis (2011) points out that the financial reporting is more than a matter of accounting as it is also closely related with the issues of management, transparency, and reliability. Reliability and transparency underpin the obtainment of resources, and thus, a safe existence of the organisation (Verbruggen, S. et al., 2011) and provide other opportunities. NPO, which have lost the confidence of the public and supervisory bodies, very soon can end up in losing their sources of financing. Therefore, LAGs and rural communities in Lithuania must draw up and present financial statements: a Balance Sheet, an Annual Report, and an Explanatory Note which shall conform to the procedure prescribed by the Rules. Unlike business entities, those organisations do not have to produce a Statement of Changes in Equity or a Cash Flow Statement.

Just like business organisations, NPOs have their objectives and they must demonstrate their success in attaining them; however, N. Kuehnis (2011) argues that the Balance Sheet, the Annual Report, and the Cash Flow Statement fail to disclose this. Therefore, he maintains that NPOs shall look for ways of improving their statements and offers ten thesis regarding the improvement of the reporting of those organisations: enhancement of management practices and professional qualifications; an approved clear procedure of financial accounting and reporting; entrepreneurship aims coincident with those at business entities; risk assessment as one of the key objectives of the management of such organisations; a clear investment strategy; provisions intended to give a true and fair view; increased transparency and comparability of financial statements through detailed accounting for financing and expenses; comprehensible performance reports required for communication purposes; clear-cut documentation to build up social responsibility; and reliability of statements through a dialogue with external auditors. E. K. Keating and P. Frumkin (2003) advocate a reformation and stricter regulation of NPO financial statements, and enhancement of project information disclosure to make information more easily accessible to third parties. According to them, the statements should be drawn up in pursuance of generally accepted accounting principles, audited, and made public. That would help reduce information asymmetry between small and large support providers. The authors maintain that some of the above areas of improvement are already successfully dealt with in the financial statements of Lithuanian rural communities and LAGs, while others could serve a guideline for reporting improvement efforts.

NPOs perform exceptional functions, including environmental protection, sustainable development, creating public goods (Ball, A., Bebbington, J., 2008; Guthrie, J., Ball, A., Farneti, F., 2010; Dumay, J., Guthrie, J., Farneti, F., 2010; Weerawardena, J., McDonald, R. E., Mort, G. S., 2010), and social functions (Amador, M., Weill, P. O., 2012) that impose requirements for accounting and disclosure of information on the performance of such functions in financial statements. The accounting of Lithuanian rural development organisations fails to reflect such specific features of their activities and that could be addressed by further research.

**Conclusions, proposals, recommendations**

1. The financial accounting and financial statements of Lithuanian LAGs and rural communities are based on generally accepted accounting principles. Just like in the case of business operators and the global NPO accounting practice, the accrual basis is one of the main principles in tracking the performance; although, some countries allow small NPOs to measure their financial performance using the cash basis (Kuehnis, 2011).

2. The main difference between NPOs and business entities lies in NPO financing and accounting for it. Presently, at Lithuanian LAGs and rural communities the financing income is understood as a part of received or receivable financing amounts that was used during the reporting period to compensate the expenses incurred by the organisation. Such methodology of financing recognition offers a more accurate reflection of the principle of income and expenditure comparison and the income nature as such. The received and used targeted financing is described in further detail in the Explanatory Note, where the amount of asset acquisition is carried separately. However, in the Explanatory Note it is appropriate to break down by sources of financing not only targeted but also other financing as that would give more information for financial control and analysis.

3. Operating expenses account for the main part of LAG or rural community expenditure. It is suggested that it would be appropriate to record operating expenses related with the management and administration of the organisation in the Annual Report separately from project implementation expenses.

4. To improve the methodology of accounting for reconstruction costs of property managed under a loan-for-use or lease agreement, it is recommended to register the said expenditure as deferred costs rather than costs of the reporting period, and to carry them under other long-term assets on the Balance Sheet. In such case, it would be appropriate to recognise the amounts of targeted financing intended for reconstruction as grants, while part of the grant should be recognised over the lifetime of the property after the reconstruction and another equal part of it could be used to reduce the deferred costs and to increase the expenditure of the reporting period.

5. In Lithuanian rural communities and LAGs, support in the form of voluntary work may account for up to 20 percent of all expenses; however, this support is not recognised as financing and respective information is clearly revealed in the Explanatory Note. However, according to D. R. Young, (2013), O'Brien and S. Tooley (2013), L. Mook et al. (2005), the global NPO practice shows that the disclosure of voluntary work in NPO financial statements basically does not exist, and thus, it would be relevant to disseminate Lithuanian practice beyond the boundaries of the country.

6. The accounting and financial statements of Lithuanian rural communities and LAGs do not reflect information on the performance of their environmental protection, sustainable development, or public goods creation functions. Consequently, further research could address the specific features of the activities of Lithuanian rural development organisations and the disclosure of their performance results on the accounting.

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**INTERNATIONAL VISION OF THE SIGNIFICANCE AND AVAILABILITY OF  
CULTURAL HERITAGE**

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**Abstract.** Many studies evidence that the modern world is characterised by two quite explicit trends: the expansion of globalisation in the economy, politics, culture, and, at the same time, by the preservation of national identity. The preservation of national cultural heritage and its use in real life are emphasised as significant indicators of national identity. One of the ways towards this phenomenon is the growing interest in cultural heritage and one of the ways of practical activity is the integration of it in cultural heritage products. The present research seeks to find an answer to the question of how representatives of various countries assess and explain the current situation with cultural heritage as well as future prospects in their country. The research findings evidence that in the countries included in the research, cultural heritage preservation is viewed as a very important activity to be handed over to the next generations, and this process is mainly affected by the public attitude to cultural heritage as a value. At the same time, quite significant differences can be observed regarding opinions of the government policy and the public attitude to cultural heritage which relates with the education level of the particular country's population.

**Key words:** international vision, cultural heritage significance, cultural heritage availability.

**JEL code:** Z19

**Introduction**

The earlier research by the authors specifies the entry of cultural heritage as a product into entrepreneurship in the rural areas of Latvia (Kruzmetra M., Jeroscenkova L., Rivza B.). During the course of work, **some** questions arose about individuals' engagement into the field of cultural heritage in other countries, about their view of the simultaneous trends of globalisation expansion and maintenance and preservation of national identity as well as about their assessment of the significance and availability of cultural heritage.

**The aim of the research is** to assess the national cultural heritage and its availability to the individuals of various countries.

The authors have set two **tasks** to achieve the aim: 1) to determine the common features of all the involved experts' opinions on the phenomena analysed; **and** 2) to clarify the differences in the assessments of the analysed phenomenon focusing on the characteristics of Latvian situation.

**Method of the research**

In September and October 2013, the authors conducted a structured survey of experts of four countries – Sweden, Lithuania, Serbia, and Latvia – who at various levels were related with cultural heritage applications (popularisation, education, manufacturing, marketing). Comparative analysis was

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employed by analysing the opinions existing in various countries. The use of international comparative information determines an innovative perspective of the study.

### **Methodology of the research**

The theoretical background of the present research was based on the globalisation and cultural capital theories. Globalisation is designated as one of the most significant changes that have taken place on the global scale. The economists (Reinert E.S., Frankel J.A.), sociologists (Gidenss A., Castells M., Jameson F., Luke M., Steger M. B.) as well as national identity researchers (Tomlinson J., Popovic D.M., Muizniece L.) have written about globalisation as an important phenomenon. All the authors designate globalisation as a development process of the modern world that involves interaction among all the spheres and expansion beyond the national scale. One of the leading globalisation researchers Manfred Steger emphasises that "the transformation powers of globalisation reach deeply into all dimensions of contemporary social life" (Steger M., 2013). Accordingly, he writes about the economic dimension, the political dimension, the ecological, and other cultural dimensions of globalisation (Steger M., 2013). He notes that "globalisation is an uneven process, meaning that people living in various parts of the world are affected very differently by this gigantic transformation of social structures and cultural zones" (Steger M., 2013).

Globalisation is characterised by two directions of change. On the one hand, there are increasing flows of goods and services, capital, money, and individuals among the countries – cohesion trends – that involve taking over techniques and technologies from others, thus, it is usually viewed as a positive trend. On the other hand, a range of negative effects of this process is also mentioned, especially in the social sphere - the increasing movement of labour across geographic areas and the formation of ethnically and nationally mixed societies (Reinert E.S., Castells M.). John Tomlinson writes that "globalisation has been associated with the destruction of cultural identities, victims of the accelerating encroachment of a homogenised, westernised, consumer culture" (Tomlinson J., 2003). According to Jan Nederveen Pieterse, the media and cultural studies focus on homogenisation, though, he believes that kind of cultural hybridisation takes place (Pieterse J. N., 2009).

Consequently, the trend of preserving and strengthening the national identity and honouring the cultural heritage to hand it over to the next generations emerges as a response process, emphasising the role of cultural heritage in preserving the local identity. The national identity is closely associated with a national country, one ethnic community, and one culture; whereas, globalisation breaks down these traditional boundaries, believing that the national identity and cultural uniqueness can exist only if associated with some local area; whereas, globalisation as deterritorialisation (diminishing the role of the territory) dissolves the national uniqueness (Muizniece L., 2005).

### **Research results and discussion**

#### **The associations of the experts with cultural heritage**

The associations of the experts with cultural heritage are relevant in making out their opinions. That is why two questions related with the research aim were asked to the experts by applying a structured survey: whether the experts personally engaged in exploiting the values of cultural heritage were in entrepreneurship and what kind of cultural heritage their business was associated with.

Table 1

**Participation of the experts in the utilisation of cultural heritage values in entrepreneurship**

Country	Participation in integrating the values of cultural heritage into entrepreneurship			Total
	I am not directly involved in entrepreneurship	Not yet but I'd wish to do it	Yes, I do it	
Sweden	0	6	4	10
Lithuania	0	3	7	10
Serbia	4	4	3	11
Latvia	1	5	5	11
Total	5	18	19	42

*Source: authors' construction based on the survey*

The survey results showed that the surveyed women might be considered competent to give their view on the situation in the country and make a forecast of the preservation and use of cultural heritage. Almost 90% of them did it or prepared for doing it. Handicrafts, cooking, crafts, herbs, souvenirs, and traditional events were their most characteristic activities, which, under today's circumstances, are quite typical directions in producing goods or services of cultural heritage. Accordingly, one can assume that the experts were sufficiently aware of the problems related with cultural heritage in their country and were able to assess it.

Preservation and handing over of cultural heritage to the next generations

It is useful to analyse the information obtained in the structured interviews in two aspects: what is in common, according to the experts' opinions, in all the countries under the present circumstances of globalisation expansion and national identity rise and what differences can be observed if viewed through the prism of cultural heritage. The data included in Table 2 show that, according to the experts, paying attention to the preservation and popularisation of cultural heritage is mostly caused by the wish to retain knowledge of the nation's past and hand it over to the next generations.

Table 2

**Factors affecting the preservation and popularisation of cultural heritage**

(The respondents had multiple answer possibilities, thus, the number of responses in this and the next coming tables may exceed the number of respondents)

Country	Attention to cultural heritage is paid because of			Total
	expansion of globalisation in the world	need to preserve the evidence of the nation's past for future generations	expansion of entrepreneurship to gain income arising as a result of intensive activity	
Sweden	8	7	3	10
Lithuania	0	10	1	10
Serbia	5	6	3	11
Latvia	4	8	2	11
Total	17	31	9	42

*Source: authors' construction based on the survey*

This is a common feature. However, certain differences can be observed among the perspectives of the countries.

The experts of Sweden and Serbia assigned almost the same significance both to the effect of globalisation and to the wish to ensure that cultural heritage is handed over to the next generations. In contrast, the experts of Lithuania and Latvia explained this inclination by the wish to inherit the nation's heritages. M.V.Cloonan and D.R.Harvey point to the inheritance of cultural values as a widespread wish, writing that cultural heritage preservation is currently a subject of considerable interest to a wide range of stakeholders and this increasing inclination may be justified by the wish to save the past while making the past accessible and usable (Cloonan M.V.& Harvey D.R.).

Table 3

**Factors affecting the development of cultural heritage products**

Country	Most important factors				Total
	Government policy	Education level of people	Scientific discoveries	Overall attitude of the public	
Sweden	2	6	1	9	10
Lithuania	6	5	0	4	10
Serbia	4	5	2	6	11
Latvia	6	4	3	9	11
Total	18	20	6	28	42

**Source: authors' construction based on the survey**

The opinions expressed by the experts of Lithuania and Latvia might be associated with the influence of the Soviet period. Whereas, the opinions of the experts from Sweden can be explained by the fact that attention to cultural heritage has been paid in this country already for a quite long period, besides, the Heritage Conservation Act has been in force there since 1988 and a special government agency is responsible for this work (The Swedish National Heritage Board).

Sweden's experts associated the prospects for preserving and popularising the cultural heritage mainly with the public's overall attitude to this heritage. According to the experts, the dominant aspect in Lithuania and Latvia is government policies. In Lithuania, the law on preserving and popularising the cultural heritage has been passed only a few years ago, while Latvian policy makers are still drafting such a law. The views of the experts on the situation in Serbia may be assessed as being something in the midway between the situation in Sweden and in both the Baltic States.

Table 4

**Prospects for cultural heritage as a good or a service**

Country	Quantity and quality of a cultural heritage product		Total
	Yes, of course	Maybe	
Sweden	9	1	10
Lithuania	7	3	10
Serbia	11	0	11
Latvia	7	4	11
Total	34	8	42

**Source: authors' construction based on the survey**

According to the experts, the demand for cultural heritage as a good or a service will increase in all the countries in the future. Nevertheless, their levels of confidence are different. The most confident were



the experts of Sweden and Serbia, while the least confident were those from Lithuania and Latvia. If assessing the situation in Latvia, one can express an opinion that tendencies to imitate the outside world (in terms of fashion, lifestyle, traditions, choice of names for children) explicitly prevail among the public; for this reason, the experts assigned so much significance to handing over the cultural heritage to the next generations.

Table 5

**Sites for purchasing cultural heritage products**

Country	Possibilities to purchase cultural heritage products			Total
	At market places, green markets	At gift shops, kiosks	On farms	
Sweden	10	7	9	10
Lithuania	6	1	7	10
Serbia	7	2	4	11
Latvia	9	3	11	11
Total	32	13	31	42

*Source: authors' construction based on the survey*

In all the countries included in the survey, a kind of cultural heritage – market places as sales sites – is chosen for distributing cultural heritage products. Even green markets are set up for selling food. A short food chain (direct sales on farms) may also be regarded as a manifestation of cultural heritage. In addition, gift shops and kiosks for selling special cultural heritage products play a quite important role in Sweden; whereas, in the other countries they are not so popular.

According to the experts, the selling of cultural heritage products plays an important role – one can remember an opinion that the values of cultural heritage have to be not only retained but also used in everyday life as much as possible. Accordingly, an important task related with the uses of cultural heritage is to develop opportunities for direct contacts between producers/service providers and consumers of goods and services which would positively contribute to the cash flow of small producers or service providers. The authors believe that it is evidenced by various fast-growing markets in the countries examined. Such activities are held not only in Riga (the well- and long-known fairs at the Ethnographic Open-Air Museum, Christmas fairs at the Dome Square, the green market on Kalnciema street) but also in the towns of Gulbene, Bauska, Valmiera, Dobeles, and many other places. Internet information suggests such sales sites, where a great deal of the products represents the cultural heritage of Latvia as well as of Estonia (Cross-border..., (2011)). A handbook published in 2013 suggests the association of cultural heritage with economic interests. The book stresses that there is a close coexistence of cultural and economic values and relationships between different actors engaged in the production, distribution, and consumption of heritage products and services (Handbook on the..., 2013).

### **Conclusions, proposals, recommendations**

A few conclusions can be drawn based on the information obtained from the survey of experts of the four countries.

1. The preservation and popularisation of cultural heritage in all the countries regardless of their location, economic development level, and life quality is of great importance, especially in relation with handing over this cultural heritage to the next generations.

2. In the preservation and popularisation of cultural heritage, all the countries have common features. These features are as follows:
  - utilisation of cultural heritage as a product or service in entrepreneurship;
  - handing over the cultural heritage to the next generations is the key objective;
  - the position of cultural heritage is affected by the public's attitude to this value, the overall education level of the population, and the government policy implemented in the given country;
  - it is forecasted that the significance and utilisation of cultural heritage as a good or a service will certainly increase;
  - the link between the producer/service provider and the consumer of goods and services involves the so called short chain, i.e. fairs, and direct contacts with the producer or service provider.
3. In preserving and popularising cultural heritage, a difference or a special attribute can be observed for each country. Well-arranged specialised gift shops, which focus on cultural heritage products of different nature, are quite popular in Sweden. In Lithuania and Serbia, the development of cultural heritage goods/services is affected by their government policy, the education level of the population, and the attitude of the public towards cultural heritage. The overall attitude of the public and the population's education level, which focuses on the individual, are the most important factors in Sweden. In Latvia, two factors are outlined as the most important ones. The attitude of the public in Latvia is as important as in Sweden, while the policy implemented by the government is the next most important factor. In Latvia, compared with the other three countries included in the survey, this opinion is emphasised, which may be due to the slow elaboration of the National Culture Law.
4. Proposals:
  - it is urgent to complete the work on the elaboration of the National Culture Law and to make it functional in practice;
  - certain advantages in trade/service provision have to be created for producers of goods and services of cultural heritage so that, on the one hand, the cultural heritage enters everyday life of the public and, on the other hand, it is necessary to foster the development of small businesses and, along with it, an increase of the wellbeing of the public;
  - it is necessary to conduct further research on the positive experiences of other countries in preserving and popularising their cultural heritage and the advantages and disadvantages of similar processes in Latvia.

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**URBAN- RURAL LINKAGES IN LATVIA****Zane Bulderberga**<sup>1</sup>, Mg.oec., PhD student

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**Abstract.** Urban and rural interaction is considered as one of the most important tools of balanced spatial development in the 21<sup>st</sup> century. The interaction is characterised by certain linkages (people, capital, goods, information, and technology) - both natural and human-made. This research will explore the urban-rural linkages in terms of population flows - their dynamics, costs (both financial and in terms of time spent), and influencing factors. Two surveys were conducted - the working age population survey (n=1008) and the survey of municipality development planning experts (n=67). The survey led to the conclusion that there was a close and intense flow of population movement from cities to rural areas and vice versa. The most significant causes of the movement are visiting, entertainment, services, and employment. Taking into account the fact that public services are located mostly in urban areas, municipalities establish mutual partnership in several spheres, for example, education, culture, employment, health care etc. Improvements in the public transport network accessibility as well as the quality of roads will promote rural - urban interaction and provide equal living conditions for inhabitants in both rural and urban areas.

**Key words:** urban - rural linkages, interaction, spatial development.

**JEL code:** R00

**Introduction**

Sustainable Development Strategy of Latvia until 2030 (2010) states spatial perspective that includes balanced spatial development in the territory of Latvia as one of its priorities. One of the most important goals of spatial perspective is to promote the linkages between urban and rural areas, thus, ensuring equal life and work conditions for inhabitants regardless of the territory they live in. In addition, the European Union's cohesion policy has been planned in a territorial dimension in addition to the social and economic one since the signing of the Treaty of Lisbon (2007). The spatial structure of Latvia is quite monocentric - inhabitants and resources are concentrated in the cities (68% of the total amount of inhabitants), which has resulted in the decrease of the population number and the fall of life level, the decrease of available services' amount (Inhabitants and..., 2013).

The challenge and aim of Latvia's spatial development politics is the provision of balanced development both in rural and urban areas - successful interaction between urban and rural areas, coordination of goods, services, resources, knowledge and information flows will provide balanced development of cities and countryside (Davoudi, 2001; Caplikas, 2003; Evans, 2009; Kule, 2011). The aim of the research is to state the existing linkages, their structure and intensity between urban and rural areas, based on the opinion of inhabitants and municipality development planning specialists. To achieve the aim, the following tasks have been subordinated:

- 1) to define the notion of urban and rural linkages;
- 2) to conduct a survey among the working age Latvian inhabitants;

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3) to conduct a survey among the municipality development planning specialists of Latvia.

The following methods have been used to achieve the aim – monographic method to collect the reflections of discussions mentioned in the scientific literature; method of analysis and synthesis, induction and deduction as well as the method of sociological research – a survey. In the first survey, the inhabitants (n-1008) were asked to complete questionnaires. The selected set represented the general set – population of working age of Latvia. The survey was conducted with the aim to evaluate the possibilities of urban-rural development, existing problems and try to find the possible solutions for the development of both territories. In the survey, 49% of respondents stated Riga or other city as the place of residence; 22% - a town; 16% - a village; and 13% - a rural territory. The second survey was conducted among the municipality spatial development planning specialists of Latvia (n-67) who represented 48 municipalities of cities and towns in Latvia. The survey was conducted with the aim to evaluate the necessity of urban-rural interaction by identifying the most essential problems and possible solutions.

### **Research results and discussion**

Urban-rural interaction is a part of spatial development that emphasises the mutual linkage and dependence of two territories (urban and rural). Scientists have analysed urban-rural interaction as the precondition for balanced territorial development (Caffyn, Dahlstorm, 2005; Parr, 2005; Shuchsmith, et al., 2009). If in the 1950s urban and rural areas were considered as divided territorial units with different economy (Tandoh-Offin, 2010), then in the 21<sup>st</sup> century, innovative technologies and increase of mobility have changed this situation and scientists emphasise that urban and rural areas are interconnected (Fan, et al., 2005). As physical borders of urban and rural territories are disappearing, they are not being perceived as separated dichotomous categories. Contrary to the previously used spatial concept, which emphasised the placement of place or territory in space, in the 21<sup>st</sup> century the concept of “space of flows”, which characterises the importance of flow and linkage intensity – centre or the city develops there where inhabitant, material and information flows are intensive and cross each other (Amin, 2002).

Interaction is defined as visible and invisible human, capital, goods, information and technology flows that include administration, legal, financial, and cultural relationship between both territories (Davoudi, 2001, Kule, 2011) and the aim of which is balanced spatial development and socio-economic growth of both the involved territories. Urban-rural interaction is created by different material and non-material flows between urban and rural areas, thus, creating the basis for linkages. For instance, residents’ commuting from urban to rural areas and vice versa can cause economic or social linkages depending on the aim of commuting. Caplikass (2003) highlights the importance of residents’ commuting by emphasising that urban-rural interaction characterises resident migration between urban and rural areas which causes the changes of spatial structure of urban-rural areas. The interaction can be promoted or, just the opposite, limited by the activities of particular territory’s administration both regarding the development of particular territory and cooperation with the neighbouring territories. Several essential benefits can be obtained as a result of interaction, for instance, public services are promoted, the potential of the territory is actively used and, as a result, the inhabitants of both territories are beneficiaries. An essential element of interaction is the linkages that have developed between the territories and come from different development potentials of territories (Caffyn, Dahlström, 2005), and their role continues to increase. According to the researchers and policy-makers, the linkages are one of

the most important tools in the development of balanced spatial development (Evans, 1990; Gaile, 1992; Rural-urban Linkages..., 1995, Stoica, et al., 2010). Several processes determine it – firstly, the prevalence of the market based economic development and its influence on export-oriented agricultural production which is based on effective economic linkage usage among producers and external market. Towns are very important in this aspect as they function as an intermediary between surrounding territory producers and local or international consumers simultaneously providing work places in non-agricultural sector for inhabitants of rural areas. Secondly, one of the administration organisation's tendencies is the implementation of decentralisation and strengthening of local institutions' work. In addition to the traditional infrastructure and service providing services, local municipality is responsible for the support of economic development and poverty reduction (Tacolli, C, 1998). Yet, although urban-rural linkages are recognised as important part of territorial development, relatively rare are the cases when this aspect has been included in the strategies of development planning (Tacoli, 1997; Mylott, 2009).

Physical manifest of linkages can be measured in structural and functional flows (Smith, Courtney, 2009) which are associated with an interaction between two human beings, places and objects but they themselves actually do not embody any interaction (Unwin, 1989; Kule 2011). It is possible to distinguish the existence of natural flows, partially human readjusted flows as well as human flows and those created as a result of human activities. The flows created by humans are capital (private, public), human and goods' flows as well as flows of ideas, innovation, and information (Gaile, 1992; Douglas, 1998).

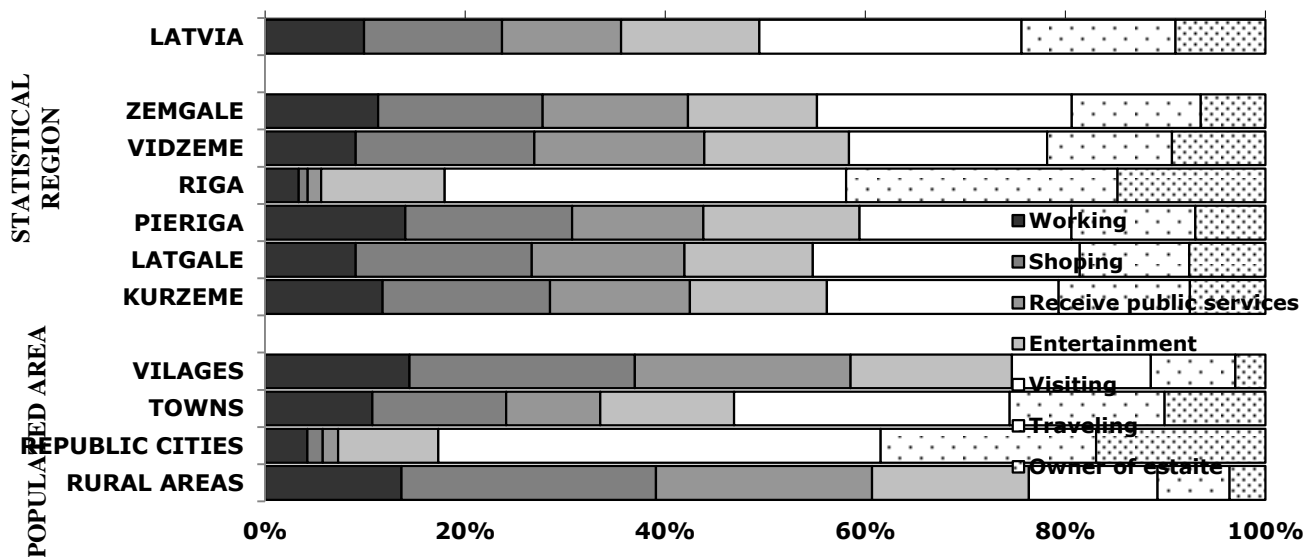
This research will be carried out to investigate the linkages of urban and rural areas from the aspect of resident flows – the reasons, costs (from both the financial aspect and time consumption) and the most important causal factors.

### **Results of resident survey**

Exactly residents' commuting from one territory to another because of different reasons is considered to be an essential urban-rural interaction flow – economic linkages characterise inhabitant employment aspects and shopping habits but demographic linkages characterise the choice of place of residence, while administrative linkages reflect the range and quality of public services available to inhabitants. The survey targeted at inhabitants of Latvia was carried out in the summer of 2013 to find out those habits and activity of inhabitants that determine the choice of place of residence, shopping habits as well as those factors that determine and influence commuting from urban to rural areas and vice versa. As the matter of fact, 1008 inhabitants aged 18-44 of the Republic of Latvia were included in this survey (random error 3.09%, probability – 0.95) according to the principle of stratified randomness. Stratification characteristics were chosen to reflect the proportion of inhabitants according to the situation in Latvia: 1) the place of residence – urban or rural area; 2) the region – statistical regions of Latvia.

According to the survey, 46% of respondents commute from urban to rural areas or vice versa at least once a week (16% - every day), thus, it can be concluded that the commuting of inhabitants is very intensive. The main means of transportation are private cars or public transport. Differences can be observed in the results of the survey depending on the respondent's place of residence. The inhabitants of rural regions commute more to urban areas than the inhabitants of urban regions commute to rural areas – at least once a week this route is commuted respectively by 68% and 41%. Only 8% of rural area inhabitants go to urban areas just a few times a year or less, while in the group of urban regions,

this proportion of inhabitants accounts for 28%. Also those people living in farmsteads and villages actively go to urban areas – 27% living in farmsteads and 37% living in villages commute in the route of rural – urban area every day, only 2% of Riga inhabitants and 4% of inhabitants living in the biggest cities go to rural areas every day. This situation shows that urban areas have an important role in the daily life of people working in rural areas.



Source: author's construction

Fig.1. Reasons to commute in the route of urban - rural area, %

The respondents have pointed out that the most important reasons to go to rural or urban areas are as follows – to visit family and friends (26%); travel, see nature and culture objects, to entertain, to attend culture events (14%); to do shopping (13%); to receive services (12%); and to work (10%). The division of respondents' opinions depends on the place of residence – most part of the respondents living in villages or rural areas have pointed out that the main reason for commuting is work in the city as well as the limited offer of state and municipality services at their place of residence. While those living in the cities commute to see their relatives and friends, travel or relax. Regardless of the intensity of movement, 59% of the respondents are satisfied with the existing place of residence and do not plan to change it. According to the answers given by the respondents, it can be concluded that urban areas serve as important places to receive various services and do shopping, while rural areas are used for tourism activities or for visiting acquaintances or relatives.

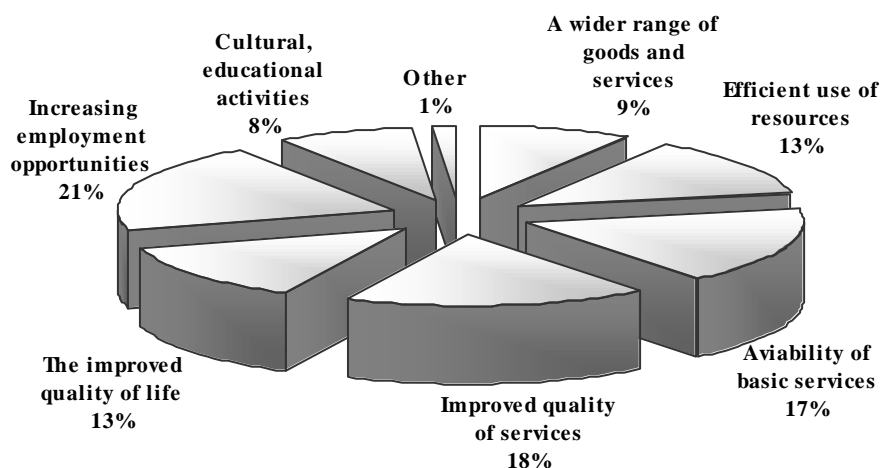
In order to determine the economic importance of urban and rural area mutual dependence, the respondents were asked to reveal the time period required for a one-way trip to rural area (or urban) and specify their costs of this one-way trip. One-way trip from urban and rural areas on average requires 1.1 hour and it costs LVL 5.88 (EUR 8.37). Time consumption is calculated in LVL, and reflects the economic importance, taking the average net wage of LVL 343 a month or LVL 1.95 (EUR 2.77) per hour (in 2012, source - CSB, 2013). The total amount of one year expenses for respondents, including their consumption is LVL 1 556 286 (EUR 1 093 764), which suggests that urban-rural linkages are an important part of

economics. According to the survey results, 80% of the necessary goods and services the respondents purchase in urban areas, 4% - in rural areas, and 16% equally in both territories.

### Results of municipality development planning specialists' survey

Taking into account the results of residents' survey, the municipality spatial development planning specialists responsible for territorial development plan and programme development were given questionnaires. In the survey, 67 respondents from 48 municipalities took part (confidence level 95%, standard error – 7.95%).

According to the survey results, 85% of the respondents believe that interaction between urban and rural areas is necessary, while 13% point out that interaction depends on the particular municipality. Taking into account the scientific discussions about the positive and negative impact of cities on the surrounding territory, the respondents were asked to give an answer to the question about the impact of nearby cities on the tendencies of municipality development. In this respect, 43% of the respondents admitted that particular and close dependence can be observed, while 34% of the respondents believed that the impact was indirect and would be observed in the long term. The government of Latvia, when planning the future spatial development politics, wants to concentrate the resources in the development centres (30) – in the biggest cities, emphasising the transfer of positive impact on the surrounding territories, avoiding resource division. This approach has got the objections from the municipality authorities in the current negotiation and consultation process because there is a concern that cities will use these resources only for the implementation of their functions and neighbouring municipalities will not be able to get the funding, thus, hindering their development (Tamulevica, 2012; Luksa, 2012).



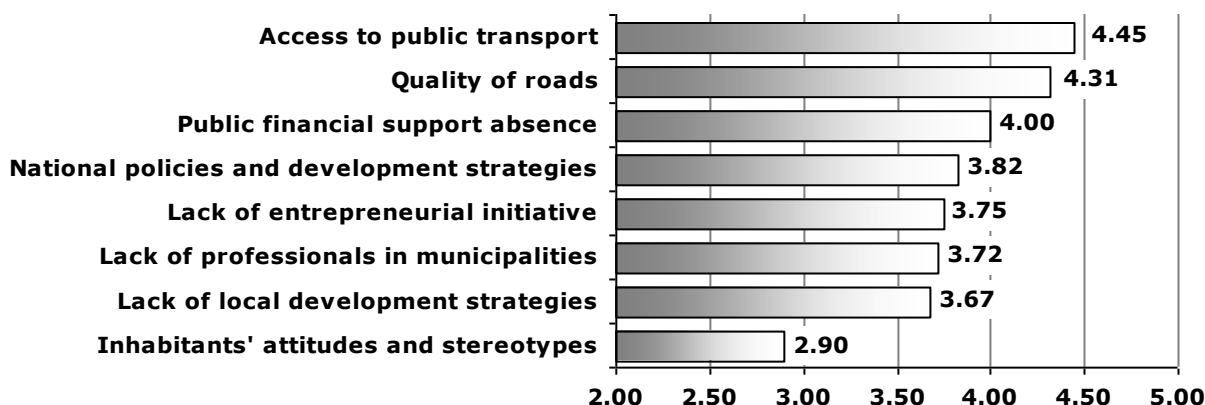
Source: author's construction

Fig.2. Benefits from rural - urban interaction

It is a positive fact that 93% of the respondents have pointed out that interaction exists already now, mentioning education (37%); culture, entertainment and relaxation (28%); employment (25%); health care (18%); trade and services (13% and 10%) as the main fields. The beneficiaries of this interaction are both the inhabitants of urban and rural municipalities because various services and goods very often are not available in the particular territory. In the survey, 17% of the respondents have pointed out that,



when interacting, the availability of provided services as well as quality (18%) and assortment (9%) is improving, as a result the overall standard of living is improving, and the existing resources are used more effectively.



Source: author's construction

Fig.3. Factors affecting rural-urban interaction  
(Average respondents' opinion, 1 – clearly insignificant, ... 5 – clearly significant)

The respondents were asked to evaluate the factors that have the most important impact on the development of interaction. The availability of public transport is the most important factor (4.45 points out of 5 on average) to commute from one territory to another for seeking employment, purchasing goods and services and other needs. Public transportation is supported by the state grants (LVL 53.13 million or EUR 75.60 million were allocated in 2012) and reduced VAT rate of 12% (standard rate – 21%) (Public Transportation Service..., 2013). Nevertheless, by carrying out the state grant reduction for the public transportation service providers, it is possible to foresee that the offer of public transportation could decrease in the future, thus, giving limited possibilities for inhabitants to commute. The consequences of this situation will be the formation of isolated and left behind municipalities, especially in remote and border regions near Russia and Belarus.

In addition, the quality of the roads is an important aspect (4.31 points on average), especially for the entrepreneurs who have to deliver their goods to the customer. The road quality in Latvia has been a topical question for several years – 47% of country's main roads are in bad and very bad condition (State's Main and..., 2013). The estimated funding LVL 508.1 million (EUR 722.96 million) will not provide the improvement of the road network condition because the annual depreciation exceeds the amount of repaired roads. As a result, the estimated performance indicators regarding the road quality in the National Development Plan (NDP) will not be achieved (Acknowledgement to the National..., 2013). Financial support for the formation of interaction has been mentioned as the third most important aspect (4.00 points) as well as the development of national politics and development strategies (3.75 points). Although Latvia's Sustainable Development Strategy until 2030 (2010) is intended to strengthen urban-rural linkages, currently no set of tools has been developed and in the NDP (2012), urban-rural interaction has not been set as a priority anymore. The lack of entrepreneurial activity, insufficiency of knowledgeable and professional employees as well as the lack of long-term local municipality strategies have been mentioned as important influential factors.

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## Conclusions, proposals, recommendations

1. Urban and rural areas are interconnected – there is an interaction between them formed by the flow of inhabitants, capital, and goods, thus, creating the basis for various linkages which is an important tool in the planning of spatial development.
2. The surveyed Latvian inhabitants commute in the route urban area-rural area very intensively – 50% of respondents do it at least once a week to visit relatives or friends, travel or entertain, go shopping, receive services and work. The main means of transport are private vehicles or public transport.
3. The total annual expenses of the respondents, including the consumed time, consist of LVL 1 556 286, which suggests that urban-rural linkage is an essential part of total economics. As the survey results show, 80% of goods and services required for the satisfaction of daily needs are purchased in urban areas, 4% - in rural areas, and 16% equally in both territories.
4. Municipality development planning experts believe that as a result of urban-rural interaction, employment opportunities are increasing, the range of goods and services available to inhabitants is improving along with the quality of life.
5. Taking into account the fact that many state and municipality services are not available in all locations, municipalities mutually cooperate in such fields as education, culture, entertainment, employment, health care, and trade. The most important factors that influence urban-rural linkages are connected with infrastructure, for instance, public transport network and availability, road network quality as well as the financial support for the promotion of development.
6. Although, in the national development planning documents urban-rural cooperation has been defined as essential component of balanced spatial development, no set of tools has been developed to promote the building of cooperation.
7. In order to improve the current situation and foster balanced spatial development, the local municipalities shall take into consideration the interests and needs of the surrounding areas when elaborating development strategies. Municipality cooperation and partnership is the key element to ensure equal life quality for inhabitants both in rural and urban areas of Latvia. Although, regional policy delegates decision making to the municipalities, the mutual cooperation shall be set in the national development strategies as one of the requirements in future.

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**TENDENCIES OF CHANGES IN THE STRUCTURE OF THE ECONOMIC ACTIVITY  
OF RURAL POPULATION****Bartosz Mickiewicz<sup>1</sup>**, PhD, professor

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**Abstract.** The paper presents a new approach to the economic activity of rural population in Poland in the past ten years. The aim of the paper is to present the analysis of tendencies of changes in the structure of the economic activity of rural population in Poland. The paper focuses on the main task – to consider the changes in the structure of rural population’s economic activity in respect to the changes in the numbers and the share of a particular category of individuals in the general rural population in a dynamic perspective, differentiating between the population involved and non-involved in farm activity. The main source of the research data was the results of Agricultural Index which was applied in Poland in 2011. The research also used the materials from the Main Statistical Office and authors’ previous studies. The main conclusions suggest that during the 10-year period since Poland’s accession to the European Union some noticeable changes occurred in the economic activity of rural population. Demographic, educational, and social factors have played an important role. Extended education period has resulted in later entry of the youngest working age population into the labour market, which has both positive and negative consequences. It is necessary to bear in mind that activity is not a constant value assigned to a given professional or social group. Furthermore, the measurement of economic activity cannot be identical for each work station, function fulfilled or social role adopted.

**Key words:** economic activity, human factor, rural areas, rural population.

**JEL code:** Q18

**Introduction**

The transformation of the Polish economy after 1989 resulted in far-reaching changes in the labour market, including in agriculture. The changes reflected in the increase of labour force supply over its demand, the consequence of which was an outbreak of unemployment. The significance of the economic activity undertaken by population in making economic decisions constantly rises, thus, more and more often they become the object of extensive research and market analyses. The issue is of great importance in the territories where the processes of desagrarisation are clearly visible.

One of the most frequently applied indicators of population’s economic activity is economic activity in the labour market expressed by the proportion of the working population or population searching for work. Economic activity depends on economic, social, and demographic factors such as age, gender, education, place of residence, or local labour market (Marcysiak, 2005).

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The economic activity rate is typically higher in the countryside than in the city as a part of rural population works on their own farms (Luty et al., 2010). The exception to that are the areas of relatively extensive agriculture or in cases when a significant number of small farms cease their production. In recent years, in Poland a decrease of rural working population is observed due to the extended education period, loss of jobs outside of agriculture and an increasing popularity of pension system in agriculture (Karwat-Wozniak, 2009). Suspension of the migration to cities constitutes a challenge in respect to rural working population along with serious problems in non-agricultural labour market in the areas distant from large cities (Mickiewicz, 2013).

The aim of the paper is to present an analysis of tendencies of changes in the structure of the economic activity of rural population in Poland. The paper has determined the main task to consider the changes in the structure of economic activity of rural population in respect of the changes in the numbers and the share of a particular category of individuals in the general rural population in a dynamic perspective, differentiating between the population involved and non-involved in farm activity. The authors have also raised the thesis that rural population's activity mostly depend on external factors of economic surroundings. The research object was the inhabitants of rural areas in Poland, and this group was surveyed during the compiling of Agricultural Index (whole population). The main source of the research data was the results of Agricultural Index obtained in Poland in 2011. The research also used materials from the Main Statistical Office and authors' previous studies. The main research method was the scientific comparison of the analysed years and methods of deduction and induction.

## **Results and discussion**

### **Degree of economic activity of rural population**

Work on a farm differs significantly from the activities in non-agricultural sectors. A farm family, in a way, constitutes farm personnel without definite assigning of social roles, scope of duties, and time of work. The phenomenon of involving family members in the farm work make individuals of relatively young age undertake this type of work. Individuals aged 15 and older, living in households, were included in the statistics of rural working population. Therefore, census results enable one to characterise real labour resources created by the selected group of farmers (Zuzek, Mickiewicz, 2013).

Agricultural censuses make it possible to characterise real labour resources created by the selected population group living in a household involved in farm work. In retrospect, the number of economically active individuals was systematically falling. According to the agricultural census of 1996, the working population accounted for 6516.5 thousand, of which 5170.0 thousand were employed and 61.9 thousand were unemployed. The economic activity rate at that time amounted to 84.2%, and it was higher among men (87.5%) than among women (80.8%).

According to the subsequent agricultural census of 2002, the number of economically active population was equal to 4948.8 thousand (a decrease of 4.3%). Men dominated in the analysed group, accounted for 2761.1 thousand, while women's number stood at 2187.7 thousand and they constituted 44.2% of total number in the working population of households with a farm holder. The number of the unemployed rose to 698.1 thousand, whereas the unemployment rate amounted to 14.1%.

According to the latest census of 2010, the number of the employed persons increased slightly (by 6.8%) and it equalled 5309.9 thousand individuals. Further increase of unemployed was recorded up to 860.0 thousand individuals, with the unemployment rate at 13.9%. The economic activity rate stood at

51.5% and it was lower than in 2002 (60.0%). The increase in the number of individuals employed at farms is a reflection of the structural and agrarian changes that occurred in Polish agriculture after Poland's accession to the EU. The phenomenon of agrarian structure petrification derives from the expectations related to direct payments. Oversupply of live workforce still remains high in comparison with the developed Western countries. A large number of farms, especially the small ones, which employ at least one farmer, did not support the process of a drop in the number of the working population in agriculture. Although the analysis of the number of farms on 1 ha clearly indicates their decrease from 1967.0 thousand to 1475.8 thousand, employment still continues to be high.

Table 1

**Economic activity of the population aged 15 and over according to their education (2010)**

Item	Total (in thousand)	Working population (in thousand)			Economically non-active (in thousand)	Undetermined status in the labour market (in thousand)	Economic activity rate (in %)	Employment rate (in %)	Unemployment rate (in %)
		altogether	employed	unemployed					
Total	12512.7	6169.9	5309.9	860.0	5801.8	541.1	51.5	44.4	13.9
University education	1276.2	1037.4	959.7	77.8	238.6	0.2	81.3	75.2	7.5
Post-secondary and secondary vocational	2149.6	1522.5	1338.2	184.3	627.0	0.1	70.8	62.3	12.1
General secondary	1142.6	633.8	527.5	106.3	508.8	0.0	55.5	46.2	16.8
Basic vocational	3419.5	2212.5	1893.4	319.0	1207.0	0.1	64.7	55.4	14.4
Completed primary and junior high school	3980.7	762.4	590.3	172.1	3218.2	0.1	19.2	14.8	22.6
Undetermined	544.1	2.2	0.8	0.5	2.2	540.6	36.3	22.0	39.4

Source: PSR data of 2010

In 2002, the employment rate, which is a measure demonstrating real involvement in work process, amounted to 51.6% for the examined community, and it fell to 49.3% in 2010. In addition to the economically active population, the households involved in farming still make up a large group of economically non-active individuals, chiefly family members. In the analysed research period, the number of economically active population (49.3%) was nearly the same as that of the economically non-active group (46.7%). In line with the statistical categories, individuals aged 15 and over who are not being qualified as employed or unemployed, i.e. they have not worked or searched for work, are considered economically non-active. The population of economically non-active individuals rose from 3296.1 thousand in 2002 to 5801.8 thousand in 2010 among rural population which shows low activity of the residents of rural areas. Economically non-active population constitutes a significant burden on

farmsteads, lowering the income of production farms and the scale of their profit. Therefore, economically non-active population is a considerable reserve of live work force, of which one part has not been constantly professionally utilised and has not been able to find them in the new economic reality. The main place of employment could have been working in a non-agricultural sector, yet this opportunity, unfortunately, was not used due to the believed lack of creativity and initiative, which prevented the utilization of the existing human resources.

### **Analysis of the activity of working and non-working age population**

One can obtain a different view of economic activity when analysing the proportions existing between individual professional categories. From the standpoint of the analysed issue, the group of working age population is of interest since this category plays a fundamental role in the GDP creation. The analysis demonstrates that in the period between the agricultural censuses of 2002 and 2010, changes that occurred in rural population size, involving village residency increase by merely 288 thousand people, are of minor significance from the statistical viewpoint. The changes that took place in the working age groups listed in the statistical research carried more significance. From the viewpoint of generation replacement, a generation primed to fulfil the role of future farmers is particularly important. It is vital that generation rotation is proportional in respect of the age groups and genders (Mickiewicz, Zuzek, 2012).

The studies show that the percentage of young people at pre-working age has fallen from 26.0% to 21.2%, considering men and women jointly. It reflects a general trend of the falling child rate in the society, including in rural areas. The opposite end of the pole is represented by working age individuals, whose numbers remained unchanged during the analysed period - at 15.6%. The analysis of the statistical data demonstrates that during the examined periods the share of individuals at potentially working age rose slightly (by 4.8%) from 58.4% to 63.2%.

Table 2

### **Population of rural areas at productive and non-productive age (in thousand)**

Year	Total	At pre-productive age		At productive age		At post-productive age		Population of non-productive age per 200 individuals at productive age			Population at productive age in % of total population
		men	women	men	women	men	women	total	men	women	
2002	14648	1954	1861	4578	3973	764	1518	71	59	85	58
2005	14733	1798	1711	4766	4189	770	1499	65	54	77	61
2008	14848	1685	1599	4946	4317	754	1547	60	49	73	62
2009	14889	1650	1567	5009	4349	747	1567	59	48	72	63
2010	14936	1624	1539	5065	4375	741	1592	58	47	72	63

**Source: Statistical Yearbook of Agriculture, Main Statistical Office, Warsaw 2011**

According to the data, 14.9 million people lived in rural areas which constituted 38.2% of total population in Poland. Among the population of rural areas, the rural population involved in farm activity was equal to 10.8 million individuals (27.4%). It constituted 58.2% of total population of rural areas. In

the course of eight years that passed between the agricultural censuses, a steady trend of decreasing non-productive age population was observed in relation to productive age size. In the case of women, the share dropped by 13 percentage points, while in the case of men – by 12 percentage points. The interpretation of this phenomenon arises from the situation that in the new economic reality, opportunities of individual and professional ambitions could now be realized in the countryside. Besides, the productive age population rose by 5 percentage points in relation to the total population. The increase in the number of people at productive age is a demonstration of an attempt to find one's place among that active population who find their fulfilment through work.

In Poland, the number of people employed in agriculture is one of the highest in the EU-27. In 2010, the population that is employed in agriculture amounted to 4.3 million people which constituted 13.0% of total number of people employed in the national economy. At the time, agriculture generated 3.6% of GDP. This fact gives evidence of low labour productivity in agriculture in comparison with non-agricultural sectors. The phenomenon of relative agrarian overpopulation is not specific exclusively to Poland, as similar tendencies occur in most of the 10 new EU countries.

#### **Changes in the intellectual potential of rural areas residents**

Human capital occurs to be the most important factor of the country's economic growth. There is a strict correlation between the process of raising one's education level and acquiring new qualifications and an inclination to seek non-agricultural employment. Too low qualification level of rural population and their insufficient knowledge constitute a very important barrier to the development of non-agricultural activity, and thereby, to social and economic activation of rural areas.

Table 3

**Education of the population of rural areas (in thousand)**

Item	2002		2010	
	number	per cent	number	per cent
Higher –	913.1	7.7	1276.2	9.8
Post-secondary	260.9	2.2	204.6	1.6
Secondary vocational	1577.1	13.3	1994.9	15.1
Secondary general	1577.1	12.8	1142.6	8.8
Basic vocational	4328.2	36.5	3419.7	26.5
Primary and junior high	2869.6	24.2	4083.5	31.7
Uncompleted primary	142.3	1.2	276.5	2.2
Undetermined	250.6	2.1	553.2	4.3
Total	11918.9	100.0	12951.2	100.0

**Source: PSR data for the particular years**

In the period between the agricultural censuses, further and seemingly dynamic changes were observed regarding the changes in the intellectual potential of the country's residents. Those changes were characteristic of a significant increase in the number of individuals who obtained university education, which grew from 7.7% to 9.8%. Certain changes were noted regarding post-secondary education which fell from 2.2% to 1.6%, since education at that level lost its importance. Post-secondary



education was replaced with first-cycle studies, which were extensively developed mainly by private higher education institutions. The share of people with primary and junior higher level education grew as well from 24.2% to 37.7%, which was owing to the change in the profile of secondary education and the establishment of junior and senior high schools.

Regarding the background of the education among the population of rural areas, the level of agricultural education of farmers appears to be unfavourable. It results from the fact that many people with higher education, including teachers, employees of the district authorities, administration, management personnel, people associated with culture etc., live in the countryside. It occurs that significant differences, disadvantageous to farmers (9.8% and 1.0%), exist with regard to higher education level.

Basic vocational education and farming courses (30.5%) were the dominant type of education among farm holders, which enable them to run a farm but do not guarantee proper utilization of the production potential available in a given production unit. What is puzzling is the fact that a large number of farms are still held by individuals without any formal professional preparation (57.5% and 59.0%). On the rising tide of economic freedom gained in 1989, the obligation to obtain agricultural education was abolished with the purpose to inherit farms. Under the act of 2003 on formulating the agricultural system, this obligation was reinstated with respect to individuals who intended to run a farm.

Table 4

**Farms conducting agricultural activity according to the education level of a farm holder**

<b>Item</b>	<b>Year</b>	<b>Number</b>	<b>Per cent</b>
Higher	2002	22479	1.0
	2010	37020	1.9
Post-secondary	2002	3303	0.2
	2010	3968	0.2
Secondary vocational	2002	119525	5.5
	2010	158120	8.4
Basic vocational	2002	213652	9.8
	2010	205068	10.8
Farming courses	2002	562580	25.8
	2010	371853	19.7
No education	2002	1256052	57.7
	2010	1115038	59.0
Total	2002	2177891	100.0
	2010	1891066	100.0

**Source: PSR data for the particular years**

A significant percentage of individuals lacking agricultural education does not mean that such farms have operated decidedly worse in comparison with those run by people who obtained such education. Examples show that an experienced farmer is a producer capable of adopting new agricultural trends.

## **Conclusions and proposals**

Over the period of 10 years from Poland's accession to the European Union some noticeable changes occurred in the economic activity of rural population. Demographic, educational, and social factors play an important role. Extended education period resulted in later entry of the youngest working age population into the labour market which has had both positive and negative consequences. Education constitutes an important educational category reflecting its intellectual potential for rural population. Through the prism of education, one can learn the scope of intellectual identification with an occupation, the possibilities of raising one's professional qualifications and motivation for extending one's mental abilities. Recognising the level of education of the population working in agriculture has a major social and economic significance, since farmers who are university graduates show a greater tendency to modernise farms, they are more open to adopt agricultural innovations, and they pay more attention to advice given by consultants and seek for new solutions on their own.

However, one needs to bear in mind that activity is not a constant value assigned to a particular professional or social group. Furthermore, the measurement of economic activity cannot be identical for each work station, function fulfilled or social role adopted. Next to economic activity, there also exists a social activity, which creates the need for participation in local community actions, aimed at ensuring the auspiciousness of others. Social activity does not usually arise from work relations but from freely undertaken obligations. Inactivity lies in the opposite end pole, which we construe as a phenomenon negative to the society, involving the lack of initiative, avoidance of ties to other people as well as the state of indifference or the lack of involvement. An individual may have an inactive nature, or assume an inactive attitude to life, thereby not intending to go beyond any minimum activities resulting from the role assigned to such a person.

The human factor in agriculture requires a new approach to the role of an individual in the rural environment. Farmers no longer perform their professional activities without reflection by way of tradition and imitation, but they transform into a modern type of farmer who functions on the grounds of education and adopted innovations. The research shows that farmers have found their place in the new reality by reaching for novel production methods, reducing work resources, replacing live work force with the mechanical one, and adopting modern techniques of farm management. During the past years, especially after Poland's accession to the European Union, there have been noticed important changes in rural population activity – rural inhabitants in Poland have been trying to adopt common models and behaviours of various entrepreneurs from other EU states.

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**ASSESSMENT OF THE RISK MANAGEMENT PROCESS AT THE SJSC  
"LATVIAN RAILWAY"**

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**Abstract.** Organisations in Latvia are increasingly employing project management methods to more efficiently introduce innovations and perform business processes. One of the latest and most important components of project management is project risk management.

The risk management process implemented by the Project Management Department of the SJSC "Latvian Railway" was analysed, the identified risks were assessed, and, finally, a risk management portfolio for the Project Management Department was developed in the paper. To achieve the aim, the following research tasks were set: 1) to examine the concepts of a project and its management and of a risk and its management; 2) to assess the risk assessment options; and 3) to identify and assess the risks regarding the Project Management Department of the state joint stock company "Latvian Railway" as well as to develop a general risk prevention and control plan.

**Key words:** project management, risk management.

**JEL code:** R49

**Introduction**

Project management is a complicated process in which the processing and exchange of information play essential roles. The ISO 10006 standard defines project management as the planning, organisation, supervision, control, and communication of all aspects of a project and the motivation of all the individuals engaged in the project to achieve the project's goals (International Standard ISO ..., 2003).

Kerzner defines project management as an art to create an illusion (to the management, customers, and themselves) that everything taking place in the project is a result of expected and carefully planned activities (Kerzner, 2009).

Just like in real life, in a project, too, it is important to know unfavourable events or risks that might hinder or disrupt the progress towards the established goals. It is important to understand which events and circumstances may be regarded as risks. Accordingly, the nature of risks has to be understood to be able to timely recognise and prevent them.

The risk management process implemented by the Project Management Department of the SJSC "Latvian Railway" was analysed, the identified risks were assessed in the paper, and, finally, the authors developed a risk management portfolio for the Project Management Department.

To achieve the aim, the following research tasks were set:

- to examine the concepts of a project and its management and of a risk and its management;
- to assess the risk assessment options;

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- to identify and assess the risks regarding the Project Management Department of the state joint stock company "Latvian Railway" and to develop a general risk prevention and control plan.

The following research methods were employed in the paper: the monographic method, analysis, a flowchart and quantitative and qualitative risk assessments.

As sources of information, the authors used research papers by foreign and national scientists, legal enactments, and the company's materials.

## **Results and discussion**

Risk management has become topical only in the 1960s with the emergence of a new profession – risk managers. Risk management as a tool in company management spread across the world only in the 1980s. In the beginning of the 21<sup>st</sup> century, a new risk management conception emerged – risk management became a continuous process in which all employees are engaged and which is managed by a special department (Pettere, Voronova, 2004).

The British Association for Project Management suggests that a risk is an uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives (Chapman, Ward, 2003).

A risk has two key attributes:

- probability – a mathematical attribute that allows calculating the frequency of occurrence of an event if statistical data are available;
- size of loss – it is measured as a difference between the initial condition of an object before it started deteriorating and its loss.

The ISO 10006 standard assumes that a risk is an effect leading to uncertainty about reaching the established goals (International Standard ISO..., 2003). In this definition, uncertainty involves events (that may or may not occur) and unsafety that is caused by unclearness or the lack of information. It also involves both negative and positive effects on reaching the goals.

Risk management is a management process, the task of which is to:

- prevent the occurrence of a risk;
- reduce the probability of occurrence of the risk factor;
- in case the risk has occurred – to prevent or reduce the effect of the risk on the project and its results and management.

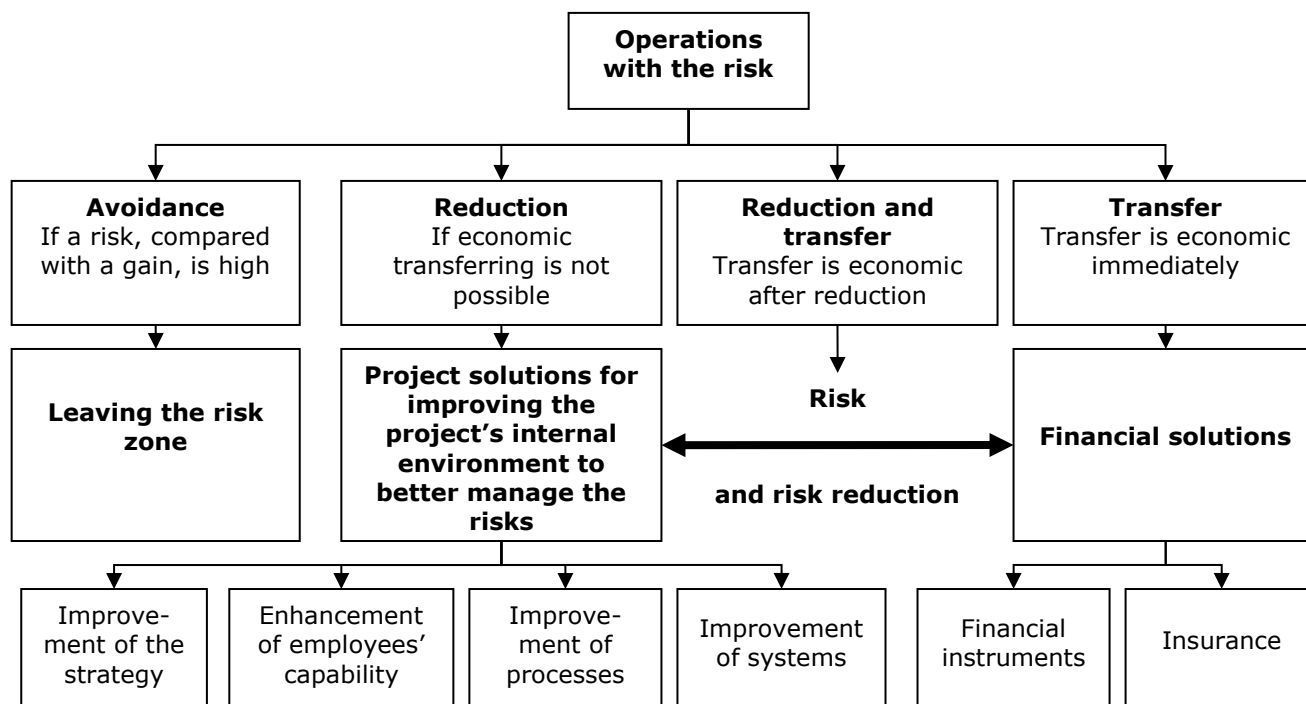
One of the attributes that evidences in favour of project risk management is that it has to be proactive. It means that one has to seek to identify all project risks and to decide on how to deal with risks before they occur.

Project risk management is necessary for every project. It is needed when starting a project and when managing and completing it. If risks are not controlled, they will cause negative effects on the project's course or hinder the achievement of the project's goals. To be successfully able to control risks and prevent their occurrence, one has to be well aware of risk management guidelines.

After reviewing the risk prevention methods available in various bibliographical sources, the authors selected, in their opinion, the most important methods and summarised them in an illustrative scheme (Figure 1).

The principle of its usefulness – the cost of application of the method may not exceed the potential loss – has to be taken into consideration before selecting a certain risk prevention method.

A risk is not a constant value; it is a variable. Accordingly, a register of risks has to be systematically reviewed and improved.



Source: authors' construction

Fig. 1. Choice options for preventing risks

Risk control is a process throughout the project period, in which risks are monitored and controlled through a multi-iterative process of identification, assessment, and processing of risks (International Standard ISO..., 2003). All impossible, expected as well as immanent risks have to be identified in this process. The risk control system is also affected by the organisation in which the particular project is implemented.

The state joint stock company "Latvian Railway" is one of the largest government-owned companies that provides services related with Latvia's railways.

The state joint stock company "Latvian Railway" is the leading company within the Latvian Railway Concern that consists of the SJSC "Latvian Railway" and six subsidiary companies.

The leading company – SJSC "Latvian Railway" – ensures the maintenance of railways, the management of train traffic, the operation of railway stations, the management of real estate, the lease of the rolling stock, the distribution and trade of electricity, and the provision of information technology and electronic communication services.

The SJSC "Latvian Railway" is one of the oldest rail transport companies in Latvia and it operates for more than 93 years. However, railways exist in the territory of Latvia for more than 150 years.

The company's strategic goals are to ensure: the capacity of its railway infrastructure meets the medium-term demand of up to 85 million tonnes of cargo a year (until 2015); a competitive cost level of

its railway infrastructure; the supply of railway infrastructure services meets the demand of carriers for these services.

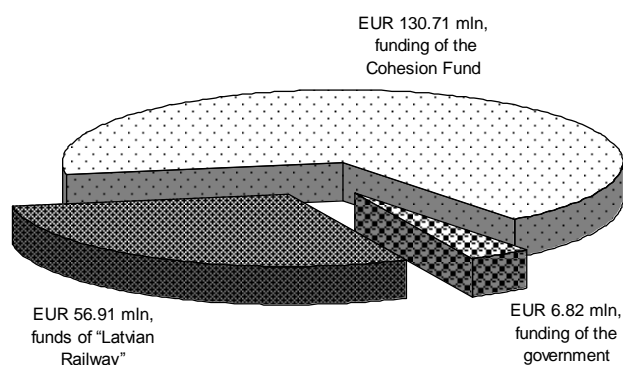
By achieving these goals, the company not only assists the national economy of Latvia, it also makes a considerable contribution to the development of the Baltic region, thus, other European countries benefit from it both economically and socially.

By performing its operations and tasks prudently and successfully, the company pays in taxes approximately LVL 80 million a year. Besides, in a long-term, the company provides jobs to approximately 12 thousand employees accounting for 1% of working age population of Latvia.

To ensure that infrastructure development projects are prepared and implemented according to the plan and to secure coordination between the company and the units of the Ministry of Transport during the identification of the projects, feasibility studies, the acquisition of funds, and the implementation of the projects, the company established the Project Management Department on 1 June 1997.

The Project Management Department has gained a long experience in implementing various projects. Projects co-financed by both the Cohesion Fund and other financial instruments are implemented, and a large number of projects are co-funded by the national government.

Figure 2 presents the distribution of sources of funding for the projects co-funded by the Cohesion Fund in the programming period 2007-2013.



**Source: authors' construction**

**Fig. 2. Sources of funding for the projects co-funded by the Cohesion Fund and implemented in the programming period of 2007 – 2013, mln EUR**

In total, LVL 91.5 million were allocated from the Cohesion Fund for projects in this programming period; thus, one can conclude that the SJSC "Latvian railway" has absorbed the funding provided by this Fund very well. For these projects, the national government allocated LVL 4.82 million, while a co-financing of the SJSC "Latvian Railway" amounted to LVL 39.84 million. As Figure 3 shows, the national government's funding is relatively small compared with the co-financing of the company and the funding of the Cohesion Fund. Accordingly, one can conclude that the allocation of funding may be influenced by various political decisions or the non-compliance of projects with the national strategic plans.

The Project Management Department of the SJSC "Latvian Railway" faces risks of various types – both external and internal ones. Since the Project Management Department is not able to affect external risks,

it focuses particularly on internal risks. Attention has to be paid to numerous external factors that can cause several internal risks, thus, negatively affecting the quality of work or the implementation of projects by the Project Management Department (Table 1).

Table 1

**Main risks regarding the Project Management Department**

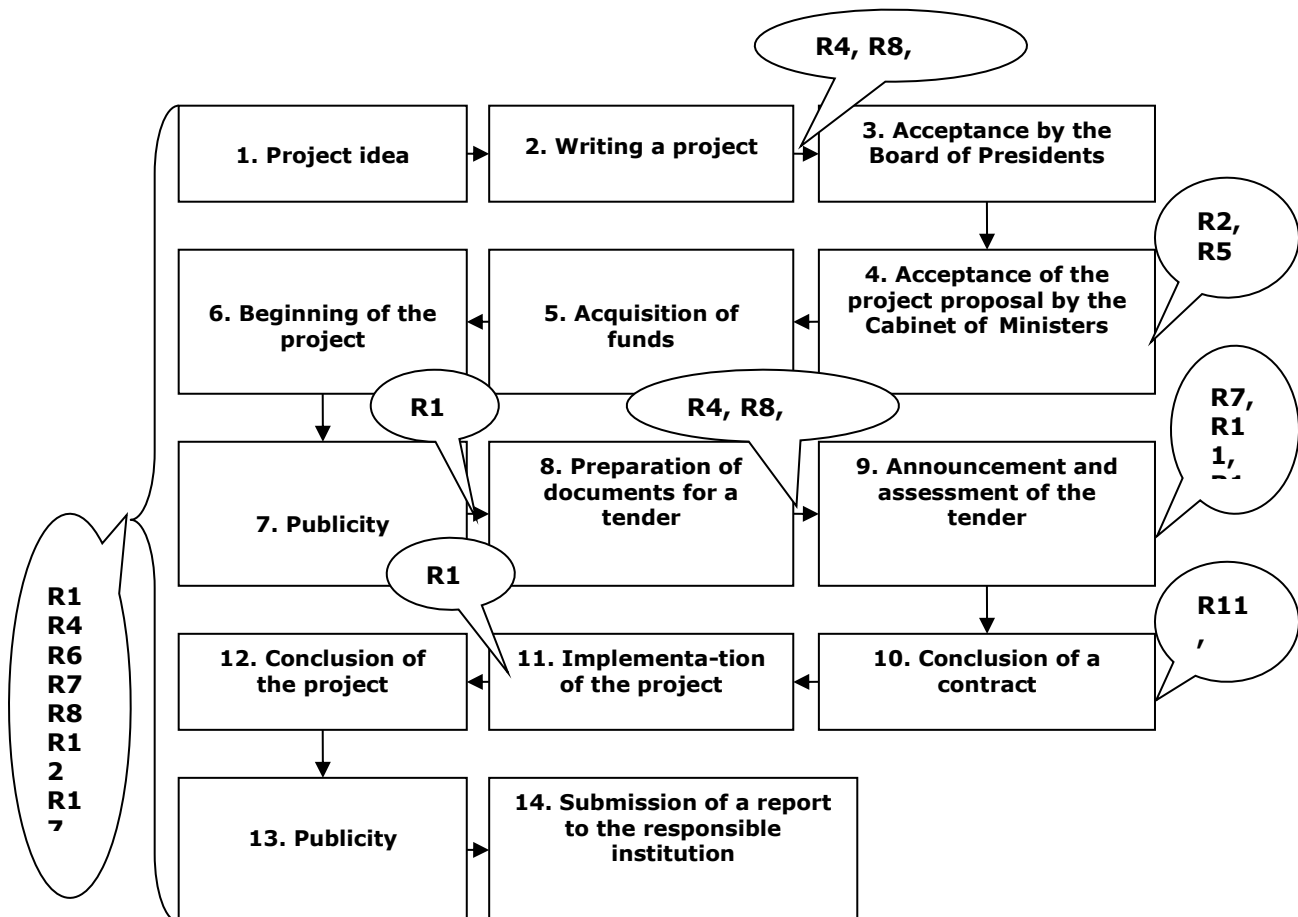
<b>Type of risk</b>		<b>Cause of risk</b>
1	2	3
Poor quality of planning documents	R1	<ul style="list-style-type: none"> <li>➤ elaboration of planning documents is not sufficiently coordinated</li> <li>➤ succession of planning documents is not ensured</li> <li>➤ strategic goals are not achieved</li> <li>➤ planning documents are not transparent</li> <li>➤ planning documents are not associated with goal achievement indicators</li> </ul>
Poor optimisation of the organisational structure	R3	<ul style="list-style-type: none"> <li>➤ the organisational structure is not in line with strategic decisions</li> <li>➤ functions overlap or tasks are not performed</li> <li>➤ personnel resources are not optimally reallocated among processes</li> <li>➤ additional investment may be needed for the optimisation of functions</li> </ul>
Ineffectiveness of work planning	R4	<ul style="list-style-type: none"> <li>➤ work planning is not associated with the institution's operational goals</li> <li>➤ no individual is made responsible for work execution</li> <li>➤ employees might be overburdened</li> <li>➤ employees engaged in work planning are not familiarised with the operational plans</li> </ul>
Making inadequate decisions	R5	<ul style="list-style-type: none"> <li>➤ information is insufficient for making decisions</li> <li>➤ no hierarchy of responsibility in decision-making</li> <li>➤ ineffective communication among government officials and representatives of political forces</li> <li>➤ biased information about the problem to be tackled</li> </ul>
Ineffective management of processes	R7	<ul style="list-style-type: none"> <li>➤ management of projects is unstructured and chaotic</li> <li>➤ detailed goals are not set</li> <li>➤ insufficient information exchange and cooperation</li> <li>➤ communication between the team managing a process and the rest of personnel and managers is not clearly defined</li> <li>➤ project implementation capacity is too small for the decisions made</li> <li>➤ interest conflicts may arise during the course of work</li> <li>➤ the project's time schedule may be delayed</li> </ul>
Information exchange	R8	<ul style="list-style-type: none"> <li>➤ internal information is not timely and accurately selected and disseminated</li> <li>➤ insufficient systematisation of information and insufficient solutions to information exchange</li> <li>➤ emergence of unnecessary information</li> <li>➤ coordination of documents and decision-making is not sufficiently organised</li> <li>➤ language barrier</li> </ul>
Employee selection process	R9	<ul style="list-style-type: none"> <li>➤ too high requirements are set for candidates, compared with the specifics of the corresponding job position</li> <li>➤ limitation of varying requirements for attracting new employees</li> </ul>
Insufficiency of employees	R10	<ul style="list-style-type: none"> <li>➤ employees are overburdened in performing certain functions</li> <li>➤ insufficient personnel resources for timely and careful execution of functions</li> <li>➤ replacement of employees is problematic</li> <li>➤ lack of professionals of a certain field</li> </ul>
Poor knowledge of employees	R11	<ul style="list-style-type: none"> <li>➤ insufficient knowledge to fulfil occupational duties</li> <li>➤ lack of opportunities to develop professional skills</li> <li>➤ employees of a narrow specialisation are not sufficiently prepared</li> </ul>
Technical	R12	<ul style="list-style-type: none"> <li>➤ failure to follow occupational safety rules</li> <li>➤ information system faults due to unexpected circumstances</li> <li>➤ maintenance of several information systems containing similar data</li> <li>➤ imprudent purchases of new technologies</li> </ul>



Unsanctioned access	R13	<ul style="list-style-type: none"> <li>➤ the third party gains restricted access information or confidential information</li> <li>➤ important data are distorted</li> <li>➤ capacities of information systems are endangered</li> </ul>
Tender procedures	R15	<ul style="list-style-type: none"> <li>➤ tenders are not sufficiently optimised</li> <li>➤ all cost items regarding the procurement object have not been identified</li> <li>➤ needs are not examined in detail to specify the procurement object</li> <li>➤ the tender contract may exceed the allocated budget</li> <li>➤ the tender's results may be contested</li> </ul>
Poor cooperation with suppliers	R16	<ul style="list-style-type: none"> <li>➤ employees of the institution are not sufficiently competent</li> <li>➤ final services might not meet the institution's needs</li> <li>➤ suppliers do not fulfil their obligations</li> <li>➤ in public tenders, suppliers provide misleading information or use techniques of unfair competition</li> </ul>

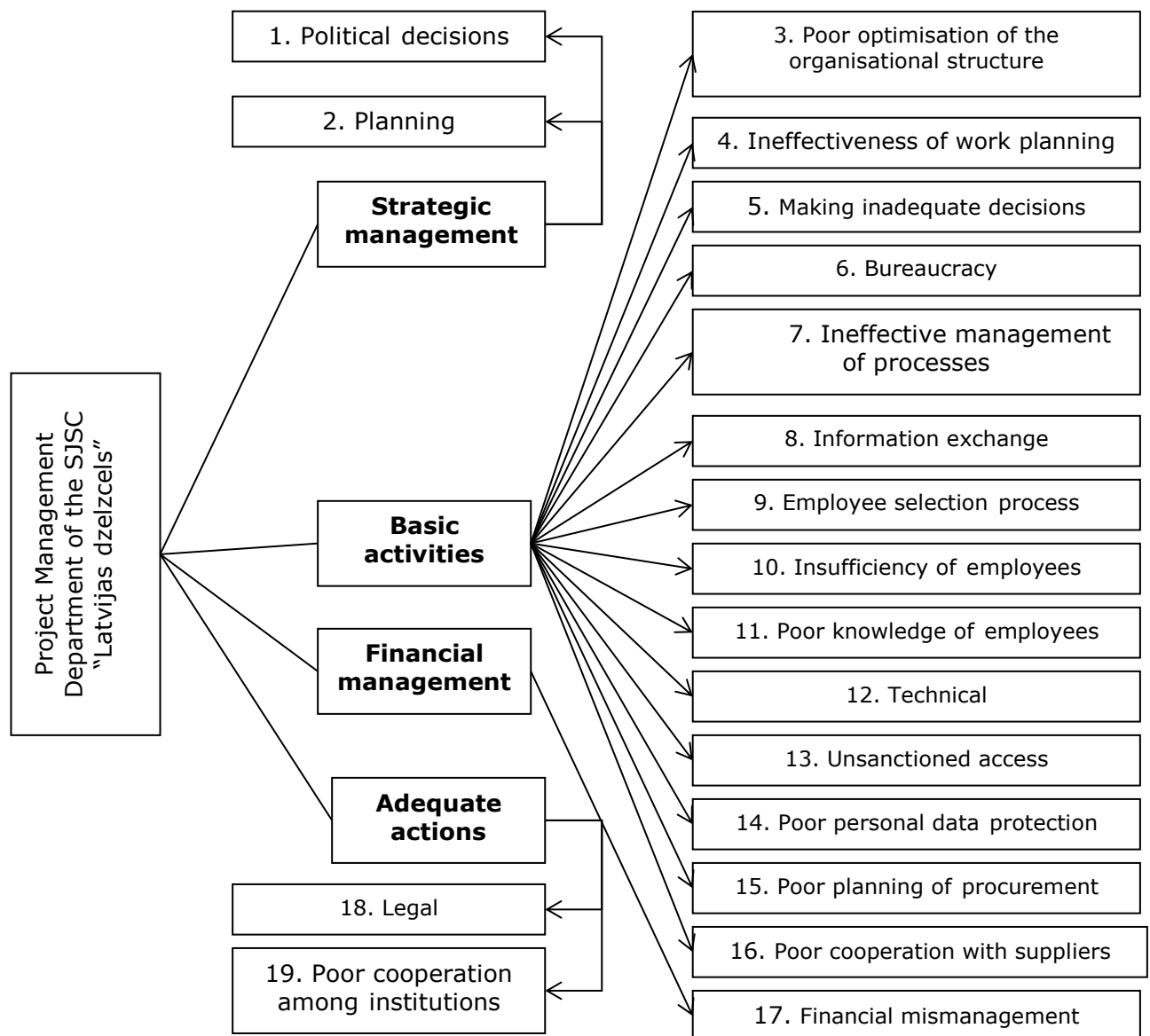
Source: authors' construction

Every project implemented by the Project Management Department is unique and different. Yet, the introduction and implementation of every project are based on a single process (Figure 3). An examination of each stage of this process allows us to determine easier which risk affects a particular stage. Therefore, being aware of what the risk affects, it is easier to select further methods for preventing these risks.



Source: authors' construction

Fig. 3. General project implementation flowchart



Source: authors' construction

Fig. 4. Risks regarding the Project Management Department

After analysing the project implementation flowchart, one can conclude that this process mainly involves the following:

- risk of ineffectiveness of work planning – employees are overburdened;
- risk of bureaucracy – documents are doubly retained – both in the system of the Document Department and in paper format – thus, impeding the implementation of necessary activities;
- risk of information exchange – internal information exchange problems, language barriers;
- risk of poor knowledge – employees have insufficient knowledge to fulfil their occupational duties;
- technical risk – information system faults, including system faults at the Document Department, obsolete technological resources.

After analysing, one can conclude that from the perspective of employees, the risks identified regarding the Project Management Department of the SJSC "Latvian Railway" consists of 4 low risks, 4 medium risks, 9 high risks, and 2 very high risks. The very high risks are the financial risk and the risk of availability of employees.

Therefore, one can suggest that the Project Management Department's employees assessed particularly the risk of sufficiency of employees as a very high risk, as they face everyday overburden and the lack of time, which affects the successful implementation of projects.

Attention has to be also paid to risks making a large effect – these are the risks of ineffectiveness of work planning, bureaucracy, information exchange, and poor tender planning and the legal risk. Although the probability of these risks is low, in case they occur, the consequences might be substantial.

Table 2

**Preventive activities for and control of some main risks regarding the Project Management Department**

<b>Type of risk</b>	<b>Activities to be performed</b>	<b>Responsible for control</b>
1	2	3
Poor quality of planning documents	<ul style="list-style-type: none"> <li>• Succession of planning documents has to be ensured</li> <li>• Setting clear strategic goals</li> <li>• Engagement in producing national strategic documents as well</li> </ul>	Executive Board Board of Presidents Heads of departments and offices
Poor optimisation of the organisational structure	<ul style="list-style-type: none"> <li>• Each organisational unit has to be assigned its own field of operation</li> <li>• Cooperation among various organisational units has to be promoted</li> </ul>	President Board of Presidents Heads of departments and offices
Ineffectiveness of work planning	<ul style="list-style-type: none"> <li>• A responsible individual has to be appointed for the particular work, so that no chaos emerges when executing the work</li> <li>• All individuals engaged have to be familiarised with operational plans, if any</li> </ul>	Board of Presidents Heads of departments and offices Project managers
Ineffective management of processes	<ul style="list-style-type: none"> <li>• Communication with the rest of personnel engaged has to be improved in the management of a process</li> <li>• Capacity of implementation of projects has to be increased</li> <li>• Information exchange has to be improved within the department and with other organisational units</li> </ul>	Head of the Project Management Department Heads of departments and offices
Insufficiency of employees	<ul style="list-style-type: none"> <li>• The number of employees has to be increased by adding project assistants</li> <li>• For specific projects, professionals of corresponding area have to be additionally hired</li> <li>• Detailed work duties have to be defined</li> </ul>	Head of the Project Management Department Project managers
Technical	<ul style="list-style-type: none"> <li>• Periodic informative activities regarding occupational safety have to be held</li> <li>• Since being on a railway requires special attention, inspections have to be carried out to make sure employees observe safety rules when staying in the territory of railways</li> <li>• Occupational safety rules have to be available in the common system</li> <li>• Performance of the electronic document management system has to be improved</li> </ul>	Safety Office Head of the Project Management Department Information Technology and Telecommunication Office Information Processing Centre

Source: authors' construction

After examining the risk prevention and control process at the Project Management Department of the SJSC "Latvian Railway", one can conclude that the majority of risks are internal and these risks have to be controlled by the head of the Project Management Department and her subordinates who are closely associated with particular projects. Of course, the head of the Project Management Department has to cooperate closely with the company's Executive Board and the Board of Presidents, especially to control the risks of financial mismanagement, poor optimisation of the organisational structure, ineffectiveness of work planning, and other risks.

Every project implemented should have its own risk management procedure, which would be integrated in the general risk management strategy, thus, reducing the effects of the Project Management Department's internal risks and the overall performance of this Department. The risk monitoring system, as a whole, has to be managed by the project manager, ensuring that information is summarised and accumulated on all the potential project risks.

Since the risk management process performed by the company's Project Management Department is a set of complicated components, it is necessary to develop a risk management strategy for the Department which would be reviewed at least twice a year, enhanced, and supplemented, if necessary. The strategic risk management plan is one of the activities that enables the company to timely react to the negative consequences of a potential risk if it occurs; it contains a lot of information about each risk and its potential effects as well as instructions for individuals on how to react in any particular situation.

## **Conclusions**

1. To ensure that a risk is prevented, numerous activities, which cannot take place themselves – they have to be managed – have to be performed in companies.
2. Every project needs risk management as a subsystem of project management, thereby, a risk management system has to be developed and introduced in projects.
3. Risk prevention methods are applied to the already identified risks based on their assessment; yet, new risks might emerge during the project period. For this reason, the management of risks has to be performed systematically and continuously to carry out risk prevention activities regardless of the moment of risk emergence.
4. During the project implementation process, the Project Management Department may face the following risks:
  - risk of ineffectiveness of work planning – employees are overburdened;
  - risk of bureaucracy – documents are doubly retained – both in the system of the Document Department and in paper format – thus, impeding the implementation of necessary activities;
  - risk of information exchange – internal information exchange problems, language barriers;
  - risk of poor knowledge – employees have insufficient knowledge to fulfil their occupational duties;
  - technical risk – information system faults, including system faults at the Document Department, obsolete technological resources;
  - risk of poor cooperation – institutions do not cooperate effectively;
  - risk of financial mismanagement.

5. Since the majority of risks identified at the Project Management Department are internal risks, they have to be controlled by this Department's head and her subordinates.

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**ESTONIAN RURAL AND URBAN ENTERPRISES' INVESTMENTS IN FIXED  
ASSETS AND CHANGES IN SALES REVENUE FROM 2005 TO 2010**

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**Abstract.** The aim of research is to study the investments and sales revenue of Estonian rural and urban enterprises in the period of 2005- 2010 during which Estonia went through high economic growth followed by a deep decline and first signs of economic recovery in 2010. The analysis is based on financial data of economically active enterprises collected by the Statistical Office of Estonia. The average investment in fixed assets and average sales revenue per urban and rural enterprise is compared in the analysis. The results show that while the number of economically active enterprises increased in more rapid pace in Estonian rural areas, it is highly problematic that their average annual investment and sales revenue remains considerably lower than that in their urban counterparts. For Estonian rural enterprises, both those indicators grew slower during the economic boom years of 2005 to 2007 and decreased more rapidly in the decline years of 2008 and 2009; thus, widening the gap with the urban enterprises. The weak recovery of enterprise investments remains a considerable problem for further growth.

**Key words:** Estonia, rural enterprises, urban enterprises, investments, sales revenue.

**JEL code:** R10

## **Introduction**

The economic climate of the recent years has been a considerable challenge for all Baltic States. Estonia is one of the countries that went through an extreme cycle of high growth up to 2007 (OECD, 2011) characterised by overheating together with high inflation (OECD, 2012); followed by precipitous decline in 2008 and 2009 that was accompanied by high structural unemployment and substantial decline in domestic demand (OECD, 2011). The recession ended in the first half of 2010, when the economy started to grow more rapidly; however, the Estonian economic recovery in the recent years has been highly volatile (OECD, 2012) and challenging to both urban and rural enterprises in Estonia. The rural areas have been affected by ongoing economic restructuring as the weight of agriculture as provider of rural jobs and driver of rural economy is low and continues to decline (OECD, 2006). In Estonia, the tertiary sector has become the main provider of rural jobs and new enterprise growth (Sakk O. et al., 2013) as the number of tertiary sector rural enterprises passed the number of primary sector enterprises in 2007 (SOE, 2013). One of the consequences of those changes has been high vulnerability of rural enterprises to the sharp decline in domestic demand starting in 2007, as with the onset of the recession and high unemployment, the customers were first to cut back on the consumption of services.

In the present economic climate in Europe, the high emphasis is being placed on the development of measures that should lead to the economic recovery and revival (Carballo-Cruz F., 2011; Stamatovica M., Zakic N., 2010; World Bank, 2011). Besides the overall impact of economic climate, the rural and urban

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enterprises face their own distinctive set of challenges arising from their location, population and enterprise density, and regional development characteristics. The typical problems of rural enterprises include their distance from markets and suppliers (Smallbone D. et al., 2003; Besser T.L., Miller N.J., 2013), small and specialised economies (Rizov M., 2006), and lack of economies of scale and agglomeration effect (Besser T.L., Miller N.J., 2013) etc. Due to both differences in industry composition and productivity, rural industries often lag behind their urban counterparts (Rizov M., Walsh P.P., 2011). The urban enterprises are often bigger, have better access to educated labour, and are more likely operating in high growth sectors (Yu L. et al, 2011). While many factors work in favour of urban enterprises, several studies indicate that rural enterprises may have better survival chances, as the company survival rates decline with the increased population density (Fritsch M. et al, 2006); start-up companies are likely to grow more rapidly in the most rural labour markets (Acs Z., Malecki E., 2003). The smallness of rural enterprises can also work in their favour, e.g. as in economic downturn small rural businesses that had more difficulties with finding external financing, were also less dependent on external financing (Andersen A.R. et al., 2010).

In Estonia, the high regional disparities that appeared during the transition process in the 1990s have persisted and the regional economic development continued to be strongly polarised to the territory around the Estonian capital Tallinn (Venesaar U., 2006). As the Estonian government has set the goal to curb the concentration of population as well as economic activity in the capital region (Servinski M., 2010), the regional aspect of enterprise development is a considerably important topic.

The present paper focuses on the research question of what type of impact the onset of economic recession had on the investments of Estonian urban and rural enterprises, and on their sales revenue. After the EU accession boosted the Estonian economic growth, the borrowing in euro became cheap (OECD, 2012). However, after the onset of crisis, the availability of external financing became more restricted. As the investments of enterprises are important drivers of economy and regional development, the impact of recession on the investment behaviour of urban and rural enterprises is a highly relevant topic. Also, as the onset of recession in Estonia was characterised by sharp collapse of domestic demand, its impact on the sales revenue of urban and rural enterprises requires attention.

The aim of the present research is to study the investments and sales revenue of Estonian rural and urban enterprises. The financial data of Estonian enterprises studied in the present research is from 2005 to 2010, during which Estonia went through high economic growth following the EU accession, then a steep economic decline in 2008 and 2009, and a slow recovery starting in 2010.

In the present research, rural enterprise is defined as an enterprise registered in Estonian rural municipality or in a town with less than 4000 inhabitants. Urban enterprises are registered in urban municipalities with more than 4000 inhabitants. The urban-rural definition corresponds to that of the Estonian Rural Development Programme 2007- 2013 (EMA, 2008). The data used in the analysis were collected for the survey "The Rural Enterprises' Situation, Development Trends and Need for Support" (Institute of Economics ..., 2012) that was financed by the Estonian Ministry of Agriculture from the resources of Estonian Rural Development Programme. In the survey, an outtake of financial data of rural enterprises was ordered from the Estonian Statistical Office's database of enterprises' financial indicators. The database is based on the financial indicators collected from the public and private limited companies, general or limited partnerships, commercial associations, and branches of foreign companies that are economically active (i.e. had expenditures, net sales etc.) in the reference period (SOE, 2013). The data

do not include the financial data of sole proprietors and enterprises in the field of financial intermediation (banks, insurance etc.). The research focuses on two main indicators: enterprises investments in fixed assets and annual sales revenue. The data on sales revenue includes income from sale of all products, goods and services; it excludes VAT and excises, subsidies. The total investments into fixed assets (the cost of buildings, land, equipment, machinery, vehicles, installations, construction, reconstruction, intangible fixed assets, investment properties etc.) are analysed (SOE, 2013) for the study of investment behaviour. On the basis of the financial data, the average indicators are calculated for the urban and rural enterprises. The following methods have been used: descriptive method, analysis and synthesis, and graphical analysis.

The paper has set the following research tasks: to study the changes in the number of economically active enterprises from 2005 to 2010; to calculate the average investment in fixed assets in urban and rural enterprises; and to compare the changes in average sales revenue in Estonian urban and rural enterprises from 2005 to 2010.

One of the delimitations of the present analysis is the availability of data. At the time of the analysis in 2013, the last full year for which regional data were available was 2010. As Estonian enterprises prepare their annual reports 6 months after the end of fiscal year, there is a two year time delay in the availability of more specific financial data. The analysis does not take into account either the regional diversity of enterprises as there are also considerable regional differences between rural regions themselves. Another limitation is that while in Estonian rural areas the share of sole proprietors is higher among the enterprises, the present data do not include data from sole proprietors as they have different financial statement forms. The financial data of enterprises provided in the Estonian Statistical Office's database are available on Estonian county level (15 counties) without division to more specific urban and rural dimension. Part of the novelty of the present research is that there have not been urban and rural comparisons of Estonian enterprise' performance, and thus, in the survey a more specific special outtake of urban and rural enterprises was ordered from Estonian Statistical Office.

## **Research results**

In 2005, there were 9489 economically active enterprises registered in Estonian rural municipalities and towns with less than 4000 inhabitants (SOE, 2013). They accounted for 22.5% of all economically active enterprises in Estonia. The three years following EU accession in 2004 were characterised by high economic growth during which the number of active enterprises also increased rapidly (Table 1). In urban areas, the number of active enterprises increased by 10% annually from 2005 to 2007, while in rural areas the rate was even higher. The total number of economically active rural enterprises increased by 19.3% from 2005 to 2006. The increase in the number of rural enterprises was 16% from 2006 to 2007. In 2007, with the first signs of economic slowdown, the number of enterprises continued to increase more slowly. The number of active urban enterprises actually decreased by 0.3% from 2008 to 2009 with the onset of recession; however, the number increased by 3.9% in rural areas. By 2010, the number of active enterprises in Estonia was 58 347 (Table 1). As the number of economically active enterprises grew more rapidly in rural areas, the share of rural enterprises had increased to 28.7% by 2010, while enterprises registered in urban areas accounted for 71.3% of all economically active enterprises.



Table 1

**Economically active enterprises in Estonia 2005- 2010**

	2005	2006	2007	2008	2009	2010
Urban	32 736	36 190	39 882	40 853	40 717	41 612
Rural	9 489	11 317	13 130	14 800	15 378	16 735
Total	42 225	47 507	53 012	55 653	56 095	58 347

*Source: authors' calculations based on the SOE, 2012*

The years 2005 to 2007 were characterised by rapid growth in both investments in fixed assets and the sales revenue of enterprises (Table 2). The investments peaked in 2007 with 4.29 billion – a 57.1% increase in comparison with the year 2005. However, in 2008, the volume of investments started a sharp decline. Despite the first signs of economic recovery in 2010, the economically active enterprises' annual investments in fixed assets in 2010 were still considerably lower than the level of investments of 2005. The decline in the total sales revenue reported by the enterprises was not so steep in 2008 and 2009, and in 2010 it exceeded the level of 2006.

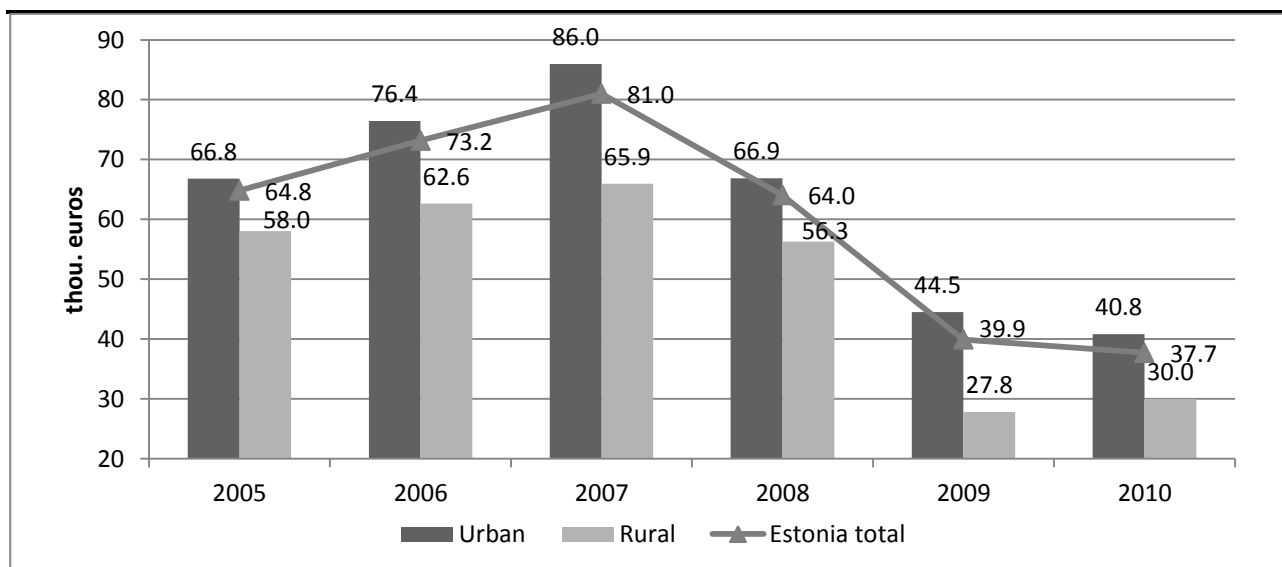
Table 2

**Annual investments in fixed assets and sales revenue of Estonian economically active enterprises from 2005 to 2010 (billion of EUR)**

	2005	2006	2007	2008	2009	2010
Investments in fixed assets	2.73	3.47	4.29	3.56	2.24	2.20
Sales revenue	31.36	37.50	44.52	44.46	33.71	37.98

*Source: SOE, 2013*

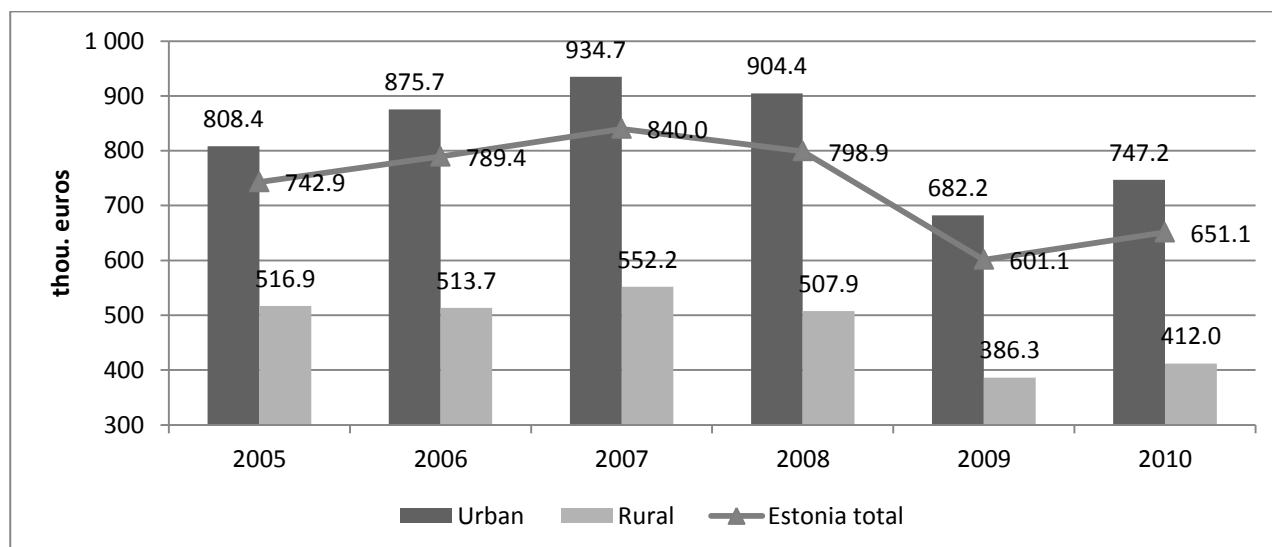
The average annual investment in fixed assets per economically active Estonian enterprise (Figure 1) has been consistently lower in rural areas. In 2005, the average investment made by a rural enterprise was EUR 58 000 – around 13% lower than in an urban enterprise in case of which the annual average investment in fixed assets was EUR 66 800. From 2005 to 2007, the investments made by urban enterprises grew more rapidly, and in 2007, the average investment in fixed assets by a rural enterprise was 25% lower than in an urban enterprise. Investments of rural enterprises decreased also more than in urban enterprises. In 2009, rural enterprises invested less than half of what they had invested in the previous year as the average annual investment per rural enterprise was just EUR 27 800 in comparison with EUR 56 300 per enterprise the year before. In urban enterprises, the investments dropped by third as the average investment per enterprise was EUR 44 500 in 2009 (Figure 1). However, in 2010, the average investment per rural enterprise started to increase, while the indicator continued to decrease in case of urban enterprises. Still the annual average investment in a rural enterprise was 26.5% lower than the average investment in an urban enterprise in 2010. The overall decrease in the investments in the period was higher in case of rural enterprises as the average investment in rural enterprises in 2010 was 48% lower than it had been in 2005. In case of urban enterprises, the average investment per enterprise was by 39% lower than in 2005.



Source: authors' calculations based on the SOE, 2012

Fig. 1. Average investment in fixed assets per economically active enterprise

In 2005, the sales revenue of a rural enterprise was lower than in urban enterprises by a third – the average indicator per economically active enterprises was EUR 516 900 in rural areas and EUR 808 400 per urban enterprise (Figure 2). In the economic growth years of 2006 and 2007, the sales revenue increased more rapidly, and in 2008 and 2009, it decreased less in urban enterprises.



Source: authors' calculations based on the SOE, 2012

Fig. 2. Average sales revenue per economically active enterprise

In 2010, the average sales revenue per rural enterprise was 55% of the average on an urban enterprise. The sales revenue of enterprises recovered from recession more quickly than the investments. The period studied coincided with high inflation in Estonia (Eesti Pank, 2012). The comparison of the average indicators for the years 2005 and 2010 shows that in 2010, the average sales revenue per urban enterprise was 92% of the 2005 level and in case of rural enterprises the indicator was 80% of the level of 2005.

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**Conclusions**

The paper studied the impact of economic recession on the investments and sales revenue of Estonian rural and urban enterprises in the period of 2005-2010.

1. In Estonia, the rural areas were characterised by higher enterprise growth numbers both in the economic boom years following the EU accession and in the years 2008 and 2009 during which Estonian economy went through a steep decline. As the number of economically active enterprises grew more rapidly in rural areas, the share of rural enterprises in the total number of economically active enterprises continued to increase rapidly reaching 29% by 2010 from 22.5% in 2005. However, a limitation of the present analysis is that the regional allocation of the enterprise growth has not been taken into account.
2. The total sales revenue of Estonian enterprises showed signs of recovery in 2010. It can be attributed to recovery in domestic demand but also high inflation. The overall decline in 2008- 2009 was lower in comparison with investment figures.
3. In the situation of high economic volatility, the lack of investments poses a serious problem. Estonia officially exited recession in 2010; however, the total volume of enterprises' investments in fixed assets remained lower than in the previous years. The investments in 2010 were still lower the 2005 level, and almost just half of the volume of investments carried out in 2007.
4. Despite the higher increase in the number of enterprises, another problem for Estonian rural areas is the gap in their ability to invest in comparison with urban enterprises. The average annual investment per rural enterprise was 26.5% lower in 2010 than in urban enterprises. In the economic growth years, the average investments made by urban enterprises grew more rapidly and in the economic decline years, they decreased slower than in rural enterprises increasing the urban-rural gap.
5. The drop in the sales revenue per enterprise was slower and recovered more quickly in 2010. Rural enterprises typically face the challenge of longer distances from markets, customers (Smallbone D. et al, 2003; Besser T.L., Miller N.J., 2013). In Estonian case, the characteristic of rural enterprises was also the considerably lower average sales revenue, and the gap between the urban and rural enterprises continued to increase in the period studied.
6. One of the limitations of the present analysis was the time period for which the specific data were available. In the future research, it would be important to continue with the study of how the economic climate of 2011 and 2012 continued to affect the investments of urban and rural enterprises and their sales revenue. In 2010, in the last year in the analysis, Estonian economy showed signs of recovery; however, with the volume of investments made by enterprises still lower than the pre-recession level, it would be important to analyse if this indicator showed signs of recovery and if the gap between urban and rural enterprises continued to decrease or increase.

**Acknowledgement**

The data used in the present research were collected during the survey "The Rural Enterprises' Situation, Development Trends and Need for Support" (2012) and financed by the Estonian Ministry of Agriculture from the resources of the Estonian Rural Development Programme.

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**FACTORS AFFECTING FARMLAND MANAGEMENT IN POLAND IN 1992-  
2012 IN THE INSTITUTIONAL CONTEXT**

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**Abstract.** The aim of this article has been to identify and evaluate main factors which influence the agricultural land market in Poland. Statistical data from two institutions, namely the Agricultural Property Agency (APA) and the Central Statistical Office (CSO) as well as the author's research have been used in the paper. The time horizon of the analysis covers the years 1992-2012. The lower limit was determined by the start of operation of the Agency of Agricultural Property of the State Treasury and the launching of a process of transformation in agriculture state. Completion of the analysis for 2012 is related with the availability of statistical data used. Among the main factors which govern the management of farmland in Poland in the new institutional economic context are: formal norms (legal enactments; amendments to enactments; and the formation and modification of functions of a state institution responsible for the market turnover of agricultural land on the public and private markets, such as the Agricultural Property Agency of the State Treasury, transformed into the Agricultural Property Agency). Among some non-formal institutions there are historically shaped attitudes to agricultural land, which go beyond the market value of this land resource, in addition, encompassing its special cultural and symbolic value.

The results of the author's empirical research indicated that as many as 78.90% of the 943 questioned farmers received at least some of the farmland from their parents or parents-in-law, and as many as 73.49% would like to pass their farm to children or grandchildren (this intention was expressed by nearly all farmers who had children/grandchildren).

**Key words:** sale of farmland, lease of farmland, New Institutional Economy.

**JEL code:** K11, P32, Q15

**Introduction**

Agricultural land belongs to the principal production means in farming where it plays a dual function in production processes. On the one hand, farmland creates an area on which farming is carried out; on the other hand, it participates in the process of generating agricultural produce. It is a special type of production means because farmland possesses own production potential but, unlike other goods employed in an agricultural production process, it cannot be moved or enlarged (Wos A., 1998). Moreover, exclusion of land from agricultural production has become intensified due to a dynamic growth of non-agricultural sectors and infrastructure occupying farmland (especially civil engineering and construction industries). As a result, the total acreage of land potentially used by agriculture diminishes. Having juxtaposed the data of 2008 with the information from the years 1990(1993), Wilkin J. (2013) drew up a list of countries in which farmland has been disappearing most rapidly, which included Estonia (-41.6%), Latvia (-27.9%), Ireland (-25.6%), Poland (-14.0%), Germany (-6.2%), France (-4.2%), and the United Kingdom (-4.2%). Notably, most of farmland is disappearing in the former communist countries, except the Czech Republic (-1.0%).

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Agricultural land serves many functions – apart from being the basic agricultural production means, it is also a valuable component of the natural environment, a source of energy supply, a cultural asset, a marketable property, type of capital, a recreational or residential area. It also has a sentimental and symbolic value; hence, it deserves protection and rational management. By convention, the Polish land market is divisible into two sectors, i.e. private and state markets. These two markets have interpenetrated, especially since 2003, when the Act on the Shaping the Agricultural System came into effect, and the ANR expanded its scope of action from the state market of agricultural property to monitoring the trade of real estate property on the private market. The state market of farmland consists of land units which belong to the Agricultural Property Stock of the State Treasury (the Stock of WRSP). Most of these agricultural grounds originate from dissolved state farms<sup>2</sup>.

Currently, the turnover of agricultural immovable properties is regulated *inter alia* by the Act on the Shaping of the Agricultural System (Journal of Law of 2003, No 64, Item 592). The underlying intention of the said law was to accelerate the accumulation of land and to improve the agrarian structure. However, certain tools were implemented to prevent excessive accumulation of land due to the privatisation of state farmland, for example, it is prohibited to sell land if the total acreage owned by a potential buyer, once the selling contract is concluded, would exceed 500 ha. The legal ground for operations of the Agricultural Property Stock of the State Treasury was created by the Act on the Management of Agricultural Real Property of the State Treasury (Journal of Law of 1991, No 107, Item 465, with subsequent amendments), implementing provisions, the Civil Code, and regulations of the President of the Agricultural Property Agency.

The private market is primarily composed of individual farmers (so-called trade between neighbours). The supply of land on the private market is limited due to benefits derived from land ownership (including subsidies from the EU, low-rate social and health insurance contributions payable to the Agricultural Social Insurance Fund KRUS<sup>3</sup>) and the approaching final date of the period of controlled land acquisition by foreigners, which will fall on 1 May 2016. Poland has negotiated a 12-year transition period, when foreign citizens are not allowed to buy land without a permit issued by the Minister for Home Affairs (The Agricultural Land Market, 2013).

In 2002-2010, the total resources of land suitable for farming in Poland declined from 19.2 to 18.9 million ha (a 1.5% decrease). The last Agricultural Census of 2010 showed that 82.1% of total area of farmland in Poland, corresponding to 15.5 million ha, was used for agricultural purposes. This means an 8.3% smaller acreage than in the previous Agricultural Census of 2002 (16.9 million ha of arable lands). Consequently, the share of agriculturally used land (AL) to the total surface area of the country fell down from 54.1% to 49.7%. The vast majority of this agricultural land (AL), i.e. 94.2% which farms could use

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<sup>2</sup>After 1989, during the system transformation in Poland, processes of ownership transformations in the Polish agriculture took place, leading to privatisation of state farms, among others. By the power of the Act on the Management of Agricultural Property of the State Treasury of 10 October 1991 (Journal of Law of 1991, No 107, Item 465, with subsequent amendments), state farms were dissolved and their land incorporated into the Stock of the Agricultural Property of the State Treasury (the Stock of WRSP), which later also intercepted the land from the State Land Fund (PFZ) and the land bought by the Agricultural Property Agency (ANR) on the private market. This stock of farmland in Poland is administered by a state institution – formed by the power of the mentioned Act – the Agricultural Property Agency (ANR), which had been called the Agency of Agricultural Property of the State Treasury until 2003 (Marks-Bielska R., 2013).

<sup>3</sup>The KRUS is a social security fund which collects contributions from owners (operators) of farms. The contributions are lower than those paid to the Social Security Fund (ZUS), which insures other social groups than farmers. As a result, some farm owners who run an additional (off-farm) or basic business activity choose to pay contributions to the KRUS

was well-kept farmland. It corresponded to about 9% of total acreage of such farmland available to the EU-27 farmers (Karwat-Wozniak B., 2013). The agricultural land in Poland represents about 0.3% of such land globally and about 8.8% of farmland in the EU-27. A higher percentage of farmland can only be found in such EU countries as France (16.1%), Spain (13.6%), the United Kingdom (9.6%), and Germany (9.3%).

Wilkin J. (2013) summarised the main goals related with the use of farmland as follows. One of the aims is to maintain this agricultural resource – for the sake of the present and future generations (this aim seems attainable by building the awareness that agriculture has numerous functions to perform, some of which are non-commercial). Other objectives are to reinforce the role of farmland in the formation of identity and character of rural areas and to restore the role of farmland and farming in the local, national, and global cultures. Another target is to raise the importance of research, scientific achievements and rational thinking in the agricultural policy – to the disadvantage of populism, myths, and narrow interests of groups of lobbyists. It is also expected that such a valuable and multi-functional resource as agricultural land will be protected and used reasonably, which requires some drastic reforms of the Common Agricultural Policy and related national policies (at present, this element is rather neglected in the agricultural policy).

Efficiently working institutions are necessary for undertaking such a broad range of goals. The term 'institutions' is understood in a broad sense, encompassing norms and customs governing a certain community as well as formal organisations. The institutional capital is composed of: an institutional equilibrium, well-defined property law, and an adaptable efficiency of economic systems.

The whole spectrum of connections between norms, rules, organisations, and mechanisms reflecting a set of preferences and limitations governing mutual contacts between participants of any economic activity creates an institutional system, in which one can distinguish norms and rules, seen as a way to regulate social and economic processes. Rules can be formulated as limits imposed on the human behaviour (customs, accepted norms of behaviour, legal norms, and property rights). They become more predictable and can, thus, affect the economic and organisational efficiency of processes occurring in rural areas; organisations (supranational organs, government agencies, local governments etc.); mechanisms (market-specific, administrative, partnerships) governing the decision-making process, and actions of individual participants (Kolodziejczyk D., Gospodarowicz M., 2011).

In line with the New Institutional Economy (NIE), institutions are a set of formal and non-formal principles along with mechanisms deployed for their implementation. The purpose of institutions is to direct individual decisions made by administrative and economic subjects, thus, limiting the degree of uncertainty intrinsic to any economic activity. Institutions are the principles that imply subjects responsible for decisions, permitted actions, protocols to follow, information to be supplied, and what each subject involved in the above will receive in return. Institutions ensure an appropriate structure of stimuli behind allocation decisions (North D.C., 1994).

Considering the fact that the market may fail, especially with respect to such resource as land, the state's intervention on the agricultural land market is necessary. It is vital to have institutions which stimulate the flow and transparency of the land market (so-called land institutions).

For the development of the Polish land market, the most important are the following institutions: legal norms (e.g. the Act on the Shaping of the Agricultural System of 11 April 2003, Journal of Law of 2003, No 64, Item 592), the Act on Amending the Act on Management of Agricultural Property of the State

Treasury and some other Acts of 16 September 2011, Journal of Law of 2011, No 233, Item 1382) regulating actions of the economic process participants, tradition and fixed norms of behaviour and ways of thinking (e.g. passing a farm from generation to generation), a government institution – the Agricultural Property Agency ANR (Marks-Bielska R., 2010).

The aim of this article has been to identify and evaluate main factors which influence the agricultural land market in Poland. An attempt to solve this research problem was made in the context of the guidelines formulated in the New Institutional Economy (NIE). Selected references, data from the Agricultural Property Agency and Central Statistical Office, the author's own research results were employed as well as research results conducted by the Institute of Agricultural Economics and Food Economy – National Research Institute. The analysis for 2012 is related with the availability of statistical data used. The monograph method was applied in the research.

### **Research results and discussion**

The turnover of agricultural land in Poland is defined as changes of land users irrespective of the ownership of land. It, thus, encompasses all land flows between farms and agricultural sectors, such as passing land to a successor, sale, lease, donation, inheriting land, free of charge transfer to eligible subjects, transfer of land into permanent administration, transfer of land as in-kind contribution to a company (the three latter forms are employed by the ANR). Support given to agricultural land turnover is a prerequisite of improving the acreage structure of farms through gradual land aggregation (Marks-Bielska R., Babuchowska K., 2013). The data collected during the latest Agricultural Census (2010) show that an average total area of Polish farms has increased from 6.59 ha (in 2002, the previous Agricultural Census) to 7.93 ha, i.e. by 1.34 ha. Therefore, there is a tendency towards increasing the acreage of farms, especially through land acquisition or lease.

In private farming, most land and related assets are passed onto the next generation in a family. In many cases, the forms of such transfer are rooted in tradition and may have an adverse effect on the agrarian structure – concentration of farmland is delayed and sometimes even further land fragmentation occurs (land divided between several successors). Nonetheless, in the past few years, it has become evident that farms in Poland are differentiated in functions of land use – from small, ancillary farms, mainly serving the purposes of the families who live there and grow food for own use, to large high-production farms, whose operators thrive towards a stronger market position. For the farmland market, the former group of farms appears mainly on the supply side, while the other one creates the demand. In both categories, however, acquired material assets are mostly based on the off-market turnover.

The survey conducted by the author, which covered a representative sample of respondents all across Poland and was intended to indicate the underlying conditions of the current state and prospective changes on the farmland market in Poland (Marks-Bielska R., 2013), has demonstrated that as many as 78.90% of the 943 questioned farmers received at least some of the farmland from their parents or parents-in-law, and as many as 73.49% would like to pass their farm to children or grandchildren (this intention was expressed by nearly all farmers who had children/grandchildren). This proves the important role played in land turnover by institutions related with tradition and culture, strengthened by 'the feeling of being attached to own land' among Polish farmers.

As was rightly implied by J. Godlow-Legiedz (2010), concepts derived from sociology and old intuitionism highlight the aspect of institutions as paradigms of behaviour and perception of the world



imposed on individuals by communities. These model behaviour patterns have been reinforced by experience and gained the attributes of an example worth following. In contrast, representatives of the New Institutional Economy (NIE) underline that institutions are norms of social co-existence which enable one to solve conflicts of interest that may appear for example due to the limited natural resources. This approach seems particularly important regarding farmland, which is an example of such resource of limited availability.

An important component of the concept of institutions coined by North is their division into formal (law) and informal (moral systems, customs, beliefs) institutions. This distinction means that the term 'institution' has been broadened in respect to such approaches which underline that an institution creates a base for regular patterns of actions, and which are associated with the process of institutionalisation, i.e. setting a particular norm in the context of culture. This aspect of the regularity of behaviour is highlighted by economists who analyse institutions according to the theory of games (Aoki M., 2001; Greif A., 2006; Scott W.R, 2008). Greif A. (2006) draws attention to the fact that an institution is a set of rules rather than a single rule, imposing regular behaviour. Aoki M. (2001) equates an institution with a system of beliefs, and Scott W.R. (2008) – while analysing three aspects of institutions (regulative systems, normative systems, and cultural-cognitive systems) - stresses that the latter one is the deepest and emphasises the meaning of the process of institutionalisation. Should the essence of an institution lie in its being rooted in the cultural surroundings, then new legal regulations which do not correspond to the prevailing ethos are not 'true institutions' (Godlow-Legiedz J., 2010).

The current directions in the privatisation policy of land from the Stock of WRSP, approved of by the Ministry of Agriculture and Rural Development, anticipate that it will be vital to widen the offer of land available to farmers wishing to expand family farms. The state support of land acquisition involves subsidies to the interest rates of preferential credits and a possibility to pay back credits in instalments at an interest rate of up to 2% annually, which until the end of 2013 was allowed with the approval of the European Commission. In March 2012, the ANR implemented new solutions concerning the process of selling agricultural immovable properties from the Stock of the WRSP. They support the expansion of family farms, which the binding legal enactments define as the basis of the agricultural system in the Republic of Poland. Tender bids for selling a real property of the surface area over 1 ha are first held as limited bidding where only farmers expanding family farms are invited. It has been accepted that in general the size of real property units to be offered in tender bids should be no larger than the average size of a farm in a particular province or in the whole country. Another rule adopted states that a leased property will not be offered if the lease-holder is an individual farmer.

Land-leasers constitute the most numerous group of land buyers at the ANR who concluded non-tender purchase contracts. Since its commencement (1992) until 2012, the ANR has received 4.74 million ha of land, mainly from former state farms (3.8 million ha) and some from the State Land Fund (PFZ; 0.6 million ha) and incorporated it into the Stock of the WRSP. About 62% (over 2.9 million ha) of the received land was redistributed in a permanent manner (by transfer of ownership), including: sales – over 2.3 million ha (about 49%). As of 31 December 2012, the Stock of the WRSP continued to comprise approximately 1.8 million ha, of which 1.3 million ha were leased. About 321.4 thousand ha remained to be distributed (The Agricultural Land Market, 2013).

The transformations executed by the ANR have changed the shares of the private and public sectors in the structure of farmland management in Poland, owing to the activation of the market of state farmland

and the effect it produced on the increased average acreage of farms. Farms expand their size mainly by leasing and purchasing land from the ANR. The process of land transfer varied between parts of the country and depended on the location of real property units taken over by the ANR and incorporated into the Stock; it mostly occurred in the Western and the Northern Poland. At present, the dominant source of land acquired by the ANR is the land purchased on the private market. The ANR has bought over 14.5 million ha (The Agricultural Land Market, 2013).

Until 2016, a separate segment of the farmland turnover in Poland will continue to be composed of the land bought by foreigners. The data gathered by the Ministry of Home Affairs show that land acquisition by non-Polish citizens is of marginal importance. In 2012, foreigners bought 506 agricultural and woodland property units (in 2011, there were 531 such purchase contracts). The total acreage was 408 ha, including 388 ha of purely agricultural land (508 ha in 2011). The scale of this type of contracts did not change significantly versus the previous time period. Likewise, the percentage of contracts which required permits changed only very little. In 2012, 55% of all contracts of land purchase by foreigners were concluded with the buyers first obtaining required permits (versus 48% in 2011). Regarding the acreage of sold land, the respective percentage was 80% in 2012 (88% in 2011). Considering the citizenship of foreign land buyers and the countries from which the capital originated, most of foreigners who bought land in Poland in 2012 came from the Netherlands, Germany, Luxemburg, Ukraine, and Sweden. A register of real property units acquired by foreigners in Poland has been kept since 1999. Since that time, the registered contracts for buying farmland and woodland property units by foreigners have covered a total area of 4623.73 ha, which corresponds to about 0.016% of all farmland and woodland in Poland. Most of the market turnover of land in which foreigners participate is controlled and the scale of such contracts does not tend to increase (The Agricultural Land Market, 2013).

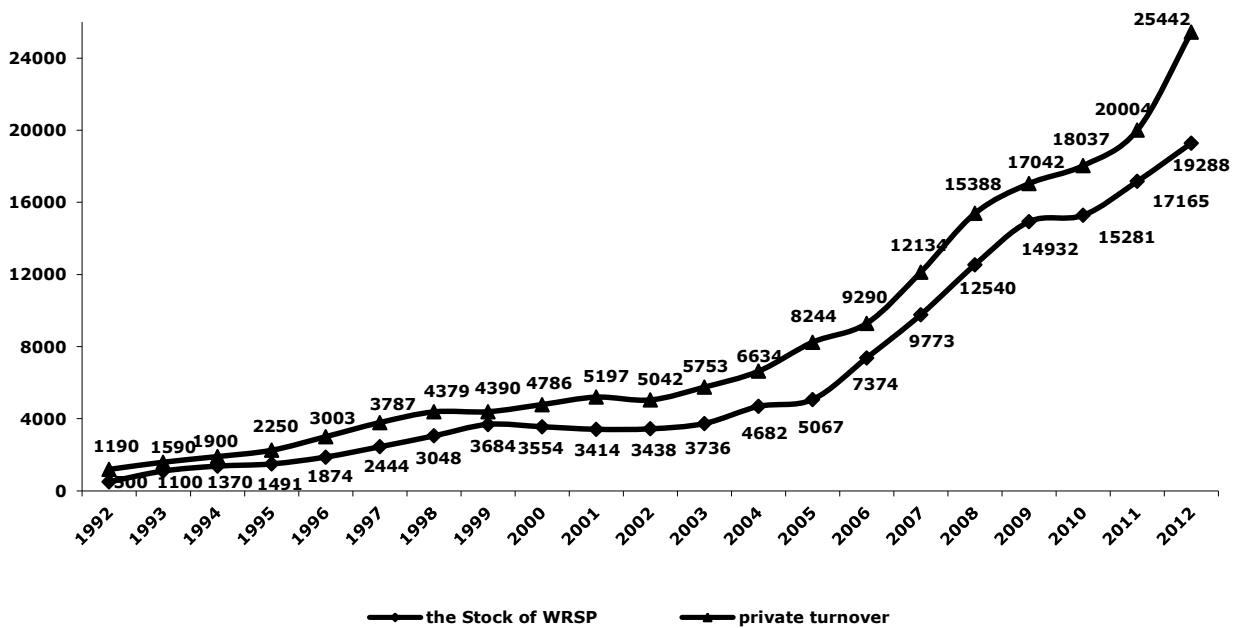
The author's own empirical studies reveal that Polish farmers are rather unwilling to sell land (less than 8% of the 943 respondents, of which just 5 persons (0.53%) declared they could sell their land to foreigners) (Marks-Bielska R., 2013).

North D.C. (1990) made a distinction between institutions and organisations, and introduced the concept of relative price changes as an immediate factor stimulating actions pursued by individuals and organisations. Institutions define the type of organizations operating in a particular society, while enterprising individuals acting in organisations, as a result of the invariable competition for rare resources (which farmland is an obvious example), initiate institutional changes. Impulses stimulating institutional changes appear as new ideas of new opportunities and are shaped in response to exogenous changes in the environment and to changes in relative prices. Changes in relative prices may lead to either changes of conditions of contracts under the framework of existing institutions or else to changes in institutions as such (Godlow-Legiedz J., 2010).

The price of land is almost always a manifestation of a period of prosperity or recession in agriculture. The volume of farmland bought and sold, sale dynamics, or concluded prices will vary in time. Market-specific conditions may have a considerable effect on the above state of matters (an institution of the agricultural market). The data presented in Figure 1 reveal a characteristic of the agricultural land market, such as the difference in prices obtained by the ANR (lower prices) and in the land trade between farmers. It needs to be added, however, that the above comparison is of limited cognitive value because prices on the neighbour market refer to arable land, whilst the ones quoted for the State Treasury property units concern all farmland (arable land, pastures and grasslands as well as fallow land).

Therefore, these are not identical categories. Besides, the ANR sells land mostly in the Northern and Western parts of Poland, where the state land supply is higher but the demand, especially by private farmers, is lower.

The price of a real property unit from the Stock of the WRSP is set no lower than the value of a particular property, which is appraised, through an analysis of the local market, by an independent property appraiser selected for this task by tender. The price of an agricultural real estate unit can also be established at a value no lower than the total value of land determined according to estimated rates per one hectare and the price of 100 kg of rye, in line with the agricultural taxation regulations, and values of component parts of this property unit appraised by a property appraiser. In practice, this form of appraisal is used extremely rarely (The Agricultural Land Market, 2013).



**Source: author’s construction based on the data from the Central Statistical Office and the Agricultural Property Agency**

**Fig. 1. Average land prices in the years 1992-2012 [PLN·ha<sup>-1</sup>] (average euro rate of exchange of 13 January 2014: 1 EUR=4.1526 PLN)**

While analysing the data of the Central Statistical Office on prices of farmland from the private market from 1992, it may be concluded that an average price of arable land traded between private farmers has been growing steadily, except for 2002, when a small decline occurred. The tendency for growing land prices in Poland continues. The average price for 1 ha of arable land, on the private market, went up to 25 442 PLN·ha<sup>-1</sup> in 2012, which corresponds to an over 27% increase versus the preceding year. Such a high increase of prices paid for farmland is primarily indicative of an increasing imbalance between supply and demand on the land market (The Agricultural Land Market, 2013).

The situation on the state market, which is mainly composed of the land sold from the Stock of WRSP, is quite similar. Increasing prices have been observable since the commencement of privatisation, although, they became somewhat more stable in 1999-2003. Initially, the price increase was halted by very high inflation. As the rate of inflation declined, the land prices went up. Such a situation appeared right after 2004, when the average land price was as much as 25% higher than in 2003. Another factor

contributing to the increase in land prices was Poland's accession to the European Union on 1 May 2004, which meant that Poland joined the Common Agricultural Policy. The subsequent years witnessed a dynamic increase in the prices of the farmland sold from the Stock of WRSP. It was not until 2010, when the average price reached by sold farmland was 15281 PLN·ha<sup>-1</sup>, meaning that some price stability was achieved and an increase versus the preceding year was smaller (by 2.3%). In 2011, prices did not decline, although, the supply of land offered by the ANR was much higher (in fact, prices were over 12% higher than in the previous year). In 2012, the price increase versus the year 2011 was lower than on the private market, reaching slightly more than 12%. Therefore, the dynamics remained on a similar level as the year before on the state market of farmland.

Because the land value in Poland is lower than in the EU-15 states, it can be expected that starting from the year 2016 (when the transitional period limiting land acquisition by foreigners in Poland will expire) the price of land, then available freely to the Community citizens, will increase up to the level in the whole EU. The foreseen growth in the food demand can be another contributor to higher prices of land, which is the basic albeit naturally limited agricultural production resource.

Apart from contractual land sale, land-lease is another form of marketable land trade. During the first years after its establishment (at the beginning of the system transformation in Poland), the Agency of Agricultural Property of the State Treasury (AWRSP) faced a low demand for land acquisition. Reversely, leasing land was highly popular. Land-lease required less capital input than land purchase, which evidently made it an extremely appealing form of management of farmland owned by the State Treasury. Formally, the domestic land lease market in Poland mostly consists of the Stock of the State Treasury (WSRP) because land leases between neighbour farmers typically involve small acreages and the vast majority of lean-lease contracts on the private markets are informal; besides, they are not monitored by the state.

In line with the current policy governing the management of farmland in Poland, sale is a preferred solution to lease, as a result of which the number of new land-lease contracts is relatively small, for example, in 2012 they covered in total about 11.6 thousand ha. The total number of binding land-lease contracts was 68.9 thousand, which covered a total of 1.3 million ha of farmland from the Stock of WRSP (about 28%).

The representative results of the research on land-leases in the private sector, conducted by the Institute of Agricultural Economics and Food Economy in 2011, revealed that about 18% of private farmsteads used both own and leased farmland. The important role played by leasing land in the improvement of agrarian structure of Polish farms is verified by the fact that an average size of a farm with leased land was about 22 ha of agricultural land (AL), including 8 ha of leased land, with the analogous parameter for the whole sample was about 10 ha AL.

The growing interest in leasing land on the private market can be associated with both a small supply of land offered for sale and the fact that the land units offered for lease by the ANR are more limited in number and less attractive than previously. Consequently, land lease rates between individual farmers have risen by as much as 63%. Their average level, however, was lower than the worth of subsidies per 1 ha of agricultural land, which means that the subsidies were most often invariably cashed by land owners (The Agricultural Land Market, 2013).

**Conclusions**

The above analysis of the state and dynamics of changes on the agricultural land market in Poland in 1992-2012 justifies the claim that:

1. Among the factors influencing the trade of farmland there were different institutions, classified according to the New Institutional Economy as: norms, markets, and institutions. Formal norms are legal enactments, legislative changes, the formation and operation of a state institution (AWRSP/ANR) responsible for the market turnover of agricultural land on the state and private markets.
2. The supply of agricultural land has increased, since all state farms were liquidated at the beginning of the system transformation in Poland and their land was incorporated into the Stock of WRSP.
3. The dominant form of the ownership of farms in Poland is the one encompassing private, family-owned farmsteads, which is manifested by farms being passed to other family members as donation, unwillingness to sell farmland, especially, when it has been donated or inherited.
4. The privileging motivation is to pass the owned land to subsequent generations of one's family. These facts prove the strong influence of informal institutions on the agricultural land market in Poland. Doubtless, the current situation is also influenced by the historically shaped attitude of Polish farmers to land, perceived as a cultural and symbolic value.
5. The results of own empirical research indicated that as many as 78.90% of the 943 questioned farmers received at least some of the farmland from their parents or parents-in-law, and as many as 73.49% would like to pass their farm to children or grandchildren (this intention was expressed by nearly all farmers who had children/grandchildren).
6. Agricultural land is a multi-functional property, which is not only the basic agricultural production means but also a natural, market-specific, and capital asset (the price of farmland growing dynamically). It is, thus, necessary to protect this resource and use it rationally.

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**ECONOMIC AND SOCIAL ISSUES RELATED WITH THE DEVELOPMENT OF  
DAIRY FARMS IN POLAND****Andrzej Parzonko**<sup>1</sup>, PhD

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**Abstract.** The main aim of the article was to present the specificity of dairy farms in Poland in comparison with other European countries, to analyse the causes of the existing state, and to present the possible directions for the development of dairy farms in Poland in the perspective of the proposed intervention mechanisms for the years 2014-2020 in scope of the Common Agricultural Policy of the EU. As shown by the research results, agricultural holdings which deal with milk production in Poland are characterised by a low volume of production in relation to the situation present in other European countries. In 2010, the dominating group of farms keeping milk cows were holdings owning up to 10 cows (83%). The majority of holdings breeding cows in Poland are non-competitive in the scope of production costs in relation to holdings from the Western Europe. The prices of factors of production (including labour) only widen the gap.

**Keywords:** dairy farms, scale of production, cost competitiveness.

**JEL code:** Z13

**Introduction**

Poland is characterised by relatively good environmental conditions for cattle breeding and milk production. The advantage of lowland areas means that the cultivation of forage crops utilised in cattle breeding does not encounter any significant limitations (Falkowski J., 2001). A certain environmental limitations to breeding are low water resources and relatively small atmospheric precipitations, which affect the level of yield of forage crops (mainly pastures and corn). Among others, the environmental conditions in Poland advantageous for milk production mean that with regard to the volume of milk production Poland is placed (depending on the year) from the 11<sup>th</sup> to the 13<sup>th</sup> in the world. Between 2004 and 2012, the milk production output in Poland has successively demonstrated an upward trend in spite of the functioning system of production quoting. An effect of the increase of production, unfortunately with a still low consumption of milk and dairy products, was the increase of export. The balance of trading in dairy products in 2003 was EUR 278.4 million, whereas, in 2012 it amounted to as much as EUR 937.0 million (Market Analysis..., 2003-2013). An essential influence on the changes in production and processing of milk in Poland was constituted by economic factors. An important factor influencing the increase of milk production output in Poland (between 2004 and 2008) was the improvement of profitability of production. This was caused by the increasing purchase prices of milk. In the beginning of 2004, the average purchase price of milk was as much as 50% lower than in the EU 15. After 1 May 2004, the prices of milk in Poland abruptly started to grow and in the beginning of 2005, they neared the ones offered in the Western Europe (Seremak-Bulge J., 2005). The first full year of Poland's membership in the EU (2005) was the best period, with regard to price relations, for milk manufacturers. During this

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year, the prices of milk, in relation to the prices of grain, had grown by 37% compared with 2004. This was the most advantageous price relation between 1990 and 2012 (Parzonko A., 2009). Another important element which was decisive with regard to the profitability, are production costs. Between 2004 and 2006, the costs of milk production on Polish commercial dairy farms were lower than in the Western European agricultural holdings (IFCN research) (Parzonko A., 2008). An especially clear advantage of Polish farms was visible in the group of costs related with committing own factors of production (land, labour, capital). This advantage resulted mainly from significantly lower prices of labour and land (Switlyk M. and Zietara W., 2008, Parzonko A., 2009). In subsequent years (2007-2012) the cost advantage of milk production of Polish farms in relation to bigger dairy farms from the Western Europe was decreasing (Switlyk M. and Zietara W., 2011).

The main aim of the article is to present the specificity of dairy farms in Poland in comparison with other European countries, to analyse the causes of the existing state and to present the possible directions for the development of dairy farms in Poland in the perspective of the proposed intervention mechanisms for the years 2014-2020 in scope of the Common Agricultural Policy of the EU.

## **Research results and discussion**

### **1. The economic and production-related state of farms conducting milk production in Poland - status as of 2010**

The presentation of the economic and production-related state of farms conducting milk production in Poland is no easy task. This results mainly from the lack of reliable information, comprehensively presenting the property, production, and economic aspects of agricultural holdings. A certain basis for analyses is constituted by the data in scope of the Polish FADN. It should, however, be remembered that it only presents data from a part of the agricultural holdings - the so called commercial farms, chosen for the research. An important source of information on the status of agricultural holdings (including those producing milk) are the data accumulated by the GUS, in particular, as part of the National Agricultural Census (Powszechny Spis Rolny) from 2002 and 2010. Taking into account all the imperfections of information sources on agricultural holdings in Poland, the author proposes to combine such sources where possible. The basis should be the data from the National Agricultural Census in Poland. The author suggests to specify three basic groups of farms breeding milk cows in Poland (Table 1):

**Group 1 - "Farms with low intensity milk production"**. This group is constituted by agricultural holdings possessing up to 10 milk cows. The probability of development of this group of farms in the direction of milk production is relatively low. The starting point, which is the number of cows, is very low, which makes development of these farms with regard to milk production improbable. This group encompasses both: 1) farms characterised by very low volumes of agricultural production (low land resources and at the same time small number of cows), and 2) farms with a small number of cows (up to 10 cows) and land resources indicating a commercial crop production (above 10 hectares of agricultural land). In 2010, there were 257 933 farms exploiting up to 10 hectares of agricultural land (own and leased areas) and sustaining up to 10 cows. These held 18% of cow population. As shown by the research results, these farms are not capable to gain parity income from the conducted agricultural production. They are forced to search for additional sources of income in order to ensure livelihoods for families. Their chances for development (significant increase of the volume of agricultural activity) are limited in relation to high capital needs. The activity which may be undertaken in such holdings is e.g. the



implementation of direct sales. A question which arises with regard to the indicated farms is: Will they completely resign from agricultural activity in the future and "free" (by means of lease or sale) the land resources? This issue is rather complex and dependent on the market and political conditions. In event of high prices of plant products (grains) and the dependence of area payments on the area of farms, the resignation from agricultural production is not likely.

In 2010, there were 116 941 agricultural holdings exploiting above 10 hectares of agricultural land and at the same time possessing less than 10 cows. These held 14.5% of the cow population in Poland.

Table 1

**Groups (important in terms of elaborations on the directions of development) of farms breeding milk cows in 2010 specified on the basis of information from the National Agricultural Census**

Specification	Number of farms breeding cows				
	Total number*	"small" 10-19 cows	"medium" 20-49 cows	"large" 50-100 cows	"very large" >100 cows
Farms with low intensity of milk production (keeping less than 10 cows)	374,874	Does not apply			
Commercial agricultural holdings aiming at breeding cows and producing milk	54,285	31,336	19,989	2,444	516
Commercial agricultural holdings (multidirectional) in which cow breeding constitutes an important agricultural activity	24,595	16,789	7,372	129	305
<b>Total</b>	<b>453,754</b>	<b>48,125</b>	<b>27,361</b>	<b>2,573</b>	<b>821</b>

*Source: author's construction based on Livestock and Chosen Elements of Animal Production Methods (Zwierzęta gospodarskie i wybrane elementy metod produkcji zwierzęcej) - National Agricultural Census (Powszechny Spis Rolny) 2010, GUS Publishing 2011*

**Group 2 - "Commercial agricultural holdings aiming at breeding cows and producing milk".**

With regard to the limited availability of information, simplified criteria have been utilised while specifying this group. The author has adopted an assumption that the orientation of a farm at milk production is determined by a relation between the number of kept milk cows and the area of exploited agricultural lands. The minimum cow density should amount to one (minimum one cow per hectare of agricultural land). Another criterion, which decided on the commercial nature of farms, was the number of cows kept in a particular holding - above 10. The author differentiated farms by the volume of production, separating 4 groups - "small" farms (10-19 cows), "medium" farms (20-49 cows), "large" farms (50-100 cows), and "very large" farms (above 100 cows). The results of the data presented in Table 1 show that the number of commercial farms aiming at breeding cows amounted to 54,285 (12.0%) in 2010. These held 47.0% of cow population in Poland. Further directions of their development result from the production potential (land resources, buildings, machines and means of transport, intention to work of the farmer and his family with regard to breeding and exploiting cows) and the volume of the previous production. The smallest farms - keeping 10-20 milk cows - are also in the most difficult situation. What is needed in these holdings are rapid and significant (with regard to expenses) investment activities related with increasing the size of agricultural activity. Only in case of young, committed and determined farmers, there a chance for lasting development and successive increase of income in the areas of a relatively "available" land and with use of the European Structural Funds. It should, however, be noted that the risk of failure is very high. In case of farms aiming at milk production and defined as "medium,

large and very large”, the situation is fairly straightforward. **These farms have practically no other alternative of development - they have to continue producing milk and increasing the volume of production.** High investment expenses previously incurred in relation to milk production, often with no alternative as to the means of management, force the farmers to continue the previously commenced production. The milk production cost balance in these holdings often looks dissimilar to that on farms which are to decide on the possible development of milk production. This results from the fact that part of the costs has already been incurred. Some of them are called **sunk costs** (cowshed costs) and the lack of an alternative means of building management and the structure of plant production adapted to milk cow breeding forces the farm owners to continue producing milk. These farms will not discontinue producing milk even in a situation where the price of milk will amount to PLN 0.8-1.0 per litre (in a relatively short period). It should, however, be clearly stated that there are relatively few of these farms in Poland and their bargaining power on the market is significant (Seremak-Bulge J., 2011). Farmers conducting separate holdings are ready to switch dairies if the competition should offer a higher price. Proposing a relatively high price for milk as well as other non-price mechanisms (e.g. loans, price stabilisation mechanisms, partnership relations, consulting) may contribute to relating the milk manufacturer with the dairy (Parzonko A., 2008). The indicated group of farms will develop milk production in the future. The rate of development will be dependent on the market situation and agricultural policy mechanisms. The first step, often not causing any significant investment expenditures, is the increase of production intensity. In dairy farms, this means increasing the milk yield of cows. After exceeding 8-9 thousand litres of milk per year, the next activity should be to increase the number of cows on farms. This activity, however, means high investment expenditures. The basic problem for most farms of this group is the “availability” of land. In a situation of further subordination of direct payments to land resources (EC proposal) (Draft Regulation of the European Commission...2011), it is hard to expect the “freeing” of any significant land resources.

Table 2

**Number of cows in specified groups of farms in 2010 on the basis of information from the National Agricultural Census**

Specification	Number of cows in farm groups				
	Total number*	“small” 10-19 cows	“medium” 20-49 cows	“large” 50-100 cows	“very large” >100 cows
Farms with low intensity of milk production (keeping less than 10 cows)	861,829	Does not apply			
Commercial agricultural holdings aiming at breeding cows and producing milk	1,247,194	415,621	561,407	156,416	113,750
Commercial agricultural holdings (multidirectional) in which cow breeding constitutes an important agricultural activity	541,894	242,797	204,972	8,561	85,564
Total	2,650,917	658,418	766,379	164,977	199,314

*Source: author's construction based on Livestock and Chosen Elements of Animal Production Methods (Zwierzęta gospodarskie i wybrane elementy metod produkcji zwierzęcej) - National Agricultural Census (Powszechny Spis Rolny) 2010, GUS Publishing 2011*

**Group 3 - “Commercial agricultural holdings (multidirectional) in which cow breeding constitutes an important agricultural activity”.** While specifying this group, the author adopted an

assumption that the multidirectionality of production conducted on a farm is constituted by the density of livestock below one (maximum of 1 cow per hectare of agricultural land). In the specified farms, the land resources would allow for increasing the population of cows with a higher specialisation of production. Another criterion which decided on the commercial nature of farms was the number of cows kept in a particular holding - above 10. The groups of farms were specified as was the case with the aforementioned ones. In 2010, the data of the National Agricultural Census stated that the specified group of farms encompassed 24,595 (5.4%) units which held 20.4% of cow population in Poland. This is a very interesting group of farms, the decisions of which may influence the milk market in Poland. Theoretically, taking into account the land resources (often they are the main limitation to development), these farms could develop cow breeding. This would mean a deeper specialisation of farms into milk production. However, the economic conditions (price competitiveness of milk with regard to other products) have to be advantageous in order to induce farmers to conduct activities in this scope. The condition often decisive for the development of a farm in the direction of milk production is the commitment of the farmer and his family in this production ("the farmer likes cows, the wife does not oppose, and the children are committed to work related with breeding cows").

## **2. Causes of fragmentation of dairy farms in Poland**

Analysing the economic and production-related situation of Polish dairy farms brings about the question: Why, in spite of the technical advancement, are dairy farms characterised by very low volumes of sold production? Reference books stress that the contemporary state of agriculture worldwide is very clearly linked with history (Falkowski J., 2011). It is history which greatly influences traditions, culture, form of rural areas, building equipment, and methods of management. Different historical periods hastened or delayed changes in Polish agricultural farms and differentiated their spacial structure. Two periods were of the greatest importance for the Polish agricultural economy: the 125-year period of Partitions and the more than 40-year period of socialist economy (Banski J., 2007). Additionally, it should be indicated that the years 1989-2004 and the policy with regard to rural areas and villages implemented within this period also did influence the current state of agricultural farms. Within the period of Partitions, each of the occupied parts of the country was subjected to different political, economic, and cultural influences. This translated also to the diversity of agricultural policy, which is visible to this day. A good example is reforms introduced in Poland by invading countries. They have been implemented the earliest and the widest in the Prussian Partition, whereas, they were introduced the latest and in the most limited manner in the Russian Partition.

The second period important for the agricultural economy was the years of the socialist economy. In its manifesto, the PKWN (Polish Committee of National Liberation) announced an agricultural reform which said that **agricultural lands being part of farms exceeding 50 hectares were to be divided among agricultural workers, smallholders, and yeomen with large families**. It has also been recorded that the agricultural system in Poland will be based on private agricultural farms. Two years after the end of the war, the agricultural policy of the country began changing. A decisive role was to be played by collectivisation of agriculture. Its aim was to create modern agricultural companies and prevent the fragmentation of land but it also stemmed from political reasons and the aspirations of the authorities to weaken private farming (Bakuraba-Rylska I., 2008). What was especially exposed during this period was the image of the Polish peasant - assigned to land and in spite of various kinds of brutal strain not

willing to surrender. Numerous records included in diaries strengthen this image. *"The tractors have gone to the fields - the witness of the events recalled - so the people stood up against the tractors. The women started to scream in alarm. Paintings were taken out and pious chants were sung. One of the women lay beneath a tractor, embracing the land, as it was her field where they started it. All the people went out of their cottages. Everyone, women, men, greybeards, and children went to the fields. They carried paintings of saints as well as sticks and shovels and other things. (...) Nobody left the fields"* (Siekierski S., 1990). The process of modernisation was met with especially strong resistance in the so-called old villages, composed of families running agricultural holdings as their inheritance - in such places only 0.8% of peasants submitted to collectivisation. **The resistance of Polish peasants effected in the fact that only in Poland and Yugoslavia agriculture has not been completely collectivised during the PRL (communist) period.** This brave resistance of Polish farmers against collectivisation during the years of socialist economy resulted in a situation where Polish agricultural holdings were the source of food for the USSR and neighbouring socialist countries in the 1980s. On the contrary, today the low potential and scale of production of Polish farms is the main barrier on the road to development and the cause of low economic competitiveness on the European market.

After 2004, when Poland along with the other 10 countries acceded the EU, the agrarian structure of Polish farms did not change significantly. This was caused among others by the different manner of calculating direct payments. They have been assigned to the surface of agricultural lands. The production sold influenced the amount of direct payments only in a small degree. This situation resulted in the deceleration of land trade in Poland and caused the increase of land prices.

### **3. Price competitiveness of Polish dairy farms on the European market**

The small scale of production performed on the basis of a relatively outdated technology brings about the question: Are Polish dairy farms competitive with regard to the economy on the European market? The reflection of the economic competitiveness of milk production in Polish farms and those of other countries is the cost effectiveness of production, i.e. the cost of manufacturing a unit of production (in case of the analysed issue - the cost of creating a unit of milk). Various methodical doubts arise in relation to determining the cost effectiveness of milk production. The most important are: 1) the method of calculating the costs of milk production, and 2) the possible differences in the content of milk (protein, fat etc.). In case of the methodology of calculating the costs of production, there are various approaches among economists. The two approaches which are the best formed are the analytical and synthetic approaches. The supporters of the first approach treat the holding as a collection of non-interdependent production activities for which revenues and costs may be calculated, which, in turn, signifies the ability to calculate the profit (income). Economists preferring the synthetic approach treat the agricultural holding as an organic whole, where one may not appropriately divide all costs, in particular, indirect costs, between individual activities because of numerous and close relations between divisions, branches and production activities (Zietara W., 2009).

In spite of the fact that in most countries in the world the weaknesses of the unit cost account (analytical approach) are noticed, the will to compare prices with the unit cost of manufacturing of a particular product leads agricultural economists to utilise the unit cost account. The International Farm Comparison Network also aims at determining the unit cost of milk production. After collecting information on the typical dairy farms from individual countries (regions), a team of the IFCN employees

prepares the results using a uniform methodology. What is taken into account while calculating revenues are the revenues related with sales of milk, and revenues related with sales of products linked with milk production (sales of cull milk cows, calves, cattle for slaughter, correction by the increase of the value of the herd). Distinguished among the costs are actual costs incurred in relation to breeding dairy cattle (direct costs and part of indirect costs), alternative costs (costs of committing own factors of production: land, labour, capital, and additional costs of milk cows). In order to calculate the cost of 100 kg of milk produced in a holding, the revenues generated from products related with the production of milk are deducted from actual costs (direct and part of indirect costs) incurred with regard to breeding dairy cattle. All accounts are prepared with regard to 100 kg of standard milk (ECM) produced in a holding. It is assumed that 1 kg of standard milk (ECM) is milk with 4% fat content and 3.3% protein content. Real milk is calculated into standard milk in accordance with the following formula:  $(0.383 \cdot \% \text{ fat} + 0.242 \cdot \% \text{ protein} + 0.7832) / 3.1138$ .

Table 3

**Milk price and production costs in chosen European countries in 2009 [PLN/100 kg of milk\*\*\*]**

Specification	Costs*			Total (1+2+3)	Price of milk [PLN/100 kg of milk]	Management income [PLN/100 kg of milk]
	1	2	3			
Germany 31 **	110.4	115.1	3.1	228.6	112.0	-116.6
Germany 90	112.0	34.2	4.7	150.8	105.7	-45.1
Netherlands 70	116.6	51.3	9.3	177.3	107.3	-70.0
Netherlands 182	113.5	42.0	9.3	164.8	105.7	-59.1
France 50	87.1	59.1	3.1	149.3	121.3	-28.0
France 120	127.5	29.5	3.1	160.2	119.7	-40.5
Denmark 125	133.7	34.2	3.1	171.1	116.6	-54.5
Denmark 240	146.2	21.8	3.1	171.1	118.2	-52.9
Poland 15	118.2	73.9	0.8	192.8	118.2	-74.6
Poland 65	115.1	24.1	0.8	140.0	119.7	-20.3
Poland 147	114.5	18.5	0.8	133.5	121.0	-12.5
Ukraine 1	45.1	34.2	0.0	79.3	59.1	-20.2
Ukraine 121	46.7	4.7	0.0	51.3	71.5	20.2
Ukraine 535	43.5	1.6	0.0	45.1	80.9	35.8

\* Costs: 1) actual (direct and part of indirect), 2) alternative (commitment of own factors of production), 3) milk quota costs

\*\* Number specified next to the name of a particular country informs of the number of milk cows kept in a farm, e.g.: Germany 31- 31 milk cows in a typical German farm

\*\*\* Average rate in accordance with the NBP: 1 USD - PLN 3.11

**Source: author's study based on Dairy Report: International Farm Comparison Network, 2010**

The data presented in Table 3 show that the actual costs (direct and part of indirect costs) of producing 100 kg of milk with standard parameters in typical holdings from the chosen Western European countries (Germany, France, the Netherlands, and Denmark) were at a very similar level as in the chosen typical holdings in Poland. Alternative costs (commitment of own factors of production) were clearly dependent on the scale of conducted activity. In Polish holdings keeping 15 milk cows they were higher than in holdings from the analysed Western European countries. The aggregate costs of milk production (actual and calculated) were nearly the highest in Polish holdings keeping 15 cows (the exception being German holdings with 31 cows). The cost competitiveness of Polish holdings keeping 65 and 147 cows is another matter - they have at their disposal advantages in scope of alternative costs (commitment of

own factors of production). Holdings from Ukraine in 2009 were characterised by decidedly the lowest costs of milk production among the compared countries.

### **Conclusions and findings**

1. Agricultural holdings which deal with milk production in Poland are characterised by a low volume of production in relation to the situation present in other European countries. The dominating group of farms keeping milk cows in 2010 were holdings owning up to 10 cows (83%); whereas, the number of holdings keeping more than 100 cows amounted to only 821, which constituted merely 0.2% of the entire population.
2. The cost effectiveness of milk production in Poland is high. As shown by the IFCN studies, in 2009, the total costs (actual and calculated) of producing 100 kg of milk with standard parameters were one of the highest in Polish holdings keeping 15 cows. The situation is slightly different with regard to the cost competitiveness of Polish holdings keeping 65 and 147 cows - they have at their disposal advantages in scope of alternative costs (commitment of own factors of production). This gives hope to agricultural holdings of a larger scale of production that untroubled existence and development will be attainable in the future. It should, however, be stressed that such holdings constitute only a small percentage in Poland.
3. A deeper liberalisation of the agricultural policy in the EU in the dairy sector manifesting in: 1) departing from the milk production quota system after 2015, 2) obligatory subsidies for private storage of butter and constant intervention prices for purchasing butter and fat-free milk powder, and 3) cancelling of payments for private cheese storage, payments related with butter processing, its sales for non-profit organisations and the military etc., will affect the instability of the milk market in the EU as well as cause a clear dependence on the worldwide situation. The activities presented in the so called "Milk Package" will influence the stabilisation of the milk market in the European Union only in a very slight degree.
4. The presented calculations indicate that the process of further lowering of the number of holdings breeding milk cows and conducting milk production in Poland will continue. The increasing prices of labour outside agriculture and the increasing prices of land (among others caused by the manner of calculating direct subsidies) will encourage (especially young) people running holdings which breed dairy cattle, of an average production potential and production scale on a level of 70,000 kg of milk per annum, to resign from this activity.
5. In order to enable the development of dairy farms in Poland, activities which will encompass the specificity of milk production (high capital intensity and labour coefficient of production) should be conducted. Target means (structural funds or long-term low-interest credits) should be aimed at the construction or modernisation of livestock buildings, which would affect the increase of the scale of production and the lowering of work arduousness. The adopted manner of calculating direct subsidies - per hectare of agricultural land irrespective of the type of conducted production - will lead to farmers resigning from conducting labour-intensive activities (including milk production).

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**EMPLOYMENT OF RURAL WOMEN IN RUSSIA: OPPORTUNITIES AND  
CONSTRAINTS**

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**Abstract.** The authors discuss employment opportunities and constraints for rural women in Russia. This study is of current interest because many rural women engaged in housekeeping and raising children would like to work outside the home. However, the narrowness of employment opportunities, deformed branch structure of the agrarian economy, and poorly developed market for social services limit the choice of jobs and implementation of employment preferences. The aim of this paper is to study the possibilities of combining rural women's professional employment and motherhood as well as the factors that determine their choice and the constraints they face. The object of the study is rural women having 1-8 children divided into two groups – "working" and "not working". The information base of this study is the results of a questionnaire survey of rural women of Saratov Oblast (Russia). The data were processed by using SPSS Statistics 17.0 software. The results of the study show that the increase in the part of rural women wishing to combine professional employment with the birth and upbringing of children stimulates the development of the "infrastructure of childhood" and flexible forms of employment in rural areas. Measures are needed for encouraging women with children to be employed. The results of this study are of an applied character and can be used when developing regional strategies for sustainable social-economic development of rural areas and implementing employment programmes.

**Key words:** employment, opportunities, constraints, rural women, Russia.

**JEL code:** E24

**Introduction**

The processes of globalisation, urbanisation, and social-demographic modernisation caused the social perception of the norms of role behaviour in the family to change considerably. The traditional specialisation of gender roles (wives work about the house, while husbands make money) is no longer dominating today, being gradually replaced by an egalitarian family model. This new attitude towards traditional family responsibilities and roles has changed the everyday life of rural women: the number of those wishing to get higher education and make a successful professional career along with the number of women – farmers, entrepreneurs, and state employees grew. As a result of these changes, the role models have also changed to offer rural women better opportunities for self-realisation, making their social status, self-esteem, and contribution to the economic well-being of their families higher.

Many women who are currently engaged exclusively in housekeeping and raising children would like to have professional employment outside the home. The traditional stereotype that rural women

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having several children are obliged to be exclusively engaged in housekeeping and raising children is disproved by their strong willingness to work outside the home. After all, according to the authors' study, 24.3% of the surveyed rural women engaged in housekeeping and raising children prefer to have paid employment. At the same time, 21.3% of working rural women prefer to be housewives, which indicates that their employment is of a forced nature. However, the scantiness of employment opportunities in rural areas, the limited choice of jobs, and the poorly developed social infrastructure prevent them from doing so (Blinova T., Vyalshina A., 2011). In view of this, the system of support measures should be so revised as to allow women satisfy both their maternal and professional needs. On these conditions, the purpose of this paper is to study the possibilities of combining rural women's professional employment and motherhood as well as the factors that determine their choice and the constraints they face when implementing their employment preferences. The tasks of the study include: 1) empirical analysis of the factors determining employment decisions; 2) examination of the social-demographic characteristics of rural women with children (such as age, level of education, marital status, number of children) depending on their employment status; and 3) analysis of the reproductive attitudes and reproductive intentions of rural women having children depending on their employment status. The results presented here are a part of a larger research programme focused on studying the problems of female employment in rural areas.

### **Theoretical approaches**

In economic sciences paid employment of women is explained in two ways, i.e. on the basis of neoclassical theories (the theory of human capital) or institutional theories (the theory of labour market segmentation). According to the neoclassical approach, hired workers and employers behave rationally, and the labour market operates efficiently. Entering the labour market, hired workers look for the most lucrative jobs by analysing their competitive advantages (level of education, professional skills) and constraints (for instance, children in the family), and also their employment preferences. The theory of human capital states that women possess less human capital than men. This is due to the need to take breaks from work for reasons of marriage, birth and upbringing of children, and other family responsibilities. As a result, women are believed to be less professionally skilled than men. According to R. Anker, this affects the rational choice women make in the labour market: they are more likely to choose occupations with relatively high initial wages, relatively less dependent on their professional skills, and with relatively low costs of taking a break from employment (particularly, jobs with flexible working schedules) (Anker R., 1997). According to the institutional approach, the labour market is initially segmented by a number of features. The best known version of the theory of segmentation is the concept of the dual labour market, which divides the labour market into primary and secondary sectors. Jobs in the primary sector are "good" from the standpoint of wages and working conditions, social protection of the employees, and career opportunities. The primary sector is generally represented by male occupations and activities. The secondary sector, on the contrary, consists of jobs with low wages, poor working conditions and social support. Furthermore, it hardly offers any career opportunities and is represented by female occupations and activities.

In social-economic sciences, market employment is explained in two general ways. On the one hand, there are theories that are based on identifying the impact of ascribed characteristics, such as gender,

race, ethnic, and religious affiliation. These parameters are endogenous characteristics of individuals that cannot be changed. This approach includes gender theories and theories of discrimination. On the other hand, there are theories that are based on achieved characteristics, such as the level of education, skills, foreign language skills, and work experience. According to this approach, women's market employment characteristics mostly depend on their contribution to getting educated, trained, and skilled. All possible differences and vulnerability are due to differences in the human capital that has been accumulated. Most sociological studies focus on the importance of employment status and economic uncertainty in general for the birth rate. Most theories of uncertainty are economic and consistent with the conclusions of the theory of economic deprivation (Easterlin, R.A., 1976). The latter is based on the assumption that the frequency of marriages and births declines in historical periods of rising economic uncertainty and unemployment. There are many studies that prove the existence of a relationship between economic uncertainty in the form of rising unemployment and labour market instability and the postponement of childbearing (Mills and Blossfeld, 2005; Kreyenfeld, 2010). Social-psychological sciences explain paid employment of women from the point of view of the theory of preferences or the theory of risk aversion. Individual childbearing decisions depend on an individual's own preferences that stem from early childhood. Hakim's theory of preferences (Hakim, 2003) postulates the existence of heterogeneity among the preferences for lifestyles of women that are in their prime reproductive and working years which is the main driver of fertility. Hakim believes that lifestyle preferences are rather stable throughout life and exist in three basic forms: career-oriented, family-oriented, and combining career and family responsibilities in some certain way. Comparative studies using data for European countries show that family-oriented women are the most fertile among all women, while focusing on career reduces the number of births (Vitali et al., 2009).

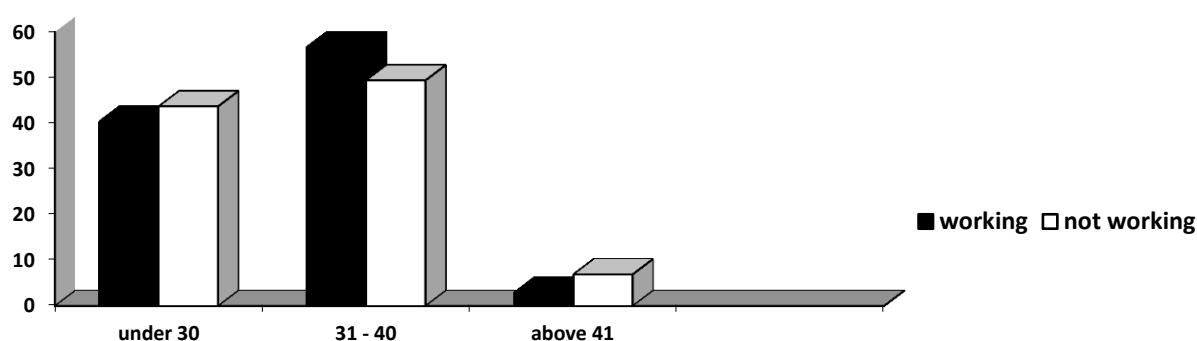
The theory of risk aversion is used to explain women's employment in the state (public) sector and lower wages than men's (Vesterlund L., 2003). According to this theory, women's reluctance to take risks is regarded as an endogenous personality trait, not amenable to social influence. Women choose employment in the state (public) sector because they are less inclined to risk than men. Within this theory, there are studies on the impact of gender roles on women's risk aversion (Gustafson Per E., 1998). It is argued that women can be both less and more risk-averse depending on the situation and distribution of gender roles. The social identity of a woman is implemented and perceived through the birth and upbringing of children and through taking care of them every day. The propensity to take risks that is expressed in behaviour is socially designed around gender norms and roles: people are more or less inclined to risk depending on the objectives of implementation, maintenance, and protection of their social identity.

The impact of children and their number in the family on the choice between paid employment and housekeeping is best studied within the theory of human capital. According to the standard model of neoclassical economic theory, women will work for payment if the opportunity costs of employment on the labour market are higher than the opportunity costs of being a housewife. Labour supply depends on professional skills, level of education, importance of the financial contribution from women's employment to the family budget, their partners' resources etc. Having children in the family plays an important role, and their impact on the labour supply is usually studied from women's perspective, as it is believed that women have comparative advantages in raising children, at least because their potential incomes are less

than men's (Paye A., Sinyavskaya O., 2011). It is also believed that having children can make women less economically active: firstly, children increase the value of women's time spent at home and, secondly, women's net wages less the costs of children decrease. At the same time, the number of children in the family can produce a differently directed impact: on the one hand, the time spent on children grows with their number and the productivity of women's household labour increases. On the other hand, the financial needs of the family also grow with the number of children, making the demand for women's income from employment greater. Children's age is no less important: as they grow, children need less care but more material inputs, which makes the value of women's time at home decrease. There are studies that expand the Becker's static model by including the indicator of the optimal time of giving birth to the first child based on minimising the opportunity costs of birth and loss of income (Cigno and Ermisch, 1989). A similar approach is focused on the relationship between education and labour market curves, and also on the impact of education on the time of giving birth to the first child. The main argument in this approach is that owing to their greater accumulated human capital, highly educated women are more likely to choose a career and increasing wages with the view to augment their bargaining power. The higher the absolute value of the opportunity costs of motherhood, the more often more educated women would delay marriage and childbirth.

### Research results and discussion

A questionnaire survey was conducted among the rural women of Saratov Oblast (Russia) by employing an applied research toolkit developed by the authors. The results were then processed by using the SPSS Statistics 17.0 software package. The object of the study is rural women having 1-8 children divided into two groups according to their employment status at the time of the survey: working and not working.



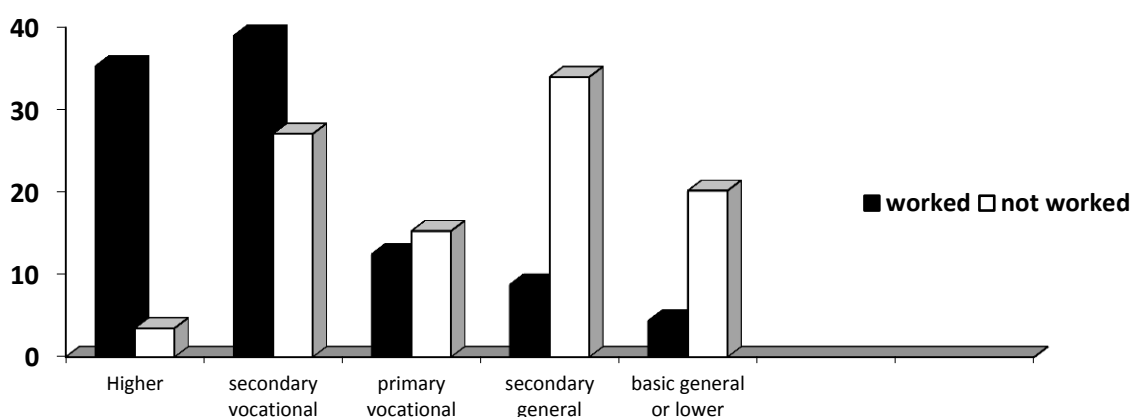
**Source: authors' construction based on the results of the questionnaire survey performed in rural areas of Saratov Oblast**

**Fig. 1. Rural women-respondents broken down by the age groups depending on their current employment status**

The group of "working" women is comprised of women employed outside the home (at an enterprise, organisation, or institution) and women engaged in entrepreneurship. "Not working" women are those who are engaged in housekeeping and raising children, and also those who subjectively consider themselves unemployed. Among the working respondents, 40.4% are younger than 30, about 56.6% are aged 31-40, and 2.9% are older than 41. Among the respondents who do not work, about

43.7% are younger than 30, 49.4% are aged 31-40, and 6.9% are older than 41 (Figure 1). The current employment status of rural women-respondents is determined by objective social-economic features of the current labour market as well as subjective preferences and social-demographic characteristics of the groups. These are, first and foremost, the level of education, children in the family and their number, marital status and partner's status on the labour market, and subjective employment preferences. Working rural women have a higher level of education than non-working women (Figure 2): about 35.3% of working women have higher education and 39.0% have secondary vocational education, while for non-working women the respective figures are 3.5% and 27.0%. The proportions of women with primary vocational education for working and non-working women are quite similar – 12.5% and 15.3%, respectively. However, the proportions of working rural women with secondary general education and basic general education are considerably lower: 8.8% vs. 34.0% for non-working women and 4.4% vs. 20.2%, respectively. The marital status of a woman affects her current employment status in two ways. On the one hand, having a marital partner allows having higher incomes from both partners' employment, which encourages rural women to work and contribute to the family budget.

Having no marital partner, women have to choose strategies of filling up the family budget through the employment of a single member of the household. Though, on the other hand, having a marital partner allows women to feel more safe being engaged in housekeeping and raising children, not spending time on professional employment outside the home. In this case, the partner's status and nature of his employment are very important. Most rural women-respondents are officially married, regardless of their current employment status: 66.2% of working and 54.2% of non-working women.



**Source:** authors' construction based on the results of the questionnaire survey performed in rural areas of Saratov Oblast

**Fig. 2. Rural women-respondents broken down by the levels of education depending on their current employment status**

Among women in unregistered marriages, non-working women prevail noticeably – 23.6% compared with 8.8% of working rural women. Divorced rural women more often work (16.2% compared with 6.9% of non-working), while women who have never been married, on the contrary, are more often engaged in housekeeping, probably because they have small children (Figure 3). Partners of 68.0% of working and 52.3% of non-working women are employed in the villages they live. Partners of 24.0% of

working and 26.6% of non-working women are labour migrants. About 7.0% of working and 18.3% of non-working women have partners engaged in subsistence farming. Husbands of other 1.0% of working and 2.8% of non-working women are officially registered unemployed. The number of children a woman has is an important factor determining the features of her current employment status.

On the one hand, children in the family and their number affect the way women allocate their time budgets between work and family responsibilities. But, on the other hand, the households' need for financial resources also grows with the number of children urging women to participate in the labour market. For instance, twice as high compared with non-working women are the proportions of one-child (43.4% and 24.3%, respectively) and two-child working women (36.8% and 16.0%, respectively) (Figure 4). Women with three or more children are more often housewives: among three-child women 11.8% work and 20.8% do not work, among four-child women 1.5% are employed outside the home and 25.7% housewives, and among women with five or more children - 6.6% work and 13.2% are engaged in household activities and raising children.

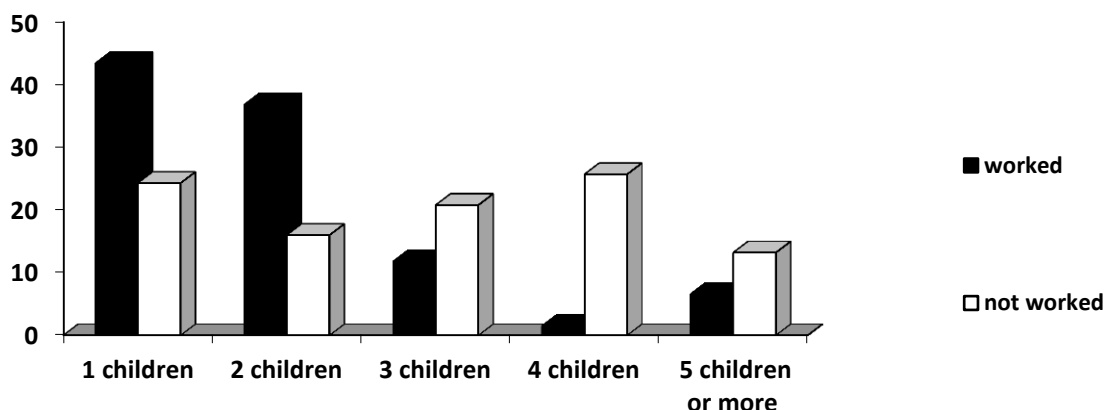


**Source:** authors' construction based on the results of the questionnaire survey performed in rural areas of Saratov Oblast

**Fig. 3. Rural women-respondents broken down by the marital status depending on their current employment status**

Employment preferences are an important factor that determines the individual's current employment status. Employment preferences are a subjective component of the individual-psychological structure of a personality, which is characterised by the availability of a choice in the situation of looking for a match with individual attitudes, intentions, and motives. The implementation of preferences is featured by selectivity, if they are correlated with the possible costs and benefits.

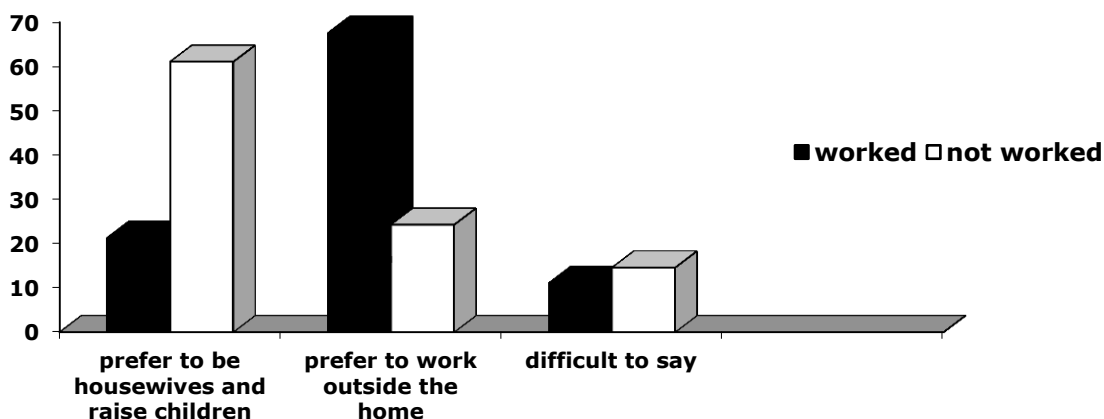
Professional employment preferences are, to a large extent, implemented by women who work outside the home. According to the research data, the employment status of 67.6% of working rural women matches their employment preferences. Similarly, 61.1% of women-housewives do implement their employment preferences as they wish to be engaged in housekeeping and raising children (Figure 5). However, 24.3% of women-housewives prefer to work outside the home, while 21.3% of working women would like to be housewives. The results show that the employment of 21.3% of working women is of a forced nature, and 24.3% of housewives cannot implement their employment preferences.



Source: authors' construction based on the results of the questionnaire survey performed in rural areas of Saratov Oblast

**Fig. 4. Rural women-respondents broken down by the number of children depending on their current employment status**

The higher the women's wage, the higher the opportunity costs of motherhood, which means that the childbearing incentives need to be higher as well. Meanwhile, the reproductive intentions of married couples tend to decline as families decide to have not more than two children or, more frequently, one child. Highly efficient and easily accessible contraceptives, ample self-realisation opportunities outside the family sphere, and less stable partner relations lead to the situation when childbearing decisions are less often in favour of children. The growing number of divorces, including that among families with children, and the proliferation of more flexible and less sustainable partnerships force women to rely on their own economic resources.



Source: authors' construction based on the results of the questionnaire survey performed in rural areas of Saratov Oblast

**Fig. 5. Rural women-respondents broken down by the employment preferences depending on their current employment status**

Young women more and more often prepare themselves for a long professional career and carefully plan the number of children and the time of their birth, coordinating their plans with the existing system of social support for mothers and children. The authors' survey shows that the desire of 12.3%

of rural working women to have more children will most likely remain unsatisfied: 37.5% wish to have more children, while only 25.2% plan to have them. Among non-working women, the proportion of those who desire to have more children will most likely remain unsatisfied is lower – 11.1%. In order to study the characteristics of the group of rural women planning to give birth to at least one more child, broken down by their current employment status, more thoroughly, the authors picked out the group of women planning to have children, from the sample. The resulting subsample consists of 60 people (21.1% of the initial sample), including 56.7% of working and 43.3% of non-working women. Further analysis is based on responses from women who plan to give birth to more children.

Rural working women planning to have more children have 1.32 children on average for the group and would like to have 2.64 children on ideal conditions (ideal number of children) but plan to have just 2.25 children. Non-working rural women who plan to have children have 2.65 children on average and would like to have 3.88 children on ideal conditions but plan to have 3.61 children. The difference between the ideal and planned number of children is greater for working (0.39) than non-working (0.27) women. The size of the gap between the ideal and planned number of children depicts the likelihood of childbearing plans to come true: the larger the gap, the less likely the birth. With respect to the research data, the authors can say that births are more likely to occur among non-working women. In contemporary society, reproductive attitudes and intentions are conditioned by social fertility norms characteristic of the local community. Subjective perception of social fertility norms differentiates their interpretation between what is normal personally for oneself and for society as a whole. Beside the question about individual reproductive attitudes based on social fertility norms (ideal number of children), the present questionnaire contained a question about how many children, the respondent thinks, a contemporary Russian rural family should have. It mirrored the effect of social fertility norms for society as a whole, i.e. that, what the respondents considered to be important for others rather than themselves personally. It should be noted that for themselves personally rural women-respondents consider ideal a larger number of children than for the society as a whole. For instance, working women on ideal conditions would like to have 2.64 children on average for the group, while non-working women – 3.88 children. However, working women believe that a contemporary Russian rural family should have 2.45 children, while non-working women think that 3.42 children is enough for a rural family. At the same time, working women plan to have just 2.25 children, which is less both the number of children a contemporary rural family should have and their own ideal number of children. Non-working women plan to have 3.61 children on average for the group, which is less than their own ideal number of children but more than the social fertility norm for society as a whole (3.42 children). This means that non-working rural women plan to have more children than the local community's social norms prescribe them to have. This, in turn, signifies that non-working rural women have stable preferences in regard of how their lives should be arranged and lived, associated primarily with housekeeping and raising children.

These results are consistent with the conclusions of C. Hakim's preference theory, according to which there are differences in women's lifestyle preferences that determine the society's birth rate. Differences in preferences differentiate lifestyles of working and non-working rural women.

## Conclusions

The paper addresses the problems of combining female employment and motherhood. On the one hand, since some rural women would like to combine motherhood and professional employment, efforts should be made to diversify the scope of employment and expand the choice of jobs, thereby, reducing unemployment and seasonality of demand for labour, increasing the rural population's incomes and providing working conditions that are attractive for skilled workers, young people, and women. On the other hand, since some rural women prefer to be housewives and raise children, they should be provided with adequate infrastructure helping them in raising children and augmenting the human capital of contemporary rural children. The results of the study show that the growth of female employment is restricted by the lack of preschool institutions, poorly developed sector of private social services, and also by the lack of "appropriate jobs" in rural areas.

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**TRIPLE HELIX FOR VET: NEW CHALLENGES FOR PUBLIC  
ADMINISTRATION IN LATVIA**

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**Abstract.** A high priority in the EU policy is establishing closer links among education, training, and work for skills' upgrading and employability. This requires innovative and integrated approaches by the involved parties at all levels and sets also new tasks for public administrations in VET provision. The Triple Helix approach is well known in HE and research, implying co-operation among education institutions, public administrations, and enterprises. According to the authors' research, this approach could be useful also in reforming VET systems to promote innovation and employability. The aim of the paper is to evaluate establishment of a model approach with Triple Helix idea for VET as a mechanism for public administrations at national and regional/community level to promote innovation and employability. The tasks are to determine effective ways of co-operation of educators, employers and public administration, and to evaluate the possible approaches. The study was carried out by a desk research and by an empirical study. As a result of the study, theoretical approaches were developed for applying the Triple Helix idea for VET policy making and implementation by public administrations. Conclusions were drawn that, although without a specific reference, elements of the Triple Helix approach already exist in the current EU and Latvian VET, and employment policies and their implementation. Awareness should be raised for public administrations on the potential benefits of a conscious (systemic) application of the Triple Helix approach in VET policy making. Different models should be developed, compared and piloted in local or regional settings to create recommendations for national policies.

**Key words:** VET, Triple Helix, public administration, regional development, innovation.

**JEL code:** J24, J44, M53, I28

## **Introduction**

In recent years, the EU vocational education and training (VET) and employment policy has undergone a substantial change by attributing a much higher relevance to closer links between education and training, and the world of work. The impetus for these developments was partly given by the recent worldwide economic crises which indicated that under the conditions of scarce resources education and training was justified only in those specialities and qualifications that were or would be in demand on the labour market. In Latvia, more than 50% of VET institutions had to be closed severely hit by the crisis in the period from 2009 to 2012 (Information Note, CM, 2013). The programmes had to be critically evaluated against the actual labour market demand in the remaining VET institutions. At the same time, it was the right moment to initiate a substantial VET reform, and a concept was developed for establishing closer links between the VET providers and the social partners (Order of the Cabinet of Ministers, 2009) to assure a modern VET provision and to promote employability. By implementing these

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new conceptual approaches, the VET providers, the respective public administrations at national and community level and the employers became much closer partners in the development of skilled labour force. This integrated approach, as the authors' research shows, presented new challenges, as well. At the same time, according to the authors' observations and analysis, innovative solutions were sought and piloted at national and local level, and this provides a wealth of material for research on the VET reform in Latvia. A survey was carried out in Iecava county in Latvia by the authors of the present paper. The analysis of the survey results prompted the idea to test the principle of Triple Helix (well known in HE and research as cooperation between universities, business, and state institutions) for the VET system, since elements of the Triple Helix approach became clearly visible during the analysis of Iecava survey results. In addition to the empirical study, a desk research was performed for an in-depth interpretation of the survey results. Consequently, it became evident that the VET system incorporates not only the Triple Helix principle but it has also variations depending on the general specificities of regions, the actual activity of the local government, the ongoing entrepreneurial activities, the governance of education institutions, and other factors. This, in its turn, leads to the decision to develop and propose several alternate Triple Helix models for VET – as a source for better VET and employment policy making at local and potentially, also at national level. Given the scope of the problem, the present paper only presents the initial results of authors' research. The policy and academic discourse are analysed in the theoretical background. The responses of survey of employers regarding the co-operation with education institutions and municipality as well as the results of focus group discussion on such co-operation will be analysed when presenting the results of the empirical study. A general (comprehensive) model for the application of the Triple Helix idea for VET contexts is presented. As a result of the research, it was concluded that there are important steps to be taken by all the involved in Triple Helix for VET. The activities of the parties should be integrated and coordinated. However, unless there is a driving force (agent) in the Triple Helix partnership, the model will not function effectively. The authors' preliminary conclusions indicate that the role of the 'driving force' could be undertaken by any of the involved agents in the Triple Helix partnership. Further studies are needed on the variations of the proposed model, in relation to the specific individual situations and environments, and possibly, also depending on the leading agent in the partnership.

### **Theoretical background**

Academic research worldwide has studied new approaches to Triple Helix, including production – based education (Ilyas and Semiawan, 2012), labour market flexicurity, and the quality of life through better education and training (Chenic, *et al.*, 2012). In the USA, the effect of triple helix system and influence on regional entrepreneurship are covered in several research papers (Kim, *et al.*, 2012) where the results are studied and compared in different parts of the USA. Detailed analysis of the Triple Helix approach has been evaluated in Norway (Strand, 2013) where special attention has been paid to innovation systems and the relations among technology, organisation, and geography in Norwegian PV manufacturing industry (Klitkou, 2013). In the Netherlands, the transformation of innovation systems in a Triple Helix of university – industry government relations are being researched for many years involving also colleagues from other countries and through comparison (Leydesdorff, 2006), e.g. with Germany (Ivanova, 2013) and with applications of different mathematical models. In Germany, several researchers

(Erosa, 2012) have paid attention to cultural issues in the Triple Helix Model implementation, and comparison has been made among government, university, and business culture. The need for hybrid approach has been supported by research results of Triple Helix network analysis of collaboration at regional, county, and institutional levels in South Korea (Khan, 2013). In Thailand, an analysis of triple helix model – case study of poultry industry in Thailand has been performed in details (Klomklieng, 2012), different approaches and experience in various countries have been evaluated (Muravska, 2012). Quadruple helix to design strategies for the green economy has been introduced involving also consumers (Gouvea, 2013). Research papers on those issues are going deeper and wider around the globe giving new challenges for researchers. The EU policy making analysis indicates that the Brugges Communique VET policy priority of linking education and training with the world of work (Brugges Communique, 2011) has been effectively translated into numerous specifically targeted policy papers. For example, the CEDEFOP Briefing note (CEDEFOP, 2012) points at the need to address effectively the problem of skills' mismatch between the trained labour force in VET systems and the actual labour market needs. In the Agenda for new skills and jobs, the European Commission points to the need to improve the attractiveness of VET and encourages employers to facilitate the provision of work-based learning (EC, Strasbourg, 2010). It is especially important to note that the importance of regional involvement is promoted in the Youth employment framework (European Social Partners, 2013) established by the European Social Partners, and attention is drawn to the challenges in integrating young people into the labour market. At the same time, also the future potential of this activity is being stressed. Awareness is being raised on the needed short- and long-term actions of the Social Partners' for wider use of the work-based learning (WBL) approaches for the improved labour market solutions which is especially important in the context of the present research. Moreover, the European Council Declaration of 15 October, 2013 "European Alliance for Apprenticeship" (Council Declaration, 2013) clearly states that high-quality apprenticeship schemes can make a positive contribution to a smooth and sustainable transition from the education and training system to the labour market. Furthermore, the recently established European Youth Guarantee is an initiative stipulating that every young person in Europe is offered a job or training at the latest four months after leaving education or after becoming unemployed (EC, 2012). Also in its call to action on youth unemployment, the European Commission encourages the Member States to increase the labour market relevance of VET programmes by creating stronger WBL component (EC, Brussels, 2010). Consequently, there is a clear policy indication that in securing better links between VET and the world of work, the involvement of three parties – the VET institution, the employers, and the public administration at national and/ or community level is crucial. This allows concluding that the Triple Helix principle is already inherent in the EU policy approach for VET. Also the National Development Plan adopted in 2012 and the linked policy documents show clear indications of the growth of the role of partnerships of VET. At the same time, the analysis of the relevant academic discourse shows that previous administrative model for VET management becomes too slow or ineffective. There are indirect implications and employers are frequently not aware of the developments in new technologies and new jobs. The main source of changes potentially is innovation, linked with research and HE. Instead of former approaches of top down management of VET by public administration, a more effective approach needs to be implemented - a flexibly combined management with bottom up and Triple Helix approach in VET and HE. Free market economy of the EU creates significant emigration from Latvia and other countries to the countries of the "Old Europe".

Reindustrialisation is necessary in Latvia to overcome problems created by globalisation. New ideas, arising in national universities, must be immediately supported by public administration and converted to innovations, giving start for new national industries. The authors' investigation shows that all types and levels of qualified specialists for new industries must be trained promptly during the creation of the new technologies with significant direct support of national and local authorities. Clearly the high competition in the EU markets does not allow starting new production without complex support by national authorities. In the authors' opinion, the optimal way to win the competition in the free market is localisation of the production with support to local authorities which must have enough power and resources to initiate new industries and to defend their interests.

## Research results and discussion

**Entrepreneurs and municipality co-operation.** Universities, VET providers, employers, and public administration should work together, starting from the searching of new ideas with a subsequent involvement of the appropriate qualified specialists and the relevant resources. Some new directions for the possible future development will be discussed in the paper. Empirical research on the preparedness of employers, educators, and municipality to work jointly was conducted in spring of 2013 by the authors as a survey of employers. In addition, focus group discussions were organised in 2013. Some results of entrepreneurs' survey (evaluations on statements "implementation of joint projects with municipality", "co-operation with municipality in training organisation", "creation of entrepreneurship centre", "support for entrepreneurship start", and "consultative councils of entrepreneurs and municipality") are included in Table 1.

Table 1

### Main economic indicators on statements of entrepreneurs and municipality co-operation evaluations

Statistical indicators	Implementation of joint projects with municipality	Co-operation with municipality in training organisation	Creation of entrepreneurship centre	Support for entrepreneurship start	Consultative councils of entrepreneurs and municipality
Mean	7.08	6.56	6.96	6.52	7.08
Median	8	8	8	8	8
Mode	8 and 10	8	8	8	8 and 10
Standard Deviation	2.67	2.99	2.68	3.08	2.60
Range	9	9	9	9	9
Minimum	1	1	1	1	1
Maximum	10	10	10	10	10

**Source:** authors' construction based on the entrepreneurs' survey in 2013

**Evaluation scale 1 – 10, where 1- lowest evaluation, 10 - highest evaluation**

The information in Table 1 indicates that generally entrepreneurs are very positive for co-operation with municipalities and educators: the average evaluations are high: arithmetic means for all analysed statements are higher than 6.5 (in scale 1 – 10), most of entrepreneurs gave high evaluations - 8, characterised by mode; half of entrepreneurs gave evaluations higher than 8; half of entrepreneurs

gave less than 8 (characterised by median). Some entrepreneurs gave the lowest evaluations for all the analysed statements; yet, the influence of their evaluations did not lower the average evaluations significantly.

**Cooperation between VET and higher education institutions (HEI)** already exists in many countries, also in Latvia. The best examples in Latvia are colleges in medicine, Latvian Maritime Academy (LJA), where VET study programmes exist in the same HEI. Maritime School of LJA (LJA Jurskola) – a structural unit of Latvian Maritime Academy is a good example of close cooperation between secondary and higher education (HE). The authors' research shows that similar cooperation between HE programmes and vocational education level programmes is in Riga Medical College No 1 (4 HE and 5 VET level programmes), in the Social Integration State Agency (7 HE and 12 VET level programmes), in Riga Technical College (10 HE and 10 VE level programmes), Riga Building College (3 HE and 5 VET level programmes), Mechanics and Technology College of Olaine (3 HE and 5 VET level programmes), Malnava College (2 HE and 4 VET level programmes), and Agrobusiness College of Jekabpils (5 HE and 4 VET level programmes).

**Cooperation for innovation.** There are many possibilities for innovations, for future development of new directions in industry and services. Research results and new technologies are promising but specialists with new qualifications or with significantly changed qualifications will be necessary. The starting point for innovations is research results. The highest qualifications, received at universities, are necessary to initiate translating these results to practice. The next steps, the implementation of the new ideas, needs complex work of specialists, including qualified employees, coming from VET. The authors' research shows that the provision of the needed VET specialists in many cases is the missing point, and mindsets are still to be changed to acknowledge the role of VET in the implementation of innovation. Well synchronised work of all involved parties is necessary, and the chain of innovation should be enriched with a substantial contribution from the VET domain.

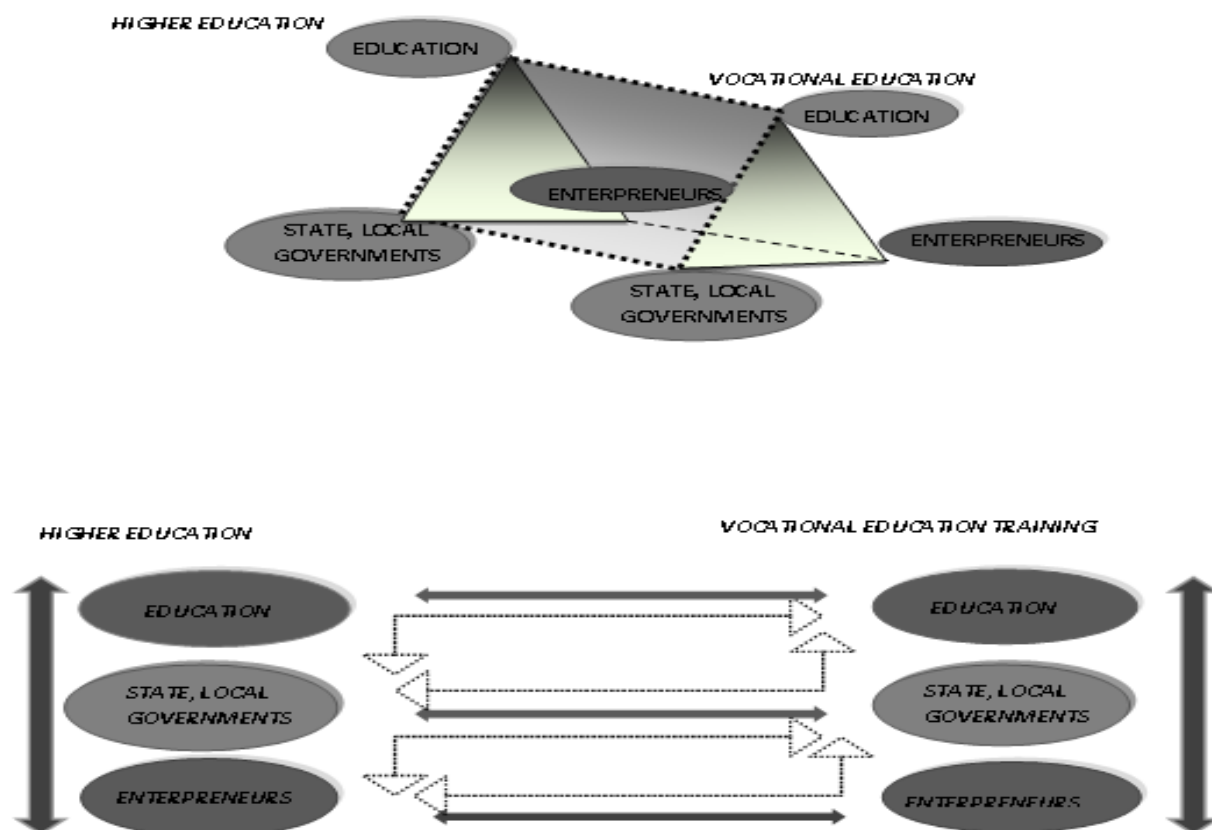
**Financing.** Important aspect for the development of VET is financing, and experience shows that relying only on traditional financial sources is not always justified. Three main sources of financing are: state budget, local community, and tuition fees and agreements on education, training, applied research, and other services. The most flexible and appropriate for the implementation of new technologies are direct agreements of employers with VET institutions. When implementing new technologies, there is a high risk for the employers to invest in education without a safe way for developing industry to conquer new markets. Local communities and national governments must support investments in education to minimise the risks for employers. Direct financing is important but also different types of guarantees of the state and local authorities, and state tax policy helps significantly. Direct financial support for VET, HE and research, coming from employers, combined with guarantees and other indirect support, coming from public administration, is a promising policy for Latvia in implementing the Triple Helix approach. Highly important are the possible improvements of the financial credit and investment system for the national industry. Banks and other financial organisations, controlled by state and local authorities, should be created for support.

**Identified problems for implementing the approach – more negotiations and less control.** Regulations for education, such as professional and education standards, are conservative and serve well during the periods of stable production with insignificant changes. Changes of the professional and education standards become a significant problem during the periods of crises, when quick changes

of technologies are necessary. Fast creation of new regulations is one way. Another way implies less administrative control. Both ways should be used but less control by national authorities is a more promising approach for future developments. Indirect control should be used in the form of stakeholders' participation instead of direct regulations in the form of standards. New qualifications in VET should be allowed only after negotiations with employers and professional organisations. It is fairly feasible to establish the appropriate procedures for the participation of all stakeholders in the framework of the Triple Helix approach and to withdraw the direct bureaucratic control.

**Social infrastructure** is another important problem for sustainable development. Motivation to stay in the local environment and not to emigrate is important for Latvia in the EU free labour movement. Possibilities for the communication, development of local traditions, culture, self-realisation in art and/or education are significant arguments against higher salaries in the countries of "Old Europe". VET institutions should be used as lifelong learning education, consultation and cultural centres. Content of social activities of the VET institutions and the necessary resources could be effectively supplied in the framework of the Triple Helix approach. An important part in the social activities of public authorities becomes the organisation of voluntary work. Involvement of VET institutions in the organisation of the voluntary work allows creation of the links between concrete local situations and identified problems, many of them concerning production, servicesm and industry. This is a huge resource and motivating development factor, since it often puts the young people at the very core of a problem, and allows the young people to become the 'driving force' in particular situations in the local society. The popularisation of Christian values, important part of which is voluntary help to everybody who needs support, is a significant part of the struggle against the consumers' society and negative results of the freedom for the labour mobility and of the competition in the free market.

**Common language for VET and HEI.** Evidence shows that free markets may become dangerous for weak economies, such as in Latvia. Only complex activities of local authorities, existing and potential owners of production forces (employers and self-employed) and education and training suppliers (Triple Helix approach) can cope with problems created by free market and globalisation. All new technologies, new industries must receive local support, be defended by society, through solidarity within the local community. All involved parties must use the same language during the efforts to solve the problems of the implementation of the new technologies. European education and training support instruments, as the European Qualifications Framework (EQF) for Lifelong Learning, European Credit Transfer System for VET (ECVET), European Quality Assurance system for VET (EQAVET) are appropriate instruments to create mutual trust and cooperation between VET, authorities, and employers. It is extremely important to use these instruments to stay connected with other VET providers locally and internationally, with the potential application of Tripple Helix approaches, as well. Therefore, the idea of triple Helix for VET should not be limited to local settings only. Scientific literature and the authors' empirical analysis show that closer co-operation between VET and HE is crucial in order to implement comprehensive approaches to implementing innovation. Innovative ideas and projects are difficult to implement if well trained and experienced professionals of medium level are missing. Suggestions for enriching the traditional Triple Helix model with the inclusion of also VET is proposed by the authors in Figure 1.



*Source: authors' construction based on the research results*

Fig. 1. Triple Helix between HE and VET

The proposed model allows for a varied types, forms and scope of co-operation between education providers and employers. The support of the public authorities is shown as essential for achieving the goals of the partnership (training of specialists with qualifications necessary for employers). This is a comprehensive model that allows for flexibility depending on the specificities of each particular situation, e.g. the already existing good links between the VET and HE providers, or just the opposite, the very beginning of breaking the existing traditional stereotypes on the separation of these education providers in implementing innovation. Further research is possible on the development and application of variations of this model in relation to the specific strategic objectives and involved stakeholders of each particular community or in broader contexts. The dual system in VET is one of the most perspective directions for the cooperation.

## Conclusions

Triple Helix approach is applied around the globe, and researchers, educators, business people and public administration representatives seek for most successful approaches to shorten the way from education to business. Public administrations should look for new ways for getting involved in these partnerships, reviewing options for an integrated and appropriate use of top-down and bottom-up for better results. Changing the mindsets of all involved parties is essential, since the involvement of all levels of qualified specialists has to be addressed in implementing innovation, making VET an indispensable element in the

innovation chain. Strengthened links between HE and VET are relevant, and the models for closer co-operation between VET and HE can be varied. The proposed Tripple Helix model allows for flexible approaches to implementing partnerships in local communities, with possible adjustments depending on the local needs, the strategic objectives of the community, and also the maturity and preparedness of the partners to implement change. The developed Tripple Helix model allows for further research by testing the model in different local communities and drawing the respective conclusions on the varieties of the implementation of the model.

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## **DEVELOPMENT OF FOREIGN TRADE IN MINERAL RESOURCES IN LATVIA**

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**Abstract.** Mineral resources present a major natural resource of Latvia and they are used for satisfying both the domestic consumption and the external demand. Although, the range and amount of mineral resources available in Latvia is low, they play an important role in the development of the construction, manufacturing, agriculture, and other industries. Mineral products also present an important group of the Latvian export products that contribute to the growth of the Latvian GDP. In 2012, the export of mineral products accounted for 8.8% of total export of goods and presented the sixth most important product group.

The main aim of the article is the analysis of development trends of foreign trade in mineral products across various product groups during the time period from 2002 to 2012 in Latvia.

The research led to a conclusion that the flows of the external trade in combustible mineral resources had not changed during the studied period and they still predominated in the export and import of mineral products. The trends of export of non-metallic mineral products attest indicate stable development and competitiveness on foreign markets - export of cement products has both experienced rapid growth and changed the structure of the sales market within the studied period.

**Key words:** mineral resources, foreign trade in mineral products.

**JEL code:** O44, O50, Q31

### **Introduction**

Although, in comparison with other countries, the range of natural resources available in Latvia is small and a large share of required resources has to be imported, still, versatile non-metallic mineral resources, like sand, quartz sand, sand-gravel mix, gravel, clay, dolomite, gypsum rock as well as freshwater limestone and calcareous tufa, can be found in the earth of Latvia. Peat that is used in agriculture and energy has an important economic value. Latvia has also abundant resort resources, i.e. curative mud and mineral waters. Sapropel that can be used in agriculture and in chemistry industry can be found in lakes.

Over time, demand by both consumers of mineral products and manufacturers has changed along with the development of the national economy of Latvia. As the command-based economy collapsed, in the beginning of the 1990s, the extraction of certain non-metallic mineral resources and the production volume of mineral products decreased sharply in Latvia; however, along the development of the economy

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and changes in the demand, the market of extraction of mineral resources has also changed (Curkina I., Sproge I., Jekabsone S., 2013).

The **aim** of the present research is the analysis of the development trends of foreign trade on mineral products in Latvia across various product groups during the time period from 2002 to 2012.

In accordance with this aim, the following **research tasks** were defined:

- 1) to analyse the information on the balance of mineral reserves in Latvia and the statistical indicators describing the development of the import and export of mineral products;
- 2) to summarise the Eurostat data on external trade in three groups of mineral products comprising the sub-groups of non-metallic mineral resources and products, the product groups of ores and mineral fuels in order to arrive to conclusions regarding the trends of changes in export and import of mineral resources;
- 3) to compare the first three product groups with the highest proportional share in the trade in Latvia with the neighbouring Baltic States, as the proportional share of export and import is generally concentrated within certain product groups.

The **methods** of comparative analysis and synthesis, monographic, logically constructive and statistical data analysis were used for the assessment of data. The main research **sources** include the information available in the databases of the CSB and Eurostat, and the studies and reports by the Latvian Environment, Geology and Meteorology Agency.

## **Research results and discussion**

### **Mineral resources and their extraction volume in Latvia in 2012**

The effective use of resources is among the priorities of the European long-term development strategy (Europe 2020). Also the long-term development perspective of Latvia is related with a lower emission amount and the effective use of energy resources.

Extraction of non-metallic mineral resources in Latvia is closely related with the demand of related industries, basically construction, road construction, agriculture, manufacturing of building materials that create demand for both domestically extracted and imported resources. The other mineral resources that are not available in the earth of Latvia are imported and consist mainly of fossil fuel and required non-metallic mineral products.

To a certain extent, conclusions regarding the use of and the demand for mineral resources can be drawn based upon general macroeconomic indicators. Therefore, the value added that is created by the extraction industry and the quarry development amounted to 0.6% of total volume of the national economy in 2010. According to the most recent statistical data, the value added created by the extraction industry amounted to EUR 18 million in 2002 and EUR 117 million in 2012, and the value added created by the manufacturing of mineral products increased from EUR 36 to 130 million over the same period (data of 2010) (Eurostat).

The value added created by the construction industry amounted to EUR 542 million in 2002 and increased up to EUR 678 million by 2012 (Eurostat).

According to the data of the Latvian Environment, Geology and Meteorology Centre, the following mineral resources were extracted in 2012: gypsum rock, limestone, dolomite, clay, quartz sand, sand-

gravel mix, sand, sandy loam and loam, aleirite, peat, sapropel and curative mud (Balance ..., 2013). In comparison with the preceding year, the volume of extraction of resources has increased in 2012 regarding all the mineral resources, except sand-gravel mix, peat and sapropel (Table 1).

Table 1

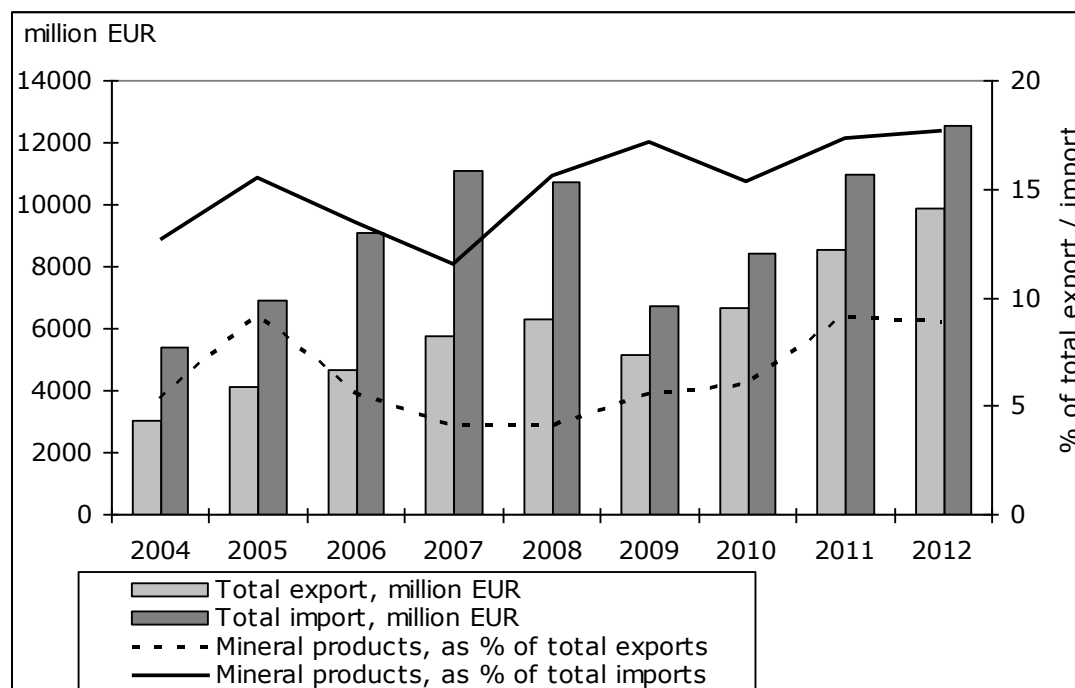
**Extraction of mineral deposits in Latvia in 2011 - 2012**

<b>Mineral deposit</b>	<b>Units</b>	<b>Extraction in 2011</b>	<b>Extraction in 2012</b>
Gypsum rock	thou. m <sup>3</sup>	98.16	114.87
Limestone	thou. m <sup>3</sup>	629.18	731.88
Dolomite	thou. m <sup>3</sup>	1593.27	1638.27
Clay	thou. m <sup>3</sup>	271.86	312.2
Quartz sand	thou. m <sup>3</sup>	14.89	29.99
Sand-gravel mix	thou. m <sup>3</sup>	2764.9	2634.91
Sand	thou. m <sup>3</sup>	3557.7	3727.82
Sandy loam and sand rock	thou. m <sup>3</sup>	92.36	107.29
Aleirite	thou. m <sup>3</sup>	0	12.9
Peat	thou. t with 40% humidity	946.95	738.64
Sapropel	thou. t with 60% humidity	0.2	0.05
Curative mud	thou. t with 90% humidity	0.46	0.53

**Source: Balance of Mineral ..., 2013**

**Export and import of mineral resources by groups in Latvia in 2012**

Mineral products present an important group in the external trade of Latvia. In 2012, the export of mineral products accounted for 8.8% of total export of goods and presented the sixth most important product group within export; and mineral products are the second leading group of products in import accounting for almost one fifth of the total import of goods (Economics ..., 2012). The importance of mineral products in the external trade of Latvia has increased considerably since 2000, in particular, following the accession to the EU (Figure 1).



Source: authors' construction based on the CSB data

Fig. 1 Foreign trade dynamics and share of mineral products in exports and imports in Latvia (mln EUR, 2000-2012)

In order to obtain a more complete insight of the external trade in mineral products in Latvia, the authors will apply the system of the combined nomenclature codes of two and four digits. Two digits will be applied for general description of the trends of trade in relevant products and four digits will be applied for studying the three biggest product groups within the export and import. Further analysis has been done based upon the Eurostat data.

Groups of mineral products 25 - **salt; sulphur; earths and stone; plastering materials, lime and cement** (hereinafter referred to as Product Group 25), export revenues in Latvia have increased ten-fold since 2002. The biggest export markets in 2012 were Russia, Finland, and Lithuania (80% of total export revenue).

Export revenue secured by the sale of the product group outside the EU-28 countries amounted to EUR 27.6 million in 2012 in Latvia and this was an increase of 41 times compared with 2002. The export revenue of the Product Group 25 within the EU-28 countries amounted to EUR 37.8 million and this was an 8-fold increase compared with 2002.

In comparison with the neighbouring countries Estonia and Lithuania, the export revenue of Product Group 25 have increased most since 2002 in Latvia (from EUR 5 to 66 million), and the growth in Estonia and Lithuania has been slower (from EUR 15 to 443 million and from EUR 13 to 55 million respectively).

The source of export revenue of Product Group 25 in 2012 in the Baltic States was based on the EU-28 countries; however, their proportional share within the revenue has changed considerably since 2012: export revenues from countries outside the EU have increased. For example, in 2002 in Latvia sales outside the EU provided 13% of export revenue, and in 2012 their proportional share increased up to 42%. The share of export revenue generated from the EU-extra countries was 18% in 2002 and 45% in

2012; in Estonia and in Lithuania the share of revenue generated from the EU-extra countries increased from 27% to 71% respectively.

Distribution per type of product - in 2012, the biggest export revenue within Product Group 25 were generated by the following three product subgroups:

- in Latvia - 80% sales of cement, incl. cement clinker; 11% sales of gypsum products; and 4% sales of salts;
- in Estonia - 56% sales of cement, incl. cement clinker; 24% sales of pebbles, gravel, broken or crushed stone; and 12% sales of limestone flux; limestone and other calcareous stone;
- in Lithuania - 64% sales of cement, incl. cement clinker; 15% sales of vermiculite, perlite and other mineral substances; and 6% sales of natural calcium phosphates and natural aluminium calcium phosphates.

For the sake of comparison, in 2012, the biggest export revenue within Product Group 25 were generated by the following three product subgroups:

- in Latvia - 55% sales of gypsum; anhydrite; plasters consisting of calcined gypsum or calcium sulphate; 29% sales of cement, incl. cement clinkers; and 13% sales of pebbles, gravel, broken or crushed stone;
- in Lithuania - 62% sales of cement, incl. cement clinker; 25% sales of pebbles, gravel, broken or crushed stone; and 3% sales of vermiculite, perlite and other mineral substances;
- in Estonia - 64% sales of cement, incl. cement clinker; 26% sales of pebbles, gravel, broken or crushed stone; and 6% sales of limestone flux; limestone and other calcareous stone.

Import expenditure of Product Group 25 have tripled in Latvia since 2002: expenditure for products to the countries outside the EU amounted to EUR 21 million in 2012 in Latvia and this equaled a triple increase compared with 2002. Expenditure for import from the EU-28 countries amounted to EUR 38 million or a triple amount of that in 2002. Estonia, Norway, and Lithuania presented the biggest import markets in 2012 (accounting for 47% of total import value of this group).

Among the Baltic States, import expenditure for products of Product Group 25 have increased most since 2002 in Lithuania (from EUR 93 million to EUR 303 million); the increase has been the lowest in Estonia (from EUR 15 million to EUR 37 million), and in Latvia, the increase has been from EUR 20 million to EUR 59 million.

Import expenditure differs among the Baltic States from the point of view of their geographic distribution: in Lithuania, expenditure for imported products refers to the EU-extra countries both in 2002 and in 2012 (85-86%). Estonia and Latvia import mineral products of Product Group 25 from the EU-intra countries. In 2002, 82% of expenditure for import products in Estonia and 67% of expenditure for import products in Latvia were attributed to the EU-intra countries and this proportion decreased slightly in 2012 and amounted to 79% and 64% respectively.

As regards distribution per type of product, in 2012, the biggest import expenditure within Product Group 27 were generated by the following three product subgroups:

- in Latvia - 26% for pebbles, gravel, broken or crushed stone; 14% for salts; and 11% of import expenditure for cement, incl. cement clinker;

- in Lithuania - 65% for natural calcium phosphates and natural aluminium calcium phosphates, natural and phosphatic chalk products; 10% for sulphur; and 5% for cement, incl. cement clinker;
- in Estonia - 42% for pebbles, gravel, broken or crushed stone; 14% for salts; and 9% of import expenditure for cement, incl. cement clinker.

The structure of import expenditure for product subgroups was similar in Latvia also in 2002 accounting for 14% of total import expenditure. In 2002, in Lithuania, 59% of import expenditure were attributed to natural calcium, natural aluminium calcium phosphates, natural and phosphatic chalk; 10% to sulphur; and 9% to pebbles, gravel, broken or crushed stone. The structure of expenditure in 2002 in Estonia was as follows: 48% for pebbles, gravel, broken or crushed stone; 20% for salts; and 9% for gypsum; anhydrite products.

The export revenue in Latvia generated by Product Group 26 of mineral products **Ores, slag and ash** amounted to EUR 0.9 million in 2012. The volume of export was similar also in Lithuania, and in Estonia it amounted to EUR 2.9 million. In general, 75% of export revenue in Latvia in 2012 within this product groups were generated by sales to Hong Kong, Russia, and Lithuania. Import expenditure for import of products from this group in 2012 exceeded the export 4 times and the biggest import markets were Cyprus, Mexico, and Chile (62% of total value of import of this product group).

As regards the split per type of products, in 2012, the biggest portion of import expenditure within Product Group 26 were generated by import in molybdenum ores and concentrates (62%) in Latvia; by import of niobium, tantalum, vanadium or zirconium ores and concentrates (97%) in Estonia; and by import of granulated slag from the manufacture of iron or steel (56%) in Lithuania.

For the sake of comparison, in 2002, the biggest import expenditure within Product Group 26 was related with the following products: import of granulated slag from the manufacture of iron or steel imports (67%) in Latvia, import of titanium ores and concentrates (93%) in Estonia; and import of granulated slag from the manufacture of iron or steel imports (51%) in Lithuania.

Export revenue from Product Group 27 of mineral products **Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes** (hereinafter referred to as Product Group 27) have increased more than twenty times in Latvia since 2002. Biggest export markets in 2012 were as follows: Poland, Lithuania, and Afghanistan (65% of total export value of the Product Group).

Export revenue secured by the sale of the Product Group outside the EU-28 countries amounted to EUR 244 million in 2012 in Latvia (EUR 4 million in 2002). The export revenue of Product Group 27 within the EU-28 countries amounted to EUR 578 million (EUR 32 million in 2002).

Lithuania is the only country among the Baltic States where the export revenue generated by the sales of products of Product Group 27 abroad has experienced the lowest growth, i.e. from EUR 1096 to 5691 million during the period from 2002 to 2012. Both in Latvia and Estonia, the export revenue secured by this Product Group has increased 22 times within the above referred period.

Distribution per type of product- in 2012, the biggest export revenue within Product Group 27 were generated by the following three product subgroups:

- in Latvia - 59% by sales of petroleum oils and oils obtained from bituminous minerals (excl. crude); 13% by sales of peat; and 9% by sales of electrical energy;

- in Estonia - 80% by sales of petroleum oils and oils obtained from bituminous minerals (excl. crude); 11% by sales of electrical energy; and 3% by sales of peat;
- in Lithuania - 93% by sales of petroleum oils and oils obtained from bituminous minerals (excl. crude); 2% by sales of electrical energy; and 1% by sales of petroleum gas and other gaseous hydrocarbons.

In 2002, the biggest export revenue within Product Group 27 were generated by the following three product subgroups:

- in Latvia - 68% of the export revenue of the studied group were generated by sales of peat; 24% by sales of electrical energy; and 6% by sales of petroleum oils and oils obtained from bituminous minerals, crude;
- in Lithuania - 83% by sales of petroleum oils and oils obtained from bituminous minerals (excl. crude); 8% by sales of electrical energy; and 5% by sales of petroleum gas and other gaseous hydrocarbons;
- in Estonia - 37% by sales of peat; 30% by sales of electrical energy; and 27% by sales of petroleum oils (excl. crude).

The import expenditure attributable to Product Group 27 have increased almost five-fold since 2002. Import expenditure for products to the countries outside the EU amounted to EUR 972 million in 2012 in Latvia and this equalled a four-fold increase compared with 2002. Expenditure for import of products from the EU-28 countries amounted to EUR 1197 million or an amount ten times higher of that in 2002. Biggest import markets in 2012 were Lithuania, Russia, and Belarus (82% of total import value of the Product Group).

Among the Baltic States, import expenditure for products of Product Group 27 have increased most since 2002 in Estonia (from EUR 283 million to EUR 1818 million); the increase has been the lowest in Latvia (from EUR 395 million to EUR 2167 million), and in Lithuania, the increase of the import expenditure has been from EUR 1362 million to EUR 8188 million.

Import expenditure differs among the Baltic States from the point of view of their geographic distribution: in Lithuania, expenditure for imported products refers to the EU-extra countries both in 2002 and in 2012 (98% and 91% respectively). Estonia and Latvia have been mainly importing mineral products of Product Group 27 from EU-intra countries during past years. In 2002, 38% of expenditure for import products in Estonia and 31% of expenditure for import products in Latvia were attributed to the EU-intra countries and this proportion increased slightly in 2012 and amounted to 55% in each country.

As regards distribution per type of product, in 2012, the biggest import expenditure within Product Group 27 were generated by the following three product groups:

- in Latvia - 63% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude); 26% by import of petroleum gas and other gaseous hydrocarbons; and 7% by import of electrical energy;
- in Estonia - 75% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude); 12% by import of petroleum gas and other gaseous hydrocarbons; and 6% by import of electrical energy imports;



- in Lithuania - 67% by import of petroleum oils and oils obtained from bituminous minerals, crude; 15% by import of petroleum gas and other gaseous hydrocarbons; and 12% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude).

As regards distribution per type of product, in 2002 the biggest import expenditure within Product Group 27 were generated by the following three product subgroups:

- in Latvia – 51% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude) imports; 29% by import of petroleum gas and other gaseous hydrocarbons; and 15% by import of electrical energy;
- in Estonia – 70% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude); 19% import of petroleum gas and other gaseous hydrocarbons; and 4% import of petroleum coke, petroleum bitumen and other residues of petroleum oil;
- in Lithuania – 79% by import of petroleum oils and oils obtained from bituminous minerals, crude imports; 16% by import of petroleum gas and other gaseous hydrocarbons; and 3% by import of petroleum oils and oils obtained from bituminous minerals (excl. crude).

The evaluation of the market demand for mineral products in Latvia leads to a conclusion that the highest proportional share of import expenditure refers to oil and its products (accounting for almost 90%), the import value of electrical energy accounts for 7%, and the other products account for the remaining 3%.

The volume of export revenue of mineral products has also increased over time and this attests to stable development of the industry and its external competitiveness. The biggest export revenue (almost 70%) was generated by oil products in 2012, followed by the export of peat accounting for 13%, and the export of electrical energy accounting for 9% of total export revenue of mineral products; the export value of cement accounted for 7% in comparison with the share of 4% in 2002.

Cement products secured the highest proportional share (80%) of export of non-metallic mineral products in 2012: EUR 53 million, and the sales markets of products were in Russia, Finland, Lithuania, Belarus, Estonia, and Norway. In comparison with the year 2002, the export markets of cement products have changed considerably: the export value increased 33 times and the biggest sales markets, i.e. Lithuania and Estonia (99%) were replaced by Russia and Finland (69% of export of cement). Therefore, in comparison with the year 2002, the external demand has increased and the split of sales markets has changed considerably in 2012.

The second Product Group of non-metallic mineral products with the highest export value in 2012 was gypsum and similar products: EUR 7 million (11% of export of Product Group 25). The biggest sales markets were Lithuania, Belarus, Estonia, and Russia (99.9%). In comparison with the year 2002, the export value of products has almost tripled, and the biggest sales markets have not changed considerably - sales to Lithuania, Estonia, and Belarus generated 99.6% of export revenue.

Salts with the total value of EUR 2.5 million presented the third biggest Product Group within the export of non-metallic mineral products (4%), moreover, their export value has increased 43 times in 2012 compared with 2002. The sales markets of salts have not changed considerably over time: Lithuania and Estonia generated 99% of export revenue both in 2002 and also in 2012. It should be noted that the number of sales markets has increased in 2012 and they have expanded to the CIS countries, Europe and Scandinavia; however, the value of products exported to these markets is low.

According to the long-term development strategy of Latvia until 2030, the growth of the demand for construction materials is forecasted. Therefore, in longer term, the demand for construction materials will increase, and the domestic manufacturers will have opportunities to use domestic as well as imported raw materials and mineral deposits to meet growing demand.

### **Conclusions, proposals, recommendations**

1. The importance of mineral products in the external trade of Latvia has increased considerably since the 2000s, and currently it is the sixth most important group of goods within export and the second leading group of products in import accounting for almost one fifth of the total import of goods; however, the export of mineral products is considerably lagging behind the import due to the different structures of export and import.
2. The structure of import and export of mineral products of Latvia has changed comparatively little across different product groups. Three products dominated the export in the product group of non-metallic mineral products in 2012: cement, gypsum, and salt; as regards the import the dominating products were gravel, pebbles, salt, and cement.
3. Cement products secured the highest proportional share (80%) of export of non-metallic mineral products in 2012. In comparison with the year 2002, the export markets of cement products have changed considerably: the export value increased 33 times and the biggest sales markets, i.e. Lithuania and Estonia (99%) were replaced by Russia and Finland (69% of export of cement).
4. Gypsum was the second largest product group within the export of the group of non-metallic minerals in 2012 (11%), its biggest sales markets were Lithuania, Belarus, Estonia, and Russia (99.9%). In 2002, sales to Lithuania, Estonia, and Belarus accounted for 99.6% of export revenue. In comparison with the year 2002, the export value of products has almost tripled, the volumes of sales markets have changed and their geography has expanded by the addition of Russia.
5. Salts presented the third biggest product group within the export of the group of non-metallic minerals in 2012 (4%). Its export value has increased 43 times in 2012 in comparison with 2002. At the same time, the sales markets of salts have not changed considerably: Lithuania and Estonia generated 99% of export revenue both in 2002 and also in 2012. It should be noted that the number of sales markets has increased in 2012, and they have expanded to the CIS countries, Europe and Scandinavia; however, the value of products exported to these markets is low.
6. According to the long-term development strategy of Latvia until 2030, the growth of the demand for construction materials is forecasted. Therefore, in longer term, the demand for construction materials will increase, and the domestic manufacturers will have opportunities to use domestic as well as imported raw materials and mineral deposits to meet growing demand.

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## **INFLUENCE OF AGENCY OF AGRICULTURAL ESTATES ON LOCAL AND REGIONAL DEVELOPMENT IN RURAL AREAS**

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**Abstract.** The following article contains analysis of role played by the Agency of Agricultural Estates (*in Polish*: Agencja Nieruchomosci Rolnych – ANR) in the process of forming local development in rural areas. The Agency is in possession of the Resources of Agricultural Estates of National Treasury (*in Polish*: Zasoby Nieruchomosci Rolnych Skarbu Panstwa - ZNRSP). Due to wide-scale possibilities of acting, it has right to influence the estate market, housing economy, and development possibilities of rural municipalities. The aim of this article is to define the role of the Agency of Agricultural Estates in regional development. The most important activities of the Agency, which impact on the regional development, particularly, related with trade in agricultural property have been analysed in the article. Analyses contain case studies of specific activities conducted by representatives of the Agency and their results, especially, the most important decrees of President of ANR and their influence on local development.

**Key words:** regional and local development, Agency of Agricultural Estates, estate management.

**JEL code:** 029

### **Introduction**

The article presents key conditions connected with the ANR functioning and its managerial tasks in the field of agricultural estates. The aforementioned analysis is conducted to:

- verify the possibility of ANR actions, derived from law;
- define specific managerial instruments in possession of ANR.

There is no doubt that the ANR is the main institution from the point of rural areas management and their exploitation in the process of local development. Therefore, the article contains the following terms: local development and its instruments, structure and managerial instruments of ANR, and the most important decrees of President of ANR. The latter ones were selected, because (described further in the article) it is the President who is capable of forming activities of the ANR in highest degree. Hence, decrees that were selected and analysed are the ones that can have a considerable influence on local development.

### **The aim of the research**

The Agency of Agricultural Estate should have a significant impact on regional development. The aim of this article is to define the role of the Agricultural Property Agency in regional development. The paper analyses the impact of the activities of the Agency on determinants of regional development.

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**Methods of research**

In this paper, statistical materials included in the reports prepared by the Agency of Agricultural Estates and the Central Statistical Office (CSO) were used as a source of data. Analyses contain case studies of specific activities conducted by representatives of the Agency and their results, especially, the most important decrees of President of ANR and their influence on local development.

**Local development and its management**

Overall, it can be assumed that local development is a small scale counterpart of regional development (Nowak M., 2014). Parysek J. (2001) indicates that:

- it is a process extended over time – from development initiative to specific final result;
- it is a social process based on activity of local communities or activation of local pro-developmental platforms;
- it is an endeavour possessing certain risk level and it requires constant supervision and evaluation of its course due to the aforementioned elements;
- it possesses an elaborated model, which leads to the creation of institutions responsible for local development, development of alternative production and services, rising to higher level and updating qualifications of local workforce, creation and search for markets for products, transfer and diffusion of knowledge and technology, technical updates and support of initiatives for exploitation of local resources in the field of materials, organisation, technology, and economy.

According to Ziolkowski M., local development is a multi-aspect process within the fields of:

- economy (due to quantitative, qualitative, and structural development of enterprises);
- society – by improvement of various services (i.e. housing or security and public order);
- area;
- ecology;
- culture (Ziolkowski M., 2007).

It must be underlined during this stage that local development should be sustainable. When one field of development dominates at the expenses of others, the situation is flawed. The factor distinguishing local development from regional one is the scale of activities. Smaller scale – on Poland's conditions – municipal and district, requires more detailed instruments of management for a particular area and wider inclusion of ruling factors that shape processes in local scale. Wojtasiewicz L., pointed out that local development is a process of changes taking place in towns, semi-rural or rural municipalities as a locally defined social and territorial system, which is identified by special features regarding the area, economy, and culture (Wojtasiewicz L., 1996). Key factors in local development are predominately knowledge, abilities and entrepreneurship (Southern A., 2001). According to Bagdzinski S. (1994), local development should create favourable conditions for:

- utilisation of local communities activity;
- effective utilisation of local and regional resources and developmental factors with local and global conditions and their profitable coordination;
- development of private entrepreneurship;
- breaching the structural barriers embedded in economy;

- support for sustainable development;
- utilisation of local communities activity and regional potential to stimulate the innovations and technological advancement.

Among effects of local development, new values can be pointed out like new companies, workplaces, services, and goods used for satisfying local and greater demand. Entrepreneurship is a key large factor in local development. Among characteristic factors for local communities entrepreneurship, Laszuk M. and Paciorkiewicz Z. point out the following:

- opportunities in activities, which will not be undertaken by other subjects, due to economy, costs, lack of knowledge or unwillingness to invest their resources;
- possibility of acquiring additional support from assistance programmes;
- innovations in products and services (Laszuk M., Paciorkiewicz Z., 2011).

The management on its own in the local field is described in the opinions by Potoczek A. and Stepień J.:

- description of assumption for policy on a particular area, compatible with its overall goals,
- coordination in implementation of local policy;
- monitoring of resources and means in possession of territorial entity;
- verification of activities effects, connected with the implementation of adopted goals (Potoczek A., Stepień J., 2008).

Management of local development requires various instruments. Those described in literature can be classified in accordance with different methods and points of view. In broad aspect, methods of classification of local development stimulating instruments were described by Kogut – Jaworska M. The criteria described by her (based on another literature resources) are related with (Kogut – Jaworska M., 2008):

- object of influence (influence on economic subjects or elements in surrounding of these subjects);
- forms of influence (instruments of administrative coercion, cognitive instruments, or instruments of market economy influence);
- independence of action (cooperative instruments or independently utilised instruments);
- conditions of utilisation (those which existence require creation or joining certain entities and instruments utilised as direct decisions of entitled municipal body);
- legal commitment (obligatory and elective);
- relationship with other instruments (complementary and autonomous);
- complexity of influence character (homogenous or heterogeneous).

Moczydłowska J. indicates that instruments considered separately can be seen as quite modest; however, in case of complex utilisation, it is possible for them to reach important significance (Moczydłowska J., 2008). Form and scope of utilisation within the local community depend on a number of factors, among which attention must be paid to local government body, which territory is used for undertaking tasks, its spatial, social and financial possibilities, including community expectations. Therefore, the budget of local body will play the key role in the process (in model approach – task budget) (Wisniewski A., 2008, Bsdzieszak M., 2007).

In practice, local development is undertaken also during common everyday resolution of problems on local scale. Therefore, it is crucial – also as local development tool – to employ and promote members of local governments.

Kogut-Jaworska M. also points out local intervention instruments. Within municipal budgetary policy, these will be:

- policy on income;
- financial independence;
- taxes and local charges (and their levels, reliefs and exemptions);
- fiscal policy;
- sale or commission for the use of properties held by local government;
- price policy;
- expenditure policy;
- public aid (Kogut-Jaworska M., 2008).

As it is shown above, it comes out that the key subjects of regional development are in possession of different instruments of action for shaping of development policy. It is obvious that classifications stemming from literature and mentioned earlier are leading to conclusion that both municipalities and districts will have different possibilities in utilisation of certain instruments. In this context, the role of social organisations also seems important, which scope is reduced to:

- expressing the needs and businesses of social groups, which were not articulated in official programmes and were insufficiently secured in terms of financial resources;
- representative function for businesses of groups, which are not capable of effective expression of their needs, neither of defending them;
- introduction of agreed businesses of social groups to decision making systems;
- acting as negotiator and mediator in businesses of social groups;
- undertaking tasks given by national and local subjects (Wankiewicz B., 2009).

#### **Basic condition for functioning of the Agency of Agricultural Estates (ANR)**

The ANR is a national legal entity, which is subject to the supervision by a minister responsible for agriculture. This minister is also of higher rank for the President of Agency and supervising structure (decision of Supreme Administrative Court of Poland – *in Polish: Naczelny Sad Administracyjny* – NSA) of 25 August 2009, No I OW 67/09, LEX nr 552366). Jurisdiction also considered the role of local appeal boards in possible supervision over ANR. The NSA pointed out that on a day when the ANR was brought to life by adoption of law, there was no intention of policymakers to attribute supervision over some of administrative actions and due to that also at the current stage, it is impossible to presume the competences of local appeal boards (decision of NSA of 29 August 2008, No I OW 54/08, LEX nr 515653).

The National Treasury entrusted ANR the exercise of property law and other property rights in reference to:

- agricultural estates (estates which are used for agricultural activity), situated in the areas which are earmarked for agricultural purposes in local development plans (excluding areas managed by State Forests (*in Polish: Lasy Panstwowe* – LP) and National Parks;

- other estates and properties left after dissolution of national agricultural enterprises and their unions and consolidations;
- forests which are not extracted by means of geodesy from the aforementioned estates.

Elements of these properties are found in:

- management of national organisational units;
- in perpetual usufruct by physical and legal entities (and other organisational units);
- State Land Fund (*in Polish: Panstwowy Fundusz Ziemi – PFZ*).

The real role of ANR in the management of agricultural properties (also in the entire management system) is clarified by the statements of administrative courts. For example – Provincial (Voivod) Administrative Court in Warsaw (in Polish: *Wojewodzki Sad Administracyjny w Warszawie – WSA*) indicates that Agency is in legal course independently, exercising laws in the name of National Treasury in reference to entrusted properties. In such situation, the Agency acts as a proprietor (decision of WSA in Warsaw of 5 March 2010, No SA/Wa 2169/09, LEX nr 606535). The ANR is entitled to the status of a party during administrative proceedings concerning transformation of perpetual usufruct to ownership (decision of WSA in Warsaw of 18 February 2010, No I SA/Wa 2009/09, LEX nr 559587). The Court of Appeal in Warsaw also indicated that the property which was transferred to the Agency for Agricultural Property of National Treasury was also managed by it in case when it ceased to act as an agricultural area (decision of WSA in Warsaw of 28 October 2005, No VI ACa 395/05, Apel-W-wa 2006/3/27). This jurisdiction is worth mentioning, because it indicates that it is possible for the Agency to manage different properties, other than agricultural ones and, as a consequence, it is possible to reach quite different goals.

### **Management of ZNRSP**

ZNRSP (which is in the disposal of the ANR) is defined as property of the National Treasury, where exercise of property rights is entrusted to the ANR (types of properties were listed in Subchapter 1). It is possible, as predicted by the Law on Management of Agricultural Properties of National Treasury, to transfer estates also on a basis of other Acts. In such case legislator clarifies that their transfer takes place in no longer than 30 days from the validation of statement or decision on acquisition.

The Supreme Court indicates that the National Treasury remains the owner of properties being in the disposal of the ANR, and the Agency only acts as a trustee. Exceptions are properties purchased by the ANR in order to ensure the function of President's Office and branch offices (Decision of 9 May 2000, IV CKN 29/00, LEX No 52672). It is worth to underline the role of trustee, which can also count in other circumstances.

Management of the ANR can be implemented on a basis of following actions:

- 1) sale of entire or part of property;
- 2) transfer for paid use to legal or physical entities;
- 3) transfer of entire or part of property to enterprise, with the majority of shares in possession of the National Treasury or scientific institute;
- 4) letting the administrator entire or part of property under management for a predefined period of time;
- 5) transfer for administration;



6) exchange of property.

Therefore, it can be pointed out that in the majority of these activities are reduced to property transactions. It must be underlined that the legislator also predicts variants connected with the management of certain properties or even their specific "storage". What stems from the above is that the scope of ANR actions can be very broad. Legislator also predicts possibilities of transferring the ZNRSP property by ANR for ownership by:

- unit of local government for purposes of erecting anti-flood infrastructure;
- unit of local government for purposes of local reconstruction plan;
- unit of local government for performance of tasks concerning infrastructural investments for water supply, sewage and water treatment, maintaining cleanness and order, sanitary devices, dumping areas, waste processing, healthcare, social assistance, public education, culture, physical condition, creation and expansion of public cemeteries – it must be underlined that all these goals must be included in studies on directions of spatial development or local spatial development plans;
- unemployed people without rights to unemployment benefits who were employed in national agricultural enterprises for at least 5 years.

Transfer of properties to local government units is done by means of civil law agreement with municipal executive body (Decision of WAS in Opole of 25 September 2008, No II SA/Op 225/08, LEX nr 519123). Therefore, properties and estates belonging to ZNRSP can be transferred for other purposes, different tasks, which are confirmed by separate law regulations or plans. If receivers use them for different goals than mentioned above, the ANR may demand return of actual financial value of those properties.

### **Sale, lease and rent of agricultural properties**

Sale, lease and rent of properties play the most important role in the context of property management processes by ANR. It is due to possibilities in sharing (various methods) of ZNRSP properties with different entities, also for financial reasons (and acquisition of incomes linked to it). Under many circumstances, regulations predicted in this scope are familiar with the management of local government properties. It is mainly due to obligation of producing a list of properties allocated for sale and to announce it in certain place in a locally accepted manner.

Legislator also predicts situations, when potential purchasers are entitled to priority in purchase of property from ANR. This right is given to:

- 1) former owner of disposed property or his successors, in case when the property was acquired by the National Treasury before 1 January 1992;
- 2) agricultural co-op enterprise in management of disposed property, use of which by this enterprise expired on 31 December 1993;
- 3) lessee of disposed property, if lease took real time of at least 3 years;
- 4) manager of special economic zone in relation to properties within such zones.

Jurisdiction indicates that the obligation of ANR to include purchase priority introduces limitations in freedom of property management only in case of sale. It does not deprive selling rights. Owner's rights to

manage one's property also include possibility of not disposing the property rights (Decision of Appeal Board in Rzeszow of 10 May 2012, No I ACa 144/12, LEX nr 1314866).

In addition to sale of ZNRSP properties, they can be leased or rented to natural and legal entities. Lessee or tenant acquires assurance of purchase or renting right at latest with the end of time the agreement was signed for. Despite the above, the ANR also performs tasks associated with housing and social management.

Table 1

**The sale and lease of area of ZNRSP property in 2012**

<b>Regional office</b>	<b>Area of land offered for sale (ha)</b>	<b>Area of land offered for lease (ha)</b>	<b>Total amount of sold land (ha)</b>
Warszawa	2 111	428	144 523
Bydgoszcz	1 208	410	107 462
Gdansk	3 492	243	244 574
Lublin	4 192	1 749	118 629
Olsztyn	1 433	35	504 281
Opole	6 975	1 728	140 991
Poznan	1 690	2 591	189 645
Rzeszow	2 824	2 280	124 803
Szczecin	10 223	2 232	370 831
Wroclaw	6 376	2 263	211 444

**Source: authors' research based on the ANR data**

The information contained in the table indicates not only the impact on real estate transactions across regional office but also the speed of action (all transaction were done in 2012). The most significant impact on real estate transactions in 2012 were ANR branches located in Szczecin and Olsztyn. Regional offices in Poznan and Szczecin acted most efficiently. It can be assumed that these branches generate the greatest impact of the ANR on determinants related with local development.

### **Decrees of President of ANR**

Next stage is the selection and analysis of decrees issued by President of ANR, which can have key influence on local development. As it comes from the Law, President of ANR will have major influence on property management and as consequence also on shaping of local development.

President's decree of 7 October 2010 (No 27/10) - rules for exercise of right by branch offices for priority purchase and purchase of agricultural properties - were described threof. It is worth to point out that the decree states that the purpose of property purchase should be its further sharing to individual farmers for expansion of family farms. The overarching reason for utilisation of rights that the ANR is entitled to is the existence of demand for farmlands among individual farmers. It requires analysis whether local properties market has areas, which can be allocated to farmers. This analysis also concerns ZNRSP (Zarządzenie nr 27/10..., 2010). The above shows that the purchase of properties (and broader – ANR contribution to local property market) is conditioned by satisfying the farmers' demand for agricultural properties. It must be underlined that this decree predicts separate analysis in this scope,

conducted by ANR. Therefore, the Agency must conduct research of local development and farmers' demands.

The decree on conditions and methods of granting non-refundable financial aid indicates reasons for support of entities extracted by the ANR. They also act as an important source of information for priorities, linked to local development, undertaken by the Agency. According to the decree, beneficiaries of support are municipalities, housing associations, national, and communal entities. Reasons for the aid can be:

- construction, repairs and reconstruction of buildings and other estates, infrastructure and construction of energy supply, water treatment, heating and telecommunication facilities;
- publishing;
- scientific research;
- conduct of training, conferences and competitions.

It mainly concerns properties transferred by the ANR to selected entities (Zarządzenie nr 11/12...,2012). As it comes from the above, the ANR also supports goals connected with the development of infrastructure and scientific research – in the scope of properties controlled by it. This input can have a great significance for local management.

Table 2

**The use of selected land of ZNRSP property in 2012**

<b>Regional office</b>	<b>Area of land transferred to municipalities (ha)</b>	<b>Area of land transferred to National Forests (ha)</b>	<b>Area of land transferred to other subjects (ha)</b>
Warszawa	4 916	3 136	3 833
Bydgoszcz	3 145	9 040	4 059
Gdansk	5 398	12 997	2 131
Gorzow	4 696	12 865	7 122
Lublin	2 220	3 347	4 995
Olsztyn	9 100	35 239	6 555
Opole	4 708	4 660	2 563
Poznan	5 048	9 707	10 038
Rzeszow	4 039	11 068	6 698
Szczecin	5 780	35 122	3 604
Wroclaw	4 755	15 697	4 447

**Source: authors' research based on the ANR data**

Last of the analysed decrees concerns sales of ZNRSP property. One thing is worth mentioning that – in addition to clarification of procedures regarding sales of very attractive properties were distinguished – for reasons of locating the investment with an array bearing significant meaning for economic stimulation and creation of new workplaces or attraction of investments. These are mainly:

- concentrated housing;
- planning of areas for purposes of tourism, sports and recreation;
- industrial scale mining;
- construction of wind farms.

If such properties are subject to lease, they should be earmarked for sale after exclusion from agreement or its expiration. Such properties are not allocated to limited tenders. It should also be indicated that special economic zones are preferred in this decree (Zarządzenie nr29/13..., 2013). Due to the aforementioned entries, it can be derived that care is taken by ANR in the following issues:

- economic development in local scale;
- stimulation of workplace creation;
- correct spatial management.

The above table specifies entities to which the ANR donated land in 2012 (Table 2). These were mainly local governments and National Forests. The first group may be differently related with the economic development on a local scale. The data presented in Table 2 indicate that the amount of land held by regional office determines its impact on local and regional development.

## Conclusions

The ANR is capable of undertaking a number of actions connected directly with agricultural properties market or at least indirectly with the situation of many entities important from the point of local development. Due to broad range of competences connected with sales, leases, maintenance or disposal of properties, incomes are very high. Lot is also subject to specific action and priorities in their designation.

The conducted research shows that the ANR has broad influence on local development, which comes to the following:

- support of farmers and development of farming (supplying land to most demanding farmers);
- support of economic development and its instruments;
- support of infrastructural development;
- activation of various and important local development subjects.

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**INNOVATIONS IN THE EQUINE SECTOR IN LATVIA****Sandija Zeverte-Rivza**, Mg.oec.; **Liga Paula**, Mg.sc.soc.

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**Abstract.** Despite the gradually declining number of horses, horsemanship has long-standing and strong traditions in Latvia; although, the role of horses and the equine sector in general has changed tremendously during the past century. If 50-100 years ago horses were mainly kept in rural farms and used for transportation, agriculture and forestry, and the main product of the equine sector was the horse itself, then, currently the equine sector has changed to become a sector that provides mostly services – trail rides, riding lessons, horse boarding, and recreation. The horse, which traditionally has been a core product, remains only as one component of the equine sector. Contemporary, challenges related with animal welfare, environmental issues, horse and service quality, safety issues, economic performance, and financial support available for equine businesses as well as new trends in customer needs require equine entrepreneurs both the ability to adapt to rapid changes and innovative solutions. These issues were investigated during the INNTEREG IV project “Equine Industries Promoting Economically Competitive and Innovative Regions” (INNOEQUINE) from 2011 to 2013. This article highlights the current structure of the equine sector, presents statistical data analysis and the results of three focus group discussions regarding the challenges and possible solutions for advancement of the equine sector and its performance in Latvia. The authors conclude that, even though, the number of horses is decreasing, the equine sector shows a development potential for the future that should be promoted with an innovative and entrepreneurial approach for developing and marketing new services within the sector.

**Key words:** equine sector, rural entrepreneurship, equine related services, innovative practices.

**JEL code:** O14

**Introduction**

The equine sector has been subjected to large changes over the last half of the 20<sup>th</sup> century. While in the past horses were vital for industry, agriculture, transport, and the military activities; currently horses and ponies are kept for recreation and sports, thus, horses have become an important part of the modern life-style (Hägglom M., Rantamäki-Lahtinen L., Vihinen H., s.a.). For almost four thousand years, the horses were mainly used during war but, of course, they also played an important role in times of peace, the most obvious uses being in agriculture, forestry, and transport. In addition to agricultural work, horses were used in mines, drawing coal wagons, and supplying power for many other pieces of heavy machinery (Edwards E.H., 1987, Liljenstolpe C., 2009).

As late as in the 1960s, horses were still primarily used as working creatures in agriculture and forestry. Though, during the latest decades, horses have been used mainly in equestrian sports such as trotting races and, increasingly, horseback riding. However, the logic of the equine industry has completely changed, as pointed out above: the working horse has been replaced with leisure, sports, and recreation horses (Eklund E. et al., 2006).

Similarly to the global tendencies in the horse use, the equine sector has also changed in Latvia, and now the horses are mainly used for recreation, sports and tourism. These changes require adaptation from the horse owners and service providers. Another relevant aspect of the equine sector in particular locality is its role in diversification of local economy as it can become a part of the neo-endogenous rural development model underlying rural development policies of many countries in contemporary Europe. This is discussed by many scholars and practitioners in rural development literature (e.g. Galdeano-Gomez E. et al., 2011). An important aspect of local development is the relationships between town or city and countryside in association "with the transfer of resources from the urban to rural economy" (Van der Ploeg et al., 2000:397). In the equine sector, this opens a space for innovative ideas how to diversify farm activities and develop horse related activities that generate additional income helping equine entrepreneurs sustain their farms by additional income sources generated outside traditional horse breeding (Paula L. et al., 2013).

Therefore, the aim of the research was to investigate the innovations in the equine sector in Latvia. To fulfil this aim, the authors set several tasks: to develop a general classification of the sector, to make an analysis of the equine sector in Latvia, and to define the challenges and innovative practices in the equine sector. The monographic, analysis and synthesis and focus group analysis methods were used to fulfil these tasks.

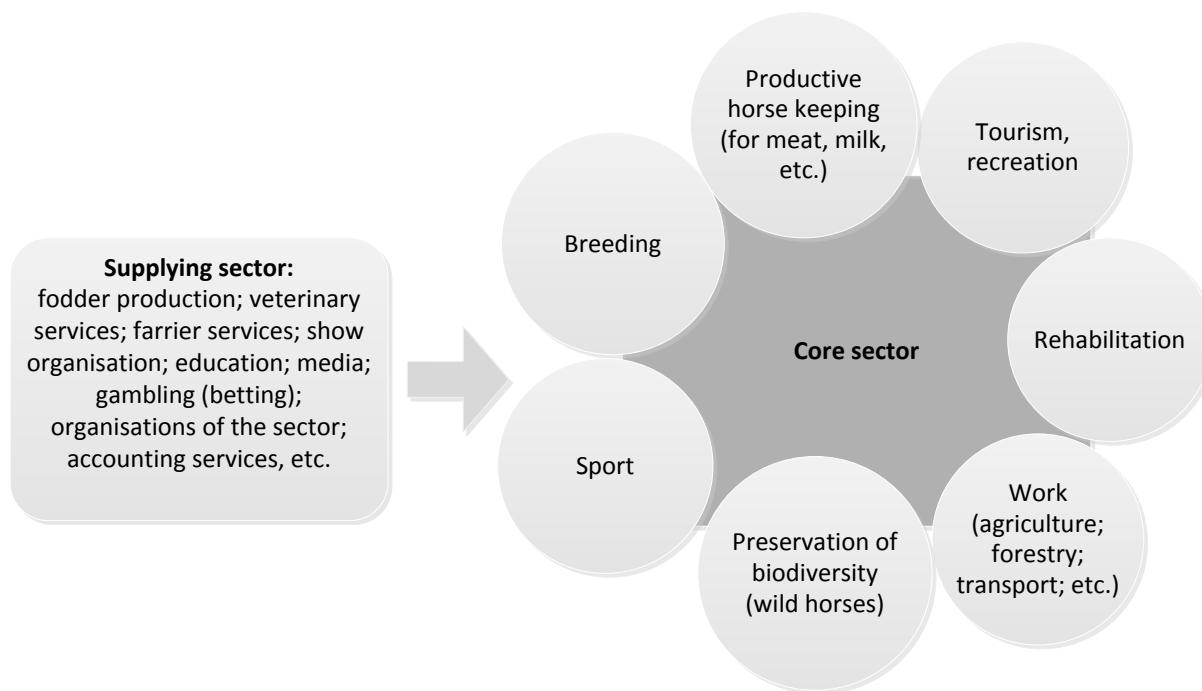
### **Materials and methods**

In order to analyse the current situation and challenges as well as innovative practices in the equine sector in Latvia, the authors use the latest statistical data. However, as in Latvia only few annually collected data parameters are available describing the equine sector. Therefore, three focus-group discussions 2-3 hours of lengths where organised in different regions of Latvia in 2012: in April - in Jelgava (Zemgale region), in June - in Kuldiga (Kurzeme region), and in July - in Saulkrasti (Vidzeme region) in order to obtain more specific data on the current state and the main challenges that the sector faces as well as innovative practices in the equine businesses. Representatives of the equine sector (horse breeders, equestrian sports, trainers and instructors, horse owners, associations), Zemgale and Kurzeme planning regions, tourism industry, the Latvian Rural Advisory and Training centre, the Ministry of Agriculture of the Republic of Latvia, mass media, and researchers of Latvia University of Agriculture participated in the discussions. As focus groups combined opinions from diverse set of actors both directly and indirectly related with the equine sector, this allowed gathering thematically various insights from within the industry. The main areas of interest during the discussions were drawn to innovative practices related with horse welfare, breeding and use of horses, attraction of customers and quality of provided services, safety and legal aspects. Mutual cooperation between equine businesses as well as collaboration with other economic sectors (tourism, recreation, health sector) was raised as an important issue during discussions. These discussions were conducted within a framework of the international research project INNOEQUINE "Equine Industries Promoting Economically Competitive and Innovative Regions" (2011-2013). The project was funded by the Central Baltic INTERREG IV A programme 2007-2013 and carried out by MTT Agrifood Research in Finland (project manager), Helsinki University, the Swedish University of Agricultural Sciences, and Latvia University of Agriculture. It should be pointed out that this project was the first attempt in Latvia trying to analyse the state of the equine sector by capturing a number of various aspects.

## Research results and discussion

### 1. Equine sector in Latvia: challenges and opportunities

As mentioned above, the equine sector has changed in several categories and with the broadened use of horses also **the structure of the sector** itself has widened. In the current research, the equine sector was divided into two groups – the core sector and the supplying sector (Figure 1).



Source: authors' construction based on A Report of., 2004, Korpa V., 2013

Fig. 1. Division of the equine sector

Historically, the core sector included three groups: productive horse keeping for the production of meat and milk, work (in agriculture, forestry, military, and transportation), and breeding. Nowadays, this classification could be expanded to seven groups: three groups mentioned above and four new groups - sport, tourism and recreation, rehabilitation, and preservation of biodiversity. In correspondence to the diversification of the core sector, also nowadays the activities included in the supplying sector are rather diverse – starting from the goods and services directly linked to horses and riders/drivers, like fodder production, veterinary services, farrier services, clothing and equipment to services linked with the organisation of the whole sector - education, media, NGOs. There are also several services that are distanced from the horses themselves but necessary for the actions of equine enterprises, for example, accounting services that also should be included in the supplying sector. This classification of the sector was jointly created within the INNOEQUINE project (2011-2013), thus, it reflects the equine sector in the involved countries – Latvia, Finland, and Sweden. The joint efforts allowed concluding that the structure of the equine sector in Finland and Sweden is similar but it differs from the equine sector in Latvia mainly in the popularity of trotting and galloping races and the betting activities connected with these races. The second distinction in the equine sector in Latvia is the keeping of wild horses for the pasturing of protected nature territories that is not common in Finland or Sweden.



To analyse the current state of the equine sector in Latvia, the authors gathered the statistical data about the sector. Yet, it has to be stated that, unfortunately, official and detailed statistics on employment, salaries, economic performance, and activities related with the use of horses in equine businesses in Latvia is not available as the equine sector is included in common agricultural statistics. It was possible to gather annual data regarding the number of horses in Latvia and movement of horses, as all horses in Latvia are registered in the Agricultural Data Centre (Agricultural Data Centre).

Table 1

**Number of horses in Latvia (2006-2014)**

Horses	01.01. 2006	01.01. 2007	01.01. 2008	01.01. 2009	01.01. 2010	01.01. 2011	01.01. 2012	01.01. 2013	01.01. 2014
Horses (in total)	14701	14040	13443	13115	12593	12039	11476	10920	10667
<i>Horses (in total), BGT*</i>	-	95.50	91.44	89.21	85.66	81.89	78.06	74.28	72.56
Mares	8029	7692	7375	7205	6933	6622	6305	6036	5918
<i>Mares, BGT</i>	-	95.80	91.85	89.74	86.35	82.48	78.53	75.18	73.71
Horses	6672	6348	6067	5910	5660	5417	5171	4884	4749
<i>Horses, BGT</i>	-	95.14	90.93	88.58	84.83	81.19	77.50	73.20	71.18
Stallions	36	49	68	76	74	74	62	59	55
<i>Stallions, BGT</i>	-	136.11	188.89	211.11	205.56	205.56	172.22	163.89	152.78
Foals (0- 6 months)	106	121	107	78	50	41	46	47	51
<i>Foals (0-6 months), BGT</i>	-	114.15	100.94	73.58	47.17	38.68	43.40	44.34	48.11
Young horses (6-36 months)	2127	2120	2048	2102	1976	1741	1480	1427	1443
<i>Young horses (6-36 months), BGT</i>	-	99.67	96.29	98.82	92.90	81.85	69.58	67.09	67.84

\* **BGT – base growth rate**

**Source: Agricultural Data Centre, 2014**

According to the data, the total number of horses is gradually declining, and it has decreased by 28% in 2014 compared with the year 2006. The largest decrease is in the number of foals from 0-6 months and, consequently, in the number of young horses compared with the base year (2006) - by 52% and 33% respectively. The only increase is seen in the number of stallions that can be explained by the subsidies available for the licensed stallions and the rather liberal approach to the licensing of stallions; although, the efficiency of the increase of the number of stallions is controversial compared with the decreasing number of horses.

The data of the horse herds in Latvia show that there is a permanent trend for a number of horse herds in Latvia to decline. Vast majority of the small herds having 1-5 horses is concentrated in Latgale region; whereas, bigger herds with 6-20 horses in a stable are allocated around Riga and Vidzeme region. There are no stables having more than 200 horses from 2010. The largest decrease is observed in the horse herd group of 1-5 horses, there are mainly farm horses that are traditionally kept in rural regions, especially Latgale region and used for farm work and transportation in this group. But as the generation that has traditionally used horses for the mentioned purposes is aging, this group has decreased by half in the period from 2006 to 2014. Positive trend is the annual increase in the group of 6-10 horses that shows the increasing tendency to keep horses in small, mostly family owned stables and using them for leisure and hobby sport activities.

Table 2

**Horse herds in Latvia (2006-2014)**

Herd size (horses)	01.01. 2006	01.01. 2007	01.01. 2008	01.01. 2009	01.01. 2010	01.01. 2011	01.01. 2012	01.01. 2013	01.01. 2014
Horse herds (in total)	9145	8327	7600	7055	6576	6093	5567	5047	4650
1-5	8914	8082	7343	6783	6300	5828	5287	4768	4362
6-10	95	107	112	122	118	110	131	124	140
11-20	72	71	80	79	83	84	89	90	73
21- 50	50	54	51	57	62	57	44	51	61
51 – 100	10	9	10	10	9	10	13	10	10
101-200	2	3	3	3	4	4	3	4	4
201-500	2	1	1	1	0	0	0	0	0
over 500	0	0	0	0	0	0	0	0	0

**Source: Agricultural Data Centre, 2014**

The analysis of the movement of horses shows several positive trends in the sector – firstly, the number of slaughtered horses and horses for slaughtering is decreasing, although, the number of dead horses has increased in 2014. The most important positive aspect is a gradual increase of the number of exported horses, especially from the year 2010. The number of imported horses is also increasing and it is also a positive trend that shows the growing interest in horse related activities. Yet, some of the imported horses are exported further and they appear in the horse movement data in the import and export sections as “transit animals”. It is still a positive trend showing the diversity of actions of the equine sector and a potential of equine entrepreneurs to be connected both with the Western and Eastern horse markets.

Table 3

**Horse movement (2006-2014)**

Activity	01.01. 2006	01.01. 2007	01.01. 2008	01.01. 2009	01.01. 2010	01.01. 2011	01.01. 2012	01.01. 2013	01.01. 2014
Removed horses (in total)	2015	2470	2971	2740	2518	2419	2677	2403	2132
Slaughtered horses	624	665	601	580	582	532	639	584	433
Horses for slaughtering	368	433	437	434	418	403	521	416	297
Dead horses	262	336	357	339	235	224	197	205	270
Imported horses	69	50	12	23	108	270	439	639	579
Exported horses	431	459	304	342	428	612	784	902	752

**Source: Agricultural Data Centre, 2014**

Overall, although, the number of horses is decreasing, there are several positive trends in the sector that evidence the vital capacity and the development potential of the equine sector of Latvia.

## 2. Innovations in the equine sector: results of focus group discussions

Focus group discussions revealed a number of challenges that the equine sector faces in contemporary society and economic situation. One of the issues raised in the focus groups was related with **understanding of how narrowly (traditionally) or broadly the equine sector was defined** by different stakeholders and rural development agents. Shared position or opposite point of view of agents both directly and indirectly linked with this sector (national and local policy makers, equine businesses, tourism agencies, local people, and potential customer groups) influences the way of thinking about the horses and horse related activities. This, in turn, underlines interpretations of what contribution the equine sector can give to local economy, what agents should cooperate in the development of new services and products, and what kind of supportive policy should be developed. Representatives of the stakeholders and even equine businesses did not share common understanding of what activities the equine sector actually involves or might involve in the future, and this, in turn, underlines their understanding of possible innovations and cooperation practices (Paula L. et al., 2013). Though, the equine sector in Latvia is understood and supported by the state as an agricultural activity, there are other rural development policy instruments available (e.g. LEADER) that can be used to support innovations in the equine sector; however, unfortunately they are not sufficiently used yet (Lunner Kolstrup, C. et al., 2013). Great part of the equine entrepreneurs, national policy makers, and sectoral associations believed that equine related activities comprise solely horse breeding and equine sports; whereas, other entrepreneurs, representatives of tourism industry and other agents supported the expanded definition of the equine sector including horse related recreation, tourism, and therapy.

The stakeholders stressed that the development or review of **the normative requirements** was needed, particularly, in relation to the safety and other requirements (border crossing, horse welfare, quality standards, and evaluation) in horse breeding, using of horses for tourism, recreation, therapeutic riding etc. Provision of therapeutic riding in Latvia is problematic as there are difficulties to obtain the corresponding certificate.

It was acknowledged several times during each discussion that **closer and more coordinated cooperation and dialogue was needed** among the stakeholders. Cooperation between the horse breeders and the riders in preparing of horses is insufficient, which results in mutual reprimands: the breeders would not be able to breed good horses but the riders would not be able to prepare them in a professional manner. The establishment of places for training of young horses and sales horses could be implemented through cooperation.

Majority of the farms are very small which makes their **survival and future development** difficult, because breeding and training of good quality horses is expensive. Entrepreneurs admitted that the lack of funding within the industry was crucial, for example, the certifications were too expensive for small stables, and profit was small. Also, the state support is provided only for breeding. Another issue is that horse businesses are owned and ran by enthusiastic people which do not treat their business as serious economic activity. This attitude accompanied by the lack of marketing, project writing, and customer oriented communication skills leads stables to survival strategies rather than serious business oriented planning of their activities. Lack of foreign language skills diminishes opportunities of successful international cooperation.

Obtaining of **formal professional education and continuing education** is problematic in Latvia, which could be partially solved by involving project funding, using the current possibilities within Latvia University of Agriculture, and by seeking possibilities abroad. Educating trainers is also important.

It was concluded during the discussions that **popularisation of equine sector** and the services and fields related with the use of horses was needed both in Latvia and abroad by creating common information networks and the image of the industry by popularising achievements of the industry in fields of sports, breeding, tourism etc. A lot can be achieved in this field by cooperating with mass media. There were proposals of cooperation with schools and nurseries so that children could get familiar with horses and develop their interest from early age.

In Latvia, changes in the equine sector provide new opportunities for the equine business; however, the sector faces also new challenges and difficulties which were already discussed and which often force equine entrepreneurs to look for the innovative approaches and solutions how to respond to the needs and demands of the contemporary customer. For most of the customers, the horses mean lifestyle, hobby, and recreation; and for individuals and families from urban areas, the horses provide an opportunity to create a link with a nature (Paula L. et al., 2013). It was pointed out in the discussions that, in terms of services, new challenges meant that equine businesses had to find their ways of either specialisation or diversification and of substantial improvements in service quality. Other challenges for successful business are related with the horses: selection of the type and breed of horses, animal characteristics, performance and adequate training level, environmental and safety issues.

Regarding services, information for the clients is provided by the websites of the stables and the tourism information centres but still major reliance on informal and verbal advertising from one client to another is observed. Innovation in this field could be the creation of a common information system and interactive maps which would summarise the information on the available services. It was admitted that customer needs and preferences should be investigated as well as their feedback asked.

Livery stable is one of the services which should be developed, especially near the big Latvian cities. This service could provide rather regular income to the entrepreneurs, which cannot always be guaranteed, for example, by tourism or horse sale.

Some interesting innovative services and events were mentioned during the discussions, for example, stables offering horse keeping outdoors 24/7, Natural Horsemanship horse training or untraditional medical services like chiropractic, massage, or homeopathy for horses. There are also a range of services offered for people that are not professionally involved in horses, for example, use of horses in the wedding ceremony or ponies that are used to deliver birthday or Christmas greetings to children (as a horse mail). Within the framework of the project supported by the youth international project agency, the riders club "Demora" cooperated with the young people from the orphanage and the disabled children. The children learned grooming, feeding, handling the horses and riding as well. This cooperation resulted in a stage play "Power Stemming from Horses", which was performed within the region and some other places in Latvia (Korpa V., 2013). Riding services are offered to those people who do not wish to or cannot be actively involved in sports themselves anymore, thus, people still retain interest and close connection with horses. This was mentioned as important group of customers.

In order to raise public interest in horses and their use, public shows with involvement of horses should be organised more, for example, family days, horse days etc. At the same time, the public has to be educated that the horse, being a large animal, requires special attention and careful handling. The

mass media play an important role in educating the public and informing about horses and the possibilities of their use. It was concluded that it is important to find some innovative solution, services which would be interesting to the journalists and they themselves would be ready to prepare articles and stories, which would serve as free advertising for the entrepreneurs. This approach has been used by *Adventure Ride*, because the media had become interested in the several day trail rides offered by this stable.

It was proposed to develop pilot projects for cooperation with schools and nursery schools where children from early age could have the possibility to familiarise themselves with the horses and the equestrian sports. It was acknowledged during the discussion that people had insufficient information and knowledge or they had developed stereotypes or misleading perceptions, thus, the interest towards equine sector is not developing (Paula L. et al., 2013).

### **Conclusions**

1. Although the number of horse is decreasing, there are several positive trends in the equine sector that evidence development potential of the equine sector in Latvia – the number of small stables (6-10 horses) is increasing and the number of imported and exported horses is also increasing. The largest decrease is observed in the group of horse herds from 1-5 horses. These are mainly work horses in the farms, thus, affirming that the use of horse is changing from the farm animal to the companion in leisure and sport activities.
2. Regarding the understanding of what is equine sector and innovation possibilities, two trends were observed during the focus group discussions: great part of the entrepreneurs and other agents view equine sector solely as horse breeding and equine sports, whereas, other expand their vision involving also recreational, tourist, and therapeutic activities.
3. It was admitted that stronger cooperation between the breeders and the entrepreneurs is needed. Improved cooperation is needed also among other agents directly and indirectly involved in the sector. Mutual experience sharing events could be organised providing the entrepreneurs of the sector with the possibility of sharing their experiences.
4. In order to be successful, equine businesses should decide on behalf of specialisation or diversification. Diversified offer allows being economically resilient, while specialisation ensures greatest professionalism in particular type of activity.
5. Studies and client surveys should be conducted to find out what the clients are interested in and how much they are prepared to pay for particular services; what is interesting for local tourists and what kind of activities might attract foreign tourists. More efforts should be devoted to educating the public through mass media and disseminating the information through Internet resources.

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## **3.Home Economics**

**TENDENCIES IN THE INCOME SITUATION OF FARMS PARTICIPATING IN THE  
ACCOUNTING SYSTEM OF THE FADN IN POLAND ON A BACKGROUND OF  
SELECTED EU COUNTRIES\***

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**Abstract.** The main aim of the article is to identify tendencies in the formation of income in Poland after accession to the EU on a background of selected EU countries (Germany, the Czech Republic, and Lithuania). The author has used the following research methods: analysis of time series data of the FADN (farm accounting) system, the index of changes, mean, and correlation analysis. Adopted research methods have enabled the use of inductive way of reasoning with elements of reduction. The analysis of changes in the income situation of farms in the EU was conducted by using the results of agricultural accounting system FADN (Farm Accountancy Data Network). Time range of the research concerns the years 2004-2011. The author has used analysis in view of the 5 type of production of farms. There were clear growth tendencies in farm income in the period (2004-2011) in all analysed countries. The largest increase was in the Czech Republic and Lithuania. The author has stated that income of farms is increasingly affected by subsidies, which act as stabilisers in terms of economic downturn. In the case of farms in the Czech Republic and Germany, the level of balance subsidies and taxes in most of the analysed years was higher than gained income. This indicates that the scale of the production, advanced processes of concentration, and capital-intensity (in Germany), are unable to spontaneously solve the income problems of farms based only on the market mechanism.

**Key words:** income, farm, subsidies, the Common Agriculture Policy.

**JEL code:** Q12

**Introduction**

Polish accession to the EU resulted in a modification of the functioning of many areas of economic life. In the most part, it concerned the agricultural sector due to the coverage of mechanism of the Common Agricultural Policy (CAP) mechanism of the EU. Therefore, there appear questions about the impact of accession on the income situation of agricultural farms. The main aim of this paper is to identify tendencies in the formation of income in Poland after accession to the EU on a background of selected EU countries. Germany, the Czech Republic, and Lithuania were considered as selected countries in the study. These countries have similar climate conditions for functioning of agriculture. They are neighbouring countries to Poland, and such countries enable a more comprehensive evaluation in connection with the division on the so-called "old" members of the EU (Germany) and "new" (Lithuania, the Czech Republic, Poland). The main research hypothesis is that incomes of farms in Poland and in the other examined countries have increased in the analysed period and are increasingly affected by the CAP

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subsidies. The research tasks were formulated to verify the hypothesis: whether income tendencies were similar in farms in the surveyed countries? What is the importance of the CAP subsidies for formation of the income situation of farms?

The author has used the following research methods: analysis of time series data of the FADN (farm accounting) system, the index of changes, mean, and correlation analysis. The adopted research methods have enabled the use of inductive way of reasoning with elements of reduction. The analysis of changes in the income situation of farms in the EU was conducted by using the results of agricultural accounting system FADN (Farm Accountancy Data Network) (Florianczyk Z., 2002). There are commercial farms in the observation fields of this system. They are the main beneficiaries of the Common Agricultural Policy which produce in a region or country at least 90% of the standard agriculture production. Selection of the farms is a random, taking into account the representativity in terms of the types of production and countries. The analysed results refer to an average farm covered by the FADN system. For a more comprehensive illustrating of the situation of farm income, the author has used approach in view of the type of production of farms. Five types of farms (farms specialised in field crops, milk, grazing livestock, granivores, and mixed) have been used in the analysis due to their commonness in agriculture of the selected countries. The time range of the study refers to the period of 2004-2011.

### **Research results and discussion**

Tendencies in income result both of changes in the macroeconomic environment (Grzelak A., 2008) and endogenous determinants. The second one refers to the value of production, productive resources, operating costs, and investments. The increase in acreage of used land, the value of assets, and value of agricultural production have been noted in an average farm covered by the FADN system in Poland in the period of 2004-2011 (Table 1). It means that the EU accession process favoured the growth in the scale of operation. Similar trends were observed in the case of farms in Germany, the Czech Republic, and Lithuania. It is worth attention that a very high acreage of used land and the value of production were noticed in the Czech Republic. These were due to the restructuring of the state and cooperative agricultural sector in this country consisting in keeping of earlier forms of organisation of agricultural enterprises. Farms in Poland are rather small in terms of value of production, the intensity of agricultural production (value of production per 1 hectare) on a background of the analysed countries. In this respect, they are similar only to farms in Lithuania. Consequently, it reduces the concentration of production processes and parallel it does not stimulate the improvement of economic efficiency in agriculture (Davidova S., Latruffe L., 2007).

The growth trend was also observed in the case of formation of value of assets. This dynamic growth in Polish farms resulted from the substantial investment needs, and the possibility of wider access to external financing sources (The Programme SPO 2004-2006 – action: "Investments in Agricultural Farms"; the programme PROW 2007-2013 action - "Modernization of Agricultural Farms"). A value of assets per one average farm was lower in Poland on a background of the examined countries except farms in Lithuania. There are opinions that the reason of an increase in the value of assets in the EU agriculture is direct payments that are capitalised in the value of assets (Harvey D., 2000). An increase of assets, in general, leads to an increase in the fixed costs which, in turn, can affect a lower flexibility of the productive apparatus.

Table 1

**The economic and production situation for an average farm participating in the accounting system of the FADN in the selected EU countries in 2004, 2007 and 2011 (in euros, except see explanations)**

Years	Countries	SE010	SE025	SE131	SE131/ SE25	SE425	SE436	SE436/ SE010	SE485	SE485/ SE436	SE521	SE605+ SE406
2004	Czech Republic	8.0	226.5	234817	1036.7	9627	570596	71324.5	136498	0.24	332	35570
	Germany	2.16	74.0	157721	2131.4	28853	695158	321832.4	116826	0.17	-405	28837
	Lithuania	1.76	31.6	14059	444.9	4232	43664	24809.1	2904	0.07	1049	4125
	Poland	1.76	15.7	18798	1197.3	4059	67842	38546.6	6587	0.10	3727	2024
	Average	3.42	86.9	106348.8	1223.8	11692.7	344315	100676.9	65703.7	0.19	1175.7	17639
2007	Czech Republic	7.37	221.3	272701	1232.3	13608	682779	92643.0	153055	0.22	6140	62917
	Germany	2.21	79.8	202994	2543.8	36033	732203	331313.6	129186	0.18	5718	32612
	Lithuania	1.93	44.4	32976	742.7	9358	90763	47027.6	14715	0.16	5587	8425
	Poland	1.75	18.1	27200	1502.8	6650	88406	50517.7	9465	0.11	687	4135
	Average	3.35	90.9	133967.8	1473.8	16412.2	398537.8	118966.5	76605.2	0.19	4533	27022.2
2011	Czech Republic	6.47	228.5	325554	1424.7	19354	885277	136828	206012	0.23	19128	89546
	Germany	2.09	80.45	217199	2699.8	35353	777292	371910,1	148914	0.19	10008	34438
	Lithuania	1.75	45.6	36206	794.0	8697	109276	62443.4	14455	0.13	5470	11705
	Poland	1.72	18.5	29160	1576.2	7414	149375	86845.9	8949	0.06	-677	6029
	Average	3.0	93.3	152029.7	1623.7	17704.5	480305	164506.8	94582.5	0.15	8482.2	35429.5

Explanations: SE010 total labour input (AWU); SE025 - total utilised agricultural area (hectares); SE131 - value of total output; SE 420- farm net income; SE425- farm net value added / AWU; SE436 - value of total assets; SE485- value of total liabilities; SE 521- net investment (investment - depreciation); SE 605- total subsidies - excluding on investments; SE 406 - subsidies on investments

Values expressed in euros

**Source: author's calculations based on the FADN, 2013**

Similar growth trend was also observed in the case of capital per one labour unit (SE436/SE010 in Table 1). The highest level of this relation was observed in farms in Germany. Interesting trend was noticed in the case of the debt and the debt ratio (debt / assets). Only the farms in Poland and Lithuania experienced a decrease between the years 2007 and 2011. However, debt and debt ratio are the lowest in Poland. This indicates a relatively conservative financing strategy of the development of the Polish agriculture and was an adaptation to the global crisis. For comparison, farms in the Czech Republic and Germany reach a relatively high level of debt ratio. This means that they exist in terms of much higher economic risk. On the contrary, in the case of net investment, one had to deal with a declining trend for farms in Poland. It resulted from a significant level of investment in the first period of Polish membership in the EU as a consequence of large scale underinvestment in agriculture in Poland in the previous years. Another factor was the reduction of investment during the global crisis. It caused a narrow reproduction and depreciation of assets in Poland which do not favour creating income effects. This can indicate on a limited development opportunities and a moderate accumulation in farms. The economic and production situation of farms is shaping also under the impact of subsidies (Smedzik K., 2013). The largest level was in the case of bigger farms in the Czech Republic and Germany. Moreover, the "new" Member States clearly increased their level, thus, resulting to the equalisation of the level of direct payments within the EU countries. Differences in the level of direct payments influenced the economic characteristics of farms on the level of income, or efficiency of production factors.

The development of agricultural income in the years 2004-2011 was characterised by a considerable variability (Table 2). One has noticed that their maximum level generally was reached in 2007, when the situation on agricultural market was favourable. While in the period of deterioration of conditions for agriculture (mainly the fall in agriculture prices) in the years 2008-2009, a decrease of income has been observed. It is worth to note that a particularly high increase in income of farms in Poland was recorded between the years 2009 and 2011. It resulted from an increase in the value of agricultural production and the improvement of price relationships. It can also be noted that changes in income of farms in the surveyed countries was harmonised with each other. Confirmation of this fact could be a statistical significance ( $p < 0.05$ ) correlation between the farms' income of the analysed countries and the relatively high correlation coefficients (above 0.73). Particularly high coefficients (0.91) were noted between the Polish and German farms income as well as Polish and Lithuanian, which resulted from geographical nearness, relatively strong economic links between these countries, and similar agricultural structures.

The largest increase in income of farm between the years 2004 and 2011 was noted for the group of studied countries in the case of agriculture in Lithuania and the Czech Republic (Table 2). An increase in the balance of subsidies and taxes was higher in the analysed period, than income in all the examined countries. It can indicate on increasing importance of non-market factors in shaping the economic situation of farms. At the same time, one has recognised that the level of the balance of subsidies and taxes exceeded the degree of income in the Czech Republic. In Germany, the situation was similar, in some years the level of the balance of subsidies and taxes was higher (2008-2010), while in other ones - lower. This means that if subsidies were excluded, despite the considerable scale of production, a high level of capital, investment, and debt would reach a negative income. So, higher intensification of production (as in the case of farms in Germany) expressed relatively high cost, though, it does not

guarantee achievement in incomes without support system of subsidies (especially direct payments). However, earlier analysis (Table 1) shows that the growth of subsidies might be insufficient to increase agricultural income in the examined period. There were necessary changes done in the production factors like in the area of used land, mainly due to the increased role of the rented lands, and the assets. Therefore, the evaluation of the CAP reforms in the range of improvement of the competitiveness of the EU agriculture is not so obvious and clear<sup>42</sup>. On the contrary, increase in agricultural income in the analysed period shows the complex nature of the CAP, recognising the non-productive functions of agriculture, in particular, the creation of public goods (Brelík A., Matuszczak A., 2013) that are beyond economic calculation, and thus, not discounted in the prices of agricultural products (Czyżewski B., 2013). In the case of Polish and Lithuanian farms, the balance of subsidies and taxes reached a much lower level and for the first of these did not exceed 75% of incomes in the examined period. A very clear increase in the importance of subsidies in shaping of the income situation of farms was noted for the Czech Republic and Germany. It resulted also from the amplification of the support of

Table 2

**Agricultural income and balances of subsidies and taxes for an average farm participating in the accounting system of the FADN in selected EU countries in the period of 2004-2011**

Count-ries	Specifi-cation	2004	2005	2006	2007	2008	2009	2010	2011	2011: 2004
Czech Republic	SE405	650	1167	1273	1816	2183	3856	4452	8418	12.95
	SE420	<b>24136</b>	<b>17857</b>	<b>22062</b>	<b>36089</b>	<b>28146</b>	<b>11420</b>	<b>23074</b>	<b>50965</b>	2.11
	SE600	31581	42104	56958	57986	73117	73778	75270	79165	2.51
	A	1.34	2.42	2.64	1.66	2.68	6.80	3.56	1.72	1.28
Germany	SE405	-1347	-1421	-1661	-2044	-2092	-1653	-2075	-2162	1,60
	SE420	<b>29903</b>	<b>29434</b>	<b>32509</b>	<b>43724</b>	<b>27199</b>	<b>23308</b>	<b>34055</b>	<b>35959</b>	1.20
	SE600	28854	28711	32270	33767	33084	35990	37274	34919	1.21
	A	0.92	0.93	0.94	0.73	1.14	1.47	1.03	0.91	1.21
Lithuania	SE405	404	1094	2433	1186	2425	5361	4066	3519	0.99
	SE420	<b>7000</b>	<b>7143</b>	<b>7916</b>	<b>16200</b>	<b>15682</b>	<b>12808</b>	<b>15198</b>	<b>15553</b>	2.22
	SE600	3406	3919	4410	6847	7510	7889	8377	7726	2.27
	A	0.54	0.70	0.86	0.50	0.63	1.03	0.82	0.72	1.33
Poland	SE405	-157	-244	-321	-246	-72	-26	48	27	-
	SE420	<b>6076</b>	<b>5817</b>	<b>7396</b>	<b>9880</b>	<b>8157</b>	<b>6421</b>	<b>9981</b>	<b>10850</b>	1.78
	SE600	1860	2060	3480	3719	4836	4807	5439	5577	3.0
	A	0.28	0.31	0.43	0.35	0.58	0.74	0.55	0.52	1.86

SE405 – balance of subsidies & taxes on investments; SE 420 farm net income; SE600 balance of current subsidies & taxes; A – relation sum of balances (SE405+SE600) in farm net income

**Source: author's calculations based on the FADN, 2013**

agricultural incomes in the CAP 2007-2013. In this way, one can notice the growing role of income transfers to agriculture in the EU on line via taxpayer - farmer via budget, while the decreased

<sup>42</sup> There is an interesting view on this issue. Improving the competitiveness of the EU agriculture on the world market should be considered as artificial (financial, budgetary and accounting) - due to replace of lower prices by the direct payments, and not by lowering the direct costs (Brzoska M., 2002)

importance of the channel consumer - farmer (Czyzewski A., 2007). It means that income support performed within the CAP enables the development of farms. It is worth noting that agriculture, also in the EU, has lost its importance as a source of income for households in rural areas (Zegar J., 2004), thus, the diversification of income of farmers can additionally neutralise the negative consequences of the CAP reform (mainly in terms of reduction in prices of agricultural products) and the reduction of economic risk.

In the case of change of income, different production types of farms (Table 3) reported relatively great variation of income, which was associated with differences in the evolution of the prices of agricultural products during the examined period (Grzelak A., 2013). The different types of farms significantly differ in the balance of subsidies and taxes than income. This indicates the differences in the profitability of production profiles, diverse support of various types of production as well as variable sensitivity of farms in the use of support.

Table 3

**The average annual changes (in %) in agricultural income and balances of subsidies and taxes for an average farm participating in the accounting system of the FADN considering production types in selected EU countries in the period of 2004-2011\***

Countries	Production type	Balance subsidies & taxes on investments (SE405)	Farm Net Income (SE420)	Balance current subsidies & taxes (SE600)
(CZ) Czech Republic	a	39.4	10.9	15.9
(DE) Germany		6.8	4.5	2.3
(LT) Lithuania		18.8	7.4	10.0
(PO) Poland		-	1.1	9.4
(CZE) Czech Republic	b	60.4	13.6	15.5
(DE) Germany		10.0	5.8	6.9
(LT) Lithuania		55.7	12.0	11.6
(PO) Poland		-	12.8	17.5
(CZ) The Czech Republic	c	133.9	11.2	13.2
(DE) Germany		9.2	-0.4	0.4
(PO) Poland		-	15.9	22.1
(CZ) Czech Republic	d	60.0	-	13.4
(DE) Germany		2.3	-0,9	2.8
(PO) Poland		-	15.7	19.9
(CZ) Czech Republic	e	52.1	14.0	15.1
(DE) Germany		8.9	1.4	1.6
(LT) Lithuania		64.1	6.8	6.5
(PO) Poland		-	7.8	62.0

a- field crops, B - milk, C - grazing livestock, d- granivores, e - mixed

\* - it means that one has resigned from the calculation of the average annual changes in case when the data have changed the value from positive to negative, or in the opposite direction. It is because of lack of a reasonable interpretation of such changes using the average annual changes

**Source: authors calculations based on the FADN, 2013**

Almost in all types of production in the studied countries, the increase of income between the analysed years was lower compared with the increase in the balance of subsidies and taxes. This means that the formation of income situation in farms increasingly depends on the support of the EU CAP, especially direct payments. One can state that this instrument is a stabiliser of their economic situation. On the contrary, support of agricultural incomes by this instrument depends on the fulfilment of welfare standards in environmental aspects and animal production.

The largest increase of income between the years 2004 and 2011 in Poland took place in the case of farms specialising in granivores, grazing livestock, and milk (Smigla M., 2013). This was due to favourable economic conditions on these markets in 2010 and 2011 as well as the progressive contractual integration. While in the second case, it was associated with a significant demand for beef on foreign markets. Moreover, this was due to the increase in the balance of subsidies and taxes. The smallest range of increase of income in Poland took place for farms specialising in field crops. The changes in income in this case remained under the influence of direct payments and rising production costs. The highest level of income was recorded in the case of farms with specialisation (Stepien S., 2007), especially in field crops and milk production. This was related with the scale of production and the system of supplementary payments (field crops) and high market activity (milk farms). In turn, the lowest income was reported for mixed farms.

The largest increase in income was recorded in the examined countries for farms specialising in milk production. This was due to the upturn situation, concentration processes, and introduced innovations. In turn, the lowest level of income for all studied types of production took place for farms in Poland and Lithuania. This was due to a lower scale of production. At the same time, worsening income situation between the examined years took place in the case of farms in Germany, specialising in grazing livestock and granivores production. It has also been associated with the introduction of the principles of cross-compliance. It resulted in an increase of operating costs and the need for the implementation of investments that do not generate income effects. New Member States had transition periods in the introduction of this mechanism, so they can expect an increase in costs and investments connected with this in the farms specialised in animal production.

## **Conclusions, proposals, recommendations**

The conducted study leads to the following conclusions.

1. There were clear growth tendencies seen in farm income in the period of 2004-2011 in all analysed countries. The largest increase was in the Czech Republic and Lithuania. On the contrary, income situation showed a considerable variability with peak of tendencies of growth (2007, 2011) and fall (2008-2009). One has noticed that changes in income in the surveyed countries were harmonised with each other.
2. Income of farms is increasingly affected by subsidies, which in terms of economic downturn act as stabilisers. In the case of farms in the Czech Republic and Germany, the level of balance of subsidies was higher than income taxes in most of the analysed years. The high scale of production, advanced processes of concentration, and capital- intensity (as in German) are unable to spontaneously solve the income problems of agriculture based only on the market mechanism. On the contrary, only

increase of subsidies (especially direct payments) would be insufficient to increase agricultural incomes.

3. Tendencies in income for Polish farms have significant dynamics. Nevertheless, the income level was lower compared with other examined countries, mainly due to low production scale and the utilised area. There was also a relatively low level of investment which limited the process of reproduction of assets.
4. Development of farms in Poland is performed on the basis of careful financial strategy, less capital-intensive techniques. Consequently, in response to the downturn in the economy and in agriculture in the years 2008-2009, a decrease of income was not such high in this period as in the case of farms in Germany and the Czech Republic.
5. Between the years 2004-2011, farm income in Poland, the Czech Republic, and Lithuania increased in all examined groups of production types, yet, the most - in milk production. The income situation in farms has improved during improvement conditions in all economy in Poland (2006-2007, 2010-2011), while in case of deterioration (2005, 2008-2009) decline.
6. One can suppose that there will be a reduction in the level of differentiation income between the Member States in the future, also due to higher reserve increase of specialisation and concentration in the group of countries with a lower level of advancement and greater significance modulation of direct payments in the agricultural policy of the EU. In terms of maintain a high demand for food in the world (which can be likely in the coming decades), it can provide opportunities for agricultural incomes in the EU. One can state that the climate change will increasingly influence agricultural incomes (Grzelak, Stepień, 2010). Additionally, a greater range of speculation on food markets in the world and price volatility connected with this will probably lead to an increase of variability of income in this sector.

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## MODELLING ACTIONS FOR PLANNING OF NEW DISHES TECHNOLOGY

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**Abstract.** Many catering companies attempt to create new dishes and make use of new technologies in order to better satisfy customers' needs. Regrettably, implementation of these actions is often wrongly planned; systematically unsubstantiated, so unproductive expenditure does not produce the expected result. On summarising the information presented in a wide spectrum of scientific and special literature and after assessing it from the perspective of logical adaptability and systemic approach, the authors present a procedural model of new dish technology planning. This model allows determining and comprehensively assessing the main factors which influence the most important planning solutions. The model consists of the following key components: assessment of the market needs, selection of appropriate resources, choice of suitable procedures, planning of quality, and standardisation of procedures. The article discusses the content of the components, and their sequence is validated by information suggested by various authors after logical assessment of the need and its nature. Application of the suggested model will allow catering businesses to be consistent in planning the technology of new dishes and increase the likelihood of their success.

**Key words:** modelling, technology planning, catering business, dish.

**JEL code:** M11, M31, O31

### Introduction

Even in 1942, the creator of innovation theory Shumpeter in the Journal "Capitalism, Socialism and Democracy" states that only that business is to win competition challenges, which develops new products and services, introduces customers with new technologies, is looking for new resources and applies new organisational methods. So, it can be argued that all novelty has to be more improved, with superior characteristics of quality (Nelson R.

and Nelson K., 2002). So, it is understandable, that appropriate technologies of new dishes also have to be more popular, better valued by customers and more profitable for the company. So, the modernisation or creation of new technologies means developing them more energy saving, less handwork intensive, and more efficient, which allows to provide more modern services (Drejeris R. *et al.*, 2013). Catering companies must not only monitor food technology development trends in the world but also to look for new opportunities to create dishes technologies **independently** and to check **again and again** whether the company's proposed dishes still meet the user's needs, and to provide for future development prospects (Palo T. Tahtinen J., 2011). On the conditions of market economy, it is necessary

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to look for ways to improve competitive advantage; it means to improve a company's range of options to better meet the needs of users. Many catering companies are trying to create new dishes and use new technologies, while these actions are often not properly planned, systematically unfounded, thus, a company requires inadequate multiple inputs and does not achieve expected results; innovations often fail. These circumstances are identified as problem of the article. The research object is the process of creation new dishes and production technology. Aim of the article – to provide a reasonable, universal methodology of new dishes technology creating, which would be appropriate to follow by catering enterprises of various specialisation and different size.

In order to achieve this aim, the following tasks are proposed:

- 1) to analyse scientific literature on the attitudes of new production technologies;
- 2) to evaluate critically new dishes technology feasibility aspect and suggest rational solutions for procedural model of new dishes technology planning;
- 3) to discuss the steps of functional components in the proposed model.

### **Research results and discussion on new technology development course**

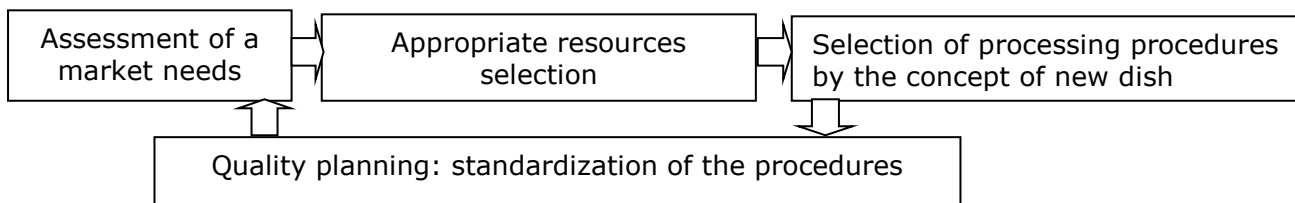
Food technology (dishes preparation technology) is described in many cookery books, various dishes recipes can be found in some media, while there is a lack for methodology, which would define creating process of new dish technology that is based on scientific judgments, which are universal and appropriate for different types of catering companies. With a view to identify the sequence of technology planning stages, it is appropriate to accept another researchers claim; that during determination of innovation planning components there is a need to know the final characteristics and possible limitations (financial, labour, material, time). After a more careful examination of the production processes technology, it can be seen that technological project (plan) includes not only the process of documentation preparing but the recruitment of necessary technological equipment and acceptance of other decisions related with costs optimisation (Drejeris R., 2011). It must be recognised that description of new dishes creating specifics does not have major contradictions to the mentioned technologies project (plan), so it can be said that it is also appropriate for new dishes technology description. Aguilera J. (2005) does not either preclude such characterisation of technology but explains, according Perrovo, that technology is a tool for conversion of human natural materials and information resources into products. Therefore, it can be argued that new dishes technology planning means procedures of manufacturing and submission, creation of production making elements, and planning of their sequence. Avlonitis G. and Papastathopoulou P. (2006) emphasise that the planning of new products and services is the longest time in terms of the innovation process usually requiring the most resources, so it is even particularly responsible. Boshoff C. (1997) and Venter E. et al. (2005) discern the stage of responsibility division and claim the necessity for the components of product technology planning:

- 1) determination of end-product performance which would satisfy consumers;
- 2) selection of the means necessary to achieve the mentioned result;
- 3) the order determination of priority setting;
- 4) foresight of the persons (or equipment) which are responsible for the implementation of the means.

Other authors provide the mentioned components as an individual and describe them in a detailed form but they do not define them as technology planning process components (Heiskanen T., Heiskanen H., 2011; Helkkula A., 2011 etc.). According logic and systematic thinking, one can accept Boshoff C. (1997), Trott P. (2005) proposal to distinguish technology planning stage, which consists of the above components. Boshoff C. (1997) and Venter E. et al. (2005) considered that the technological part of the project was appropriate to provide the required number of staff and allocation of responsibility. This content is worth attention but this is more appropriate for the component of actions for standardisation of procedures.

### 1. Model of new dishes technology planning

According to the decisions of technology planning process assessment, which are presented in the previous sections and opinions of researches and their use capabilities, a model can be proposed, which fully describes the process of new dishes technology planning (Figure 1).



*Source: authors' construction based on many researchers' opinions after their assessing*

Fig 1. **Procedural model of new dishes technology planning**

Market needs assessment has to be a permanent process; it is one the most important phases of the technology planning, often leading to a new dish success, allowing to reduce production costs, and thus, it is provided first. The model shows the cyclic structure and order of regular market needs assessment and the requirement to create new dishes by the assessment results. The proposed model is universal; it is not against neither the size nor specialisation of any catering company. Application of the suggested model will allow catering businesses to be consistent in planning the technology of new dishes and increase the likelihood of their success.

### 2. Assessment of market needs

Conformity assessment results of new dishes technology to market requirements reduce probability of failure. Implemented new dishes technology must meet the following basic requirements of the market (Mattila A., 1999):

- 1) price → min;
- 2) quality → max;
- 3) use of innovations in the delivery and the production making process → max.

While some of the above requirements are contrary to one another, the companies still need to find optimal solutions, which would allow at least partially satisfy these requirements. Both a technology of

produced dishes at the existing time and new (planned) dishes technology conformity with the requirements of the market shall be monitored continuously, because the results of only continuous monitoring are sensitive to the market changes and they adapt to the new needs and make it easier to achieve the desired results of the company. These results will help decide on a new dishes technology planning direction, i.e. on the concept of the content, which is the basis for further decisions (Gofman A. et al., 2010).

Satisfaction of the market needs is normally carried out by the treatment of questionnaire-based surveys. More objective decisions usually help properly perform data correlation and regression analysis, although, decisions are sometimes taken by oral consumer surveys. Catering companies, which do not have capacity to carry out such studies on their own, are advised to apply to business consulting companies whose activity is market research. Market needs study can describe not only the new dishes concept, which it is appropriate to continue to follow the development of new services (or dish) technology but, in general, they are innovation purposefulness (Ruskin-Brown I., 2005; Moskowitz H. et al., 2006).

### **3. Appropriate resources selection by new dish concept**

Selection of raw materials should be guided by a new dish concept, which has to be determined during the assessment of consumer needs. Concept of new dish is an idea, concretised at least by several quantitative or qualitative parameters (Drejeris R., Zinkeviciute V., 2009; Moskowitz H. et al., 2006). For example, the idea of creating a new fish dish concretised by the indication of the type of fish and its treating can be considered as a new concept of the dish. Character of the concept is usually determined by the available certain raw materials and possession of certain technological equipment and its capabilities. Therefore, the planning model processes are required for feasibility study. During the process of selection of raw materials for creation of new technology, it is appropriate to find answers to the following questions (Drejeris R., 2011; Kirchhoff S. et al., 2011):

1. How effective will utilised resources be? Answering this question, it is necessary to evaluate equipment options for treating certain products, possible treatment results of the evaluation of the loss amounts, and type of waste reduction opportunities.
2. What can the price of dishes be as a result of technological change? Answers to this question have to be associated with the purchasing power of population trends survey results, forecasts of the economic development, determination of raw materials used, and the amount of the expenditure.
3. What are the plans of competitors for the use of new or similar technology opportunities? The answer to this question will also provide new dish prices policy and will help make some operational decisions.

Analysis of the results to the above answers will determine, which raw material is the best choice to produce new dishes to a some group of visitors and on their basis to evaluate the company's capabilities to improve the economic performance.

#### **4. Selection of production procedures by the concept of new dish**

The optimal type of production may also lead to the results of concept evaluation (Drejeris R., Zinkeviciute V., 2009) or type of processing can be outlined and have a new dish ideas (Moskowitz H. et al., 2006). Harder choose is the most appropriate type of production procedures for creation of a new dish (technology) by the company employees. Selection of best food production procedures is associated with performance of large-scale experiments. It is quite difficult to determine the best new dish baking degree, boiling down loss or match the ingredients and taste characteristics of these data to regulate the recipe. Heat procedure time and the dish component compatibility is a responsible decision, which can be made by a creator with the greatest experience and it must be based on the results of users' needs assessment. Dish components must be combined by volume proportions according to crisp, melting and ski proportions of ingredients, temperature effects, and colour terms. Catering companies, which dictate the food fashions, create totally new and sometimes unexpected gustatory decisions. They can also use already known food technologies and adapt them to other product processing, thus, getting unexpected results. However, all decisions must satisfy the user. By the way, not only the compatibility of the product but also the assessment of eating traditions is required in this case (Beer S., Lemmer C., 2011). According to a logic and systematic approach, the next stage for implementation technological procedures is to select the required equipment and to make the analysis of the mentioned options.

##### **4.1. Selection of equipment for new dishes preparation**

During the process of planning new dishes technology, it is necessary to decide what equipment is to be used for the intended operations: specialised or general? How many machines should replace humans in the process of control and producing? Selection of equipment also depends on the expected sales volume. Other factors can have an impact on selection of the equipment and all the technology. In some cases, it may be infrastructural constraints (required electric power lines, access restrictions and so on). Certain equipment shall be provided for each technological procedure.

Each group equipment selection must be acquired in accordance with the established procedures, which are individual and depend on the process complexity of the dishes producing process. So, in order to successfully use new technologies, it is important to select properly the right equipment capacity. In order to solve this problem, it is appropriate to analyse and forecast the market demand fluctuations. The company equipment capacity should be based on the results of market research and forecast of competitors' actions.

##### **4.2. Feasibility assessment of new dishes producing technological procedures**

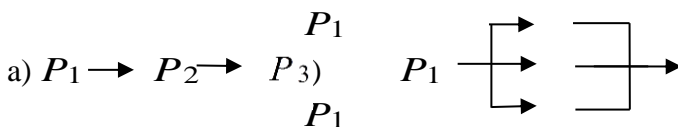
Feasibility of procedures in product making process is associated with the ensuring of stability in order to minimise scattering parameters of the operational performance and product. Feasibility of some technological procedures of catering business can be understood as assessment of any desired taste qualities emergence. This has to be decided upon the selection of technological procedures and the

selection of the required products. Feasibility of technological procedures could mean opportunities to use (or to get some materials or equipment). During planning new products and assessing technological feasibility of procedures, it is important to observe the technical aspect, i.e. proper functioning of the equipment (reliability) and the staff's assessment of reliability.

One cannot deny the importance of staff characteristics in catering business, especially when new production is made. Reliability of dishes producers can be assessed according to the qualitative criteria. Feasibility of adequate funding, restrictions of technical compliance should be evaluated in terms of quantitative criteria.

**4.3. Sequence for procedures of the new dishes creating**

Procedural sequencing issue can be solved at the previous stage, i.e. during establishing the necessary procedures. It is also possible that the operation of equipment or materials (raw materials) leads to a process and suggest their parallel procedures (Figure 2). When parallel procedures are used, potential mergers will continue, if any procedure is impossible for some reason.



Source: Drejeris R., 2009

Fig 2. The sequential (a) and parallel (b) procedures P

Sequential procedures combination (Figure 2) is preferable for unlimited time technologies. The sequence of appropriate reticular planning. Reticular planning is very in truth appropriate that it allows providing not only consistent but also the parallel execution of several actions, which is more reliable. In addition, the basis for determining procedures time and other resources to identify and design the appropriate technology is applied to reticular process plan. It can be further specified that the network planning is a key element in reticular schedule and confirmed that the reticular schedule helps solve a variety of planning questions. This versatile method is not only a time planning method but it is also used for resources and processes prediction.

**5. Quality planning and procedures standardisation**

Quality of the dishes can be defined according to Zeithaml V. and Bitner M. (2005) approach, which presented a number of scientists and states that the quality of service defined the degree of customer satisfaction. When new dishes quality is planned, it is necessary to evaluate the influence of various factors. Therefore, new dishes quality planning has to include preparing of standards for the production making procedures. Aguilera J. (2009) even categorically advocates the need of procedures standardisation. He argues that standardisation is needed for procedures carried out by more than one person. By the way, Aguilera J. (2009) emphasises that the standardised parameters are necessary to be even in a written form, approved by the head of the company.

Zeithaml V., Bitner M. (2005) note that the limits of standards may be in different ranges, depending on the nature of the activity. Low standards of quality planning (for example, lack of clear standards and regulations, setting too low or too high actions and liability limits of tolerance and so on) cause problems for both new dishes producers and service staff. The mentioned authors argue that standards are drawn not at the company but by users.

Summarising the results and opinions of researchers and adapting them to the food business, it can be said that it is appropriate to identify these new dishes standards, which have to be created and concretised for new technology:

- 1) raw materials;
- 2) processing (especially thermal) time;
- 3) workplace (procedures, equipment).

Such standards make a basis for a new dish recipe. Pursuance of determined standards for new dish gets the right quality.

### 5.1. Standardisation of procedures duration and their sequence

Some research papers determinate the duration of the procedure offer by the services providers, i.e. by companies' strengths or competent professionals. Drejeris R. (2011) proposes the following equations for

the calculation of procedures duration  $T_v$ :  $T_v = \frac{t_{\min} + 4t_{i.t.} + t_{\max}}{6}$ ; or  $T_v = \frac{3t_{\min} + 2t_{\max}}{5}$  (1,2), where

$t_{\min}$  - minimum processing duration of the procedures,  $t_{\max}$  - maximum processing duration of procedures,  $t_{i.t.}$  - the most likely time of processing duration.

For example, duration of the minimum and maximum thermal preparing procedures of dishes may be different after the selection of different thermal regimes. Determination of the following parameters has to be made experimentally, after evaluating the results of the quality satisfaction. After determination the sequence of procedures, it is appropriate to determine time processing procedures for starting and ending moments, i.e. the length of time for the whole cooking process. It must be emphasised that the determination standards in catering business are especially relevant in cases, when the visitors participate in the process of preparing dishes. Chen J-P. et al. (2001) is particularly categorical in services standardisation. They argue that standardisation of the duration is the most important indicator of the quality.

### 5.2. Standardisation of the work places for preparing of new dishes

Work places are needed for certain technological operations when preparing new dishes. *Propriety* of work places and use of equipment influence not only the employee work intensity and security but it also affects the quality of dishes (Drejeris, R., 2011). The standards of the workplace should include the requirements for the use of resources and appropriate equipment.

Quantities of resources required for new dishes can be determined in three ways:

- 1) according to the existing substances guidelines;

- 2) the method of analogy;
- 3) the experimental method.

Nowadays, various working places use more sophisticated and modern equipment and devices, with changing not only their mode of action but performance characteristics. The use of equipment is related with the standardisation of equipment regime values, norms and ensuring the most efficient use, determination, and approval.

Resources for the preparation of dishes may differ both in quality and quantity depending on the technology. Companies need to review constantly the use of an equipment options in workplaces, the raw materials used in order to keep up with scientific-technical progress, since both the use of equipment and materials (raw materials), and the selection of appropriate content affect the quality of the dishes. Starting a new dish production, it is necessary not only to acquire new staff working methods but also the allocation of responsibility for employees of the procedures quality, i.e. provide responsibility of standards observance.

## **Conclusions**

1. The scientific and professional literature does not pay enough attention to the problem of development of appropriate new dishes technology. The present analysis suggests that there are conflicting opinions on the new products (dishes) technology planning stages, even their number and content; most of the scientists suggest only partial elements of the limited process analysis.
2. Summarising a wide range of scientific and professional works, new dishes technology planning procedural model was developed after assessment in a logical and a systematic approach, which enables an integrated assessment of the key factors that may influence planning decisions.
3. The suggested cyclical model consists of the following major components: the market needs assessment, appropriate resources selection by new dish concept, selection of processing procedures by the concept of a new dish, and quality planning: standardisation of the procedures. Sequence of the components is based on information, which is presented by various investigators after a logical assessment of their need and content.
4. Explicated courses of action at the components of suggested model allows the appropriate assessment of the situation. Its use reduces the chance aspect and provides sufficient objective factors which may affect the new dishes technology planning decisions.

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