

DAUGAVPILS UNIVERSITĀTE
HUMANITĀRO UN SOCIĀLO ZINĀTŅU INSTITŪTS

**SOCIĀLO ZINĀTŅU
VĒSTNESIS**

SOCIAL SCIENCES BULLETIN
ВЕСТНИК СОЦИАЛЬНЫХ НАУК

2019 2 (29)

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Izdevējs / Publisher

Daugavpils Universitāte

Iekļauts datu bāzēs / Included in the databases

ERIH Plus (European Reference Index for the Humanities and Social Sciences)
EBSCOhost SocINDEX
Central European Journal of Social Sciences and Humanities (CEJSH)
World Indisciplinary Network for Institutional Research (WINIR)
Electronic Journals Library of University of Regensburg

Reģistrācijas Nr. / Registration No. 000702889

Reģistrācijas apliecība Nr. / Registration certificate No. M 000331

Dibināts 2004. gadā / Established in 2004

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ISSN 1691-1881

eISSN 2592-8562

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RAKSTI

EKONOMIKA

Vladimir Menshikov, Viktorija Šipilova, Jurijs Baltgailis

FACTORS OF INSTITUTIONAL ENVIRONMENT ENCOURAGING THE SOUNDNESS OF BANKS: THEIR SELECTION AND ANALYSIS IN THE WORLD COUNTRIES

Scientific literature highlights that the soundness of banks benefits from the quality of institutional environment. Although, there is no univocal opinion concerning the key factors of institutional environment that are crucial for the soundness of banks. Additionally, the previous studies mostly focus on separate factors and concrete case studies. The authors address the issue on factors of institutional environment encouraging the soundness of banks by trying to get the whole picture from the separately studied factors and conduct the analysis at the global level by differentiating countries depending on their level of the soundness of banks. As a result of scientific literature review, the authors offer six factors of institutional environment and select appropriate indicators from the Global Competitiveness Report of the World Economic Forum for empirical analysis. The authors' offered factors are as follow: external economic conjuncture, internal political conjuncture, technological conjuncture, socially humanitarian conjuncture, economic and legal positions of debtors and creditors, quality of analysis and monitoring of banks. Testing the linkage between factors of institutional environment and the soundness of banks in the countries' groups with different level of soundness of banks, the authors conclude that there are both common and distinct features of institutional environment depending on factors and the level of soundness of banks. The common features of institutional environment relate to quality of analysis and monitoring of banks as well as economic and legal positions of debtors and creditors. The distinct features of institutional environment appear in the countries' group with high level of soundness of banks and relate to technological conjuncture and socially humanitarian conjuncture.

Key words: factors of institutional environment, soundness of banks, world countries.

Banku stabilitāti veicinošie institucionālās vides faktori: to izvēle un analīze pasaules valstīs

Zinātniskajā literatūrā tiek uzsvērts, ka institucionālās vides kvalitāte ir nozīmīga banku stabilitātei. Tomēr, vienots viedoklis par banku stabilitāti veicinošās institucionālās vides atslēgas faktoriem nepastāv. Turklāt, iepriekšējie pētījumi pārsvarā koncentrē uzmanību uz atsevišķiem faktoriem un noteiktiem gadījumiem. Autori pēta banku stabilitāti veicinošās institucionālās vides faktorus kompleksī un globālajā līmenī, diferencējot pasaules valstis atkarībā no to banku stabilitātes līmeņa. Zinātniskās literatūras izpētes rezultātā autori piedāvā sešus institucionālās

vides faktorus un izvēlas atbilstošus rādītājus no Pasaules Ekonomikas foruma Globālās konkurētspējas pārskata empiriskās analīzes veikšanai. Autoru piedāvātie faktori ir: ārējā ekonomiskā konjunktūra, iekšpolitiskā konjunktūra, tehnoloģiskā konjunktūra, sociāli humanitārā konjunktūra, uzņēmumu kreditoru un debitoru ekonomiskais un tiesiskais stāvoklis, banku uzraudzības kvalitāte. Pārbaudot sakarību starp institucionālās vides faktoriem un banku stabilitāti valstu grupās ar atšķirīgu banku stabilitātes līmeni, autori secina, ka pastāv gan kopējās, gan atšķirīgas institucionālās vides iezīmes atkarībā no faktoriem un banku stabilitātes līmeņa. Kopējās institucionālās vides iezīmes ir attiecināmas uz banku analīzes un monitoringa kvalitāti, kā arī uz debitoru un kreditoru ekonomisko un tiesisko stāvokli. Atšķirīgas institucionālās vides iezīmes parādās valstu grupā ar augstu banku stabilitātes līmeni un ir attiecināmas uz tehnoloģisko konjunktūru un sociāli humanitāro konjunktūru.

Atslēgas vārdi: institucionālās vides faktori, banku stabilitāte, pasaules valstis.

Факторы институциональной среды, способствующие устойчивости банков: их выбор и анализ в странах мира

В научной литературе акцентируется важность качества институциональной среды для стабильности банков. Однако однозначного мнения по поводу ключевых факторов институциональной среды, способствующих стабильности банков, пока не существует. К тому же в предыдущих исследованиях внимание, главным образом, фокусируется на отдельных факторах и конкретных случаях. Авторы статьи исследуют вопрос о факторах институциональной среды, способствующих стабильности банков, комплексно и на глобальном уровне – посредством дифференцирования стран мира в зависимости от уровня стабильности банков. В результате анализа научной литературы авторы предлагают шесть факторов институциональной среды и для эмпирического анализа выбирают соответствующие показатели из Отчёта глобальной конкурентоспособности Всемирного экономического форума. Факторы, предложенные авторами: внешнеэкономическая конъюнктура, внутривалютная конъюнктура, технологическая конъюнктура, социально-гуманитарная конъюнктура, экономическое и правовое положение дебиторов и кредиторов компаний, качество анализа и мониторинга банковских учреждений. Проверив связь между факторами институциональной среды и стабильностью банков, авторы делают вывод, что существуют как общие, так и дифференцирующие характеристики институциональной среды в зависимости от факторов и уровня стабильности банков. Общие характеристики институциональной среды относятся к качеству анализа и мониторинга банков, экономическим и правовым позициям дебиторов и кредиторов. Дифференцирующие характеристики институциональной среды появляются в группе стран с высокой стабильностью банков и относятся к технологической конъюнктуре и социально-гуманитарной конъюнктуре.

Ключевые слова: факторы институциональной среды, стабильность банков, страны мира.

Introduction

Institutional environment and the soundness of banks are correlated variables. For example, as J. Baltgailis, V. Menshikov and V. Špilova (2018) conclude there is positive and moderately close linkage between institutional environment and the soundness of banks at the global level. Thus, existence of the linkage indicates on possibilities to maintain and increase the soundness of banks through improvements in institutional environment.

In this regard, X. Hou and Q. Wang (2016) indicate that the soundness of banks benefits from the quality of institutional environment. Although, opinion about key factors of institutional environment for the soundness of banks still is developing. Scientific literature focuses on variety of factors, for example, supervisory processes, political stability, economic freedom (e.g., Chan et al. 2015), risk management culture (e.g., Berglund, Makinen 2019), social capital (e.g., Jin et al. 2017), and institutional reforms (e.g., Fang et al. 2014) etc.

Given differences in opinions, the authors address the issue on factors of institutional environment that may encourage the soundness of banks. It is noteworthy that the previous studies mainly focus on separate factors and certain case studies. Therefore, the authors try to get the whole picture from the separately studied factors and conduct the analysis at the global level by differentiating countries depending on their level of soundness of banks.

As a result of scientific literature review, authors employ interdisciplinary approach and offer six factors of institutional environment as encouraging the soundness of banks. These factors are as follow: external economic conjuncture, internal political conjuncture, technological conjuncture, socially humanitarian conjuncture, economic and legal positions of debtors and creditors, quality of analysis and monitoring of banks. The selected factors are tested empirically on the linkage with the soundness of banks using data of the Global Competitiveness Report (GCR) (World Economic Forum 2018). The authors select indicators from the GCR (World Economic Forum 2018), which by their sense are appropriate for the characterising of the set of selected factors.

The analysis results demonstrate that there are both common and distinct features of institutional environment encouraging the soundness of banks in countries with different level of soundness of banks. The common features of institutional environment relate to quality of analysis and monitoring of banks as well as economic and legal positions of debtors and creditors. Indicators characterising quality of analysis and monitoring of banks as well as economic and legal positions of debtors and creditors are linked with the soundness of banks regardless of the level of soundness of banks. The distinct features relate to socially humanitarian conjuncture and technological conjuncture. Indicators characterising socially humanitarian conjuncture and technological conjuncture are linked with the soundness of banks mostly at the higher level of soundness of banks.

Literature review

The banking system is an integral and very important part of the entire societal system, especially the country's economy. The banking system is organically included not only in the financial and diverse production cycles, but also in many societal development processes. Studies on the problems of banking systems are supplemented by other theoretical approaches, especially institutionalism.

The concept of "institute" currently is interpreted quite broadly, including a system of norms, traditions, and habits that are rooted and supported by formal and informal

mechanisms as well as official supervisory activities. Scientists highlight the significance of institutional environment, when studying both overall economic issues (e.g., Komarova et al. 2018) and specified financial issues (e.g., Bermpei et al. (2018). Institutional approach significantly expands the range of tasks that can be solved for improving the quality of banks, especially their stability. According to institutional approach, focus has to be paid on transaction costs (e.g., Shirley et al. 2015; Havrylyshyn, Srzentic 2015), which may increase during the processes of changes within the institutional environment.

The banking system is a complex phenomenon. Assessing the quality of banking system functioning allows using its various options depending on the objectives of the study, or conducting a comprehensive audit taking into account one or another set of qualitative characteristics of banking systems. For example, scientists pay attention to such characteristics as stability, balance and reliability (Afnas'eva 2015). According to O. Afnas'eva (2015), these terms are not equivalent, they are not synonyms, and they are interrelated and correlated. Moreover, the central place among these concepts is given to the stability of banking systems. True, the stability of the banking system often is interpreted very broadly when all the elements and criteria for its effective functioning in the economy and in society as a whole are listed.

The stability of the banking system is a qualitative characteristic of its condition, in which the essence and purpose of both the entire banking system and an individual credit organization are realized. In this case, stability reflects changes in the process of functioning of the banking system towards positive, progressive development. Stability is a guarantee of the system's preservation, its ability to withstand force majeure and other non-routine factors and circumstances, without changing own structure. Thus, if the banking system has stability, it is able to maintain equilibrium and restore stability after external shocks or pressure, any deviations from the usual parameters caused by crisis phenomena (recession, financial crisis, transformation of the economy, etc.).

It is noteworthy that international financial organizations, research centres, in their documents and reports when assessing the quality of functioning of banking systems, prefer to use the concept of "stability".

Within the framework of the institutional approach, the banking system can be considered as a special economic institution, which largely determines the successful and stable development of the economy and the entire social system due to its unique functions. Although, the banking system also is the subject to numerous external and internal factors affecting differently its efficiency and stability. External factors that interest us in the framework of this article can be selected from different areas, given the involvement of the banking system in the actually all social relations. Therefore, one may differentiate these factors abstractly-theoretically, that is, distinguish and evaluate according to the criterion of the nature of these relations – economic, political, legal, social, cultural relations. Analysis of external factors from such set requires a good understanding of the specifics of not only the economic subsystem of society, but also other, non-economic subsystems. There is another approach to highlighting the factors of interest to us – rationally pragmatic. In this case, priority is given, as it

were, to the strategies and work plans of the owners, managers and regulators of banks. Here the focus is put to the search for the dominant of both positive and the most negative factors affecting the banking system and individual elements of its structure.

The authors offer possible set of factors of institutional environment encouraging the soundness of banks:

- external economic conjuncture;
- internal political conjuncture;
- technological conjuncture;
- socially humanitarian conjuncture;
- economic and legal positions of debtors and creditors;
- quality of analysis and monitoring of banks.

The external economic conjuncture is cross-border in nature, being directly dependent on the place and role of the country's economy in the global world at a given moment, how stable or fragile it is. Policy fulfils the goal-setting function, in relation to all other subsystems, including the economy and its long-term perspectives. Additionally, as B. Ashraf (2017) concludes, political institutions affect banks' behaviour in terms of risk-taking. Environment of financial services is rapidly changing because financial technologies (fintech) change the existing financial products and services (PwC 2016) and become a new way, in which financial business operates (PwC 2019). Thus, technologies and their use become crucial for financial services. The problems of social stratification, the formation of the middle class and the elimination of poverty are significant for banking systems, because it needs a constant influx of monetary accumulations of the population, when a significant part of them is provided by the wealthy classes. Special significance in this case has to be devoted to middle class (e.g., Menshikov 2016), as well as to financial literacy of society (e.g., Caplinska, Ohotina 2019). The bank is perhaps the most indicative case when the financial and economic situation of its debtors (borrowers), their ability to fulfil their obligations to it directly affect the ability of the bank itself seamlessly to make payments to its creditor customers. Usually, the banking system rightly is given a dominant position in solving the country's economic problems. Most of the recent economic crises matured precisely within the financial sector, and banking systems was the first thing that most often the states and international financial institutions hastened to save. Especially topical such rescue is in the countries with weak regulations and weak shareholder and creditor rights (Abreu et al. 2019). That is why timely and comprehensive analysis of the credit market is so important.

Such considerations stimulated the authors' interest to consider the offered six factors of institutional environment as encouraging for the soundness of banks. It is noteworthy that the issues on institutional environment and the soundness of banks intensively are debated in the scientific areas. Table 1 offers some examples.

Table 1

**Studies devoted to the issues of institutional environment
and the soundness of banks**

Research authors	Research focus	Research findings
Y. Fang et al. (2014)	Institutional reforms in transition countries and their effects on bank risks.	Reforms of legal institutions increases bank stability. Such reforms may depend from banking reforms.
S. Chan et al. (2015)	Impact of market structure on bank efficiency and the role of institutional framework.	Better institutional framework reduces negative effects from market concentration.
J. Jin et al. (2017)	How social capital relates to bank stability.	Banks in high social capital regions are more stable during crises.
B. Ashraf (2017)	Impact of political institutions on bank risk-taking behaviour.	Sound political institutions stimulate higher bank risk-taking.
T. Bermpei et al. (2018)	If institutional quality conditions the impact of bank regulations and supervision on bank stability.	Such conditioning effects exist, but these depend on the type of institutional quality.
T. Berglund, M. Makinen (2019)	If banks take into account experience of severe financial crisis.	Nordic banks demonstrate that experience of the previous severe financial crises were taken into account what increases their stability.
J. Abreu et al. (2019)	Which commercial banks are more likely need to receive state rescue during financial crisis?	Weak regulations and weak shareholder and creditor rights are prerequisites for bank instability and necessity in state interventions during financial crisis.
H. Yin (2019)	If bank globalization affects financial stability.	Bank globalization affects financial stability, but effects are dependent on the regulatory and institutional framework of the host country.

Source: compiled by the authors.

Empirical research background is wide. Although, mainly studies devote attention to separate and/or only several factors within one research. Such studies focus on changes and quality of institutional environment. Additionally, the focus mostly is put on the case studies. The novelty of the authors' research is granted in attempts to get the whole picture about the offered factors of institutional environment encouraging the soundness of banks as well as the analysis at the global level.

Methodology and data

The article is intended to analyse the linkage between the authors' offered factors of institutional environment with the soundness of banks in the world countries. The authors pay attention to the different level of soundness of banks in the world countries.

For the analysis purposes, the authors choose indicators that are appropriate for characterizing the selected factors of institutional environment encouraging the soundness of banks. Given that the selected factors are of interdisciplinary nature, the authors solve data availability issues through employing secondary data from the Global Competitiveness Report (GCR) (World Economic Forum 2018). Additionally, GCR offers the data on the soundness of banks, which are employed in the analysis as dependent variable. It is noteworthy that the authors use the term soundness of banks instead of stability of banks because the analysis within this article is based on the certain indicator, i.e. soundness of banks, from the Global Competitiveness Report. The set of indicators chosen for the analysis according to the selected factors of institutional environment is presented in the Table 2.

Table 2

List of appropriate indicators for the selected factors of institutional environment

Factors of institutional environment encouraging the soundness of banks	Selected appropriate indicators from the Global Competitiveness Report
External economic conjuncture	Debt dynamics (4.02)
Internal political conjuncture	Budget transparency (1.06)
	Burden of government regulation (1.10)
	Future orientation of government (1.13)
	Conflict of interest regulation (1.19)
Technological conjuncture	E-participation index (1.12)
	Internet users (3.05)
	Digital skills among population (6.05)
Socially humanitarian conjuncture	Social capital (1.05)
	Income Gini
Economic and legal positions of debtors and creditors	Judicial independence (1.07)
	Incidence of corruption (1.14)
	Property rights (1.15)
	Shareholder governance (1.20)
Quality of analysis and monitoring of banks	Efficiency of legal framework in challenging regulations (1.08)
	Efficiency of legal framework in settling disputes (1.11)
	Strength of auditing and reporting standards (1.18)
	Banks' regulatory capital ratio (9.09)

Note: Detailed explanations for indicators are available in the Global Competitiveness Report 2018 in the Appendix "Technical notes and sources", p. 633 (World Economic Forum 2018).

Source: compiled by the authors.

Table 2 presents indicators, which authors test empirically within the analysis using data for the year 2018. It is noteworthy to indicate that the selected indicators solve data availability and allow analysing the issue empirically, but at the same time, they

set limitations for the analysis. Thus, the factors selected as encouraging the soundness of banks numerically are presented through the selected data prism in the year 2018.

The next step of the analysis is differentiation of countries depending on their level of the soundness of banks. At this stage, authors use data from the GCR (World Economic Forum 2018) again. The world countries are differentiated based on the indicator “soundness of banks (9.06)”. According to the numerical values of the soundness of banks from the GCR (World Economic Forum 2018), it is possible to separate countries in three groups – countries with high soundness of banks, countries with moderate soundness of banks, countries with low soundness of banks. The additional group for the analysis is all countries. There are countries that were excluded from the analysis due to lack of data. Division of the countries according to their soundness of banks as well as the countries excluded from the analysis are presented in the Table 3.

Table 3

**The cases for the analysis according to the data
on the soundness of banks, 2018**

Countries with HIGH soundness of banks (case HIGH)	Values of soundness of banks (9.06): from 6 to 7 n=11 countries	Australia, Canada, Chile, Czech Republic, Finland, Guatemala, Israel, Luxembourg, Norway, Slovak Republic, Switzerland
Countries with MODERATE soundness of banks (case MODERATE)	Values of soundness of banks (9.06): 3.6–5.9 n=81 countries	Albania, Argentina, Armenia, Austria, Azerbaijan, Belgium, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Cameroon, China, Colombia, Costa Rica, Cote d'Ivoire, Croatia, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Eswatini, France, Georgia, Germany, Ghana, Guinea, Honduras, Hungary, Iceland, India, Indonesia, Ireland, Jamaica, Japan, Jordan, Kenya, Korea Rep., Kyrgyz Rep., Lao PDR, Latvia, Lebanon, Liberia, Lithuania, Macedonia FYR, Malawi, Malaysia, Malta, Mauritius, Mexico, Montenegro, Morocco, Namibia, Nepal, Netherlands, Nicaragua, Nigeria, Pakistan, Panama, Paraguay, Peru, Romania, Rwanda, Senegal, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Tanzania, Thailand, Trinidad and Tobago, Turkey, Uganda, United Kingdom, United States, Uruguay, Zambia
Countries with LOW soundness of banks (case LOW)	Values of soundness of banks (9.06): 1.7–3.5 n=28 countries	Algeria, Angola, Bangladesh, Benin, Burundi, Chad, Congo Democratic Rep., Cyprus, Ethiopia, Greece, Iran Islamic Rep., Italy, Kazakhstan, Lesotho, Mali, Mauri-

Sequel to Table 3 see on the next page

Sequel to Table 3

		ania, Moldova, Mongolia, Mozambique, Portugal, Russian Federation, Sierra Leone, Tajikistan, Tunisia, Ukraine, Viet Nam, Yemen, Zimbabwe
Countries excluded from the analysis because of data availability in GCR according to the selected indicators	Values of soundness of banks (9.06): from 3.3 to 6.4 n=20 countries	Bahrain, Brunei Darussalam, Cambodia, Cape Verde, Gambia, Haiti, Hong Kong, Kuwait, New Zealand, Oman, Philippines, Poland, Qatar, Saudi Arabia, Serbia, Seychelles, Singapore, Taiwan, United Arab Emirates, Venezuela

Note: Soundness of banks (9.06) – Response to the survey question “In your country, how do you assess the soundness of banks?” [1 = extremely low banks may require recapitalization; 7 = extremely high banks are generally healthy with sound balance sheets] (World Economic Forum 2018, p. 640).

Source: compiled by the authors using data from the World Economic Forum 2018.

Table 3 presents four cases for the analysis, totally 120 world countries. The biggest countries' group with 81 country is characterised with moderate level of soundness of banks. The smallest countries' group with 11 countries is characterised with high level of soundness of banks. It is noteworthy to indicate that the countries' group with low level of soundness of banks is relatively small with only 28 countries from 120 countries under review. The groups include countries that are highly differentiated both geographically and economically. Within the analysis, this provides exclusive focus on the soundness of banks regardless of the level of economic development and geographical positions.

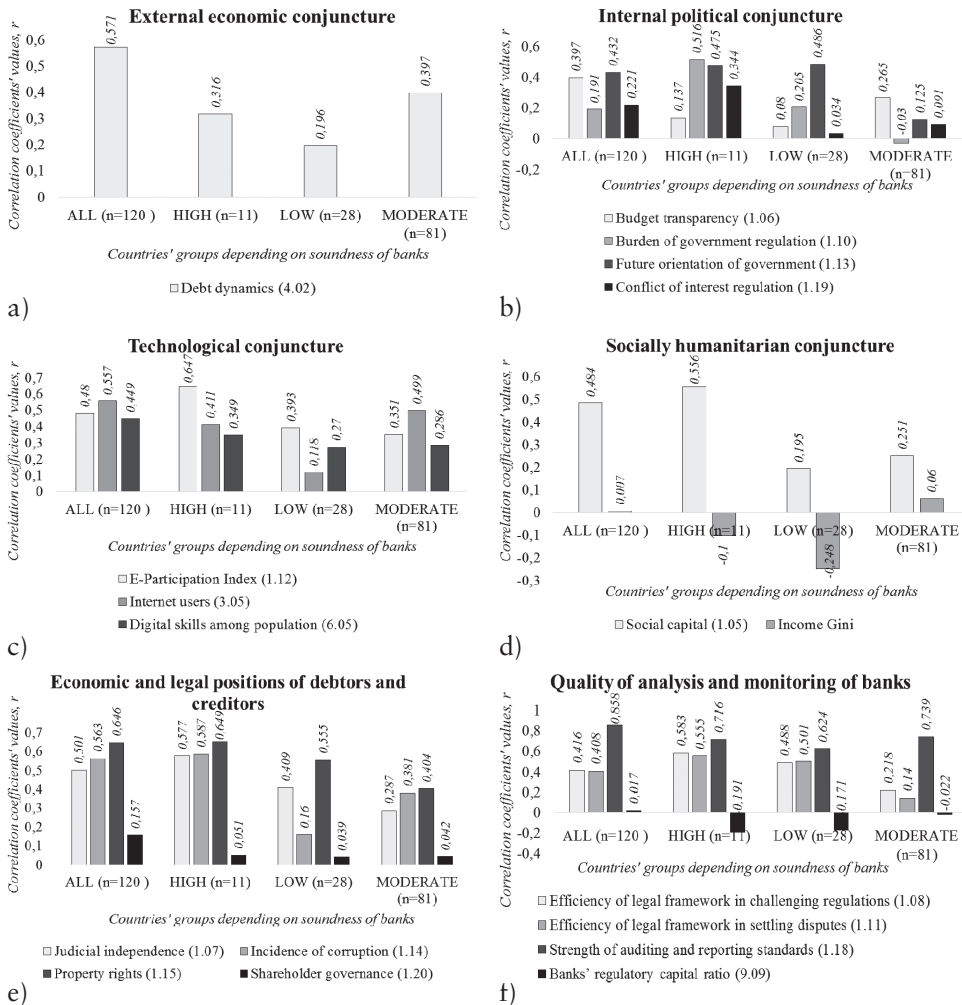
The next step of the analysis is calculation of correlation coefficients between indicators characterising factors encouraging the soundness of banks and the soundness of banks. For the correlation, the authors logically assumed that the indicators characterising factors encouraging the soundness of banks are independent variables and the soundness of banks is dependent variable. This assumption allows for concluding about significance of each indicator for the soundness of banks within the linkages detected. Correlation analysis and characteristics of numerical values occur according to the guidelines for social sciences as mentioned in I. Arhipova and S. Balina (2003).

Finally, the authors summarize the closest linkages between soundness of banks and factors of institutional environment encouraging the soundness of banks within each countries' group under review. Detecting of the closest linkages within each countries' group presents common and distinct features for linkages between the selected factors of institutional environment and the soundness of banks. This allows for understanding the factors, which are linked more with the soundness of banks at each stage of soundness banks.

Research results

The analysis results characterise linkages between the soundness of banks and factors of institutional environment encouraging the soundness of banks using the set of indicators from the GCR (World Economic Forum 2018). Correlation coefficients' values are summarised in the Figure 1 (a, b, c, d, e, f).

Figure 1
Correlation between the soundness of banks and indicators selected for the offered factors of institutional environment encouraging the soundness of banks, 2018, Pearson correlation



Source: authors' calculations using data from the World Economic Forum 2018.

Indicator selected for the “external economic conjuncture” demonstrates moderately close linkage with the soundness of banks. The linkage between changes in public debt to GDP ratio and the soundness of banks is positive and moderately close for the group of all countries under research ($r_{all}=0.571$). However, correlation become weaker in other countries’ groups. Correlation coefficients for the group HIGH and for the group MODERATE indicate on weak linkages between the soundness of banks and debt dynamics, although, still positive (respectively, $r_{high}=0.316$ and $r_{moderate}=0.397$). The countries’ group with LOW soundness of banks in 2018 experienced the weakest linkage between the soundness of banks and debt dynamics ($r_{low}=0.196$) within the case under research. Theoretically, country’s debt dynamics is significant for the soundness of banks. The results of correlation coefficients may be explained by the highly differentiated public debt and credit ratings in countries under research. Thus, calculations made using appropriate indicator from the GCR allows concluding that external economic conjuncture is significant, but at the moment is not crucial for the soundness of banks within the cases under research.

Indicators selected for the “internal political conjuncture” demonstrate different correlation in each countries’ group. Globally, the linkage with the soundness of banks is positive, although, moderately close or weak. The highest correlation coefficients’ values are observed between the soundness of banks and future orientation of government ($r_{all}=0.432$) and budget transparency ($r_{all}=0.397$) within the countries’ group ALL. Future orientation of government similarly correlates with the soundness of banks in countries’ group HIGH and LOW, respectively r values are 0.475 for the case HIGH and 0.486 for the case LOW. The case of countries with high soundness of banks indicates on the moderately close linkage between the burden of government regulation and the soundness of banks ($r_{high}=0.516$). This is the highest correlation coefficient for the indicators selected for the internal political conjuncture across countries’ groups. Although, burden of government regulation demonstrates two to five times lower correlation coefficients’ values in other countries’ groups under research (respectively, $r_{all}=0.191$, $r_{low}=0.205$, $r_{moderate}=-0.03$). Linkage between the soundness of banks and future orientation of government is the closest ($r_{low}=0.486$) in the countries with low soundness of banks. Other indicators selected for the factor of internal political conjuncture in this case under research demonstrate brightly lower correlation values. The case MODERATE experiences low values of correlation coefficients. The highest correlation coefficient is observed between the soundness of banks and budget transparency, where $r_{moderate}=0.265$ what indicates on weak linkage. Correlation coefficients allow concluding that future orientation of government is the most common indicator of internal political conjuncture, which reaches the closest linkage with the soundness of banks. According to the nature of this indicator (World Economic Forum 2018), it is possible to conclude that entrepreneurs link the soundness of banks with digital business models, stable environment for doing business, effective government’s reaction on economic, societal and demographic changes and government’s long-term vision in place.

Indicators selected for the “technological conjuncture” positively correlates with the soundness of banks in all countries’ groups. The closest linkage is observed between the soundness of banks and E-participation index for the case with high soundness of

banks ($r_{\text{high}}=0.647$). In other cases under research this indicator is similarly positively correlated with the soundness of banks (respectively, $r_{\text{all}}=0.480$, $r_{\text{low}}=0.393$, $r_{\text{moderate}}=0.351$). Linkage between internet users and the soundness of banks is positive and moderately close in all countries' groups except countries with low soundness of banks. The closest correlation is observed in group ALL ($r_{\text{all}}=0.557$). In the countries' groups HIGH and MODERATE the indicator internet users correlates with the soundness of banks similarly ($r_{\text{high}}=0.411$, $r_{\text{moderate}}=0.499$), but in countries' group LOW correlation is weak and $r_{\text{low}}=0.118$. Indicator digital skills among population demonstrates lower correlation coefficients with the soundness of banks ($r_{\text{all}}=0.449$, $r_{\text{high}}=0.349$, $r_{\text{low}}=0.270$, $r_{\text{moderate}}=0.286$) than other indicators of the factor of technological conjuncture (except the case LOW). Calculations made and the nature of indicators used allow indicating that the use of online services and the use of internet for any purposes are recognized as positively linked with the soundness of banks.

Indicators selected for the “socially humanitarian conjuncture” are linked with the soundness of banks both positively and negatively depending on indicator under review. Social capital positively correlates with the soundness of banks. This linkage is moderately close for the case HIGH ($r_{\text{high}}=0.556$). The cases ALL, LOW and MODERATE demonstrate weak correlation between social capital and the soundness of banks ($r_{\text{all}}=0.484$, $r_{\text{low}}=0.195$, $r_{\text{moderate}}=0.251$), but the coefficients greatly vary. Correlation between the soundness of banks and Income Gini is very weak and even reaches negative coefficients' values for the cases HIGH and LOW ($r_{\text{all}}=0.007$, $r_{\text{high}}=-0.100$, $r_{\text{low}}=-0.248$, $r_{\text{moderate}}=0.060$). As GCR indicates in its technical notes, social capital means social cohesion and engagement, community and family networks, and political participation and institutional trust (World Economic Forum 2018) what according to the calculations made for the cases under research is linked positively with the soundness of banks. Negative correlation between Income Gini and the soundness of banks indicates on significance of reducing of poverty for the better soundness of banks.

The “economic positions of debtors and creditors” are presented with four indicators within the analysis. Property rights is the indicator that dominates in all cases under research, although, demonstrates moderately close to weak correlation coefficients' values ($r_{\text{all}}=0.646$, $r_{\text{high}}=0.649$, $r_{\text{low}}=0.555$, $r_{\text{moderate}}=0.404$). Protection of property rights including financial assets is linked positively and mostly moderately close with the soundness of banks regardless of the level of soundness of banks. The next indicator that is recognized as positively and moderately close linked with the soundness of banks is incidents of corruption. Although, values of correlation coefficients for this factor varies across cases depending on the level of soundness of banks. For example, incidents of corruption correlates with the soundness of banks in the countries' group HIGH much stronger ($r_{\text{high}}=0.587$) than in countries' group LOW ($r_{\text{low}}=0.160$). This indicates on highly differentiated perceptions of corruption in the public sector across countries with different level of soundness of banks. Judicial independence stronger correlates with the soundness of banks in the countries' group HIGH ($r_{\text{high}}=0.577$), although, other cases under research demonstrate positive and moderately close linkage (respectively, $r_{\text{all}}=0.501$, $r_{\text{low}}=0.509$) also. Thus, independent judicial system is under-

stood as related to the soundness of banks. The weakest correlation is observed between the soundness of banks and shareholder governance in all cases under research. Correlation is positive, but weak. Respectively, correlation coefficients' values for the linkage between the soundness of banks and shareholder governance are as follow – $r_{all}=0.157$, $r_{high}=0.039$, $r_{low}=0.042$, $r_{moderate}=0.051$. The calculations made indicate that the shareholders' rights in corporate governance are not related strongly to the soundness of banks.

Indicators of illustrating the “quality of analysis and monitoring of banks” are linked with the soundness of banks both positively and negatively depending on the indicator under review. It is noteworthy to indicate that correlation between the soundness of banks and strength of auditing and reporting standards has the highest coefficients and the strongest linkage among all indicators under review in all countries' groups ($r_{all}=0.858$, $r_{high}=0.716$, $r_{low}=0.624$, $r_{moderate}=0.739$). This means that strength of auditing and reporting standards is understood as crucial for the soundness of banks in all countries regardless of the level of soundness of banks. Efficiency of legal framework in challenging regulations and efficiency of legal framework in settling disputes are linked similarly and moderately close with the soundness of banks in the countries' groups ALL, HIGH, LOW, and only in the countries' group MODERATE correlation coefficients are lower and indicate on weak linkage. Very weak and even negative correlation is observed between the soundness of banks and banks' regulatory capital ratio. Thus, there is no sufficient linkage observed between the ratio of total banks' regulatory capital to total banks' assets, weighted according to the risk of these assets and soundness of banks. This may be explained by highly differentiated countries' experience in regulatory processes.

Mostly, the linkages between the selected indicators and the soundness of banks vary among the countries' groups depending on the level of soundness of banks. The next table (see Table 4) summarizes the closest linkages according to the correlation coefficients' values.

Table 4

The closest linkages between the soundness of banks and indicators selected for the offered factors of institutional environment encouraging the soundness of banks

Countries' groups depending on the level of soundness of banks	Factors of institutional environment encouraging soundness of banks	Selected indicators from the Global Competitiveness Report	The highest correlation coefficients' values, r, (linkage)
1	2	3	4
ALL countries (n=120)	Quality of analysis and monitoring of banks	Strength of auditing and reporting standards	0.858 (close)
	Economic and legal positions of debtors and creditors	Property rights	0.646 (moderately close)

Sequel to Table 4 see on the next page

Sequel to Table 4

1	2	3	4
HIGH (n=11)	Quality of analysis and monitoring of banks	Strength of auditing and reporting standards	0.716 (moderately close)
		Efficiency of legal framework in challenging regulations	0.583 (moderately close)
		Efficiency of legal framework in settling disputes	0.555 (moderately close)
	Technological conjuncture	E-Participation Index	0.647 (moderately close)
	Socially humanitarian conjuncture	Social capital	0.556 (moderately close)
	Economic and legal positions of debtors and creditors	Property rights	0.649 (moderately close)
		Incidence of corruption	0.587 (moderately close)
Judicial independence		0.577 (moderately close)	
LOW (n=28)	Quality of analysis and monitoring of banks	Strength of auditing and reporting standards	0.624 (moderately close)
	Economic and legal positions of debtors and creditors	Property rights	0.555 (moderately close)
MODERATE (n=81)	Quality of analysis and monitoring of banks	Strength of auditing and reporting standards	0.739 (moderately close)

Source: elaborated by the authors using data from the World Economic Forum 2018.

The summary of calculations made allow concluding that *quality of analysis and monitoring of banks* and *economic and legal positions of debtors and creditors* are the factors of institutional environment, which are significant for the soundness of banks in all countries' groups regardless of the level of soundness of banks. For these factors, the common indicator that strongly or moderately close correlates with the soundness of banks in all countries is the strength of auditing and reporting standards. Correlation coefficients for this indicator vary from 0.624 to 0.858.

Other analysis results indicate that the countries' group with high level of soundness of banks experiences the wider linkages between indicators under research and the soundness of banks than countries' groups with the lower level of soundness of banks. For example, besides "quality of analysis and monitoring of banks" and "economic and legal positions of debtors and creditors" the group with high soundness of banks demonstrates moderately close linkage with indicators of "technological conjuncture" and "socially humanitarian conjuncture".

Conclusions

1. According to the literature review, the authors offer six factors of institutional environment, which potentially are linked with the soundness of banks and may be crucial for supporting, saving and improving the soundness of banks. These factors are as follow: external economic conjuncture, internal political conjuncture, technological conjuncture, socially humanitarian conjuncture, economic and legal positions of debtors and creditors, quality of analysis and monitoring of banks.
2. Given that these factors are of interdisciplinary nature and availability of coherent numerical data is the issue, the authors offer as possible solution to select appropriate indicators from the Global Competitiveness Report for the empirical analysis. For the analysis purposes, 18 indicators that characterise offered factors of institutional environment as well as the indicator soundness of banks were selected from the Global Competitiveness Report.
3. Correlation analysis between the soundness of banks and selected indicators in countries with different level of soundness of banks allows detecting the closest linkages. The linkages are both similar and differential for the countries' groups depending on the indicators and the level of soundness of banks.
4. The common feature of the countries under research relates to the closest linkages between the soundness of banks and indicators of the economic and legal positions of debtors and creditors and quality of analysis and monitoring of banks.
5. The distinct feature of the countries under research relates to the additional closest linkages between the soundness of banks and indicators of the technological conjuncture and socially humanitarian conjuncture.
6. It is noteworthy that only in the countries with higher level of soundness of banks one may observe the closest linkages between the soundness of banks and development level of society and technology. In the countries with the lower level of soundness of banks, linkages with financial interests and supervisory duties dominate.
7. Given that for the correlation analysis purposes the authors logically assumed that the soundness of banks is dependent variable and indicators characterising the factors encouraging the soundness of banks are independent variables, it is possible to highlight that at different stages of soundness of banks there are different significant factors of institutional environment for the soundness of banks. Thus, according to the calculations made, it is possible to conclude that at the lower stages of soundness of banks quality of analysis and monitoring of banks and economic and legal positions of debtors and creditors are more likely to be linked with the soundness of banks through the institutional environment. At the higher stage of soundness of banks, technological conjuncture and socially humanitarian conjuncture additionally are more likely to be linked with the soundness of banks through the institutional environment.

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ТЕОРЕТИЧЕСКОЕ И МЕТОДОЛОГИЧЕСКОЕ ОБОСНОВАНИЕ ИЗУЧЕНИЯ ПРОИЗВОДИТЕЛЬНОСТИ И ПРОДУКТИВНОСТИ В РЕГИОНАЛЬНОЙ ЭКОНОМИКЕ

Целью данной статьи является поиск теоретического и методологического обоснования изучения производительности и продуктивности в региональной экономике, а именно: 1) определение терминов и раскрытие сущности понятий «производительность» и «продуктивность» в региональной экономической науке; 2) эмпирическая интерпретация и поиск наиболее соответствующего терминологическому обоснованию способа измерения производительности и продуктивности регионов; 3) поиск теорий, способных наиболее полно объяснить феномены производительности и продуктивности регионов. Результаты авторского исследования показали, что производительность региона определяется как его способность создавать как можно больше продукта в единицу времени, в то время как продуктивность – это чисто экономический термин, который учитывает количество затраченных в производственном процессе факторов производства. Производительность / продуктивность региона не является только суммой производительности / продуктивности слагаемых, функционирующих в том или ином регионе, поскольку содержит в себе ещё и определённую «дельту» – эффект синергии (для факторов производства), эффект агломерации (для экономических субъектов) или эффект концентрации (для отраслей экономики). Всегда экономически отстающий Латгальский регион не является самым низкопроизводительным по ВВП в расчёте на 1 км² территории – по этому показателю самым неблагополучным в Латвии является Видземский регион. Но по индексу заработной платы, рассчитанному с учётом отраслевой структуры занятости в регионе, именно Латгальский регион привычно занимает последнее место в Латвии, а Рижский регион – первое. По продуктивности в Латвии ожидаемо лидирует Рижский регион, почти в 2 раза превышая продуктивность Пририжского региона, и больше, чем в 3 раза, – Латгальского региона. Но самым низкопродуктивным в Латвии снова оказался не Латгальский регион, а Видземский. Теоретической основой для изучения производительности и особенно продуктивности регионов может служить классическая теория производства, а также неоклассическая теория роста, теории эндогенного роста, модели «новой экономической географии» и подход ресурсов-активов-капитала. Новизна данного исследования состоит в попытке авторов – впервые в латвийской экономической науке – системного изучения производительности и продуктивности регионов с эквивалентным представлением терминов в русском, латышском и английском языках.

Ключевые слова: производительность, продуктивность, эффективность, регион, Латвия.

Teorētiskais un metodoloģiskais pamatojums ražīguma un produktivitātes izpētei reģionālajā ekonomikā

Dotā raksta mērķis ir teorētiskā un metodoloģiskā pamatojuma izstrādāšana ražīguma un produktivitātes izpētei reģionālajā ekonomikā, konkrēti: 1) terminu definēšana un jēdzienu “ražīgums” un “produktivitāte” būtības noskaidrošana reģionālajā ekonomikā zinātnē; 2) reģionu ražīguma un produktivitātes empīriskā interpretācija un terminoloģiskajam pamatojumam atbilstoša mērījuma veida meklējumi; 3) to teoriju identificēšana, kas spēj pilnīgāk izskaidrot reģionu ražīguma un produktivitātes fenomenu. Autoru pētījuma rezultāti parādīja, ka reģiona

ražīgums tiek noteikta kā tā spēja radīt pēc iespējas vairāk produktu laika vienībā, bet produktivitāte – tas ir tīri ekonomisks termins, kas ņem vērā ražošanas faktoru daudzumu, kas ir patērēti ražošanas procesā. Reģiona ražīgums / produktivitāte nav tikai to *saskaitāmo* ražīguma / produktivitātes summa, kas funkcionē tajā vai citā reģionā, jo tā satur sevi vēl arī noteiktu “deltu” – sinerģijas efektu (ražošanas faktoriem), aglomerācijas efektu (ekonomiskajiem subjektiem) vai koncentrācijas efektu (ekonomikas nozarēm). Vienmēr ekonomiski atpalikušajā Latgales reģionā netika novērots viszemākais ražīgums, kas ir izmērīts ar IKP uz reģiona teritorijas 1 km² – pēc šī rādītāju visveiksmīgais Latvijā ir Vidzemes reģions. Bet pēc darba samaksas indeksa, kas ir aprēķināts ņemot vērā nodarbinātības nozaru struktūru reģionā, tieši Latgales reģions ierasti ieņem pēdējo vietu Latvijā, bet Rīgas reģions – pirmo. Pēc produktivitātes Latvijā līderis ir Rīgas reģions, gandrīz 2 reizes pārsniedzot Pierīgas reģiona produktivitāti, un vairāk, nekā 3 reizēs, – Latgales reģiona produktivitāti. Bet viszemākā produktivitāte Latvijā ir atkal jau nevis Latgales reģionam, bet Vidzemes reģionam. Par teorētisko pamatojumu reģionu ražīguma un īpaši produktivitātes izpētei ir izmantojama klasiskā ražošanas teorija, kā arī neoklasiskā izaugsmes teorija, endogēnas izaugsmes teorija, “jaunās ekonomiskās ģeogrāfijas” modeļi un resursu-aktīvu-kapitāla pieeja. Dotā pētījuma novitāti veido autoru mēģinājums – pirmoreiz Latvijas ekonomiskajā zinātnē – sistēmiski izpētīt reģionu ražīgumu un produktivitāti ar terminu ekvivalentu priekšstatījumu krievu, latviešu un angļu valodā.

Atslēgas vārdi: ražīgums, produktivitāte, efektivitāte, reģions, Latvija.

Theoretical and methodological framework of the investigation of productivity and efficiency in the regional economics

The aim of this article is working out of the theoretical and methodological framework of the investigation of productivity and efficiency in the regional economics, namely: 1) definition of terms and explanation of the essence of concepts “productivity” and “efficiency” in regional economic science; 2) empirical interpretation and search of the most corresponding to the terminological background method of measuring of the productivity and efficiency of regions; 3) identification of theories capable to explain the phenomena of the productivity and efficiency of regions. The results of the authors' research showed that the productivity of region is defined as it's ability to create as many as possible products in time unit, while the efficiency is the economical term that takes into account the amount of the factors of production utilized in the productional process. Productivity / efficiency of a region is not only the sum of the productivity / efficiency of elements functioning in this region, as contains a certain “delta” – synergy effect (for the factors of production), agglomeration effect (for economical subjects) or concentration effect (for industries of economy). Always economically backward Latgale region is not with the lowest productivity calculated by the GDP per 1 km² of a region's territory – by this indicator less successful in Latvia is Vidzeme region. But by the earning index, calculated taking into account the industry structure of employment in a region, exactly the Latgale region as usually occupies the last place in Latvia, and the Riga region – the first one. By the efficiency in Latvia the Riga region leads expectantly, almost 2 times exceeding the efficiency of Pieriga region, and more than 3 times, – the efficiency of Latgale region. But lowest efficiency in Latvia is not in the Latgale region, but once more in Vidzeme region. Classic theory of production, and also neoclassical theory of growth, theory of endogenous growth, models of “new economic geography” and approach of resources-assets-capital can be applied for the theoretical basis of the investigation of the productivity and especially of the efficiency of regions. The novelty of this research is an attempt of the authors – firstly in Latvian economic science – to investigate systematically productivity and efficiency of regions with equivalent presentation of terms in Russian, Latvian and English.

Key words: productivity, efficiency, effectiveness, region, Latvia.

Введение

Основными понятиями данного исследования являются производительность и продуктивность, которые очень актуальны для Латвии и отражаются как в новейших научных публикациях (Baranova u.c. 2019; Stepina 2019; Steinbuka 2019), диссертационных исследованиях (Krasnopjorovs 2012) и аналитических обзорах министерств Латвии (Aseradens 2017; Bremsmits 2019) и представителей Еврокомиссии в Латвии (Zemitis 2019), так и в сообщениях экспертов, публикуемых в прессе (Helmane 2017; Jekabsone, Skribane 2018). Американский экономист, автор теорий так называемой «новой экономической географии» (по-английски: *new economic geography*) П. Кругман (*P. Krugman*) ещё в начале 90-х годов прошлого столетия утверждал, что единственным способом, с помощью которого можно достичь роста уровня жизни в долгосрочной перспективе, является повышение производительности и продуктивности (Krugman 1991a, 1991b, 1997). Производительность и продуктивность особенно актуальны для тех стран и регионов, которые по своему экономическому развитию находятся на так называемой стадии продуктивности (по-английски: *efficiency-driven stage* (Taube 1966; Zhdanova 1995; Zenovich 1998; Egorova 2014), более системно перевод термина «продуктивность» по отношению к терминам «производительность» и «эффективность» представлен далее в Таблице 3),¹ поскольку именно на этой стадии продуктивность является основным двигателем экономического роста (Sala-i-Martin et al. 2016). В Латвии такими регионами являются Латгальский, Видземский и Земгальский (Boronenko 2009; Zeibote 2018).

В мае 2018 года в Латвийском Университете был создан Форум продуктивности, эффективности, развития и конкурентоспособности Латвии (по-латышски: *Latvijas Produktivitātes, efektivitātes, attīstības un konkurētspējas forums, LV PEAK – “virsozne”*). LV PEAK действует как исследовательский форум, имеющий целью проведение независимого, объективного и научно-обоснованного анализа продуктивности в Латвии и разработку рекомендаций для латвийского правительства. Монография «Повышение продуктивности: тенденции и вызовы будущего» (по-латышски: *Produktivitātes celšana: tendences un nākotnes izaicinājumi*) (2019) – это первый результат научной деятельности Форума. В ней представлены результаты изучения факторов продуктивности в развитых странах Европейского союза и в Латвии (Steinbuka 2019).

В научных публикациях в качестве основной современной экономической проблемы, связанной с производительностью и продуктивностью, называется замедление их [производительности и продуктивности] темпов роста, которое имеет глобальный характер, но наиболее выражено в экономически развитых странах и особенно – в Европе (Kasjanovs 2019). По этой причине в течение последних десятилетий учёные-экономисты и различные международные организации – например, Международный валютный фонд и ОЭСР, – уделяют повышенное

¹ Таким образом, авторы считают, что переводить *efficiency-driven stage* как *efektivitātes stadija* (Boronenko 2007, 2009; Stankevics 2014; Baltgailis et al. 2018; Zeibote 2018) – некорректно.

внимание этому явлению, анализируя причины, которые могли бы объяснить замедление темпов роста производительности и продуктивности, и предлагая меры, которые позволили бы преодолеть стагнацию в процессе роста производительности и продуктивности (David 1990; Basu, Kimball 1997; McMillan, Rodrik 2011; Basu, Fernald 2001; OECD 2015; Aiyar et al. 2016; International Monetary Fund 2016; Borio et al. 2016; Adler et al. 2017). Серьёзно изучаются также и региональные особенности производительности и продуктивности – в частности, развитие производительности и продуктивности в различных регионах Евросоюза (Gopinath et al. 2015; Haskel et al. 2015), в разных странах (Hall, Jones 1999; Bourles, Cette 2007; Parham 2012; Dabla-Norris et al. 2013; Bourles et al. 2013; Bergeaud et al. 2014; Calligaris 2015; Adalet McGowan et al. 2017), в территориальном разрезе «город-село» (Gale 1998; Loder 2012; Holl 2014). Также анализируется разрыв между темпами роста производительности и продуктивности в США и странах Европейского союза (Basu et al. 2003; Ark et al. 2008; Cette et al. 2015). Старший экономист Северного инвестиционного банка (по-английски: *Nordic Investment Bank*) И. Касьянов утверждает: «поскольку нет единого понимания того, чем определяется рост продуктивности, логичным следствием этого является отсутствие исчерпывающего и, что очень важно, единогласного мнения насчёт того, какие факторы детерминируют замедление роста продуктивности» (Kasjanovs 2019). Но авторы данного исследования считают, что в основе не всегда высокого качества изучения производительности и продуктивности лежит всё-таки исследовательская проблема, состоящая в том, что при всём понимании учёными и специалистами экономических вызовов, связанных с падением производительности и продуктивности, в научной литературе и исследовательской практике нет устоявшейся терминологии (а значит, и понимания сути) по этим двум понятиям, особенно по отношению к переводу терминов с английского на русский и латышский языки, что, в свою очередь, мешает эмпирически интерпретировать понятия производительности и продуктивности и выбрать способ, инструмент, индикатор для их измерения, в результате чего становится невозможным качественно и научно-обоснованно изучать то, у чего нет чёткого терминологического и эмпирического определения.

Таким образом, целью данной статьи является поиск теоретического и методологического обоснования изучения производительности и продуктивности регионов, а именно:

- 1) определение терминов и раскрытие сущности понятий «производительность» и «продуктивность» в региональной экономической науке;
- 2) эмпирическая интерпретация и поиск наиболее соответствующего терминологическому обоснованию способа измерения производительности и продуктивности регионов;
- 3) поиск теорий, способных наиболее полно объяснить феномены производительности и продуктивности регионов.

Что такое «производительность» и «продуктивность» в региональной экономической науке?

Отправной точкой для анализа и по возможности наиболее чёткого определения терминов и раскрытия сущности понятий «производительность» и «продуктивность» в региональной экономической науке для авторов данного исследования стала уже упомянутая выше научная монография «Повышение продуктивности: тенденции и вызовы будущего» (Steinbuka 2019). Результаты проведённого авторами контент-анализа использования терминов «производительность» и «продуктивность» в текстах статей, составляющих эту монографию, представлены в Таблице 1.

Таблица 1

Результаты контент-анализа использования терминов «производительность» и «продуктивность» в текстах статей монографии «Повышение продуктивности: тенденции и вызовы будущего» (2019)

Используемый термин – отдельно и в словосочетаниях:		Название статьи и автор/-ы, использовавший/-ие термин
на русском языке*	на латышском языке	
1	2	3
продуктивность рабочей силы	<i>darbaspēka produktivitāte</i>	“Produktivitāte un konkurētspēja – ekonomisko izaugsmi noteicošie faktori” (V. Dombrovskis)
продуктивность страны	<i>valsts produktivitāte</i>	
продуктивность капитала	<i>kapitāla produktivitāte</i>	
общая продуктивность	<i>kopējā produktivitāte</i>	
продуктивность и производительность труда	<i>produktivitāte un darba ražīgums</i>	
почасовая продуктивность	<i>stundas produktivitāte</i>	
почасовая продуктивность труда	<i>stundas darba produktivitāte</i>	
продуктивность США и Европы	<i>Eiropas un ASV produktivitāte</i>	
общая производительность факторов, ОПФ	<i>kopējais faktoru ražīgums, KF</i>	
производительность труда	<i>darba ražīgums</i>	
производительность, т.е. продуктивность	<i>ražīgums jeb produktivitāte</i>	“Produktivitātes dažādās nokrāsas un nākotnes izaicinājumi ilgtspējīgas augsmes kontekstā” (I. Kasjanovs)
продуктивность	<i>produktivitāte</i>	
продуктивность рабочей силы	<i>darbaspēka produktivitāte</i>	
продуктивность работника	<i>darbinieka produktivitāte</i>	
общая продуктивность факторов, ОПФ	<i>kopējā faktoru produktivitāte, KFP</i>	

Продолжение таблицы 1 см. на следующей странице

Продолжение таблицы 1

1	2	3
производительность труда	<i>darba ražīgums</i>	“Produktivitāte Latvijā: tendences, izaicinājumi, politika” (D. Barānova, O. Barānovs, G. Bērziņš, I. Skribāne)
продуктивность	<i>produktivitāte</i>	
производительность	<i>ražīgums</i>	
продуктивность одного фактора	<i>viena faktora produktivitāte</i>	
многофакторная продуктивность	<i>daudzfaktoru produktivitāte</i>	
продуктивность рабочей силы	<i>darbaspēka produktivitāte</i>	
продуктивность капитала	<i>kapitāla produktivitātei</i>	
общая продуктивность факторов	<i>kopējā faktoru produktivitāte, TFP**</i>	
продуктивность стран	<i>valstu produktivitāte</i>	
продуктивность предприятий	<i>uzņēmumu produktivitāte</i>	
продуктивность Латвии	<i>Latvijas produktivitāte</i>	“Produktivitātes un digitalizācijas attīstības tendences Latvijā” (J. Binde)
продуктивность экономики	<i>ekonomikas produktivitāte</i>	
продуктивность народного хозяйства	<i>tautsaimniecības produktivitāte</i>	
продуктивность	<i>produktivitāte</i>	“Produktivitāte: kāpēc būtiska Latvijai un Latvijas uzņēmējiem?” (I. Stepiņa)
производительность труда	<i>darba ražīgums</i>	
продуктивность работников	<i>darbinieku produktivitāte</i>	
продуктивность (латышский термин – производительность)	<i>produktivitāte (latviešu valodā – ražīgums)</i>	
продуктивность труда	<i>darba produktivitāte</i>	
производительность труда	<i>darba ražīgums</i>	
продуктивность предприятий	<i>uzņēmumu produktivitāte</i>	
продуктивность одного фактора	<i>viena faktora produktivitāte</i>	
продуктивность капитала	<i>kapitāla produktivitāte</i>	
многофакторная продуктивность	<i>daudzfaktoru produktivitāte</i>	
многофакторная продуктивность труда-капитала-ресурсов промежуточного потребления (энергии, материалов, услуг)	<i>kapitāla-darba-starppatēriņa resursu (enerģija, materiāli, pakalpojumi) daudzfaktoru produktivitāte</i>	
многофакторная продуктивность труда-капитала	<i>kapitāla-darba daudzfaktoru produktivitāte</i>	
продуктивность	<i>produktivitāte</i>	
общая продуктивность факторов	<i>kopējā faktoru produktivitāte</i>	
общая продуктивность	<i>kopējā produktivitāte</i>	
продуктивные предприятия	<i>produktīvi uzņēmumi</i>	
продуктивная предпринимательская деятельность	<i>produktīva uzņēmējdarbība</i>	
малопродуктивные отрасли	<i>mazproduktīvas nozares</i>	
продуктивный рост	<i>produktīva izaugsme</i>	
продуктивные вложения	<i>produktīvi ieguldījumi</i>	
продуктивные инвестиции	<i>produktīvas investīcijas</i>	

Продолжение таблицы 1 см. на следующей странице

Продолжение таблицы 1

1	2	3
почасовая продуктивность труда	<i>stundas darba produktivitāte</i>	
продуктивность секторов пред-принимательской деятельности	<i>uzņēmējdarbības sektoru produktivitāte</i>	
продуктивность страны	<i>valsts produktivitāte</i>	

* Перевод авторов.

** Авторы этой статьи не перевели аббревиатуру с английского языка на язык статьи (латышский).

Источник: составлено авторами на основе Steinbuka 2019.

Как показывают результаты контент-анализа использования терминов «производительность» и «продуктивность» в текстах статей монографии «Повышение продуктивности: тенденции и вызовы будущего» (Steinbuka 2019), даже в рамках одной научной монографии – и даже в рамках практически каждой из статей этой монографии – не наблюдается терминологической согласованности по отношению к производительности и продуктивности. Более того, в рамках научной монографии, в названии которой стоит термин «продуктивность», не дано системного обоснования для применения этого термина (а также широко используемого в тексте монографии термина «производительность»). Это свидетельствует о неаккуратном обращении с терминами в латвийской экономической науке,² а также о необходимости чёткого определения понятий «производительность» и «продуктивность» и систематизации терминологического аппарата региональной экономической науки, связанного с производительностью и продуктивностью. В рамках данного исследования авторы надеются внести свой вклад в системный анализ понятий «производительность» и «продуктивность» и более обоснованное применение терминов, обозначающих эти понятия, в латвийской региональной экономической науке.

Самый поверхностный взгляд на многообразие применения терминов «производительность» и «продуктивность» в словосочетаниях, представленное в Таблице 1, позволяет поставить как минимум два исследовательских вопроса:

- чем отличается производительность от продуктивности и как наиболее корректно их представлять в переводе на русский, латышский и английский языки?
- как соотносится производительность и продуктивность различного рода факторов производства (труда, капитала и т.д.) с производительностью и продуктивностью предприятий, стран, отраслей и т.д.?

² Справедливости ради стоит отметить, что в латвийской экономической науке есть также и положительный пример того, как в научной монографии под редакцией академика Б. Ривжи (*B. Rivža*) «Экономика знаний – для жизнеспособности села и регионов Латвии» (по-латышски: *Zināšanu ekonomika Latvijas lauku un reģionu dzīvotspējai*) (2018) перед основным текстом издания приведён список основных терминов исследования с их переводом на английский язык (хотя и без определения соответствующих понятий), что свидетельствует хотя бы о согласованном и системном применении латышских и английских терминов в данной научной монографии (Rivža B. 2018).

В базе академических терминов *AkadTerm* Терминологической комиссии Латвийской Академии наук (по-латышски: *Latvijas Zinātņu akadēmijas Terminoloģijas komisija*) термины «производительность» и «продуктивность» с переводом на латышский и английский языки представлены следующим образом (*Latvijas Zinatnu akademijas Terminoloģijas komisija* 2019):

- производительность — перевод на латышский язык: *produktivitāte, ražīgums, ražošanas jauda, veiktspēja*; перевод на английский язык: *productivity, performance, output; productiveness*;
- продуктивность — перевод на латышский язык: *produktivitāte, ražīgums, ražība*; перевод на английский язык: *productivity*.

Как видно из результатов анализа ресурсов базы академических терминов *AkadTerm* Терминологической комиссии Латвийской Академии наук, у термина «производительность» гораздо больше вариантов перевода на латышский и английский языки, чем у термина «продуктивность». И фактически эти два термина представлены как синонимы. Тем не менее, авторы видят необходимость чёткого разграничения этих понятий для дальнейшего исследования феноменов, обозначаемых в официальной базе академических терминов Латвии — а также в научных публикациях (*Dombrovskis* 2019; *Stepina* 2019) — иногда как «производительность», а иногда как «продуктивность», без акцентирования и объяснения разницы между ними.

Термин *productivity* исторически, начиная с классического труда экономической науки А. Смита с традиционно упоминаемым сокращённым названием «Богатство народов» (по-английски: *Wealth of Nations*) (1776) применялся в сельском хозяйстве и животноводстве, чтобы отразить лучшие экземпляры — более плодотивые или дающие лучшее потомство (*Smith* 1776). С развитием промышленности это слово стало использоваться также и для характеристики промышленного производства. В русском языке и в англоязычных научных публикациях синонимом продуктивности стала производительность³ (*Brokgauz, Efron* 1909; *Evgen'eva* 1984; *Sazonova* 1989; *Trishin* 2013), в латышском — *ražīgums* (*Latvijas Universitātes Latviesu valodas institūts* 2019), которая в настоящее время в научной экономической литературе используется одновременно с термином «продуктивность» — как в русскоязычных публикациях (*Kudriavtseva* 2008; *Soldatov* 2013; *Shabunova i dr.* 2017), так и в публикациях на латышском языке (*Dombrovskis* 2019; *Stepina* 2019; *Baranova u.c.* 2019; *Binde* 2019). Но, к примеру, в Социальном бюллетене Аналитического центра при Правительстве Российской Федерации последовательно используется только термин «производительность» — и сам по себе, и как перевод английского термина *productivity* при анализе методологии Организации экономического сотрудничества и развития (ОЭСР) и Международной организации труда (МОТ) (*Analiticheskie tsentri pri Pravitel'stve Rossiiskoi Federatsii* 2017), хотя известный рос-

³ Например, в этих определениях: «производительность труда — продуктивность производственной деятельности людей, измеряемая количеством продукции, произведённой за единицу рабочего времени» (*Evgen'eva* 1984); «рост производительности, т.е. продуктивности комбинирования людей, ресурсов и орудий труда, является основным двигателем развития» (*Cusolito, Maloney* 2018).

сийский учёный Б. Генкин, автор учебников по экономике труда для ВУЗов, предлагает переводить английский термин *productivity* буквально, т.е. как «продуктивность», и в своём учебнике для ВУЗов последовательно использует именно термин «продуктивность» (Genkin 1998). Б. Генкину, в свою очередь, оппонирует профессор И. Борисенко, утверждая – на основе анализа словарей (Taube 1966; Zhdanova 1995; Zenovich 1998; Azriliian 2002; Egorova 2014) и англоязычных публикаций (Daft 2009), – что английский термин *productivity* имеет в русском языке эквивалент в виде термина «производительность», а русский термин «продуктивность», в свою очередь, переводится на английский язык как *efficiency*, что является более ёмким понятием, чем производительность/*productivity* (Borisenko 2014). Таким образом, в современной российской экономической науке существует обоснованное мнение о том, что термины «производительность» и «продуктивность» нельзя отождествлять и использовать как синонимы, поскольку понятие «продуктивность» шире понятия «производительность» (Borisenko 2014).

Для того, чтобы внести свой вклад в прояснение терминологической несогласованности по отношению к понятиям «производительность» и «продуктивность» и определиться с тем, каким образом эти термины будут использоваться в данном исследовании, авторы провели системный анализ этих двух понятий при помощи Малого академического словаря (Evgen'eva 1984), Большого экономического словаря (Azriliian 2002) и базы академических терминов *AkadTerm* Терминологической комиссии Латвийской Академии наук (Latvijas Zinatnu akademijas Terminologijas komisija 2019).

Таблица 2

Сравнительный анализ понятий «производительность» и «продуктивность»

Категории анализа	Производительность	Продуктивность
1	2	3
Происхождение	Старославянское: <i>водити</i>	Латинское: <i>productivitas</i>
Общее определение понятия	Способность производить, выпускать то или иное количество продукции	Способность давать продукцию (о сельскохозяйственных животных, птице)
Экономическое определение понятия	Производство изделий, услуг, полуфабрикатов и т.д. в единицу времени, одним работником, единицей оборудования, одним подразделением и т.п.	Способность экономической системы производить полезную продукцию и меры реализации этой продукции
Использование термина в словосочетаниях	Производительность труда Производительность машин Производительность завода Производительность леса Производительность оборудования Производительность основных фондов	Продуктивность труда Продуктивность сельского хозяйства Продуктивность сельскохозяйственных животных Продуктивность месторождения Продуктивность оборудования Продуктивность пласта

Продолжение таблицы 2 см. на следующей странице

Продолжение таблицы 2

1	2	3
	Производительность пиления	
	Производительность почвы	
	Производительность затрат	
Другие части речи, образованные от основного термина	Производительный (по-латышски: <i>ražīgs</i>) Производительно (по-латышски: <i>ražīgi</i>) Производить (по-латышски: <i>ražot</i>) Производитель (по-латышски: <i>ražotājs</i>) Производство как действующий объект (по-латышски: <i>ražotne</i>) Производство как процесс или вид деятельности (по-латышски: <i>ražošana</i>) Производящий (по-латышски: <i>ražojošs</i>)	Продуктивный (по-латышски: <i>produktīvs</i>) Продуктивно (по-латышски: <i>produktīvi</i>) Продуцировать (по-латышски: <i>producēt</i>) Продюссер (по-латышски: <i>producents</i>) Продуцирование/продюссирование (по-латышски: <i>producēšana</i>)

Источник: составлено авторами по Evgen'eva 1984; Azriliian 2002; Latvijas Zinatnu akademijas Terminologijas komisija 2019.

Сравнительный анализ понятий «производительность» и «продуктивность», проведённый авторами на основе анализа русскоязычных и латышскоязычных словарных источников (см. Таблицу 2), не позволяет чётко разграничить концептуальную сущность этих понятий, поскольку:

- 1) ни в общем, ни в экономическом определении этих понятий нельзя идентифицировать концептуальную разницу: и «производительность», и «продуктивность» интерпретируется как «способность субъекта производить продукцию»;
- 2) оба термина в словосочетаниях употребляются со схожими по сути субъектами: «производительность машин» и «продуктивность оборудования», «производительность почвы» и «продуктивность пласта», и даже один и тот же субъект — например, труд⁴ — может быть как производительным, так и продуктивным;
- 3) некоторые понятия — производные от термина «продуктивность» — в русском, и латышском языках имеют значение, далёкое от значения продуктивности: например, *producers* и *producēšana* в латышском языке, «продюссер» и «продюссирование» — в русском.

⁴ Понятие «труд» используется в экономической литературе в двух существенно различных значениях — и как процесс производства (Marshall 1890; Inozemtsev 1995; Mosselmans, White 2001), т.е. работа (по-латышски: *darbs*, по-английски: *work*) (Latvijas Universitātes Latviesu valodas institūts 2019; Zhdanova 1995), и как фактор производства (Cobb, Douglas 1928; Arrow et al. 1961; Erenberg, Smit 1996; Samuelson, Nordhaus 2010), т.е. труд (по-латышски: *darbs*, по-английски: *labour/labor*) (Latvijas Universitātes Latviesu valodas institūts 2019; Zhdanova 1995) в значении рабочей силы или позднее — человеческого капитала.

Ясность по поводу определения понятий и применения терминов «производительность» и «продуктивность» в экономике появляется только после системного анализа одновременно трёх терминов – «производительность», «продуктивность» и «эффективность», проведённого на основе научных публикаций⁵ и англо-русских словарей.⁶ Результаты этого анализа представлены в Таблице 3.

Таблица 3

Системное представление основных терминов и понятий исследования

Языки перевода	Основные термины данного исследования		Похожий термин
	Производительность	Продуктивность	Эффективность
Латышский язык	<i>Ražīgums</i>	<i>Produktivitāte</i>	<i>Efektivitāte</i>
Английский язык	<i>Productivity</i>	<i>Efficiency</i>	<i>Effectiveness</i> *
Краткое определение понятия	Создавать как можно больше продукта в единицу времени (по-английски: <i>output per unit of time</i>), т.е. «делать много вещей» (по-английски: “ <i>do many things</i> ”)	Создавать как можно больше продукта с наименьшими затратами (по-английски: <i>output vs input, i.e. best possible output per unit of time</i>), т.е. «делать вещи правильно» (по-английски: “ <i>do things right</i> ”)	Создавать как можно больше нужного (в долгосрочной перспективе) продукта (по-английски: <i>outcomes</i>) с наименьшими затратами, т.е. «делать правильные вещи» (по-английски: “ <i>do right things</i> ”)

* В англоязычной терминологии (чаще всего – в медицинской) используется также и термин эффектность (по-латышски: *efektīgums*, по-английски: *efficacy*), что означает способность (чаще всего – лекарства или медицинской технологии) давать видимый эффект (что само по себе ещё не означает эффективного лечения в долгосрочной перспективе) (Mackenzie, Dixon 1995). В свою очередь, продуктивность (по-английски: *efficiency*) – это чисто экономический термин, который учитывает количество затраченных в процессе производства ресурсов (факторов производства).⁷ В свою очередь, эффективность (по-

⁵ Хотя и в научных статьях – особенно опубликованных в прошлом веке – имеет место определённая терминологическая путаница, берущая начало в ставших классическими и часто цитируемых публикациях М. Фаррелла (*M. Farrell*), в которых он изучает как *productive efficiency*, так и *efficient production* (или *efficiency in production*) (Farrell 1957; Farrell, Fieldhouse 1962), а также в работах его последователей (Carlsson 1972, 1974; Forsund, Hjalmarsson 1974). Тем не менее, именно в этом терминологическом хаосе появляется понимание, что необходимо выделять продуктивное производство из общего процесса производства продукции (Carlsson 1972, 1974; Forsund, Hjalmarsson 1974; Moss 1979; Link 1983).

⁶ В свою очередь, англо-латышские словари не разграничивают понятия *ražīgums* и *produktivitāte*, представляя их как синонимы (Latvijas Zinatnu akadēmijas Latviešu valodas institūts 1997).

⁷ Ресурсы и факторы производства – это ещё одна группа терминов, требующая аккуратного и корректного применения в ходе данного исследования, поскольку это не одно

английски: *effectiveness*) свидетельствует о долгосрочной целесообразности производственного процесса и включает в себя социальную, экологическую и другие составляющие.

Источник: составлено авторами по Brokgauz, Efron 1909; Taube 1966; Drucker 1977; Zhdanova 1995; Zenovich 1998; Azriliian 2002; Daft 2009; Egorova 2014; Borisenko 2014; Stack 2016; Latvijas Zinatnu akademijas Terminologijas komisija 2019, Latvijas Universitates Latviesu valodas instituts 2019.

Необходимо отметить, что производительность и продуктивность могут коррелировать между собой как прямо-, так и обратнопропорционально, т.е. более высокая производительность, которая ставится «во главу угла» – без учёта продуктивности производственного процесса – в плановой экономике (Ivlev i dr. 2005; Kastel's 2019), не обязательно означает и более высокую продуктивность. Например, в Латвии в первой половине 2019 года производительность строительной отрасли была выше, чем производительность обрабатывающей промышленности – индекс объёма выпущенной продукции в строительной отрасли составил 126.8 в первой четверти и 124.8 во второй четверти 2019 года по сезонно-выровненным данным по отношению к 2015 году (Latvijas Republikas Centrala statistikas parvalde 2019a), в то время как в обрабатывающей промышленности эти же показатели были меньше – 120.4 и 119.6 соответственно (Latvijas Republikas Centrala statistikas parvalde 2019b). Но продуктивность обрабатывающей промышленности в этот же период времени была выше, чем в строительной отрасли, поскольку в обрабатывающая промышленность «дала» 12.6% от общего объёма добавленной стоимости, созданной экономикой Латвии, в первой четверти 2019 года и 12.0% – во второй, а строительная отрасль – лишь 4.3% и 6.3% соответственно (Latvijas Republikas Centrala statistikas parvalde 2019c).

После выработки авторами своего системного представления об основных терминах и понятиях данного исследования необходимо вернуться к определению продуктивности, данному авторами латвийской научной монографии «Повышение продуктивности: тенденции и вызовы будущего» (2019): продуктивность обычно определяется как соотношение между результатом, т.е. объёмом выпущенной продукции (по-английски: *output*) и объёмом затраченных для этого факторов производства (по-английски: *input*) (Kasjanovs 2019). Латвийский исследователь И. Степиня (*I. Stepina*) полагает, что «продуктивность показывает, насколько эффективно используются ресурсы для достижения того или иного объёма выпуска» (Stepina 2019). В свою очередь, на основе результатов системного анализа терминов и понятий данного исследования, представленных в Таблице 3, авторы

и то же, и ресурсы становятся факторами производства лишь тогда, когда их активируют (по-английски: *activate*), т.е. используют в производстве при помощи определённых технологий (Ullman 1958; Maclean et al. 2003; Dobele 2004; Tikhonova 2006; Mensikovs 2009; Boronenko u.c. 2012; Boronenko, Drezgic 2014). Именно поэтому производительность и продуктивность может быть только у факторов производства, но не у ресурсов – у ресурсов есть только производственный потенциал, который может быть реализован в экономике, а может так и остаться лишь потенциалом. В свою очередь, ресурс, который не только активирован, т.е. превращён в фактор производства, но активирован продуктивно, является капиталом (Mensikovs 2009; Boronenko u.c. 2012; Boronenko, Drezgic 2014).

утверждают, что продуктивность не показывает, насколько эффективно используются ресурсы, продуктивность показывает — хотя бы исходя из звучания самого термина — насколько продуктивно они используются. В свою очередь, то, насколько эффективно используются ресурсы, т.е. в «нужном» ли обществу направлении, показывает эффективность (по-английски: *effectiveness*),⁸ а не продуктивность (по-английски: *efficiency*).

Авторы латвийской научной монографии «Повышение продуктивности: тенденции и вызовы будущего» (Steinbuka 2019), давая определение тому, что показывает продуктивность, ссылались на формулировку, данную Международной организацией труда, а именно, *productivity refers to how efficiently resources are used* (International Labour Organization 2019), что корректно на русский язык переводится как «производительность показывает, насколько продуктивно используются ресурсы», но это совершенно некорректно по сути, поскольку авторами уже обосновано, что производительность и продуктивность — это далеко не одно и то же, и производительность характеризует только результат производства без учёта количества затраченных на достижение этого результата факторов производства. Хотя из анализа содержания материала, представленного на официальном сайте Международной организации труда, следует, что здесь речь идёт действительно именно о продуктивности, что надо было бы представить на английском языке как *efficiency*, а не как *productivity*. Но Международная организация труда — не научное сообщество и может позволить себе то, что недопустимо в научных публикациях, т.е. необоснованное и некорректное применение терминов.

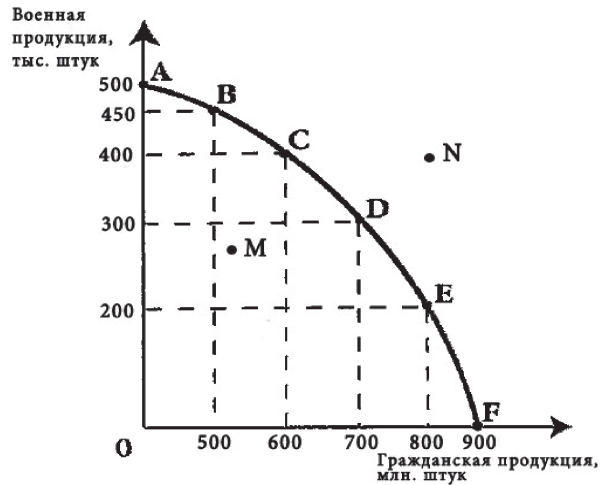
Концептуальные различия между производительностью, продуктивностью и эффективностью хорошо показывает кривая производственных возможностей (по-английски: *production possibilities curve*), разработанная в рамках классической микроэкономической теории, и производственная дилемма общественного выбора — «пушки или масло»⁹ (Samuelson, Nordhaus 2010; Kurakov 2017; McConnell et al. 2018): экономика страны может быть производительной «по пушкам», т.е. производить их много, и быть при этом даже высокопродуктивной, т.е. производить «много пушек» с минимальными затратами факторов производства, но является ли она при этом эффективной в долгосрочной перспективе, если при помощи этих же факторов производства можно было бы производить не «пушки», а «масло» для народа? Пакистанские учёные, изучив влияние военных расходов на бедность населения в своей стране, опубликовали в «Вестнике социальных наук» свой эмпирически обоснованный отрицательный ответ на этот вопрос по отношению к современному Пакистану (Kalim, Hassan 2014).

⁸ Авторы не согласны с позицией латвийской исследовательницы И. Котане (*I. Kotāne*), которая использует перевод термина «эффективность» (по-латышски: *efektivitate*) на английский язык как *efficiency* (Kotane 2014), а также с мнением о том, что *efficiency* — это внутренняя эффективность, а *effectiveness* — внешняя эффективность (Gronroos, Ojasalo 2004; Oiner 2008) (хотя определённая доля экономической логики в этом всё же есть). Авторы не согласны также с формулировкой, представленной в российском учебнике по микроэкономике: эффективность — это максимальная прибыль (Kurakov 2017).

⁹ Кривую производственных возможностей иногда так и называют в научной литературе — график «пушки-масло» (по-английски: *guns and butter curve*) (Dikici 2015).

Рисунок 1

Производительность, продуктивность и эффективность экономики на кривой производственных возможностей



Примечание:

B, C, D, E – высокопроизводительные (при имеющихся производственных возможностях) и высокопродуктивные варианты производства продукции с разной степенью эффективности для общества (степень эффективности здесь оценивается с помощью общественного договора).

A, F – высокопроизводительные и высокопродуктивные, но не эффективные для общества варианты производства продукции.

M – низкопроизводительный и низкопродуктивный вариант производства продукции, при котором в процессе производства используются не все имеющиеся в экономике ресурсы (или они используются непродуктивно), в результате чего производится слишком мало продукции, т.е. ниже уровня производственных возможностей экономики.

N – высокопроизводительный, но недостижимый в краткосрочной перспективе вариант производства продукции.

Источник: Kurakov 2017.

Таким образом, авторы полагают, что достаточно обоснованно и чётко ответили на первый поставленный в рамках данного раздела статьи исследовательский вопрос о том, чем отличается производительность от продуктивности (и от эффективности) и как наиболее корректно их представлять в переводе на русский, латышский и английский языки (см. Таблицу 3). Авторы понимают, что переводческая терминологическая путаница происходит от того, что очень удобно английский термин *productivity*, не углубляясь в концептуальную сущность этого понятия, переводить на латышский язык как *produktivitāte*, а на русский язык – как «продуктивность». Но за первичной простотой перевода стоит дальнейшая невозможность научно-обоснованно и корректно изучать производительность, у которой есть устоявшийся аналог в латышском языке – *ražīgums*, а в английском языке – *productivity* (см. Таблицу 3), в то время как «продуктивность» русского и латышского языка в английском языке имеет аналог в виде термина *efficiency*, а

не *productivity* (см. Таблицу 3). В своём исследовании авторы будут использовать в основном ту научную литературу, в которой так же акцентируется разница в терминах и понятиях производительности и продуктивности — например, исследование, в котором изучаются варианты взаимозамещения труда и капитала и влияние этого на экономическую продуктивность (по-английски: *economic efficiency*) (Arrow et al. 1961), или исследование, посвящённое изучению экономической продуктивности (по-английски: *economic efficiency*) регионов Греции (Halkos, Tzeremes 2010), а также исследование, авторы которого корректно измеряют продуктивность (по-английски: *efficiency*) на основе соотношения результата и затрат (по-английски: *output vs input*), приходя к выводу о том, что в результате падения технической продуктивности (по-английски: *technical efficiency*) в изучаемом ими секторе экономики Турции снижается также и общая производительность факторов (по-английски: *total factor productivity*) (Candemir et al. 2011). Кроме того, в Отчётах о глобальной конкурентоспособности (по-английски: *Global Competitiveness Reports*) Всемирного экономического форума (по-английски: *World Economic Forum*) так же последовательно и корректно используются оба термина — «производительность» (по-английски: *productivity*) и «продуктивность» (по-английски: *efficiency*) (World Economic Forum 2016):

- производительность — для измерения того, насколько в странах мира оплата труда соответствует его производительности (индикатор «оплата и производительность», по-английски: *pay and productivity*);
- продуктивность — для определения одной из стадий экономического развития — стадии продуктивности (по-английски: *efficiency-driven stage*), на которой находится часть стран мира и где, как уже упоминалось во Введении к данной статье, основным двигателем экономического роста является именно продуктивность.

Далее необходимо дать ответ также и на второй исследовательский вопрос о том, как соотносится производительность и продуктивность различного рода факторов производства (труда, капитала и т.д.) с производительностью и продуктивностью предприятий, стран, отраслей и т.д. Иными словами: когда мы изучаем и измеряем производительность и продуктивность, то что является субъектом, т.е. «производительность чего» и «продуктивность чего» мы изучаем? Отвечая на этот вопрос, авторы постоянно будут иметь в виду, что прежде всего их интересует производительность и продуктивность регионов, что следует также отличать от производительности и продуктивности труда как фактора производства (или, к примеру, капитала) в регионе, т.е. региональной производительности и продуктивности труда (или, к примеру, капитала) как фактора производства.

Авторам представляется, что они уже частично ответили на этот вопрос в ходе системного анализа терминов и понятий данного исследования, особенно в ходе представления производительности и продуктивности экономики на кривой производственных возможностей (см. Рисунок 1). И. Борисенко в своём исследовании современной концепции повышения производительности предпринимательства приходит к выводу о том, что производительность и продуктивность региона и производительность и продуктивность труда (или любого другого фактора про-

изводства или их сочетания) по значимости представляют собой общее и частное, т.е. производительность и продуктивность, например, труда как фактора производства является составной частью производительности и продуктивности региона (Vorisenko 2014).

Таким образом, производительность и продуктивность региона — это результат «работы» всех факторов производства, имеющихся на территории региона, и всех экономических субъектов, действующих в регионе, т.е. результат функционирования экономики региона. В свою очередь, производительность и продуктивность каждого отдельного фактора производства — труда, капитала, земли, информации и т.д. — будет называться уже «производительностью труда» или «продуктивностью капитала», или «производительностью труда и капитала» (или любых других комбинаций факторов производства) и т.д. Авторы согласны с И. Борисенко в том, что некорректно отождествлять, например, «производительность и продуктивность региона» с «производительностью и продуктивностью труда в регионе» (Vorisenko 2014),¹⁰ поскольку первая включает в себя не только производительность и продуктивность труда в том или ином регионе, но и производительность и продуктивность всех других факторов производства, а также их взаимосвязанных комбинаций с эффектом синергии, важность которого в современной экономической науке была осознана и актуализирована в многочисленных и ставших уже классическими работах М. Портера (*M. Porter*) (Porter 1980, 1981, 1985, 1987, 1990, 1991, 1996). Латвийские исследователи также отмечают, что, например, вклад технологического прогресса в повышение производительности и продуктивности больше там, где есть знающие и хорошо подготовленные люди, способные как применять новые технологии, так и развивать их (Stepina 2019), т.е. эффект синергии проявляется при соединении фактора новых технологий с фактором высококачественного человеческого капитала.

Экономическая теория агломерации — начиная с классических работ А. Маршалла (*A. Marshall*) с его знаменитым «секретом производства, витающим в воздухе» (по-английски: *industry secrets are in the air*) (Marshall 1890) — акцентирует, в свою очередь, значение эффекта агломерации (по-английски: *agglomeration effect*), особенно ярко проявляющегося в экономических кластерах и индустриальных районах (Voronenko 2009; Radeva 2014; Zeibote 2018). Эффект агломерации является причиной того, что производительность и продуктивность регионов не является только простой суммой производительности и продуктивности экономических субъектов, функционирующих в том или ином регионе, а содержит в себе ещё и определённую «дельту» — производную от степени агломерации экономических субъектов в регионе (Ullman 1958; Fujita et al. 1999; Nechet et al. 2012).¹¹

¹⁰ Хотя достаточно часто в экономических исследованиях под общим названием о производительности скрывается именно изучение производительности труда (Jachan 2016; OECD 2018).

¹¹ Интересно, что исследователи, признавая несомненную важность эффекта агломерации в современной экономике, всё же утверждают, что он не всемогущ, поскольку «Лондон большой, но большинство британцев живут всё-таки в других местах Великобритании» (Fujita et al. 1999). То же самое можно сказать и о Латвии применительно к Риге и всей остальной территории страны.

В свою очередь, со стороны отраслевой структуры экономики региона также существует своя «дельта» – эффект концентрации экономической активности в регионе, который в латвийской экономической науке изучался довольно мало (Boronenko, Zeibote 2010; Zeibote 2018), без «выхода» на специализацию региона, основанную на повышенной концентрации той или иной экономической активности (или нескольких видов экономической активности) в этом регионе (Bogetic, Sanogo 2005).

Рисунок 2

Соотношение производительности/продуктивности* регионов и их составных частей

Производительность/продуктивность региона

Эффект синергии	Эффект агломерации	Эффект концентрации
Сумма производительности/продуктивности факторов производства региона	Сумма производительности/продуктивности экономических субъектов региона	Сумма производительности/продуктивности отраслей экономики региона

* Производительность и продуктивность регионов на данном рисунке представлены как два параллельных процесса с одинаковым методологическим подходом к соотношению общего и частного.

Источник: создан авторами на основе Marshall 1890; Ullman 1958; Porter 1980, 1996; Fujita et al. 1999; Boronenko 2009; Nechet et al. 2012; Borisenko 2014; Radeva 2014; Zeibote 2018; Stepina 2019.

Таким образом, производительность/продуктивность регионов включает в себя, с одной стороны, сумму производительности/продуктивности факторов производства региона плюс эффект синергии от их взаимодействия, с другой стороны, – сумму производительности/продуктивности экономических субъектов региона плюс эффект от степени их агломерации в регионе, а с третьей – сумму производительности/продуктивности отраслей экономики региона плюс эффект от степени их концентрации в регионе – подобно тому, как ВВП может быть рассчитан тремя способами: по доходам, по расходам и по добавленной стоимости (Samuelson, Nordhaus 2010).

Как измерить производительность и продуктивность регионов?

Поскольку, как уже было показано в предыдущей части данной статьи, в научной литературе существует путаница и необоснованное применение терминов «производительность» и «продуктивность», следует ожидать подобной путаницы также и в области измерения производительности и продуктивности факторов производства, экономических субъектов, отраслей, регионов, стран и т.д. Авторы не считают целесообразным подробно показывать в рамках данной статьи всю эту несогласованность и разнообразие индикаторов производительности и продуктивности, встречающуюся в экономической литературе, а сразу перейдут к эмпирической интерпретации и поиску наиболее соответствующего терминологическому обоснованию способа измерения производительности и продуктивности регионов.

На основе авторского системного анализа главных терминов и понятий данного исследования, результаты которого представлены в Таблице 3, производительность регионов эмпирически интерпретируется как способность экономики регионов создавать как можно больше продукта в единицу времени (по-английски: *output per unit of time*), т.е. «делать много вещей быстро», без учёта затраченных на это ресурсов.

Таким образом, при измерении производительности регионов предлагаемые инструменты должны содержать в себе индикатор времени (Brokgauz, Efron 1909; Stack 2016), но не обращаться к количеству затраченных факторов производства — труда, капитала и других, ибо к количеству затрат обращается продуктивность. Поскольку в исследовательской практике экономической науки единицей времени при измерении производительности традиционно считается час, месяц, квартал, полугодие или год (Borisenko 2014), то для того, чтобы проанализировать, каким образом в экономических исследованиях измеряется производительность регионов, необходимо собрать все возможные измерительные инструменты, которые показывают, сколько продукции выпускается в регионе хотя бы за одну из вышеупомянутых единиц времени. Но здесь существует ещё одна проблема — регионы различаются по площади и по количеству населения, поэтому необходимо понять также, каким образом мы будем сравнивать производительность регионов между собой, а также производительность одного и того же региона в динамике, т.е. по отношению к самому себе.

Производительность регионов в научной литературе обычно измеряется с помощью валового внутреннего продукта (ВВП), т.е. суммарной стоимости продуктов и услуг, произведённых в течение года на душу населения (что учитывает разницу между регионами по количеству населения) в том или ином регионе¹²

¹² Хотя авторы вслед за многими научными исследованиями склонны считать ВВП на душу населения всё-таки показателем экономической развитости или дееспособности региона (по-латышски: *veiktspējas*, по-английски: *performance*) (Rice, Venables 2004a, 2004b; New Zealand Institute of Economic Research 2014; Simpson 2014; Stankevics 2014; Stankevics et al. 2014; Boronenko et al. 2014), но не показателем его производительности, поскольку далеко не каждая «душа населения» участвует в процессе производства, но каждая — по-

(Barro, Sala-i-Martin 1992, 2004; H.M. Treasury 2001; Rice, Venables 2004a, 2004b). Во многих экономических исследованиях производительность региона измеряется с помощью ВВП за один отработанный час (Evans, Siegel 1942; Aseradens 2017), ВВП на одного занятого (что уже можно отнести к измерению продуктивности) (Abel et al. 2010; Varanova u.c. 2019) или ВВП на один квадратный километр территории (что учитывает разницу между регионами по их площади)¹³ (International Monetary Fund 2019). П. Райс (P. Rice) и Э. Венеблс (A. Venables) предлагают также в качестве инструмента измерения производительности регионов использовать индекс заработной платы (по-английски: *earnings index*), рассчитывающийся с учётом отраслевой структуры занятости в регионе (Rice, Venables 2004a, 2004b). Центральное статистическое управление (по-латышски: *Centrālā statistikas pārvalde*) Латвии не располагает информацией о произведённом ВВП в расчёте на один отработанный час, в свою очередь, ВВП на душу населения или на одного занятого, как уже было указано выше, не совсем подходят для измерения производительности регионов – таким образом, для практической реализации исследования, объектом которого являются регионы Латвии, авторы используют те показатели, которые представлены в Таблице 4.

Таблица 4

**Значения показателей, подходящих для измерения
производительности регионов, в регионах Латвии, 2016 год***

Регионы Латвии	ВВП на 1 км ² территории (в фактических ценах), тыс. евро	Индекс заработной платы** (с учётом отраслевой структуры занятости)
<i>ЛАТВИЯ в целом</i>	387.7	8.82
Рижский регион	44407.4	9.54
Пририжский регион	376.8	8.32
Видземский регион	106.9	6.98
Курземский регион	173.7	7.21
Земгальский регион	178.0	7.33
Латгальский регион	122.4	5.91

* Последний год, за который на момент написания статьи латвийская официальная статистика располагала данными по ВВП в регионах Латвии.

** Рассчитывается путём сложения среднемесячных брутто зарплат в различных отраслях экономики региона, умноженных на удельный вес занятости в этих отраслях (см. Таблицу 6), с последующим делением этой суммы на 100.

Источник: рассчитано авторами по Latvijas Republikas Centrālā statistikas pārvalde 2019d, 2019e.

требляет его плоды, поэтому показатель ВВП на душу населения важен для измерения экономического положения региона.

¹³ Для достижения цели данного исследования все изучаемые территории – и страны, и их внутренние регионы – принимаются за регионы, поскольку в экономической науке регион – это территория со специфической экономикой (Granberg 2004; Volkov 2004; Voropenko 2007), и по этому определению страна также может быть названа регионом.

Авторы считают, что произведённый за год ВВП на 1 км² территории региона и индекс заработной платы в регионе являются теми показателями, которые эмпирически характеризуют и могут служить для измерения производительности регионов. Интересно, что применительно к регионам Латвии традиционно отстающий по экономическим показателям Латгальский регион не является самым низкопроизводительным по ВВП в расчёте на 1 км² территории – по этому показателю самым неблагополучным в Латвии является Видземский регион (см. Таблицу 4).

Представленные в Таблице 5 данные о площади регионов Латвии и плотности населения в них дают основание предполагать – и это подтверждается результатами корреляционного анализа, – что уровень производительности регионов очень сильно зависит от этих показателей: производительность региона тем выше, чем меньше его территория и чем выше плотность населения на этой территории (см. Таблицу 5), что, в свою очередь, подтверждает тезис авторов о том, что производительность регионов включает в себя эффекты синергии, агломерации и концентрации (см. Рисунок 2) и эти эффекты сильнее всего проявляются именно в маленьких по площади регионах со сравнительно большой плотностью населения.

Таблица 5

ВВП на 1 км² территории регионов Латвии и его зависимость от площади территории и плотности населения в этих регионах, 2016 год

Регионы Латвии	ВВП на 1 км ² территории (в фактических ценах), тыс. евро	Площадь территории региона, км ²	Плотность населения на 1 км ² территории, абсолютные значения
<i>ЛАТВИЯ в целом</i>	<i>387.7</i>	<i>64 573</i>	<i>30</i>
Рижский регион	44407.4	304	2 104
Пририжский регион	376.8	10 135	36
Видземский регион	106.9	15 245	13
Курземский регион	173.7	13 607	18
Земгальский регион	178.0	10 732	22
Латгальский регион	122.4	14 550	19
Взаимозависимость между производительностью региона и его площадью/плотностью населения, коэффициент корреляции Пирсона, <i>n</i> = 6 регионов		-0.930, <i>r</i> = 0.000	1.000, <i>r</i> = 0.000

Источник: рассчитано авторами по Latvijas Republikas Centrālā statistikas pārvalde 2019d, 2019e.

Как уже отмечалось в предыдущем разделе данной статьи, производительности придавалось особое значение в административно-командной экономике. Считается также, что культ производительности «нанёс большой ущерб природе и доставил много страданий обществу» (Bevins 2017). Авторы полагают, что непропорциональный – по сравнению с другими регионами – рост производительности сравнительно маленького по площади Рижского региона в Латвии послужил

одной из причин «перетекания» экономической активности из Рижского региона в Пририжский, начавшегося в первом десятилетии XXI века (Boronenko 2009; Selivanova-Fiodorova i dr. 2018).

Что же касается второго показателя производительности регионов, идентифицированного авторами на основе работы П. Райс и Э. Венейбла (Rice, Venables 2004a, 2004b), – индекса заработной платы (рассчитанного с учётом отраслевой структуры занятости, см. Таблицы 4 и 6), то возможность его применения при изучении экономики Латвии подтверждается результатами исследования Всемирного экономического форума, а именно, данными по показателю «оплата и производительность» (по-английски: *pay and productivity*), который измеряет соответствие оплаты труда его производительности¹⁴ и по которому Латвия в 2016 году занимала 49 место из 138 с 4.3 баллами из 7 возможных (World Economic Forum 2016), а в 2018 году – уже 46 из 140 с 4.4 баллами (World Economic Forum 2018) – т.е., можно считать, что в Латвии показатель оплаты труда в регионе соответствует производительности этого региона. И по этому показателю именно Латгальский регион привычно занимает последнее место в Латвии, а Рижский регион – первое (см. Таблицу 4).

В Таблице 6 представлены данные, по которым рассчитывался индекс заработной платы в регионах Латвии и из анализа которых можно сделать вывод о том, что проблемы и вызовы, связанные с производительностью регионов Латвии – не одинаковы в Рижском и Пририжском регионах в сравнении со всеми остальными регионами Латвии. Так, если в Рижском и Пририжском регионах (и, как может показаться без дополнительного анализа, – в Латвии в целом) основной «точкой роста» производительности регионов является снижение занятости в самых низкопроизводительных отраслях экономики – оптовой и розничной торговле, ремонте автомобилей и мотоциклов; гостиничном хозяйстве и услугах общественного питания – или, соответственно, повышение производительности этих отраслей (см. Таблицу 6), то в остальных регионах Латвии этой проблемы нет – ни в одном из периферийных регионов Латвии не наблюдается самого большого удельного веса занятых в этих самых низкопроизводительных отраслях экономики (см. Таблицу 6), но при этом производительность самих регионов, измеренная при помощи индекса заработной платы, – всё равно ниже, чем в Рижском и Пририжском регионах (см. Таблицу 4). Возможно, причина в том, что те отрасли экономики, – а именно: транспорт и хранение; информационные и коммуникационные услуги, – которые являются самыми высокопроизводительными в Рижском и Пририжском регионах (и, как снова может показаться без дополнительного анализа, – в Латвии в целом), во всех других регионах Латвии таковыми не являются (см. Таблицу 6). В своих расчётах индекса заработной платы эти две отрасли – транспорт и хранение; информационные и коммуникационные услуги – авторы объединили не по своей воле, а исходя из возможностей латвий-

¹⁴ Ответ экспертов на вопрос: «Насколько в Вашей стране заработная плата соответствует производительности труда работников?» (по-английски: *In your country, to what extent is pay related to employee productivity?*) в баллах по шкале от 1 (совсем не соответствует) до 7 (в большей мере соответствует) (World Economic Forum 2016, 2018).|

ской официальной статистики, которая располагает данными по количеству занятых в регионах только по этим двум отраслям вместе, хотя по самой заработной плате есть и отдельные данные, которые показывают, во-первых, что среднемесячная брутто зарплата по Латвии в отрасли информационных и коммуникационных услуг – гораздо выше, чем в отрасли транспорта и хранения (но так происходит не во всех регионах Латвии), а во-вторых, – эта разница значительна только в Рижском и Пририжском регионах (Latvijas Republikas Centrālā statistikas pārvalde 2019f):

- по Латвии в целом на 2016 год: транспорт и хранение – 870 евро; информационные и коммуникационные услуги – 1364 евро;
- в Рижском регионе: транспорт и хранение – 924 евро; информационные и коммуникационные услуги – 1440 евро;
- в Пририжском регионе: транспорт и хранение – 869 евро; информационные и коммуникационные услуги – 1255 евро;
- в Видземском регионе: транспорт и хранение – 690 евро; информационные и коммуникационные услуги – 655 евро;
- в Курземском регионе: транспорт и хранение – 928 евро; информационные и коммуникационные услуги – 727 евро;
- в Земгальском регионе: транспорт и хранение – 620 евро; информационные и коммуникационные услуги – 650 евро;
- в Латгальском регионе: транспорт и хранение – 551 евро; информационные и коммуникационные услуги – 610 евро.

Таблица 6

Среднемесячная брутто зарплата в отрасли в соотношении со структурой занятости по отраслям экономики в регионах Латвии, 2016 год

Показатели и регионы	A	B-E	F	G, I	H, J	K-N	O	P	Q	R-U
1	2	3	4	5	6	7	8	9	10	11
Рижский регион										
Среднемесячная брутто зарплата в отрасли, евро	1222	993	884	742	1182	1130	1125	780	874	794
Удельный вес занятых в отрасли, % от общего числа занятых	0.0	12.9	6.7	20.5	14.9	17.2	6.8	8.4	5.7	6.6
Пририжский регион										
Среднемесячная брутто зарплата в отрасли, евро	706	870	808	665	1062	957	1050	740	739	709
Удельный вес занятых в отрасли, % от общего числа занятых	7.0	17.1	8.6	17.9	10.1	11.7	7.0	8.6	5.8	5.2
Видземский регион										
Среднемесячная брутто зарплата в отрасли, евро	740	789	690	521	673	725	836	631	719	607
Удельный вес занятых в отрасли, % от общего числа занятых	16.7	19.9	6.9	13.2	9.1	6.6	6.0	11.4	6.3	4.1

Продолжение таблицы 6 см. на следующей странице

Продолжение таблицы 6

1	2	3	4	5	6	7	8	9	10	11
Курземский регион										
Среднемесячная брутто зарплата в отрасли, евро	664	796	921	518	828	710	849	642	751	583
Удельный вес занятых в отрасли, % от общего числа занятых	13.1	20.4	9.3	15.5	10.5	7.2	6.1	8.0	4.9	4.8
Земгальский регион										
Среднемесячная брутто зарплата в отрасли, евро	863	893	731	553	635	656	883	647	715	622
Удельный вес занятых в отрасли, % от общего числа занятых	12.5	18.7	8.6	16.6	9.4	6.9	8.3	9.2	5.5	4.3
Латгальский регион										
Среднемесячная брутто зарплата в отрасли, евро	608	628	577	437	581	567	712	611	676	513
Удельный вес занятых в отрасли, % от общего числа занятых	12.8	17.1	4.8	13.1	13.1	6.9	7.9	11.4	8.5	4.3
ЛАТВИЯ в целом										
Среднемесячная брутто зарплата в отрасли, евро	820	947	828	677	1117	1078	1071	703	799	722
Удельный вес занятых в отрасли, % от общего числа занятых	7.7	16.7	7.4	17.3	12.0	11.4	7.0	9.1	6.0	5.3

Примечание:

А – сельское, лесное и рыбное хозяйство.

В-Е – добывающая промышленность и разработка карьеров; обрабатывающая промышленность; электроэнергия, газоснабжение, теплоснабжение и кондиционирование воздуха.

F – строительство.

G, I – оптовая и розничная торговля, ремонт автомобилей и мотоциклов; гостиничное хозяйство и услуги общественного питания.

H, J – транспорт и хранение; информационные и коммуникационные услуги.

K-N – финансовые и страховые услуги; операции с недвижимостью; профессиональные, научные и технические услуги; административная и обслуживающая деятельность.

O – государственное управление и охрана; обязательное социальное страхование.

P – образование.

Q – здравоохранение и социальное обслуживание.

R – искусство, развлечения и отдых; другие услуги.

Источник: рассчитано авторами по Latvijas Republikas Centrālā statistikas pārvalde 2019f, 2019g.

Как уже отмечалось в предыдущей части данной статьи, в ходе системного анализа основных понятий данного исследования, продуктивность – в отличие от производительности – соотносит результат процесса производства, т.е. произведённый продукт, с количеством затраченных на производство этого продукта факторов производства. В следующей Таблице представлены значения показателей, подходящих для измерения продуктивности регионов и рассчитанных применительно к регионам Латвии.

Таблица 7

Значения показателей, подходящих для измерения продуктивности регионов, в регионах Латвии, 2016 год*

Факторы производства в регионе	Регионы Латвии						ЛАТВИЯ в целом
	Рижский	При-рижский	Видземский	Курземский	Земгальский	Латгальский	
Площадь территории (земля)	0.005	0.157	0.236	0.211	0.166	0.225	1.000
Количество занятых (труд)	0.348	0.198	0.095	0.122	0.116	0.122	1.000
Нефинансовые инвестиции (капитал)	0.595	0.177	0.056	0.065	0.065	0.042	1.000
Относительная сумма основных факторов производства в регионе	0.948	0.532	0.387	0.398	0.347	0.389	3.000
Относительная доля ВВП, произведённого в регионе	0.539	0.153	0.065	0.094	0.076	0.071	1.000
Продуктивность региона**	0.57	0.29	0.17	0.24	0.22	0.18	0.33

* Последний год, за который на момент написания статьи латвийская официальная статистика располагала данными по ВВП в регионах Латвии.

** Рассчитана путём деления относительной суммы основных факторов производства в регионе на относительную долю ВВП, произведённого в этом регионе; методика расчёта подразумевает обязательное сопоставление результатов между регионами, в то время как показатель продуктивности одного региона без сравнения с другими не является информативным.

Источник: рассчитано авторами по Latvijas Republikas Centrālā statistikas pārvalde 2019d, 2019e, 2019g, 2019h.

Для расчёта продуктивности регионов Латвии авторы опирались на неоклассические модели роста (Solow 1956; Romer 1989a, 1989b; Mankiw et al. 1992), в которых принимаются во внимание основные классические факторы производства – труд, земля, капитал, хотя авторы признают также важность и других факторов производства, которые были идентифицированы в новейшей экономической теории – например, таких, как предпринимательский талант (Cusolito, Maloney 2018; INSEAD et al. 2019), информация и знания¹⁵ (Berczi 1981; Neef 2003; Cocalia 2015),¹⁶ технологии (Brynjolfsson, Hitt 1995) и другие.

¹⁵ В современной экономической науке используется также понятие энергоинформации, в котором объединены характеристики знания и усилий, необходимых для того, чтобы это знание получить и продуктивно применить (Kurakov 2017).

¹⁶ Авторы считают, что предпринимательский талант и знания скорее являются значимыми в современной экономике характеристиками классического фактора производства «труд», нежели отдельными факторами производства.

Результаты авторских расчётов, представленные в Таблице 7, показывают, что по продуктивности в Латвии ожидаемо лидирует Рижский регион, почти в 2 раза превышая продуктивность Пририжского региона, и больше, чем в 3 раза, — Латгальского региона. Но — так же, как и в случае с производительностью регионов, измеренной с помощью ВВП на 1 км² территории региона, — самым низкопродуктивным в Латвии оказался не Латгальский регион, а снова Видземский (см. Таблицу 7).

Что касается основных источников продуктивности регионов Латвии, то в случае Рижского региона продуктивность характеризуется наибольшей отдачей от капитала и труда (в соотношении 1.7/1), сконцентрированного на 5% территории страны, а в случае Пририжского региона это соотношение уже меняется в сторону небольшого доминирования труда по отношению к капиталу (в соотношении 1.1/1) без сильной территориальной концентрации (хотя вполне возможно, что дополнительное изучение территориального распределения труда и капитала в Пририжском регионе показало бы наличие их территориальной агломерации, усиливающейся по мере приближения к Риге). Во всех остальных регионах Латвии определённый — сравнительно низкий — уровень продуктивности достигается в основном за счёт относительной обширности территории, на которой ведётся экономическая деятельность (см. Таблицу 7).

Теории, объясняющие производительность и продуктивность регионов

Классической экономической теорией, от которой логично ожидать объяснения феноменов производительности и продуктивности в экономике, является теория производства (по-английски: *theory of production*). Именно эта теория даёт представление о факторах производства и предлагает для экономического анализа такой инструмент, как функция производства (или производственная функция) (по-английски: *production function*), которая показывает, какое максимальное количество продукта (*output*) можно произвести при том или ином объёме задействованных факторов производства (*input*) при имеющемся на данный момент уровне развития знаний и технологий (Samuelson, Nordhaus 2010).

Функция производства характеризует три основных принципа процесса производства, понимание которых необходимо для изучения производительности и продуктивности:

- 1) существует предел увеличения производства, который может быть достигнут при увеличении одного фактора производства и постоянстве прочих факторов производства;
- 2) факторы производства дополняют друг друга, но в определенных пределах возможна и их взаимозаменяемость без сокращения выпуска;
- 3) чем длиннее временной период, тем большее количество факторов производства может быть пересмотрено.

Обычно в микроэкономике анализируется двухфакторная функция производства, отражающая зависимость выпуска q от количества используемых труда L и капитала K (Romer 1989a; Mankiw et al. 1992).

Таким образом, теория производства с помощью своей основной модели — функции производства — является теоретической основой для объяснения производственных возможностей экономических субъектов и территорий с учётом характера использования (т.е. в каких соотношениях) и количества задействованных факторов производства. Именно теория производства ввела в оборот экономической науки такие понятия, как предельный продукт (по-английски: *marginal product*) факторов производства, закон убывающей предельной производительности (по-английски: *law of diminishing returns*) факторов производства, а также экономию на масштабе (по-английски: *returns to scale* или *effects of scale*) производства (Samuelson, Nordhaus 2010; McConnell et al. 2018). Авторы считают, что классическая теория производства и её производственная функция полезны для изучения качественных и количественных аспектов продуктивности регионов, поскольку она объясняет различные аспекты взаимосвязи между затраченными факторами производства и количеством произведённого продукта — например, такие, как эластичность выпуска по каждому из факторов производства, предельную производительность факторов производства, а также производительность различных соотношений факторов производства. Авторы полагают, что, применяя теорию производства и её производственную функцию для изучения производительности и продуктивности регионов, необходимо всё-таки чётко разграничивать производительность и продуктивность факторов производства и предлагают положить в основу этого разграничения стоимость факторов производства (в классической экономической теории факторы производства обычно измеряются в физических единицах — Samuelson, Nordhaus 2010). Таким образом, о производительности факторов производства, имеющихся на той или иной территории, можно говорить тогда, когда имеется в виду их физический объём,¹⁷ а о продуктивности факторов производства — тогда, когда имеется в виду ещё и стоимость факторов производства.¹⁸

Объяснением феноменов производительности и продуктивности территорий учёные-экономисты XX века занимались, главным образом, в рамках трёх теоретических подходов:

- **неоклассической теории роста** (Solow 1956; Swan 1956; Arrow et al. 1961; Romer 1989a, 1989b; Mankiw et al. 1992), делающей акцент на разнице в обеспеченности территорий ресурсами, соотношении капитала/труда и технологий — при этом накопление капитала в экономике происходит за счёт привлечения внутренних и внешних инвестиций в ходе либерализации (т.е. «открывания») национальной экономики;

¹⁷ Например, вязальщица низшего разряда за час связала две пары носков, а вязальщица высшего разряда за час связала три пары носков — тогда производительнее оказывается вязальщица высшего разряда.

¹⁸ Например, вязальщица низшего разряда с оплатой труда 5 евро в час связала две пары носков за час, а вязальщица высшего разряда с оплатой труда 10 евро в час связала три пары носков за час — тогда при такой стоимости факторов производства, т.е. при такой ставке оплаты труда вязальщиц разного разряда, продуктивнее оказывается вязальщица низшего разряда.

- **теории эндогенного роста** (Arrow 1962; Uzawa 1965; Sidrauski 1967; Romer 1986; Lucas 1988; Rebelo 1991), делающей акцент на технологиях и занятости в наукоёмких отраслях и обосновывающей значимость инвестиций в человеческий капитал, которые обладают эффектом мультипликативного позитивного влияния на экономику и замедляют падение отдачи от накопленного капитала путём стимулирования инновационной деятельности людей;
- **«новой экономической географии»** (Krugman 1991a, 1991b; Venables 1996; Hanson 1996, 1997; Andretsch 1998; Puga 1999; Fujita et al. 1999; Fujita, Thisse 2002), акцентирующей значимость пространственной агломерации, кластеризации и специализации как основе возрастания доходности факторов производства.

Авторы считают, что все теоретические подходы к объяснению предпосылок роста производительности и продуктивности регионов, представленные в Таблице 8, могут быть использованы для проведения эмпирического анализа производительности и продуктивности регионов Латвии, но особый интерес для современных исследователей (Bogetic, Sanogo 2005; Néchet et al. 2012) представляют модели «новой экономической географии» с их акцентом на пространственной агломерации экономической активности и специализации регионов.

Таблица 8

Теоретические подходы к объяснению предпосылок роста производительности и продуктивности регионов

Теории	Детерминанты производительности и продуктивности регионов	Эволюция детерминант производительности и продуктивности регионов
1	2	3
Неоклассическая теория роста (по-английски: <i>neoclassical growth theory</i>)	Обеспеченность ресурсами, особенно в аспекте соотношения капитала/труда и технологий	Экономия на масштабе производства; разделение отдачи от различных факторов производства; свободное перемещение факторов производства и рассеивание технологий в географическом пространстве таким образом, что низкопроизводительные / низкопродуктивные регионы постоянно сближаются с высокопроизводительными / высокопродуктивными
Теория эндогенного роста (по-английски: <i>endogenous growth theory</i>)	Соотношение капитал/труд, технологии и удельный вес занятых в наукоёмких отраслях	Предпосылки эволюции производительности и продуктивности регионов зависят от степени сближения низкопроизводительных / низкопродуктивных регионов с высокопроизводительными / высокопродуктивными регионами, что, в свою очередь, зависит от степени географической рассеянности технологий и знаний: чем сильнее они концентрируются, тем актив-

Продолжение таблицы 8 см. на следующей странице

Продолжение таблицы 2

1	2	3
		нее творческие и высококвалифицированные работники перемещаются в регионы-лидеры технологий, увеличивая тем самым различия в производительности и продуктивности регионов
Модели «новой экономической географии» (по-английски: <i>“new economic geography” models</i>)	Пространственная агломерация / специализация / кластеризация как источник внешних эффектов (специализированные поставщики, аутсорсинг и т.д.)	Экономическая интеграция (торговля, потоки факторов производства) усиливают пространственную агломерацию и специализацию экономической активности, приводя к определённому равновесию между центром и периферией и устойчивым различиям в производительности и продуктивности регионов

Источник: интерпретировано авторами по Gardiner et al. 2004.

По мнению авторов, для изучения производительности и продуктивности регионов может быть использован также так называемый ресурсный подход или подход ресурсов-активов-капитала (Тихонова 2006), который основан на следующей методологической предпосылке: ресурсы, имеющиеся в распоряжении региона, в результате их задействования могут быть превращены в его активы или – в терминологии классической теории производства – в факторы производства, которые, в свою очередь, могут принести региону экономическую прибыль, т.е. стать его капиталом. Подход ресурсов-активов-капитала можно встретить в различных исследованиях в социологии, психологии, экономике и других социальных науках (Maclean et al. 2003; Mensikovs 2009; Voronenko, Drezgic 2014). Применение этого подхода иногда позволяет открыть инновативные ресурсы или инновационные способы их активации и капитализации.

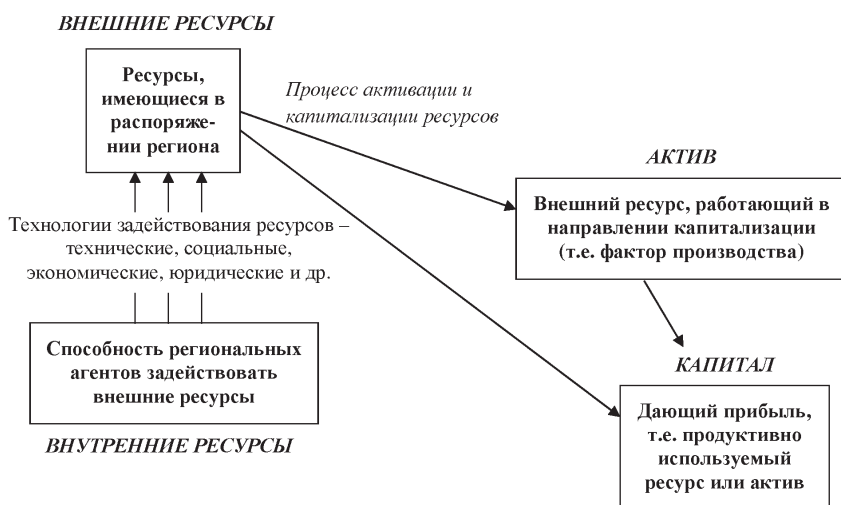
Основная идея ресурсного подхода состоит в том, что для продуктивного использования ресурсов необходимо не только наличие самих по себе «внешних ресурсов» в регионе и благоприятной среды для их задействования, но и способность региональных агентов активировать и капитализировать их – так называемые «внутренние ресурсы» (Voronenko и.с. 2012; Voronenko, Drezgic 2014). С точки зрения ресурсного подхода к управлению производительностью и продуктивностью регионов любой страны можно выделить три взаимосвязанные задачи:

- 1) увеличение физического объёма имеющихся в распоряжении регионов «внешних ресурсов»;
- 2) повышение способности региональных агентов задействовать внешние ресурсы, т.е. увеличение «внутренних ресурсов»;
- 3) развитие и внедрение механизмов взаимодействия «внешних ресурсов» и «внутренних ресурсов», т.е. технологий – как инженерных, так и социальных – активации и капитализации «внешних ресурсов», создавая таким образом благоприятную для повышения продуктивности региона среду.

Последнюю из этих задач авторы считают основной для решения проблем, связанных с повышением производительности и особенно продуктивности регионов. Именно на развитии и внедрении механизмов взаимодействия «внешних ресурсов» и «внутренних ресурсов» необходимо сосредоточить свои усилия институтам, ответственным за региональное развитие. Ещё одним важным моментом является то, что для успешного управления производительностью и продуктивностью регионов их внешние ресурсы должны находиться не просто на территории региона, но быть в его распоряжении, т.е. в распоряжении региональных агентов.

Рисунок 3

Модель процесса активации и капитализации ресурсов региона



Примечание:

- 1) **внешние ресурсы** – материальные (деньги, движимое и недвижимое имущество, оборудование, полезные ископаемые, земля и т.д.) или нематериальные (информация, знания, политические права и т.д.) ресурсы, имеющиеся в распоряжении региональных агентов;
- 2) **внутренние ресурсы** – способность региональных агентов задействовать внешние ресурсы с целью их дальнейшей активации и капитализации (например, способность жителей использовать свои политические права для того, чтобы влиять на процесс принятия важных для региона решений правительством);
- 3) **актив** – внешний ресурс, работающий в направлении капитализации (например, работающий на рынке труда высококвалифицированный специалист или разрабатываемое месторождение полезных ископаемых), в терминах классической теории производства – фактор производства;
- 4) **капитал** – дающий прибыль, т.е. продуктивно используемый ресурс (например, проданный в другой регион лес) или актив (например, работающий на рынке труда высококвалифицированный специалист, который в результате своего труда привлекает инвестиции в регион);
- 5) **технология задействования ресурсов** – алгоритм взаимодействия внешних и внутренних ресурсов, в результате которого внешние ресурсы активируются (технология актива-

ции ресурсов) и далее капитализируются (технология капитализации ресурсов) (например, алгоритм конкретных действий, позволяющий жителям региона использовать свои политические права для того, чтобы влиять на процесс принятия важных для региона решений правительства);

- 6) **активация ресурсов** – превращение внешнего ресурса в актив (в терминах классической теории производства – фактор производства) с помощью внутренних ресурсов и в результате применения технологии активации ресурсов (например, алгоритм конкретных действий, позволяющий предпринимателям региона начать добывающую деятельность на незадействованном до этих пор месторождении полезных ископаемых);
- 7) **капитализация ресурсов** – превращение внешнего ресурса в капитал с помощью внутренних ресурсов и в результате применения технологии капитализации ресурсов (например, алгоритм конкретных действий, позволяющий задействованному на рынке труда высококвалифицированному специалисту не только производить продукт, т.е. быть активом (фактором производства), но и в результате своего труда привлекать инвестиции в регион).

Источник: модифицировано авторами на основе Boronenko u.c. 2012; Boronenko, Drezgic 2014.

Авторы считают, что особого внимания заслуживает процесс капитализации внешних ресурсов региона «в обход» стадии их активации, что является низкопродуктивной капитализацией ресурсов. Такой способ капитализации ресурсов обычно используется в регионах с низким уровнем социально-экономического и технологического развития, когда эти регионы просто продают свои внешние ресурсы в другие, высокоразвитые, регионы, где и происходит их активация с помощью инновационных технологий и следующая за этим высокопродуктивная капитализация этих ресурсов. Авторы предполагают, что неразвитость или несогласованность в применении различных технологий (технических, политических, экономических, социальных, юридических, этических, религиозных, лингвистических и других) задействования внешних ресурсов региона тормозит процессы активации и последующей высокопродуктивной капитализации этих ресурсов в самом регионе.

Выводы

1. Анализ научной литературы показал, что в латвийской экономической науке нет системного понимания различий между терминами и понятиями «производительность» и «продуктивность» и их эквивалентного перевода на русский, латышский и английский языки, что, по мнению авторов, является серьезным препятствием на пути к реализации высококачественных исследований проблемы повышения производительности и продуктивности в региональной экономике Латвии.
2. На основе анализа лингвистических и экономических словарей, а также научных публикаций авторы выяснили, что производительность (по-латышски: *ražīgums*, по-английски: *productivity*) определяется как способность (фактора производства, предприятия, отрасли, региона) создавать как можно больше

продукта в единицу времени и ставится «во главу угла» — без учёта продуктивности производственного процесса — в плановой экономике. В свою очередь, продуктивность (по-латышски: *produktivitāte*, по-английски: *efficiency*) — это чисто экономический термин, который учитывает количество затраченных в процессе производства ресурсов (факторов производства).

3. Производительность / продуктивность региона и производительность / продуктивность фактора производства, предприятия или отрасли по значимости представляют общее и частное понятия, при этом общее не является только простой суммой производительности / продуктивности слагаемых, функционирующих в том или ином регионе, поскольку содержит в себе ещё и определённую «дельту» — эффект синергии (для факторов производства), эффект агломерации (для экономических субъектов) или эффект концентрации (для отраслей экономики).
4. Авторы считают, что произведённый за год ВВП на 1 км² территории региона и индекс заработной платы, рассчитанный с учётом отраслевой структуры занятости в регионе, являются теми показателями, которые эмпирически характеризуют и могут служить для измерения производительности регионов. Традиционно отстающий по экономическим показателям Латгальский регион не является самым низкопроизводительным по ВВП в расчёте на 1 км² территории — по этому показателю самым неблагополучным в Латвии является Видземский регион. Что же касается индекса заработной платы, то по этому показателю именно Латгальский регион привычно занимает последнее место в Латвии, а Рижский регион — первое.
5. Для расчёта продуктивности регионов Латвии авторы опирались на неоклассические модели роста, в которых принимаются во внимание основные классические факторы производства — труд, земля, капитал. Результаты авторских расчётов показывают, что по продуктивности в Латвии ожидаемо лидирует Рижский регион, почти в 2 раза превышая продуктивность Пририжского региона, и больше, чем в 3 раза, — Латгальского региона. Но самым низкопродуктивным в Латвии оказался не Латгальский регион, а снова — как и в случае с производительностью — Видземский.
6. Основными источниками продуктивности Рижского региона являются капитал и труд (в соотношении 1.7/1), сконцентрированные на 5% территории страны, а в случае Пририжского региона это соотношение уже меняется в сторону небольшого доминирования труда по отношению к капиталу — 1.1/1, без сильной территориальной концентрации. Во всех остальных регионах Латвии определённый — сравнительно низкий — уровень продуктивности достигается в основном за счёт относительно большой площади их территории.
7. Теоретической основой для изучения производительности и особенно продуктивности регионов может служить классическая теория производства, а также неоклассическая теория роста, теории эндогенного роста, модели «новой экономической географии» и ресурсный подход. Авторы считают, что все эти подходы к объяснению предпосылок роста производительности и продуктивности регионов могут быть использованы для проведения эмпирического анализа производительности и продуктивности регионов Латвии, но

особый интерес для современных исследователей представляют модели «новой экономической географии» с их акцентом на пространственной агломерации экономической активности и специализации регионов, а также ресурсный подход.

8. Основная идея ресурсного подхода состоит в том, что экономические предпосылки производительности и продуктивности регионов – это, во-первых, наличие ресурсов, а во-вторых, способность региональных агентов превратить эти ресурсы в капитал. Ресурсы региона, не ставшие его капиталом, не могут обеспечить производительность и продуктивность данного региона. Авторы предполагают, что слаборазвитость технологий – как инженерных, так и социальных – активации и капитализации ресурсов является тем фактором, который сильно препятствует повышению производительности и продуктивности регионов Латвии, особенно периферийных.

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ASSESSMENT OF FUNCTIONAL EFFECTIVENESS OF THE LONG-TERM SOCIAL CARE INSTITUTIONS IN LATVIA'S MUNICIPALITIES BY THE DATA ENVELOPMENT ANALYSIS METHOD

Social protection is one of the most important functions of the state and local governments in relation to their citizens, especially to those who are in difficulty, affected by various diseases and the elderly ones. Municipalities in Latvia function at different economical levels that are determined by geopolitical, socio-economic, demographic, etc. factors that in turn affect the performance of various functions by local governments. One of these functions is the provision of long-term social care services to retired people. In circumstances, when local government finances are limited and the demographic structure is changing, characterized by an aging population, it is important to achieve the most effective use of financial resources in the long-term social care institutions (LSCIs). The functional effectiveness of the LSCIs in the context of the use of financial resources using science-based econometric methods has not been evaluated in Latvia by now, therefore the aim of the study is to determine the most effective LSCI as for criteria taking the indicators of financial and other available resources of the currently functioning local government LSCIs. Within the framework of this study, the authors, using data from the Ministry of Welfare of the Republic of Latvia on the LSCIs of the elderly, are evaluating the functional effectiveness of these institutions using the Data Envelopment Analysis (DEA) method. After analysis of the functional effectiveness of 64 LSCIs by designing four DEA models, the authors identified the most effective LSCI – *Ventspils* Social Care Home “*Selga*” and *Viļaka* Social Care Center. The novelty of the research is the authors’ approach to assessing the functional effectiveness of the Latvian LSCIs using the DEA method, that allows to identify the most important parameters for the assessment of LSCIs functional effectiveness to ensure the stability of the social care field in Latvia.

Key words: municipalities, long-term social care institutions (LSCIs) Data Envelopment Analysis (DEA) method, functional effectiveness, Latvia.

Latvijas pašvaldību ilglaicīgās sociālās aprūpes iestāžu funkcionālās efektivitātes novērtēšana ar datu čaulas analīzes metodi

Sociālā aizsardzība ir viena no svarīgākām valsts un pašvaldību funkcijām attiecībā pret saviem pilsoņiem, sevišķi pret grūtībās nonākušām, dažādu slimību skartām un vecumu sasniegušām personām. Latvijas novadu pašvaldības funkcionē dažādos ekonomiski atšķirīgos līmeņos, ko nosaka ģeopolitiski, sociālekonomiski, demogrāfiski u.c. faktori, kas savukārt ietekmē pašvaldību dažāda rakstura funkciju veikšanu. Viena no šādām funkcijām ir ilglaicīgās sociālās aprūpes pakalpojumu nodrošināšana pensijas vecumu sasniegušām personām. Apstākļos, kad pašvaldību finanšu līdzekļi ir ierobežoti, kā arī aizvien pieaugošās demogrāfiskās struktūras izmaiņu dēļ, kam raksturīga ir arī sabiedrības novecošanās, ir svarīgi panākt pēc iespējas efektīvāku finanšu līdzekļu izmantošanu ilglaicīgās sociālās aprūpes iestādēs (ISAI). Latvijā līdz šim nav vērtēta ISAI funkcionālā efektivitāte finanšu līdzekļu izmantošanas kontekstā, izmantojot uz zinātni balstītas ekonometriskās metodes, tādēļ pētījuma mērķis ir noteikt efektīvāko ISAI par kritērijiem ņemot pašreiz funkcionējošo novadu pašvaldību ISAI finansālo un citu pieejamo resursu rādītājus. Šī pētījuma ietvaros autori, izmantojot Latvijas Republikas Labklājības ministrijas datus par pašvaldību pārziņā esošām vecu ļaužu ISAI, veic šo iestāžu funkcionālās efektivitātes novēr-

tēšanu pielietojot datu čaulas analīzes (DČA) metodi. Analizējot 64 ISAI funkcionālo efektivitāti, veidojot četrus DČA modeļus, autori identificēja visefektīvākos ISAI – Ventspils Sociālās aprūpes namu “Selga” un Viļakas sociālās aprūpes centru. Pētījuma novitāte ir autoru pieeja Latvijas ISAI funkcionālās efektivitātes novērtēšanai, izmantojot DČA metodi, kas ļauj identificēt efektīvākos pakalpojumu sniedzējus pēc noteiktiem saimnieciskās darbības rādītājiem.

Atslēgas vārdi: pašvaldības, ilglaicīgās sociālās aprūpes iestādes (ISAI) datu čaulas analīzes (DČA) metode, funkcionālā efektivitāte, Latvija.

Определение функциональной эффективности учреждений длительного социального ухода самоуправления Латвии методом анализа свёртки данных

Социальная защита является одной из важнейших функций государства и самоуправлений по отношению к своим гражданам, особенно к тем из них, кто находится в затруднительном положении, кто пострадал от различных заболеваний, и лицам пожилого возраста. Самоуправления в Латвии функционируют на экономически разных уровнях, определяемых геополитическими, социально-экономическими, демографическими и другими факторами, которые, в свою очередь, влияют на выполнение самоуправлениями своих функций. Одной из таких функций является предоставление услуг длительного социального ухода лицам, достигшим пенсионного возраста. В условиях, когда финансы самоуправлений ограничены, а также меняется демографическая структура общества, характеризующаяся старением населения, важно добиться наиболее эффективного использования финансовых ресурсов в учреждениях длительного социального ухода (УДСУ). До сих пор функциональная эффективность УДСУ в контексте использования финансовых ресурсов с применением научно-обоснованных эконометрических методов в Латвии не оценивалась, поэтому цель исследования состоит в том, чтобы определить наиболее эффективный УДСУ, используя в качестве критериев показатели финансовых и других доступных ресурсов действующих в настоящее время при самоуправлениях Латвии УДСУ. В рамках данного исследования авторы, используя данные Министерства благосостояния Латвийской Республики об УДСУ, оценивали функциональную эффективность этих учреждений с использованием метода анализа свёртки данных (АСД). Анализируя функциональную эффективность 64 УДСУ при разработке четырех моделей АСД, авторы определили наиболее эффективные УДСУ – Вентспилский дом социального ухода “Selga” и Вилякский центр социального ухода. Новизна исследования заключается в авторском подходе к оценке функциональной эффективности УДСУ в Латвии с использованием метода АСД, позволяющего идентифицировать наиболее эффективные УДСУ по определённым параметрам хозяйственной деятельности.

Ключевые слова: самоуправления, учреждения длительного социального ухода (УДСУ), метод анализа свёртки данных (АСД), функциональная эффективность, Латвия.

Introduction

In recent years, the issue of ageing population and demographic changes has become more and more relevant not only in Latvia, but also in Europe as a whole. According to population forecasts, the European Commission data shows that the number of people over 60 years of age in Europe continues to increase (Slimību profilakses un kontroles centrs 2012). Also, in Latvia, according to Eurostat, the number of people aged 65 and over continues to increase, while the number of working people is decreasing, and, according to the European central statistical forecasts, this trend will remain in the next decade (see Table 1).

Table 1

**Changes in the demographic structure of the working-age
and retired population in Latvia**

Year	2015	2020	2030 (forecast)
Number of people at working age, 18–64	1 255 627	1 147 041	932 781
Number of people at retirement age, 65 and over	382 566	385 918	414 164
Dynamics of working age people aged 18–64, %	100%	91%	74%
Dynamics of retirement age people aged 65 and over, %	100%	101%	108%

Source: European Commission 2012.

The Constitution of the Republic of Latvia stipulates that everyone has the right to social security in old age, for work disability, for unemployment and in other cases as provided by law (Satversmes Sapulce 1922). One of the direct national regulatory authorities in Latvia, the Ministry of Welfare, is responsible for social security, work and gender equality, while the types of social services, their principles and the procedure for their receipt in Latvia are regulated by the Law on Social Services and Social Assistance (Saeima 2003). This law also determines the division of responsibility between the state and local governments in providing social services to the population.

Social protection is one of the most important functions of the state and local governments in relation to their citizens, especially those facing difficulty, those affected by various diseases and those who have reached a certain age. Social protection includes a social security system aimed at ensuring complete social protection of a person, while the social services system is part of the social security system of Latvia.

Although several non-governmental organisations, foundations and private bodies are involved in the provision of social services, basically, the responsibility for long-term social care institutions (LSCIs) in the regional and economical and political model of Latvia is divided between the state and local governments. Local governments of the regions in Latvia have different funding, which depends on the geographical location and size of the territory, as well as the size of population living in the municipality, the business environment in the region, the budget revenue of local governments and other factors (Saeima 1994). The unequal economic levels of these municipalities are regulated by the procedure for the distribution of municipal finance equalisation funds, which provides that economically secured local governments make larger contributions to the equalisation fund than less economically secured local governments, thus supporting these economically weaker municipalities (Saeima 2018). Regardless of the procedure for the distribution of the municipal finance equalisation funds, which provides that economically secured municipalities that make contributions to the equalisation fund will in any case see financial growth, in contrast to economically weaker municipalities, which will experience greater financial deficits. It should be noted that there are only 15 municipalities that make contributions to the fund, while the other 104 municipalities are dependent on the municipal financial equalisation fund grants (Latvijas pasvaldību savienība 2018).

Municipalities in Latvia function at economically different levels determined by the geopolitical, socio-economic, demographic and other factors, which, in turn, affects the performance of different functions of the municipalities. One of such functions is the provision of long-term social care services to individuals who have reached retirement age. Long-term social care institutions and statutory state-established LSCIs are subject to the Ministry of Welfare, while regional care centres are managed by the particular municipality. This division of ownership of long-term care facilities between the state and municipalities creates a certain imbalance in the overall system of social care services, since, without being either subordinated or subject to the Ministry of Welfare, these LSCIs remain attached and dependent on the region in which they are located, as well as the economic situation of the regional municipality, and the Ministry of Welfare is not responsible for the development prospects of these institutions.

By setting a goal to determine the most cost-effective and technically effective municipal LSCIs, the authors are allowing one to identify the most important parameters for assessing the performance of LSCIs, as well as to identify the most efficient service providers and the resulting, most optimal size of an institution, the scope of services provided, the financial flow, etc. To achieve this goal, the authors have analysed the available literature on the topic of the work, performed LSCI and data selection based on certain criteria, performed the evaluation of the effectiveness of LSCIs using the Data Envelopment Analysis (DEA) method and analysed the obtained results. The results of the study are relevant in the current economic situation to help municipalities balance resources for optimising existing LSCIs, as well as creating new institutions.

1. Research methodology, data acquisition and processing

In order to determine the most effective service provider, thus determining the optimal size of the institution, quality of service, financial flow, etc., one must evaluate the existing LSCIs with econometric methods.

One of the tools used to evaluate effectiveness is the DEA method. The theory of microeconomics deals with the concept of effectiveness, or the relationship between the resources invested and the results obtained (Kotane 2014). DEA is considered to be one of the methods that analyses and studies the relationship between inputs and outputs. One of the most important authors in this field is M. Farrell, who in his 1957 publication described the need to develop better models for the better evaluation of productivity of organisations (Cooper et al. 2011). The ideas of M. Farrell were used as a basis by A. Charnes, W. Cooper and E. Rhodes (Charnes et al. 1978), who first introduced the DEA method. Currently, the DEA method is used both in the public sector to evaluate schools, hospitals, health care systems and universities, as well as the private sector, such as banks and financial institutions (Emrouznejad et al. 2014). The Danish Ministry of Finance has recognised the DEA method as one of the best methods to compare organisations of the public sector (Finansministeriet 2000).

A search for scientific literature on efficiency evaluations in the public sector shows that databases contain publications on the evaluation of hospitals, health care

systems and social care institutions. For example, R. Jacobs, using the DEA and Stochastic Frontier Analysis (SFA) methods, evaluated the cost effectiveness of hospitals (Jacobs 2001). Other authors have also used DEA to evaluate the cost effectiveness of hospitals (Ferrier et al. 2006). Some literature sources indicate that the DEA method has even been used to evaluate health care systems. For example, authors such as F. Elba, C. Ciappei, R. Rialti and L. Zollo have used the DEA method to evaluate the healthcare system in Italy (Elba et al. 2017). Meanwhile, J. Medeiros and C. Schwiers used the DEA and SFA methods to evaluate the European Union's healthcare systems (Medeiros, Schwierz 2015). The European Observatory on Health Systems and Policies has also used the DEA method in the evaluation of healthcare systems (Cylus et al. 2016).

With regard to long-term social care institutions, the DEA method has been used to evaluate the technical effectiveness of these institutions (Kleinsorge, Karney 1992). P. Kooreman has studied Dutch long-term social care institutions, concluding that 50% of these institutions are effective (Kooreman 1994). In 2005, Finland also carried out a study using the DEA method to assess technical effectiveness and compare it with care outcomes in long-term social care. As quality performance indicators, this study used indicators such as the prevalence of trauma in long-term care settings, etc. The resources applied were the number of nurses, the size of the infrastructure, etc. (Laine et al. 2005).

The method was also used to study the effectiveness of non-profit and commercial long-term social care institutions (Rosko et al. 1995). Several studies have been carried out on the forms of property and effectiveness, using the DEA method in long-term social institutions. For example, R. Anderson, S. Weeks, B. Hobbs and J. Webb study notes that US long-term private social care institutions are more effective than non-commercial institutions (Anderson et al. 2003). However, analysing the quality of service within the framework of this study reveals that the quality of service in non-commercial long-term social care institutions is better than in private institutions. Another study on the quality and effectiveness of service in long-term social institutions in the US was carried out. In his study, N. DeLellis points out that the quality of service in long-term social care institutions is linked to effectiveness, i.e. the institutions showing high effectiveness according to DEA had worse quality of care processes (for example, the quality of processes in N. DeLellis' study is understood as the percentage of individuals living in nursing homes that use painkillers and analgesia), while performance indicators for care (such as the percentage of individuals with immobility living in nursing homes) were better (DeLellis 2009). Other authors have also attempted to integrate quality aspects into the DEA method by assessing the quality of long-term social institutions (Shimshak et al. 2009).

In the context of an ageing population, Japan has also made an assessment of the effectiveness of long-term social care institutions by assessing both the costs and expenses, and the effectiveness of the infrastructure by comparing the institutions in different regions of Japan (Yamauchi 2015). Similarly, the European Union has performed a study related to the effectiveness of long-term social institutions using DEA. The European Union's study assessed the technical effectiveness of these institutions (infrastructure and resources) as well as care processes in the palliative phase. Only six European Union countries were included in the study (Wichmann et al. 2018).

Based on the analysis of literature described above, the author chose to use the DEA analysis method to evaluate the effectiveness of LSCIs.

Description of the DEA method. DEA is a mathematical programming method that can be applied to any field of activity and object against which input and output values are evaluated. Determining of effective objects is performed by comparing each of these values with all of the rest. The comparison can be made based on each of the input and output values studied, but these values must be measurable.

The advantage of this method is that any subjective judgements in relation to the weight of the parameters included in the assessment are excluded, because DEA determines the optimal weight of each parameter by linear programming, i.e. each assessed item is assigned a weight at which the desired effectiveness indicator will be maximised. So, in the DEA method, the LPT (Linear Programming Task) system is created and effectiveness coefficients are found by maximising the target function. But, since the weight of each item is optimal, it can be used to assess the strengths and weaknesses of the object. In other words, the higher the weight of the input or output parameters, the better the object parameter is relative to others, and vice versa.

All input and output parameters of DEA are transformed into one specific effectiveness index and the relatively most effective ones are those whose maximum individual weighted input/output parameter ratio is not exceeded by other objects from the analysed set.

The method is flexible enough to allow the user to select the input and output parameters to obtain the integrated effectiveness indicator. However, the inclusion of different parameters in the assessment should be logical, as each of them will have a radical impact on the outcome (Hammersmidt et al. 2018).

Before looking at the definition of the DEA model itself, the relative measure of effectiveness is first defined (Farrell, Fieldhouse 1962).

$$\text{Effectiveness} = \frac{\text{weighted sum of output variables}}{\text{weighted sum of input variables}}, \quad (1)$$

which can be written down as:

$$EFF_m = \frac{W_1 Y_{1m} + W_2 Y_{2m} + \dots + W_s Y_{sm}}{V_1 X_{1m} + V_2 X_{2m} + \dots + V_r X_{rm}} \quad (2)$$

where

EFF_m = effectiveness factor for institution m

W_j = weight of the output variable j

Y_{jm} = value of the output variable j for institution m

V_i = weight of input variable i

X_{im} = value of input variable i for institution m

The basic DEA LPT system is defined as follows:

Target function:

$$h_0 = \frac{\sum_{j=1}^s W_j Y_{j0}}{\sum_{i=1}^r V_i X_{i0}} \rightarrow \max \quad (3)$$

Conditions (restriction):

$$\frac{\sum_{j=1}^s W_j Y_{jm}}{\sum_{i=1}^r V_i X_{im}} \leq 1, m = 1, 2, \dots, n \quad (4)$$

$$W_j \geq 0; j = 1, 2, \dots, s$$

$$V_i \geq 0; i = 1, 2, \dots, r$$

where

h_0 = target function optimised

Y_{jm} = value of the output variable j for institution m

W_j = weight of the output variable j

X_{im} = value of input variable i for institution m

V_i = weight of input variable i

n = number of institutions to be assessed

s = number of input variables

r = number of output variables (Charnes et al. 1978).

By solving the DEA linear programming task, we obtain the weights of the output and input variables, based on which the effectiveness ratio of each institution is calculated.

Efficiency, effectiveness and productivity. Efficiency and effectiveness are two very common keywords that are widely used by business, marketing, and management professionals to describe and analyse the development strategy and direction of a company or institution. Although these terms are widely used, they are often misinterpreted (Goh 2013). Efficiency is the ability to do something well and effectively, without wasting time, money or energy (Summers 2006), i.e. how easy, fast, or inexpensive it can be to achieve a goal or obtain maximum return on limited resources, or use these resources with minimal or no loss, by using a particular tool, method or type of action. Efficiency in management is understood as the degree of goal achievement and the implementation of the right goals (Klauss 2000).

Efficacy, on the other hand, is the ability to produce the right or expected result. Effectiveness is a process that results in a planned result and characterises the quality of system processes (Summers 2006).

It is possible that efficiency may harm effectiveness. For example, if a company is new, its performance is often effective but not very efficient. In order to survive, the company is trying to accommodate the market and, as it gradually grows older, its operations become more efficient, however, as the efficiency increases, its performance becomes less effective. It contains many systems, but they change slowly. If there is no change, the company becomes less and less responsive to the changing needs of the market and becomes ineffective. When efficiency increases, profits will also increase, but if profits are only earned on the basis of efficiency, then their growth will only be possible by reducing costs (Adizes 2018).

Productivity is directly related to the efficiency of products or services. It is the unit cost measure that expresses the amount of goods or services produced, taking into account the work, time and money invested (Summers 2006).

In the case of one input and one output variable, effectiveness is usually measured as follows:

$$Effectiveness = \frac{output\ variable}{input\ variable} \quad (5)$$

Generally, the company's operational efficiency is affected by more than one indicator, or there are several output indicators. For example, a manufacturing company would be interested in the units produced and earnings as output variables, and the number of employees and the number of shifts as input variables, which leads to the situation where, by using this simplified efficiency formula, it becomes more and more difficult to understand and evaluate the institution's efficiency. In such situations, the DEA method can be used that is able to show which institutions are the most effective ones at certain input and output values (Farrell, Fieldhouse 1962).

Data selection. The article uses the official statistics of the Ministry of Welfare of the Republic of Latvia in the field of social services and social assistance from reports on social services and social assistance in the municipality of the county/Republic at the end of 2017 (Labklajības ministrija 2019). For the processing of data with the DEA method, 64 long-term municipal social care institutions, which provide services to retirement-age people, and which are registered in the register of social service providers, were selected (Labklajības ministrija 2019). In a study previously performed by the authors, selected institutions were divided into specific groups using a cluster analysis. Based on the cluster analysis using 12 parameters characterising the 12 institutions, 64 institutions were divided into 3 groups (clusters), where cluster 1 included large LSCIs, cluster 2 included small LSCIs, and cluster 3 included medium-sized institutions (see Table 2):

Table 2

List of LSCIs and their division into clusters

No.	Name of the institution	Cluster
1	2	3
1	Balvi county municipal nursing home "Balvi"	1
2	Territorial centre of social services for retired persons of Daugavpils	1
3	Engure county council's nursing home "Rauda"	1
4	Krustpils municipal agency "Jaunā muiža"	1
5	Rēzekne city council administration's social service	1
6	Rīga social care centre "Gaīlezers"	1
7	Rīga social care centre "Mežciems"	1
8	Social care centre "Zemgale"	1
9	Talsi municipal authority "Nursing home Lauciene"	1
10	Gatarta nursing home	2
11	Barkava nursing home	2
12	Brocēni municipality social care centre "Atpūtas"	2
13	Cēsis city nursing home	2
14	Gulbene county social care centre "Siltais", unit "Dzērves"	2
15	Gulbene county social care centre "Siltais"	2

Sequel to Table 2 see on the next page

Sequel to Table 2

1	2	3
16	<i>Gulbene county social care centre “Tirza”</i>	2
17	<i>Inčukalns county municipality agency “Social Care House Gauja”</i>	2
18	<i>Jelgava county social care and rehabilitation centre “Staļģene”</i>	2
19	<i>Jelgava county social care and rehabilitation centre “Kalnciems”</i>	2
20	<i>Kārsava county nursing home “Mūsmājas”</i>	2
21	<i>Krāslava county Robežnieki parish administration Skuķi Care Centre</i>	2
22	<i>Krāslava old people’s nursing home “Priedes”</i>	2
23	<i>Ķegums county social care centre “Senliepas”</i>	2
24	<i>Līvāni county council’s SIA “Līvānu slimnīca”</i>	2
25	<i>Ludza county social care centre “Ludza”</i>	2
26	<i>Madona county Ļaudona parish administration’s Ļaudona nursing home</i>	2
27	<i>Madona county municipal Dzelzava parish nursing home</i>	2
28	<i>Mālpils social care centre “Mālpils Social Service”</i>	2
29	<i>Nereta county municipal Nereta social care centre</i>	2
30	<i>Social care centre “Olaine Social Service”</i>	2
31	<i>Municipal agency “Ķekava Social Care Centre”</i>	2
32	<i>Municipal institution-retirement home “Sprīdīši”</i>	2
33	<i>Preiļi county welfare administration’s nursing home “Preiļi”</i>	2
34	<i>Riebiņi county social care centre “Rušona”</i>	2
35	<i>Rugāji county council’s social care centre “Rugāji”</i>	2
36	<i>Limited liability company “Care House “Urga”</i>	2
37	<i>Limited liability company “Dundagas veselības centrs”</i>	2
38	<i>Saldus county municipal agency social care centre “Ābeles”</i>	2
39	<i>Saulkrasti municipal institution “Social Care House”</i>	2
40	<i>Sigulda county municipal social care house “Gaismiņas”</i>	2
41	<i>Skrunda county municipal care house “Valtaiķi”</i>	2
42	<i>Social care centre “Alūksne”</i>	2
43	<i>Social care centre “Trapene”</i>	2
44	<i>Social care centre “Pļaviņas”</i>	2
45	<i>Šķilbēni social care house</i>	2
46	<i>Umurga parish old people’s residence “Cerība”</i>	2
47	<i>Valka county council’s social care house</i>	2
48	<i>Varakļāni county nursing home “Varavīksne”</i>	2
49	<i>Old people’s residence “Pēterupe”</i>	2
50	<i>Vīļaka social care centre</i>	2
51	<i>“Jūrmala Health Promotion and Social Services Centre”</i>	3
52	<i>Aglona county municipal institution “Social care centre “Aglona”</i>	3
53	<i>Bauska county municipal institution “General type nursing home “Derpele”</i>	3
54	<i>Ērgļi county social care centre</i>	3
55	<i>Municipal SIA “Veselības un sociālās aprūpes centrs – Sloka”</i>	3

Sequel to Table 2 see on the next page

Sequel to Table 2

1	2	3
56	Rēzekne county old people's nursing home	3
57	Rīga social care centre "Stella Maris"	3
58	Limited liability company "Rekreācijas centrs "Viķi"	3
59	Skrīveri county municipal agency "Social care centre "Ziedugravas"	3
60	Valmiera city municipal nursing home "Valmiera"	3
61	Elderly and disabled people's nursing home "Atvasara"	3
62	Ventspils social care home "Selga"	3
63	General type nursing home "Madliena"	3
64	Višķi social care centre	3

Source: created by the authors.

36 separate economic indicators are available for each of these institutions, while the DEA analysis includes 8 indicators for the individual economic positions of institutions as the input and output values:

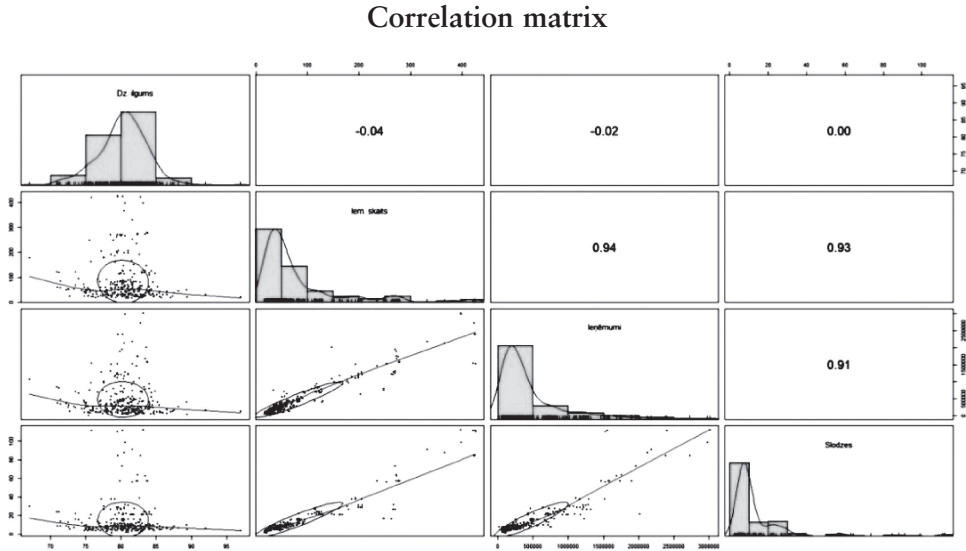
- number of healthcare professionals (per shift);
- caregivers, nurses and social educators;
- other employees of the institution;
- number of bed-days at the end of 2017;
- total expenses, EUR;
- total OPEX expenses, EUR;
- remuneration costs;
- total number of employees (per shift).

These indicators are selected for analysis because they are the most representative of the quality of care, the material benefit of the employees and the economic activity of the institution.

The life expectancy of residents, which could logically be assumed as an efficiency indicator, is not included in the analysis on the basis of the earlier study performed by the authors, according to which the lifespan of residents did not prove statistically useful (see Figure 1).

The correlation matrix shows that the correlation is the ratio between revenue and shifts, revenue and the number of inhabitants, as well as shifts and the number of inhabitants, but these parameters do not correlate with the average life expectancy of LSCI residents.

Figure 1



Source: created by the authors.

2. Analysis of research results

Since no formal benchmarks have been established that should be included in the effectiveness assessment of a specific industry, the authors have chosen to create four separate DEA models. The reason for choosing four models is as follows:

The effectiveness ratios of a model based on output values can take values from 0 to 1. Since several indicators are used, the indicators are not mutually comparable.

For example, if institution X, when looking at a particular indicator, accepts value 1, but institution Y in this index is estimated to be 0.5, then according to that particular indicator institution X is more effective. However, there may be a situation where, according to another indicator, institution Y is valued at 1, but institution X is valued at only 0.7, so it cannot be said that institution Y is more effective than institution X or vice versa, because in these cases these relationships are not comparable.

On the basis of the above, the four DEA models that have been developed provide for technical and cost effectiveness. Technical effectiveness is related to the provision of human resources and the volume of services – in this case, bed-days, while cost effectiveness is related to the optimal use of finances and money (Konstante 2013).

The number of bed days dominates the models as an output parameter. This indicator was chosen based on the publications of individual authors on the application of DEA in the health care system (Souza et al. 2014).

When defining the most effective LSCI institution according to the economic indicators mentioned in the first chapter, several institutions with the effectiveness ratio (1) were obtained in the first three DEA models. These results could be enough because they are natural, as several input indicators are used. However, due to the set goal of

determining the most effective institution, the second iteration was carried out within the scope of the models, where only those LSCIs whose effectiveness ratio was higher than a certain value were analysed and selected. The selected LSCIs were compared based on another criterion, thus obtaining new effectiveness ratios with a single most effective institution.

Model 1.

First iteration – technical effectiveness.

Input values:

- number of healthcare professionals (per shift);
- caregivers, nurses and social educators (by shift);
- other employees of the institution (by shift).

Output value:

- number of bed-days at the end of 2017.

Second iteration – cost effectiveness (institutions with the effectiveness ratio higher than 0.9 are kept).

Input values:

- total expenses, EUR.

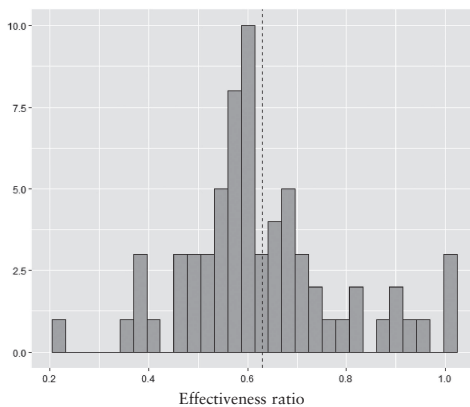
Output value:

- number of bed-days at the end of 2017.

The Figure shows the distribution of effectiveness ratios for the Model 1 after the first iteration (see Figure 2).

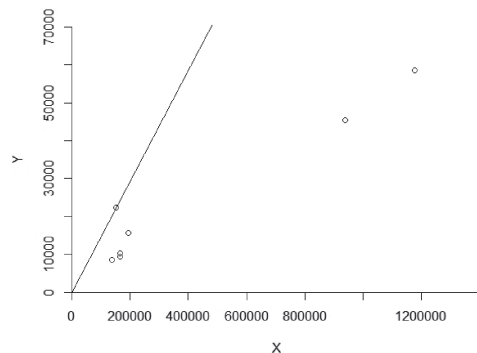
The graph shows the second iteration of the Model 1, which was made based on one input value (total expenses, EUR) and one output value (number of bed days at the end of 2017). This clearly shows the most effective institution (see Figure 3).

Figure 2
Distribution of the Model 1
coefficients in LSCI



Source: created by the authors.

Figure 3
LSCIs expenses vs. the number
of bed-days



Source: created by the authors.

Table 3

LSCIs effectiveness ratios and division into clusters for DEA Model 1

Name of the institution	County	Cluster	EFF 1	EFF 2
<i>Līvāni</i> county council's SIA " <i>Līvānu slimnīca</i> "	<i>Līvāni</i> county	2	1.00	0.42
<i>Rīga</i> social care centre "Stella Maris"	<i>Rīga</i>	3	1.00	0.68
<i>Rugāji</i> county council's social care centre " <i>Rugāji</i> "	<i>Rugāji</i> county	2	0.91	0.16
<i>Šķilbēni</i> social care house	<i>Viļaka</i> county	2	0.96	0.17
<i>Valka</i> county council's social care house	<i>Valka</i> county	2	0.93	0.53
<i>Ventspils</i> social care home " <i>Selga</i> "	<i>Ventspils</i>	3	0.91	1.00
<i>Viļaka</i> social care centre	<i>Viļaka</i> county	2	1.00	0.20

Source: created by the authors.

The Table shows the results after both iterations, thus determining the most effective institution according to the Model 1, and shows 7 institutions out of 64 whose effectiveness (EFF1) is not less than (0.9) after the first iteration. These LSCIs were included in the second iteration setting their coefficient as EFF2, and the compliance of LSCI with a particular cluster group is shown (see Table 3).

Summary of results. After the first iteration, evaluating 64 LSCIs based on the technical effectiveness by using the DEA method, the 7 most effective institutions were determined, while 3 of them – *Līvāni* county council's SIA "*Līvānu slimnīca*", *Rīga* social care centre "Stella Maris" and *Viļaka* social care centre – showed the highest score. After the second iteration which included only these 7 institutions, after evaluating the cost effectiveness, a single most effective institution was determined – *Ventspils* Social Care House "*Selga*".

It should be noted that the most effective institutions include the 2nd cluster (small) and the 3rd cluster (medium) institutions, and the 3rd cluster's two institutions are the most effective according to the Model 1 iteration.

Model 2.

First iteration – technical effectiveness.

Input values:

- number of healthcare professionals (per shift);
- caregivers, nurses and social educators (by shift);
- other employees of the institution (by shift).

Output value:

- number of bed-days at the end of 2017.

Second iteration – cost effectiveness (institutions with the effectiveness ratio higher than 0.9 are kept).

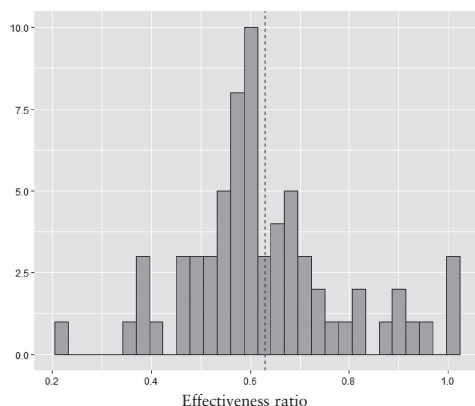
Input values:

- total OPEX expenses, EUR (OPEX – operating expenses, costs directly related to economic activity).

Output value:

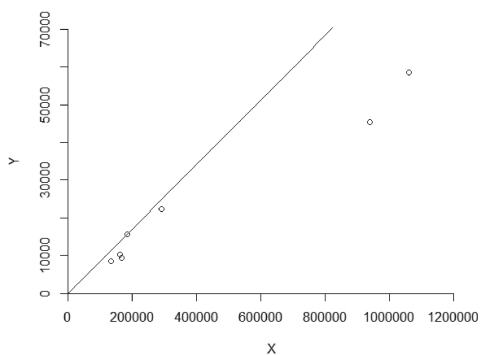
- number of bed-days at the end of 2017.

Figure 4
Distribution of the Model 2
coefficients in LSCIs



Source: created by the authors.

Figure 5
OPEX expenses vs. the number
of bed-days



Source: created by the authors.

The Figure shows the distribution of effectiveness ratios for the Model 2 after the first iteration, which is the same as the depiction of Model 1, since the same parameters are used (see Figure 4).

The graph depicts Model 2 optimisation after the second iteration, which determines EFF2 according to the total OPEX expenses in euros and the number of bed-days at the end of 2017 (see Figure 5).

Table 4
LSCIs effectiveness ratios and division into clusters for DEA Model 2

Name of the institution	County	Cluster	EFF 1	EFF 2
<i>Līvāni</i> county council's SIA "Līvānu slimnīca"	<i>Līvāni</i> county	2	1.00	1.00
<i>Rīga</i> social care centre "Stella Maris"	<i>Rīga</i>	3	1.00	0.56
<i>Rugāji</i> county council's social care centre "Rugāji"	<i>Rugāji</i> county	2	0.91	0.66
<i>Šķilbēni</i> social care house	<i>Viļaka</i> county	2	0.96	0.74
<i>Valka</i> county council's social care house	<i>Valka</i> county	2	0.93	0.90
<i>Ventspils</i> social care home "Selga"	Ventspils	3	0.91	0.65
<i>Viļaka</i> social care centre	<i>Viļaka</i> county	2	1.00	0.73

Source: created by the authors.

The Table shows the results after both iterations, determining the most effective institution according to the Model 2, and shows 7 institutions out of 64, whose EFF1 was not less than (0.9) after the first iteration. Just like in the Model 1, these LSCIs were included in the second iteration setting their coefficient as EFF2. The Table also shows compliance of LSCIs with a particular group of clusters (see Table 4).

Summary of results. Since the input and output values of the Model 2 first iteration are identical to those of the Model 1, the results of the Model 2 first iteration EFF1 are also similar.

However, after the second iteration, where cost effectiveness was determined and the input values are total OPEX expenses, while the output value is the number of bed-days at the end of 2017, *Līvāni* County Council SIA “*Līvānu slimnīca*” (*Līvāni* Hospital) long-term social care and social rehabilitation unit was identified as the most effective institution, which showed the most efficient ratio even after EFF1. This institution is included in the second cluster group, belonging to small municipal LSCIs.

Model 3.

First iteration – cost effectiveness:

Input values:

- number of healthcare professionals (per shift);
- caregivers, nurses and social educators (by shift);
- other employees of the institution (by shift);
- total expenses, EUR.

Output value:

- number of bed-days at the end of 2017.

Second iteration – cost effectiveness (institutions with the effectiveness ratio higher than 0.95 are kept).

Input values:

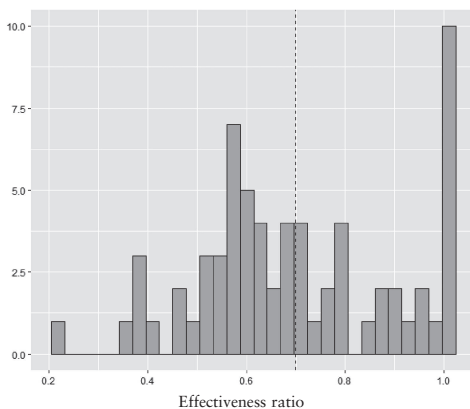
- total number of employees (per shift).

Output value:

- remuneration costs.

Figure 6

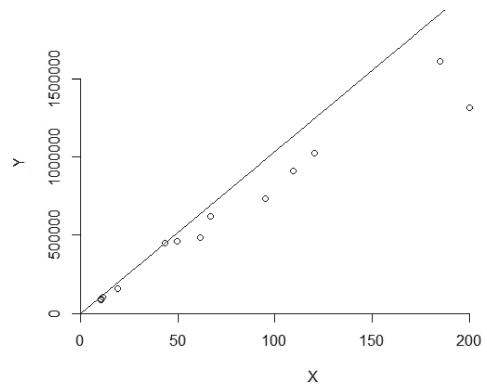
Distribution of the Model 3 coefficients in LSCIs



Source: created by the authors.

Figure 7

Total number of employees (per shift) vs. remuneration cost



Source: created by the authors.

The Figure shows the distribution of effectiveness ratios for the Model 3 after the first iteration. Since this model had more input values than the first two ones, we can see that there are more institutions with the maximum effectiveness ratio, a total of 10 out of 64 LSCIs (see Figure 6).

The graph depicts the Model 3 optimisation graph line after the second iteration, where EFF2 is calculated based on the total number of employees by shift vs. remuneration costs (see Figure 7).

Table 5
LSCIs effectiveness ratios and division into clusters for DEA Model 3

Name of the institution	County	Cluster	EFF 1	EFF 2
“Jūrmala Health Promotion and Social Services Centre”	Jūrmala	3	0.96	0.90
Bauska county municipal institution “General type nursing home “Derpele”	Bauska county	3	1.00	1.00
Territorial centre for social services of retired persons of Daugavpils	Daugavpils	1	1.00	0.74
Engure county council’s nursing home “Rauda”	Engure county	1	1.00	0.63
Līvāni county council’s SIA “Līvānu slimnīca”	Līvāni county	2	1.00	0.76
Rīga social care centre “Gaīlezers”	Rīga	1	1.00	0.84
Rīga social care centre “Mežciems”	Rīga	1	1.00	0.82
Rīga social care centre “Stella Maris”	Rīga	3	1.00	0.76
Social care centre “Zemgale”	Ozolnieki county	1	1.00	0.80
Šķilbēni social care house	Viļaka county	2	0.96	0.86
Valka county council’s social care house	Valka county	2	0.99	0.80
Ventspils social care home “Selga”	Ventspils	3	1.00	0.90
Viļaka social care centre	Viļaka county	2	1.00	0.89

Source: created by the authors.

The Table shows the results after both iterations, determining the most effective institution according to the third model, and shows 13 institutions out of 64. However, in this case, after obtaining the results, LSCIs were selected whose EFF1 was not less than (0.95) after the first iteration. These 13 institutions were included in the second iteration resulting in a single most effective institution. As before, the table also shows compliance of LSCIs with a particular cluster group (see Table 5).

Summary of results. Compared to the first two models, where the effectiveness was measured from the institution’s point of view, the effectiveness evaluation in the Model 3 was based on employee remuneration vs. shifts. When using the additional cost effectiveness calculation in the second iteration against given LSCIs by determining their EFF2 ratio, the most effective institution according to the Model 3 was the Bauska county municipal institution “General Type Nursing Home “Derpele”, which even after the first iteration was among the institutions with the highest effectiveness indicator. It should be noted that the second most effective institution according to this model was Ventspils Social Care House “Selga”. Both of these institutions belong to the third cluster group, i.e. medium-sized nursing homes.

Model 4.

First iteration – cost effectiveness:

Input values:

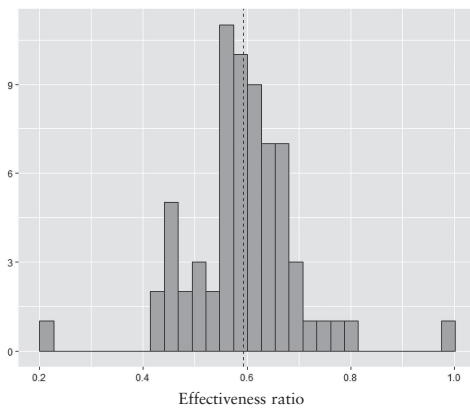
- total number of employees (per shift).

Output value:

- remuneration costs.

Figure 8

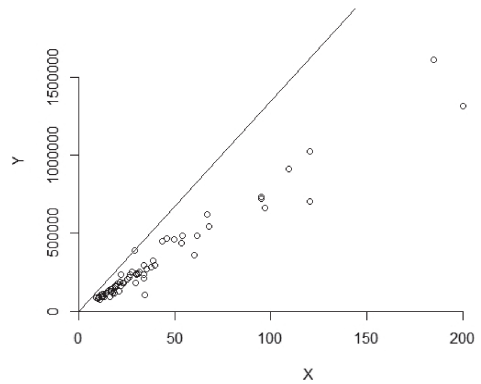
Distribution of the Model 4 coefficients in LSCIs



Source: created by the authors.

Figure 9

Total number of employees (per shift) vs. remuneration cost



Source: created by the authors.

The Figure shows the distribution of effectiveness ratios for the Model 4 after the first iteration. As this model only has one input and one output value, only one institution out of 64 LSCIs was determined to have the most effective indicator (see Figure 8).

Contrary to the previous models, this graph depicts the result after the first iteration, as EFF2 was not used in this model. The graph visualises the relation between indicators of the institutions and the line of the optimal institution. Therefore, EFF1 was calculated according to the total number of employees by shift and remuneration costs (see Figure 9).

The Table depicts 10 institutions out of 64 LSCIs, whose EFF after applying the DEA was among the 10 most effective institutions. Since a single institution with the coefficient (1) was displayed instantly, it was not necessary to perform an additional iteration to clarify EFF2. Additionally, the relevant cluster groups were also indicated (see Table 6).

Table 6

LSCIs effectiveness ratios and division into clusters for DEA Model 4

Name of the institution	County	Cluster	EFF
Municipal agency “ <i>Ķekava</i> Social Care Centre”	<i>Ķekava</i> county	2	1.00
Social care centre “ <i>Olaine</i> Social Service”	<i>Olaine</i> county	2	0.80
<i>Bauska</i> county municipal institution “General type nursing home “ <i>Derpele</i> ”	<i>Bauska</i> county	3	0.77
<i>Valmiera</i> city municipal nursing home “ <i>Valmiera</i> ”	<i>Valmiera</i>	3	0.75
Municipal institution-retirement home “ <i>Spridīši</i> ”	<i>Salacgrīva</i> county	2	0.71
“ <i>Jūrmala</i> Health Promotion and Social Services Centre”	<i>Jūrmala</i>	3	0.69
<i>Ventspils</i> social care home “ <i>Selga</i> ”	<i>Ventspils</i>	3	0.69
<i>Viļaka</i> social care centre	<i>Viļaka</i> county	2	0.69
<i>Gulbene</i> county social care centre “ <i>Tirza</i> ”	<i>Gulbene</i> county	2	0.68
<i>Gulbene</i> county social care centre “ <i>Siltais</i> ”	<i>Gulbene</i> county	2	0.68

Source: created by the authors.

Summary of results. Unlike the other DEA models, the cost effectiveness Model 4 included only one indicator – total number of employees by shift and one output indicator: remuneration costs. In the DEA model, based on the result where a single most effective institution was instantly displayed, the second iteration was not performed. In this model, the LSCI with the highest EFF was the municipal agency “*Ķekava* Social Care Centre”, which dominates quite strongly against the rest of the LSCIs. *Ķekava* Social Care Centre is included in the second group of clusters.

Conclusions

1. Creating DEA models based on several input parameters resulted in displaying several institutions with the highest effectiveness ratio, while using a single input and output parameter produced a single most effective institution.
2. Changing the input and output parameters of institutions also changed the list of the most efficient institutions, where one model was dominated by a particular institution according to certain parameters, while another LSCI was more efficient in another model with different parameters.
3. It may be concluded that determining a single most effective institution based on variable input and output values attributed to LSCIs is not objective as the input parameters are not mutually comparable. This means that, in each model, a particular institution is more effective based on a certain parameter.
4. Regardless of the fact that changing the input and output values will also change the most effective institution, different models showed similar LSCIs as the institutions with the highest EFF.
5. Six of the seven most effective institutions of the Model 1 and 2 also appeared in the Model 3, while two LSCIs of the Model 3 were found among the most effective ones in the Model 4.

6. Only two institutions out of 64 LSCIs in all four DEA models showed the most effective results – *Ventspils* social care house “*Selga*” and *Viļaka* social care centre. In the Model 1, *Ventspils* social care house “*Selga*” was the most effective one by cost effectiveness, and the technical effectiveness results were also good. In the Model 3, *Ventspils* social care house “*Selga*” showed the second best cost effectiveness result.
7. In all four models, the most effective institutions were included in cluster 2 and 3, which contain small and medium-sized LSCIs, meaning that the institutions of this group were more effective in terms of technical and cost effectiveness than the large care centres.

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TIESĪBZINĀTNE

Irina Gvelesiani

THE COMPARATIVE STUDY OF THE *FIDUCIE-S* AND TERMS RELATED TO THEM: PROBLEMS AND SOLUTIONS

Today's globalising processes set the new goals before the linguists and translators working in the field of the legal linguistics. The diversified legal systems of different countries and the emergence of the paradigm of transplantation (direct graphical conversion) change linguistic-juridical landscapes throughout the world. The majority of the linguists and lawyers of the European countries make significant attempts to keep pace to the latest challenges and to adjust local juridical systems as well as legal terminologies to the contemporary changes. The paper is oriented to the study of the contemporary Anglo-American concept of trust. It also discusses the Canadian and French concept of trust-like devices / *fiducie-s* and terminological units related to them via the linguistic as well as legal comparisons, which are essential for the development of the modern translation studies. The methodology of the carried-out research is based on Professor L. Pospisil's model and on the onomasiological approach proposed by Vienna School of Terminology. The legal concepts related to the common law's "trust" as well as Canada's and France's *fiducie-s* are presented in logical, systemic and succinct ways that allow readers to see the similarities and differences among various concepts and regulations. Moreover, the paper considers legal as well as linguistic comparisons on the micro (local) and macro (cross-national) levels. The research reveals that some terminological units, which sit comfortably within a local linguistic soil, may become obscure, unclear and even incomprehensible during a cross-national circulation. Therefore, the consideration of an international scale should become crucial during the process of translation or naming / labelling a concept. The paper proposes the renaming of some concepts for the creation of the most suitable equivalents of the terms related to the Anglo-American trust and its "counterparts" – the Canadian and French trust-like devices / *fiducie-s*.

Key words: trust, trust-like device, comparison, *fiducie*, translation.

Fiduciju un ar tām saistīto terminu salīdzinošā izpēte: problēmas un risinājumi

Mūsdienu globalizācijas procesi izvirza jaunus uzdevumus juridiskajā jomā strādājošajiem lingvistiem un tulkotājiem. Dažādu valstu tiesiskā sistēmas un transplantācijas (tiešās grafiskās pārneses) paradigma maina lingvistiski juridisko "ainavu" visā pasaulē. Daudzi Eiropas valstu lingvistu un juristu nopietni strādā, lai vietējo juridisko sistēmu un tās terminoloģiju pielāgotu mūsdienu izmaiņām. Rakstā tiek pētīts mūsdienu angloamerikāņu jēdziens "uzticēšanās". Tajā tiek analizēta arī ar uzticēšanos saistīto darījumu / fiduciju jēdzieniskā izpratne kanādiešu un franču valodās, izmantojot lingvistiski juridiskos salīdzinājumus. Pētījumu metodoloģijas pamatā ir profesora L. Pospisila modelis un onomasioloģiskā pieeja, kuru piedāvā Vīnes terminoloģiskā skola. Ar uzticēšanos saistītie tiesiskie jēdzieni, kā arī Kanādas un Francijas fiducijas ir izskatīti, veicot loģisko sistēmisko analīzi, kas palīdz noteikt līdzīgo un atšķirīgo starp jēdzieniem un tiesiskajām normām. Turklāt rakstā ir veikti juridiskie un lingvistiskie salīdzinājumi mikro- (vietējā) un makro- (starptautiskajā) līmenī. Pētījuma rezultāti parāda, ka dažas terminoloģiskas

vienības, kuras “ērti iedzīvojās” vietējā lingvistiskajā augsnē, var kļūt neizprotamas vai neizskaidrojamas starptautiskajā aprītē. Tāpēc jēdziena tulkošanas vai marķēšanas procesā par svarīgāko kļūst starptautiskais mērogs. Raksta autors piedāvā savu jēdzienu pārveidošanas veidu, lai izveidotu visatbilstošākos terminu ekvivalentus, kuri saistīti ar angloamerikāņu uzticēšanos un tā “analogiem” – kanādiešu un franču uzticēšanās darījumiem/fiducijām.

Atslēgas vārdi: uzticēšanās, uzticēšanās darījums, salīdzinājums, fiducija, tulkojums.

Сравнительное изучение фидуциев и связанных с ними терминов: проблемы и решения

Сегодняшние процессы глобализации ставят новые задачи перед лингвистами и переводчиками, работающими в юридической области. Правовые системы разных стран и появление парадигмы трансплантации (прямого графического переноса) меняют лингво-юридические «ландшафты» всего мира. Большинство лингвистов и юристов европейских стран прилагают серьёзные усилия для того, чтобы приспособить местные юридические системы и их терминологию к современным изменениям. Статья ориентирована на изучение современного англо-американского понятия «доверие». В ней также анализируются – посредством лингво-юридических сравнений, которые необходимы для развития современного перевода, – канадские и французские понятия совершаемых на доверии сделок / фидуциев и терминологические единицы, связанные с ними. Методология исследования основана на модели профессора Л. Посписила и на ономаσιологическом подходе, предложенном Венской школой терминологии. Общеправовые понятия, связанные с доверием, а также с фидуциями Канады и Франции, представлены с помощью логического системного анализа, что позволяет увидеть сходства и различия между понятиями и правовыми нормами. Кроме того, в статье рассматриваются юридические и лингвистические сравнения на микро- (местном) и макро- (международном) уровнях. Результаты исследования показывают, что некоторые терминологические единицы, которые «удобно прижились» на местной лингвистической почве, могут стать неясными и даже непонятными в процессе международного обращения. Таким образом, международный масштаб должен стать решающим в процессе перевода термина или маркировки понятия. В статье предлагается авторский способ перемаркировки некоторых понятий для создания наиболее подходящих эквивалентов терминов, связанных с англо-американским доверием и его «аналогами» – канадскими и французскими совершаемыми на доверии сделками / фидуциями.

Ключевые слова: доверие, совершаемые на доверии сделки, сравнение, фидуция, перевод.

Comparative linguistic-juridical studies

Today's Europe faces multilingualism and pluriethnicity – the results of the reformations of the last decades. A cross-national overview reveals that a great variety of “trust-like mechanisms” and terminological units related to them are associated with the contemporary European multilingualism and the tendency of framing a multilingual legislation. The latter “requires carrying out linguistic and legal comparisons which are essential for the development of legal translation studies and for intercultural communication in Europe” (Graziadei 2015). As a result, a comparative juridical-linguistic study acquires the greatest urgency on the background of the existed plurality and diversity of legal systems.

The comparative juridical studies / comparative law started in Paris in 1900, during the World Exhibition (Zweigert, Kotz 2011). Its major essence is the comparison of legal systems of different countries. This act “requires a careful consideration of the similarities and differences between multiple legal data points, and then using these measurements to understand the content and range of the legal material under observation” (Eberle 2009).

Some scientists (K. Zweigert, H. Kotz, R. Pound, etc.) believe that the major method of comparative law is the “functional method” that was introduced in 1936 by R. Pound (Pound 1936). According to his assumption, the functional comparison is the “study of how the same thing may be brought about, the same problem may be met by one legal institution or doctrine or precept in one body of law and by another and quite different institution or doctrine or precept in another” (Hoecke 2015).

In contrast to R. Pound, L. Pospisil (Pospisil 1971) discusses the analytical method and aims at the creation of the model useful for a cross-national comparison. He “works out an analysis in terms of legal correlates. This has the advantage of presenting the subdivisions of a legal concept or field in a logical, systemic, succinct and complete way... it allows us to see much better, at this deeper level, similarities and differences amongst different legal concepts and regulations” (Hoecke 1996). L. Pospisil’s approach seems somehow similar to O. Brand’s method of conceptual comparisons that draws inspiration from typology and comprises two major phases. “In the first phase (conceptual orientation), the researcher construes certain elements of legal reality in logically precise, abstract, and unambiguous models (comparative concepts). In the second phase (systematic comparison), real-world institutions and rules can be matched and assessed against these concepts. The ultimate, admittedly Herculean, goal of conceptual comparisons is to establish a comprehensive network of concepts covering all legal institutions from all jurisdictions and to assess how these different concepts complement each other or conflict” (Brand 2007). The method of conceptual comparisons seems especially useful for researching the institutions of traditional legal families – the Romano-Germanic family (the law of continental Europe / civil law) and the Anglo-Saxon family (common law).

Besides focusing on different methods of comparative law, it is necessary to consider different methodological approaches towards a comparative research of juridical lexical units. Some scholars agree that the legal terminology is system-bound, tied to a legal system rather than to a language (Pommer 2008). The interdependence of a legal language and a legal system results in the non-equivalence of terminology and phrases across different juridical systems (Kjær 1995). Accordingly, some scholars aim at the solution of the problem of non-equivalency, for instance, H. Droessiger focuses on the creation of a term system and on filling the “terminological gaps”. He argues that analysing “cultural gaps” between compared languages and legal systems can serve as the basis for filling these gaps (Droessiger 2007).

In contrast to H. Droessiger, some scholars focus on the contrastive semantic studies that deal with the plane of expression / the plain of content and define “the contrast or comparison as a method that helps to reveal the systems of lexical semantics of different languages as well as show common and specific features of each language. Contrastive studies of terminology are critical because they help to reveal the pecu-

liarities of both the foreign language and native language terminology” (Juodinyte-Kuznetsova 2015).

V. Januleviciene and S. Rackeviciene associate semantic studies with the process of translation (Januleviciene, Rackeviciene 2011). They distinguish the target language (TL) and the source language (SL) oriented methods. The target language oriented translations try to assimilate the source legal terms. The latter seeks to preserve the semantic content of the source language legal terms. M. Harvey marks that the TL-oriented strategy constitutes functional equivalence, i.e. the use of the TL legal concept, the function of which is similar to that of the SL legal concept (Harvey 2002).

Handbook of Terminology presents a more in-depth analysis and makes distinction between “exact”, “partial”, “broader” and “narrower” types of equivalency: “Exact equivalence is considered to occur when the concepts are identical and the terms related to it refer to the same common concept. In partial equivalence, the contents or domains of the concepts differ from each other. If one concept is represented with several concepts in another language, it is question of a broader and narrower equivalence between different language versions” (Nykyri 2010). The issue of an exact equivalence is broadly discussed in L. Cheng, K. Sin and W. Cheng’s work. The authors believe that this type of equivalency cannot be found in terms associated with the legal transplants. Accordingly, “the major task of translation in legal transplant is to solve lacunae, discursive gaps between the source text and the target text. In legal translation, a lacuna seems to constitute a factor of untranslatability” (Cheng et al. 2014).

The author supposes that before solving the problem of discursive gaps and untranslatability, it is necessary to discuss the theories proposed by different schools of terminology. According to the Canadian school, a term was a starting point in a terminological analysis, while the Prague and the Soviet schools supported Saussurian view that a term was the totality of content (concept) and form (name). The Vienna school also showed parallels with structural linguistics (i.e. Saussurian structuralism) (Temmerman 2000). However, it proposed the most prominent theory.

“Terminology begins with the concept and aims to clearly delineate each concept” – these words of E. Wuster correspond to the basic principles of Vienna School of Terminology founded by him in the 20th century (Wuster 1985). It is noteworthy that E. Wuster’s doctoral dissertation was considered as a pillar of terminological studies that established the principles of systematizing working with terms. Those principles were oriented to concepts and their standardization leading to General Terminology Theory (GTT). This theory was focused on “specialized knowledge concepts for the description and organization of terminological information. Within this framework concepts were viewed as being separate from their linguistic designation (terms). Concepts were conceived as abstract cognitive entities that referred to objects in the real world, and terms were merely their linguistic labels” (Benitez 2009). The major purpose of the traditional terminology “was to assign a new term to a new concept that appeared in a language. In the naming process, terminologists started from the concept, which they placed into a concept system, on the basis of which it had been defined before being named as a term (the onomasiological approach). Their main focus was on exploring the ways in which to make terminology as efficient and unambiguous as possible” (Sageder 2010).

General Terminology Theory and the onomasiological perspective proposed by Vienna School raised criticism. Despite this fact, they have had many proponents, for instance, German linguists J. Grzegą and M. Schöner believe in the importance of onomasiology, which is a branch of lexicology. Its goal is finding “the linguistic forms, or the words, that can stand for a given concept/idea/object” (Grzegą, Schöner 2007). As J. Grzegą and M. Schöner state: “Like many words denoting sciences, the word “onomasiology” is derived from two ancient Greek words – *onoma*, which means “name”, and *logos*, which can be translated as “science” or “study of” (Grzegą, Schöner 2007). Accordingly, onomasiology is the study of designations, where a linguist starts with an extralinguistic concept and looks for its formal verbalizations (Grzegą 2012).

The above-mentioned enables us to suppose that the concept-based designation can become an integral part of the process of translation. It may simultaneously rely on a comparative analysis of concepts in order to fully preserve and transpose into a target language the content of a legal information presented in a source term. Moreover, we believe that a successful translation or naming requires linguistic and legal comparative approaches as well as the awareness of legal settings in which the terms to be translated must be used. Moreover, translators have to acknowledge that law, of course, is like a language. However, as with a foreign language, in order to understand it truly, we should understand a cultural context on which it sits and which stipulates its formation. Only then, we can translate accurately from one legal system to another as well as from one language to another (Eberle 2009).

In the following parts of the paper, we create equivalents of the particular terms related to the “trust-like devices” via the process of renaming. This process relies on Professor L. Pospisil’s model. Accordingly, it presents legal concepts related to the European *fiducie-s* in a logical, systemic and succinct way that allows readers to see similarities and differences among various concepts and regulations. At the same time, we adhere to the onomasiological approach proposed by Vienna School of Terminology. Moreover, the paper considers legal as well as linguistic comparisons on the macro (cross-national) level. The research reveals that some terminological units, which sit comfortably within a local linguistic soil, may become obscure, unclear and even incomprehensible during the cross-national circulation. Therefore, we consider an international scale during the process of translation or naming / labelling a term.

France’s *fiducie*

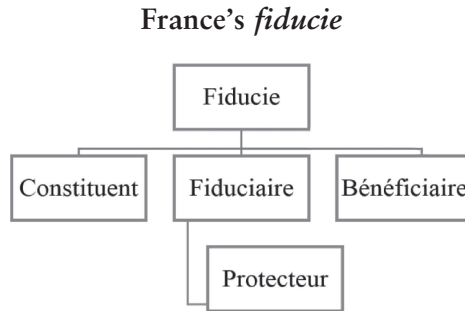
The French *fiducie* is a triangular relationship that considers a transference of rights on a particular property for the fulfillment of a special purpose. This transference implies the following: “the settlor (*constituant*) entrusts existing or future assets, rights or security to the trustee (*fiduciaire*), who manages these for the benefit of one or more beneficiaries. French law does not classify the legal status of the trustee; he is deemed to be either an agent or an administrator, only the manager (*agissant, actor*) of the trust property (*patrimoine fiduciaire*)” (Sandor 2015). Sometimes, the *constituent* appoints the *protecteur*, who controls the activities of the *fiduciaire*. However, in certain cases, the *constituent* and the *fiduciaire* may be persons, who benefit from the

exploitation of an entrusted property. Accordingly, the contemporary French entrusting relationships consider the following participants (concepts):

- *Constituant* – a transferor of the assets represented by any natural or legal person;
- *Fiduciaire* – a transferee represented by a banking, insurance or financial professional or an avocat (attorney), whose role contributes to ensure the protection for the constituent (Devaux et al. 2014);
- *Bénéficiaire* – a receiver of the benefit derived from the management and exploitation of property transferred to the *fiduciaire*;
- *Protecteur* – a protector, who controls activities of the *fiduciaire*.

It can be supposed that the French *fiducie* was established as a juridical device paralleling the tripartite relationship of the common law “trust” via adding the fourth element – a protector. This quadripartite relationship can be presented in the following way (see Figure 1).

Figure 1



Source: elaborated by the author.

It is noteworthy that France’s *fiducie* can also be regarded as a contract by which a company transfers goods or rights to a person, who holds and manages them for the benefit of one or more *bénéficiaire-s*. In certain cases, the *constituant* and the *fiduciaire* represent the *bénéficiaire-s* of the *fiducie* that is usually created by law or by contract. “The contract that sets it up must contain a certain amount of information and must be registered with the “*registre national des fiducies*” (a purposely set up national registry) and the “*service des impôts*” (the French Inland Revenue), as failure to so register the *fiducie* renders it null and void” (Squire Patton Boggs 2007).

The object of entrusting relationships is presented by transferred assets – the *patrimoine fiduciaire*. Moreover, “if the transferred property – movables and immovables, corporeal or incorporeal – is appropriated to secure the repayment of a debt (with the creditor as beneficiary of the *fiducie*), the *fiducie* then has the role of a security” (Barriere 2013).

It is noteworthy that during the creation of the rules regulating the *fiducie* “the French legislator used as a source of inspiration Articles 2.011-2.030 from the Quebec Civil Code” (Moreanu 2015). However, the French *fiducie* was not enacted as an ownerless patrimony (as in Quebec), but as a segregated patrimony owned by a transferee (Vicari 2012).

Generally, the process of implementation of the *fiducie* can be regarded as an important turning point that “destroys” Aubry and Rau’s theory of the unicity of the *patrimoine* and facilitates the introduction of the notion of the *patrimoine d’affectation*. As a result, the contemporary French *fiduciaire* acquires the right to hold one or more fiduciary patrimonies. He (She) exclusively exercises the prerogatives attached to property. He is thus a sole qualified actor to undertake an action for the recovery of property against third parties, to use the benefits of the assets (*fructus*) and to dispose of them (*abusus*) unless there is a restricted clause in a contract (Devaux et al. 2014).

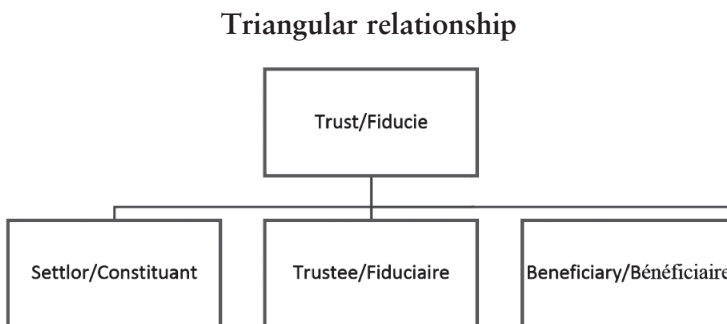
Quebec’s *fiducie*

Nowadays, the “Civil Code of Quebec is a vital practical and historic component of the unique fabric of Canadian society” (Lloyd, Pawley 2005). It presents 38 articles (from 1260 to 1298) dedicated to the *trust* and defines this juridical institution in the following way:

- “Art. 1260. A trust results from an act whereby the settlor transfers property from his patrimony to another patrimony constituted by him, which he appropriates to a particular purpose and which a trustee undertakes, by his acceptance, to hold and administer” (qweri by *lexum n/d*).
- Article 1261 presents a more precise description of the entrusting relationships – “*Le patrimoine fiduciaire ... constitue un patrimoine d’affectation autonome et distinct de celui du constituant, du fiduciaire ou du bénéficiaire, sur lequel aucun d’entre eux n’a de droit réel*” (qweri by *lexum n/d*)¹.

These passages indicate that the Quebecoise “trust” has been established as a juridical device paralleling a tripartite relationship of the common law “trust” sitting quite comfortably within the major principles of civil law. This triangular relationship presents the following major elements (see Figure 2).

Figure 2



Source: elaborated by the author.

¹ Art. 1261. The trust patrimony, “consisting of the property transferred in trust, constitutes a patrimony by appropriation, autonomous and distinct from that of the settlor, trustee or beneficiary and in which none of them has any real right” (Roy 2010).

The depiction of the elements of the Quebecoise entrusting relationships (in English and French) reflects the contemporary juridical-linguistic reality of Canada – “federal legislation based on property and civil rights concepts draws upon civil law when it applies in Quebec and upon common law when it applies elsewhere in Canada” (Cuerrier 2016). Common law is adopted in nine provinces and three territories greatly reflecting the linguistic and cultural dimensions of these areas.

Therefore, the *fiducie* is the French equivalent of the English “trust”. Article 1263 of the Civil Code of Quebec states that the *fiducie* is: “*Acte juridique par lequel une personne, le constituant, transfère, de son patrimoine à un autre patrimoine, des biens qu’il affecte à une fin particulière*” (*queri by lexum n/d*).²

Accordingly, each element (concept) of an entrusting relationship can be characterized in the following way:

- A settlor (*constituant*) – a creator of the “trust” which can be set up in his (her) lifetime or upon his (her) death before the distribution of the property between heirs. A settlor may be a trustee or one of the trustees;
- A trustee (*fiduciaire*) can be any natural or legal person authorized by law, which may alienate the trust property by an onerous title, change it with a real right, change its destination and make any form of an investment (Roy 2010). A trustee is obliged to increase a patrimony and to utilize it for a specific purpose indicated in a trust agreement. More precisely, a trustee “has neither “legal ownership” of the trust property, ... nor “*sui generis* ownership” ... Instead of a proprietary entitlement, the trustee has “powers” (*pouvoirs*) of administration to be exercised on behalf of the beneficiaries, as opposed to “legal rights” (*droits subjectifs*) to be exercised in his or her own interest” (Emerich 2013);
- A beneficiary (*bénéficiaire*) can be any natural or legal person (even another trust), determinate or determinable at the time of the creation of the “trust”. The term “beneficiary” must not be confined “to a person, but may be impersonal; for an impersonal benefit or “purpose”. The beneficiary may be directly determined, determinable or abstract, according to the type of trust” (Claxton 2002).

The above mentioned indicates that the Quebecoise trust / *fiducie* and its “patrimony by appropriation” significantly differ from the French *patrimoine*. In the Civil Code of Québec, the word-combination “fiduciary ownership” is less used, because a transferee does not have ownership of the property in trust (art. 1261 CCQ-1991), but a power over it (Centre Paul-Andre Crepeau de droit prive et compare n/d). This power comprises acceptance, holding and administration of the transferred assets. Besides debasing a fiduciary ownership, the Quebecoise entrusted property departs from an original civilian “patrimony”, because the traditional theoretical patrimony is identified only with a person, is composed of all his/her property (and obligations) in which his ownership is singular and indivisible (*dominium*) to the exclusion of all other persons (Claxton 2002).

² Juridical act by which a person, the settlor, transfers a part of his or her patrimony to another patrimony and appropriates the transferred property to a particular purpose (Centre Paul-Andre Crepeau de droit prive et compare n/d).

Accordingly, the Quebec's law recognizes a patrimony without a person as its head (an impersonal patrimony) and presents a new method of entrusting property – the assets are removed from a patrimony of a transferor, but do not constitute a part of a transferee's or a beneficiary's ownership. This method of entrustment results in the creation of an autonomous patrimony that is named as the “patrimony by appropriation” (*patrimoine d'affectation*).

It is noteworthy that the Quebecoise *patrimoine* comprises a non-segregated property, because it does not belong to a person, who has the power of its administration and disposition. The non-segregated assets may comprise any kind of a present or a future property: real, personal, movable, immovable, incorporeal, corporeal. “As regards future property one may conclude that a trust created to hold future property only, even if accepted by the trustee, will not be constituted and exist until some property is acquired by the settlor or the trustee” (Claxton 2002), because the transference of assets is the major essence of entrusting relationships.

Another point of interest is the correlation of the terms related to France's *fiducie* and Quebec's trust-like device. Table 1 depicts this correlation.

Table 1

The French terms related to France's and Quebec's trust-like devices

Definition	France's Civil Law	Quebec's Law (French Version)
A legal institution	<i>Fiducie</i>	<i>Fiducie</i>
A transferor of the property	<i>Constituant</i>	<i>Constituant</i>
A transferee	<i>Fiduciaire</i>	<i>Fiduciaire</i>
A person, who benefits from the exploitation of the trust property	<i>Bénéficiaire</i>	<i>Bénéficiaire</i>
An object of entrusting relationships	<i>Patrimoine d'affectation</i>	<i>Patrimoine d'affectation</i>

Source: elaborated by the author.

The table reveals that the French terms related to the Quebecoise trust-like device coincide with the lexical units related to France's entrusting relationships. This correlation seems impossible, because the French *fiducie* and the Quebecoise trust-like device have different essences. The French entrusting relationships are based on the segregation of property that is unacceptable to Quebec's law. It merely presents an ownerless patrimony. Accordingly, for avoiding the terminological ambiguity, we propose the following renaming.

Table 2

The existed and proposed French terms of Quebec's law

Definition	The Current Terms of the Quebec's Law (French Version)	Proposed French terms
A legal institution	<i>Fiducie</i>	<i>Fiducie québécoise</i>
A transferor of the property	<i>Constituant</i>	<i>Constituant québécois</i>
A transferee	<i>Fiduciaire</i>	<i>Fiduciaire québécois</i>
A person, who benefits from the exploitation of the property	<i>Bénéficiaire</i>	<i>Bénéficiaire québécois</i>
An object of entrusting relationships	<i>Patrimoine d'affectation</i>	<i>Patrimoine d'affectation québécois</i>

Source: elaborated by the author.

The concepts related to France's fiduciary relationships can be renamed in the same way (see Table 3).

Table 3

The existed and proposed French terms of France's law

Definition	Existed terms (France's law)	Proposed terms
A legal institution	<i>Fiducie</i>	<i>Fiducie française</i>
A transferor of the property	<i>Constituant</i>	<i>Constituant français</i>
A transferee	<i>Fiduciaire</i>	<i>Fiduciaire français</i>
A person, who benefits from the exploitation of the property	<i>Bénéficiaire</i>	<i>Bénéficiaire français</i>
An object of entrusting relationships	<i>Patrimoine d'affectation</i>	<i>Patrimoine d'affectation français</i>

Source: elaborated by the author.

Conclusions

A legal term is a verbal expression of a concept belonging to the field of jurisprudence. The emergence of any new legal institution causes the appearance of new concepts and necessitates their naming. Accordingly, a linguistic-juridical analysis acquires the greatest urgency for an appropriate naming and finding an exact equivalency.

The paper presented the study of the contemporary Canadian and French trust-like devices and terminological units related to them. The research was oriented to the coinage of new terminological units. The outcomes of the paper will "ease" the process of translation and will highlight the importance of linguistic-juridical comparisons.

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SOCIĀLĀ PSIHOLOĢIJA

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VOLUNTARY AND INVOLUNTARY CAREER TRANSITIONS: A NARRATIVE STUDY

The paper presents the exploration of voluntary and involuntary career transition experience of mature age persons aiming to find out how these transitions are embedded in person's life story in terms of prior events and future plans of life and what is the difference in emotional attitude toward these two types of transitions. Using the approach of constructivist qualitative inquiry, the narrative interviews were conducted to examine the participants' lived experience asking them to tell the story of their career transitions as they are embedded in their lives. The study was performed in Latgale region of Latvia with seven mature age persons (two male and five female), characterized by at least 20 years work experience, tertiary education and experience of significant career transition during the last seven years (change of country, employer, job title, industry, or leaving or re-entering the workforce). The data analysis integrated the thematic narrative analysis and M. Crossley's approach to narrative analysis. Following themes illustrated the life events prior to career transitions: 1) childhood experience: nature, chores, responsibility; 2) importance of education; 3) support from family, 4) choosing career, 5) lucky chance, and 6) triggers of career transition. The research findings were in tune with the main theoretical elaborations on career transition. Resilience as the self-related adaptive factor and family unit as supportive mechanism were discovered for both types of career transition. Involuntary career transitions were shaped only by the environmental limitations or external causes, while the voluntary transitions were mostly driven by personal agency. In future all participants stressed the need to serve the society, family and to establish better work-life balance. As expected, emotional attitude toward involuntary career transitions was negative (disappointment, disorientation, fatalism, resentment), while attitude toward voluntary career transitions was mostly positive (faith in God, optimism, satisfaction, pride). The narrative approach can be successfully implemented by career counsellors to understand career scenarios and individuals' overall experiences. More extensive research would be recommended in future focusing on causes, triggers and coping strategies for career transitions.

Key words: career, voluntary career transition, involuntary career transition, narrative analysis, life story.

Brīvprātīgās un piespiedu karjeras pārejas: naratīvais pētījums

Rakstā atspoguļota brieduma vecuma cilvēku piespiedu un brīvprātīgo karjeras pāreju pieredzes izpēte. Tika noskaidrots, kādā veidā šādas karjeras pārejas ir integrētas cilvēku dzīvēstāstos kontekstā ar dzīves notikumiem pirms šīm pārejām un nākotnes plāniem un kādas atšķirības pastāv emocionālajā attieksmē pret savu piespiedu un brīvprātīgās karjeras pārejas pieredzi. Kvalitatīvās izpētes konstruktīvisma pieejas ietvaros izmantotās naratīvās intervijas ļāva atklāt dalībnieku dzīves pieredzi. Lūdzot izstāstīt stāstu par karjeras pārejām savas dzīves notikumu kontekstā, tika novadītas intervijas ar septiņiem Latgales reģionā dzīvojošiem brieduma vecuma dalībniekiem (diviem vīriešiem un piecām sievietēm) ar augstāko izglītību, vismaz

20 gadus ilgu darba pieredzi un nozīmīgas karjeras pārejas pieredzi pēdējo septiņu gadu laikā (valsts, darba devēja, darba jomas, amata maiņa, darba tirgus atstāšana vai atgriešanās tajā). Iegūtie dati tika analizēti, izmantojot tematiskās naratīvās analīzes un M. Kroslijas pieejas naratīvajai analīzei integrāciju. Pētījuma dalībnieku dzīves notikumus pirms karjeras pārejām ilustrē šādas tēmas: 1) bērnības pieredze: daba, pienākumi, atbildība; 2) izglītības nozīmīgums; 3) ģimenes atbalsts, 4) karjeras izvēle, 5) laimīgs gadījums un 6) karjeras pāreju ierosinātāji. Pētījuma rezultāti kopumā atbilst galvenajām teorētiskajām nostādnēm karjeras pāreju izpētes jomā. Elastība kā adaptīvs ar patību saistīts faktors un ģimene kā atbalsta mehānisms tika atklāti abu karjeras pāreju veidu pieredzē. Piespiedu karjeras pārejas noteica tikai vides ierobežojumi jeb ārējie iemesli, bet brīvprātīgo pāreju pamatcēloņi bija saistīti ar personīgo aktivitāti. Nākotnes plānu aspektā visi pētījuma dalībnieki uzsvēra vajadzību kalpot sabiedrībai, ģimenei un sasniegt labāku darba un privātās dzīves līdzsvaru. Emocionālā attieksme pret piespiedu karjeras pāreju pieredzi bija negatīva (neapmierinātība, dezorientācija, fatālisms, nožēla), bet attieksme pret brīvprātīgām pārejām bija kopumā pozitīva (ticība Dievam, optimisms, gandarījums, lepnums). Naratīvā pieeja var tikt veiksmīgi izmantota karjeras konsultēšanā, lai izprastu karjeras scenārijus un indivīdu pieredzi kopumā. Nākotnē būtu ieteicami plašāki pētījumi, kas pievērštos karjeras pāreju cēloņiem, ierosinātājiem un pārvarēšanas stratēģijām.

Atslēgas vārdi: karjera, brīvprātīgā karjeras pāreja, piespiedu karjeras pāreja, naratīvā analīze, dzīvesstāsts.

Добровольные и принудительные карьерные переходы: нарративное исследование

В статье отображено исследование опыта людей в зрелом возрасте, связанного с добровольными и принудительными карьерными переходами. Выяснено, каким образом данные карьерные переходы интегрированы в контекст жизненных рассказов людей о событиях до переходов и планах на будущее, и какие различия на эмоциональном уровне существуют по отношению к пережитому опыту добровольного и принудительного карьерного перехода. В ходе качественного исследования в рамках конструктивного подхода использовались нарративные интервью, которые позволили изучить жизненный опыт участников. С просьбой рассказать о карьерных переходах в контексте событий их жизни, были проведены интервью с семью участниками зрелого возраста (двумя мужчинами и пятью женщинами), проживающими в Латгальском регионе, с высшим образованием, с как минимум 20 годами трудового стажа и значимым опытом карьерного перехода за последние семь лет (опыт смены государства, работодателя, области занятости, смена должности, покинувшие рынок труда или возвратившиеся на него). Интерпретация полученных в ходе интервью результатов происходила на основе интеграции подходов тематического нарративного анализа и подхода М. Кроссли к нарративному анализу. События из жизни участников исследования до карьерных переходов иллюстрируют следующие темы: 1) опыт детства: природа, обязанность, ответственность; 2) значимость образования; 3) поддержка семьи; 4) выбор карьеры; 5) счастливый случай и 6) события, способствующие карьерному переходу. В целом результаты исследования соответствуют главным теоретическим положениям в области карьерных переходов. Эластичность как фактор адаптивности, связанный с самостью, и семья как механизм поддержки отобразились в опыте обоих видов карьерных переходов. Принудительные карьерные переходы определяются ограничениями среды или внешними причинами, а основные причины добровольных переходов связаны с личной активностью. В аспекте планов на будущее все участники подчёркивали потребность служить обществу, семье и достичь большего равновесия между работой и личной жизнью. Эмоциональное отношение к принудительным карьерным переходам было негативным (неудовлетворённость, дезориентация, фатализм, сожаление), а отношение к добровольным переходам было в целом позитивным (вера в Бога, оптимизм,

удовлетворение, гордость). Нарративный подход может быть успешно использован в карьерном консультировании для анализа карьерных сценариев и опыта индивидов в целом. В перспективе необходимы более глубокие исследования, которые касаются причин карьерных переходов, способствующих им факторов и стратегий их преодоления.

Ключевые слова: карьера, добровольный карьерный переход, принудительный карьерный переход, нарративный анализ, жизненная история.

Introduction

Career has become one of the main notions in 20th century Western societies (Sinisalo, Komulainen 2008) and it is still very important at the beginning of 21st century, living in “an unparalleled economic and technological milieu where the only constant is global and national change” (Peakea, McDowall 2012, p. 395). Nowadays labour markets have been influenced by various factors that have resulted in profound changes in the workplace (Bauer 2017). These changes in global and nation markets have put the individuals in situation of uncertain career path and need to be responsible for their own professional and technological development (Baruch, Bozionelos 2011). Presently the career prospects seem to be far less definable and predictable, with career transitions being more frequent and difficult (Savickas et al. 2009). At the same time, individuals are still looking for work to gain the sense of purpose and identity, life challenge, self-fulfilment and creativity, status, access to community and income. Besides, work can provide coherence, continuity and social meaning to the life in a complex society. People want more meaningful vocational lives and flexible career structures that allow them to control and manage their work and career (Waterman R. et al. 1994).

Transitions in career history, both intended and involuntary, have an impact on individuals' psychological well-being and adjustment. Especially in Latvia, because of ongoing reforms in service industry (for instance, education, health care) as well as comparatively low wages in manufacturing industry and agriculture, career transitions could become an increasing challenge for many professionals and an important task for career counsellors and consultants. The current economic and social situation in Latvia envisages the possible encounter of individuals with involuntary career transitions that can be quite devastating for those unprepared for such challenges. The presented study was conducted in the economically less developed region of Latvia, i.e., Latgale (Sipilova et al. 2017) with the biggest challenge related to the loss of human capital, social problems, weakened private sector (Latgales planosanas regions 2019), that makes the current descriptive study especially urgent and essential.

The literature review shows that research in psychology and management studies has paid little attention to the career transition compared with other topics such as leadership, organizational learning and selection (So 2010). Among the existing literature on career transitions just a few studies have focused on the influences and impacts surrounding mid-career occupational transitions. Besides, in-depth, qualitative studies centred on involuntary transitions would be particularly appropriate in the current economic climate. According to S. Peakea and A. McDowall, “a more detailed examination of the nature of such impacts, including antecedent conditions and consequent

outcomes, would benefit career counsellors, coaches and others who support individuals through career transitions” (Peakea, McDowall 2012, p. 407). Moreover, there is a tendency to explore a specific career move rather than to view the transitions as part of a larger career narrative in its social and cultural context (Cohen, Mallon 2001).

Theoretical background

The theoretical underpinnings for this study, first, will shortly illustrate major theories of career transition, second, will describe the voluntary and involuntary career transitions, their causes and adaptation to transition. Third, we will elaborate on the psychological consequences of career transition and, finally, methodology for the career transition research will be discussed.

Theories of career transition. A popular definition of career states that it is “the sequence of employment related positions, roles, activities, and experiences encountered by a person” (Arnold 1997, p. 16), while the transition can be defined as events resulting in changed relationships, assumptions, roles or altering sequence of stability and change in relation to life events and assumed roles (Anderson et al. 2012; Bauer 2017). According to W. Bridges, the researchers should make a distinction between the “transition” and “change”: change is situational, while ‘transition’ is internal process. Transition is the inner psychological process people go through to come to terms with the new situation, as they let go of the way things used to be and reorient themselves to the way that things are now (Bridges 1980). Thus, transition will regard both objective situational features (e.g., beginning new job) and subjective characteristics (e.g., impact of new demands on individuals’ self-consciousness) (Nicholson, West 1989). Emphasizing the subjective dimension of transition, N. Schlossberg sees it as an “event or non-event resulting in a change in assumptions about oneself and the world and thus requiring a corresponding change in one’s behavior and relationships” (Schlossberg 1984, p. 5). One of the most popular theoretical models of transition, frequently used in the area of career transitions, are W. Bridges’ three stages of transition: endings, where individuals are entering the period of transition, neutral zone, where they are moving through the transition, and making the beginning where individuals start to establish themselves in new lifestyle or employment (Bridges 1980).

Career transition has been described as a process of disengagement from one situation and engagement in a new work situation (Fernandez et al. 2008). This process can be described as: 1) a “task change” in which new tasks are adopted within the same job and same location; 2) a “position change” resulting in a change in jobs, either with the same employer or with a different employer or location; or 3) an “occupation change”, involving a transition from one occupation to a completely new role and set of tasks (Heppner 1998). One of the first theories of career transition was D. Super’s theory conceptualising career development as unfolding across the life span (Super 1957). In this theory career transition was considered as a matter of changing one’s self-concept. On the other hand, N. Nicholson’s transition cycle explores career transitions considering career motivation, past socialization experiences or current role adjustment behaviours, thus inspiring the individual approach to coping

and adjustment to career transition and exploration of career transitions (Nicholson 1987).

Along with the theory by W. Bridges, other widely cited transition model was created by N. Schlossberg (Schlossberg 1984) and developed further by M. Anderson, J. Goodman, N. Schlossberg (Anderson et al. 2012). It contains four stages of the work life cycle: 1) beginning a new job and learning about the expectations and workplace culture and norms, 2) continuing the employment with feelings of boredom or competing demands; 3) “moving out” by decision to leave the job, retire or make a career change with possible ambivalence around the change, and 4) ‘trying to move in again’ where individuals can suffer from unemployment feeling frustrated and despairing. For our study the important theoretical matter are following four aspects of transition: situation (voluntary or involuntary), self, support and strategies. Voluntary and involuntary career transition situations will be illustrated in detail in the next chapter of paper. The concept of self includes the salience and balance, resilience, self-efficacy and meaning making as important features of career transition. The individuals in career transition can gain the support from four main sources: close relationships, family units, networks of friends and the institutions and/or communities (Anderson et al. 2012). Strategies for coping with transition can be oriented toward problem solving or towards minimizing the personal response to the issue (Lazarus, Folkman 1984). M. Lips-Wiersma has mentioned four purposes of meaningful career transitions, namely, “developing and becoming self” (self-knowledge and personal growth); “unity with others” (sharing values and belonging); “expressing self” (creating and achieving, influencing others) and “serving others” (making a difference) (Lips-Wiersma 2002, p. 511).

As the general framework for career transitions in this study we will use the adaptation of simple time-based framework of transitions, based on K. West and N. Nicholson (West, Nicholson 1989) and elaborated further by K. Chudzikowski and his colleagues (Chudzikowski et al. 2009), consisting of three parts, namely, 1) causes (internal or external) of transition, linked with 2) individual and situational factors of transition process and adaptation to it, and 3) psychological outcomes or consequences of transition. The successive parts of this framework will be described in the further chapters.

Voluntary and involuntary career transitions, their causes and adaptation to transition. The authors use different terms for describing types of transitions, for instance, W. Gomes and M. Teixeira write about the planned (e.g., instigated by a decision to undertake studies in order to qualify for a new profession) and unplanned change (caused by job loss or economic need) (Gomes, Teixeira 2000). On the other hand, H. Ibarra and R. Barbulescu indicate that role changes may be desirable or undesirable and stress that socially desirable transition should represent progress, because any regression in status, title or prestige deviate from socially valued and expected situation (Ibarra, Barbulescu 2010).

In this study, the career transitions will be categorized into voluntary and involuntary transitions, as this division is more frequent and appropriate for the methodological discourse of our inquiry. Voluntary career transitions are driven by personal agency, whereas involuntary transitions are shaped by personal and environmental

limitations (Fouad, Bynner 2008). Voluntary transitions envisage, for instance, moving from school to work, changing jobs or careers (work to work), and choosing to leave the work force for child bearing or retirement. Involuntary transitions include been laid off, fired, facing forced retirements, re-entering the labour force because of policy changes or changes in personal circumstances. Voluntary transitions are often made with enough time, resources and competence to consider multiple options. In involuntary transitions people may not have the opportunities to prepare for the transition both in terms of their psychological readiness as well as their capacity for other jobs or careers (So 2010).

The causes or triggers of career transitions can be external (e.g., losing a job and becoming unemployed) or internal (e.g., perceived need for personal growth or changes) (Bauer 2017). Internal career transition could be triggered by interest to other career path or activities, search for interpersonal development, self-determination or self-awareness developed through experience, increased self-esteem, need to integrate previous professional experience, expand personal capacities, identity and values. Also, for some individuals career transition would allow to do something good for society, achieve a better work-life balance or to find a sense of purpose and direction (Bauer 2017; Gomes, Teixeira 2000; Wise, Millard 2005).

Describing the pre- and post-transition environments, N. Schlossberg emphasize the importance of internal support systems, institutional support, and physical settings (Schlossberg 1981). Timing and pattern of transitions have been recognized as individually varying due to interaction between the family background and personality. Youngsters, developing their career orientation, are guided by their parents' aspirations for them and social class reference groups (Reitzle et al. 1998; Vondracek et al. 1986).

N. Schlossberg, illustrating the model of adaptation to transition, discerns three groups of factors interacting during a transition, namely, the characteristics of the individual experiencing the transition, the perception of the particular transition, and the characteristics of the pre-transition and post-transition environments (Schlossberg 1981, 2004). The variables that characterise the individual include attributes, such as psychosocial competence, sex, age, state of health, race/ethnicity, socio-economic status, value orientation, and previous experience with a transition of a similar nature.

The psychological consequences of career transition. The transitions encountered throughout the life both positively and negatively influence the emotional, physical and mental functioning of individual (Anderson et al. 2012) and ask for energy, strategies and courage (Bloch, Richmond 1998). Besides, transitions in one area of a person's life can result in possible impact on other spheres of life. Also, successful dealing with the process of transition often depends on specific point in time when the transition occurred and impact of life factors and context (Bauer 2017). Thus, voluntary career transitions could result in more successful adjustment than involuntary transitions, as former can allow for better preparation for this process both in terms of internal and external resources. Several studies show that involuntary career transitions can be detrimental of the physical and mental health of individual (e.g., Dooley 2003; Dooley et al. 1996). However, when involuntary transitions can be reinterpreted as a positive event, even in cases of retiring, it could become an opportunity to develop new capacities, redirect priorities or leave unsatisfying job (Eby, Buch 1995; Taylor, Cook

1995). It could be assumed that almost any type of career transition can bring the positive outcomes when used for growth, self-transformation and promotes the linking of past negative experience to current strength and future opportunities (Savickas 2011). In coping with career transitions, the resilience has been recognized as one of the main keys for adapting to career transition, as resilient individuals regard the career related issues as possibilities for learning and development, or even for finding the innovative ways to achieve personally and organizationally meaningful goals (Fouad, Bynner 2008; Luthans et al. 2005; Luthans, Youssef 2007).

Methodology for career transition research. Even though just a few qualitative studies on career transition were conducted recently (e.g., Bauer 2017; Chudzikowski et al. 2009; Liu et al. 2012; Peakea, McDowall 2012; Sinisalo, Komulainen 2008), it is clear that qualitative approach would allow for the deeper, more complex, and detailed understanding of lived experiences of research participants in terms of their career transitions. The authors of current study have selected the constructivist paradigm for this qualitative inquiry, envisaging the individual's subjective understanding of the world and consequent development of subjective meaning of experienced events (Cresswell 2014). Besides, the qualitative studies are well suited for emerging areas of research like individuals' experience of involuntary and voluntary career transitions.

According to H. Ibarra and R. Barbulescu, "for many people, although certainly not everyone, a job or occupation is a central component of their understanding of who they are and they must be able to tell a good story about how they came to do what they do for a living" (Ibarra, Barbulescu 2010, p. 150). Recently, the narrative inquiry has been offered as one of alternative approaches to understand the career behaviour, including the career transition, though, such research has not been widely implemented yet (e.g., Bauer 2017; Bussolari, Goodell 2009; Liu et al. 2012; Peakea, McDowall 2012; Pryor, Bright 2007, 2008; Sinisalo, Komulainen 2008). Since the career is described as the sequence of work experiences over a person's life (Arthur et al. 1989), in this study we use the narrative interviews to explore the lived experience of participants asking them to tell the story of their career transitions as they are embedded in their lives. This research approach was selected because of its power to reveal how individuals make sense of traumatic and transitional life events (Crossley 2000).

According to C. Atkinson, a life story is the story one chooses to tell about his/her life as completely and honestly as possible, what he/she remembers of it and wants others to know of it (Atkinson 2002). As the literature analysis shows, the narrative in general is described as a sequence of events with the purpose of making a point (e.g., Pentland 1999; Riessman 1993) and these stories are especially effective in delving into challenging and ambiguous situation as they selectively combine contradictory experiences in a coherent view (Boje 2001). Narrative conveys the meaning of events as it helps to organize the sequence of events in a whole, where the meaning of each event can be grasped through its relation to that whole (Elliot 2005).

Narrative analysis put an emphasis on two main interactive factors: how the person creates his/her identity or sense of self and how the broader social and organizational contexts have been considered or, as stated by K. McGannon and B. Smith, "the use of narrative as a medium in knowledge translation aligns with the transformative and

social change agenda within cultural praxis, as well as the goal of grounding such change in people's experiences and identities" (McGannon, Smith 2015, p. 81).

Individuals' sense of self is created through narrative process where they construct the meaning of their life experiences by structuring the flow of events and organizing them according to recurrent themes in consistent 'plot' of life story (Neimeyer et al. 2006). Only the narrative structure of self-concept allows the gradual integration of life events into a coherent identity (McLeod 1997).

The second important strength of narrative inquiry is its focus on socio-cultural context of individual psychological processes as it builds the bridge between the life stories and dominant discourses of collective life (McLeod 2006). Even if life story contains a set of unique, personal events as voluntary or involuntary career transitions, a person can only tell this story by relying on dominant structures and genres of cultural narratives (Frank 1995; McLeod 1997).

According to the mentioned above, the purpose of this study was to explore how mature age participants with tertiary education experience their mid-career voluntary and involuntary transitions. To reveal the pre- and post-events as well as the differences in emotional attitude toward these two types of career transitions, following research questions were set:

- How the voluntary and involuntary career transitions are embedded in person's life story in terms of prior events and future plans of life?
- What are the differences in emotional attitude toward the personal experience of voluntary and involuntary career transitions?

Method

Sampling. Qualitative studies employ the purposive sampling method and involve a small number of individuals envisaging different sampling strategies. This study uses the purposive criterion sampling, choosing the participants for the study according to their 1) age/work experience, 2) level of education, 3) specific career experience. The main requirement for all participants was their capability to tell the stories about their career transitions. To enhance the variety of themes and categories (Glaser, Strauss 1967), participants with different age, occupational group, gender and type of career transition were selected within the framework of designated sampling criteria. The participants of this study will be described in detail as it allows for the richer interpretation of stories told (Locke et al. 2010).

The number of research participants for qualitative studies on career change in general ranges from five (Li 2009) to ten participants (Wise, Millard 2005). Several studies on similar topic have been carried out with seven participants (e.g., Gomes, Teixeira 2000; Peakea, McDowall 2012). Also, seven participants were involved in given study that, in general, coincides with the requirements for narrative interviews in the context of qualitative research.

The study was conducted in Latgale region of Latvia with seven participants (two male and five female), characterized by mature age and minimum 20 years work experience, with tertiary education and experience of significant career transition

during the last seven years. The significant career transition was defined as at least one of the following: change of country, change of employer, change of job title, change of industry, or leaving or re-entering the workforce (Peakea, McDowall 2012). Participants ranged in age from 42 to 62 years, four participants held Bachelor degree, three participants were with Master degree. Three participants reported involuntary career transitions, while four participants informed about their voluntary career transition experience. Every participant represented different kind of career transition, thus providing rich, unique and heterogenous set of narratives. None of the participants had previously sought professional careers advice or counselling. Table 1 presents the more detailed description of research participants.

Table 1
Socio demographic portrait of research participants, n = 7

Criteria	A	B	C	D	E	F	G
Gender	male	female	male	female	female	female	female
Age	52	44	53	62	45	42	51
Degree	B.A.	B.A.	M.A.	M.A.	B. A.	M. A.	B.A.
Qualification	Engineer	Teacher	Teacher	Teacher	Accountant	Preschool teacher	Teacher
Work experience	25	24	30	37	23	26	20
Career transition	Change of country/ industry	Change of industry	Change of employer	Leaving workforce (loosing job)	Leaving workforce (for further education)	Change of job title	Change of employer/ job title industry
Type of career transition	INVCT	VCT	VCT	INVCT	VCT	VCT	INVCT

Note: INVCT – involuntary career transition, VCT – voluntary career transition. Further in text following acronims of participants will be used: Amin, Bfv, Cmv, Dfin, Efv, Ffv and Gfin, designating gender and type of career transition (e.g., Amin – male with involuntary career transition).

Source: elaborated by the authors.

Data collection. Individual narrative interview on career transitions with open questions was conducted with all research participants according to same interview schedule. Each interview consisted of two parts: introductory part (administrated during the first meeting) and main part of interview related to the participants' life history in terms of career development and career transitions. Introductory part of interview focused on the relevant socio-demographical features and clarification of the formal details of research participants' career history, type and situation of career transition.

The main part of interview commenced with broad questions focused on the comprehension of participants in relation to career history and career transition. Then the

interviewer asked: "In previous conversation I discovered that you have experienced certain career transition. So, I would like to hear more about this period of your life. Start at the point which represents the beginning of the transition or any key events leading to it, and tell me as much as you can remember". The last section of this part of interview consisted of autobiographical interview questions, based on D. McAdams' protocol for semi-structured narrative interview, incorporating six areas and significant factors of human life: life (career) chapters, key events, significant people, future script, stresses and problems, and central themes of life. These questions were adapted to focus specifically on the main events of career history in the context of person's narrative of his/her life (McAdams 1993).

Procedure. At the initial meeting research participants were informed about the aim of the study and nature of narrative interview. As usually in life story interviews, participants were not fully introduced to the interview protocol ahead of interview time. The researcher (second author of the paper) provided just the general insight on the studied topic and stressed that she is interested mostly in the personal view on research problem not some objective statements or definitions. The answers on the introductory questions were obtained and participants were informed about the possible length of the interview; date, time and place of next interview were negotiated.

The main part of interviews was conducted face-to-face at the work place of interviewees (five interviews), one was taken at home and one was a telephone interview with the participant living in Ireland. Each interview generally lasted from 52 to 79 minutes. All interviews were audiotaped. Some attrition was observed in a study as one interviewee left the country before the main interview without warning, while one interview was excluded from the data set as it was only 25 minutes long despite of the large number of leading questions. These two participants were substituted by participants having same type of career transitions. Ethical principles were considered during the study signing and observing the agreement of informed consent. The acronyms of participants were used to ensure anonymity, the interviewees were familiarized with research outcomes, all recognizable data details were omitted or substituted from the transcripts and from the direct quotes and research data interpretation.

Data analysis. In order to answer the research questions, two types of data analysis were integrated in the presented study: thematic narrative analysis (Smith, Sparkes 2012; Riessman 2008) and M. Crossley's approach to narrative analysis (Crossley 2007). In thematic narrative analysis emphasis is on the content of speech, 'whats' of the stories (not the structure) and in this approach researcher searches for the common elements of several cases (Riessman 2008). Following the M. Crossley's approach, the "narrative tone" (the manner in which the narrative is told) as well as the language used in terms of symbols, metaphors and images (self-narrative repertoire) were observed in each transcript. Also, the dominant themes were noted in each narrative.

Thus, using a categorial perspective of thematic narrative analysis, categories and themes were collected across the seven cases (horizontal comparison), while in more holistic approach the sections of each case (answers on specific questions) were interpreted in the context of the other parts of the narrative (vertical comparison). According to A. Lieblich, R. Tuval-Mashiach, T. Zilber such "vertical" approach is more relevant in exploration of the development of individuals (Lieblich et al. 1998). Thus, in order

to compare the content and contextual dimensions of voluntary and involuntary career transitions, thematic analysis of data was selected as more appropriate, while the integration of these transitions in the life story of participants and interpretation of their psychological consequences asked for more holistic vertical approach suggested by M. Crossley (Crossley 2007).

The interview audio files were transcribed verbatim. Initially, the researchers focused on thematic narrative analysis – discerning the themes common at least in three from seven interviews. The analysis started with reading each transcript five times and marking main ideas and issues; than the analysis continued with inductive coding, developing themes and subthemes, and identification of core narrative elements associated with each theme (Braun, Clarke 2006). In the next stage of analysis researcher conducted six steps of narrative analysis (Crossley 2000), to reveal the narrative tone, self-narrative repertoire and dominating theme, integrating the data in coherent story for each narrative. The views of both authors of paper on obtained data and their interpretation were synchronized and discussed at the final stage of data analysis.

Research rigour. The method of in-depth interviewing used in this study, the length of interviews and two meetings with interviewees allowed for prolonged contact with the participants, thus enhancing the potential for increased genuineness in their responses (Hall, Callery 2001). Although, D. Polkinghorne has stated that narrative inquiry does not provide certain conclusions and they remain open ended (Polkinghorne 1988), guidelines suggested by C. Riessman provide three important considerations to establish research rigour in narrative inquiry: 1) making explicit how methodological decisions were made; 2) describing how interpretations were produced, including alternative interpretations considered; and 3) making primary evidence available to other investigators where appropriate (Riessman 2008, p. 195). Our study was focused mainly on first two suggestions as the introductory part of this paper entails the section of methodological decision-making for this research, detailed description of interpretative context as well as alternative interpretations are provided in the concluding parts of paper. The analysis of obtained data by two researchers also can serve as the potential for establishing valid narrative research.

Findings

At the beginning of interview all participants demonstrated appropriate understanding of career and career transition (CT) at the conceptual level, although, their definitions of career were more theoretically oriented while explanations of CT were mostly experience based. Tables 2 and 3 reflect the aggregate description of participants' CTs along with dominating themes/common theme; illustrative quotes for these themes together with emotional tone of narrative are included in tables to provide general overview of results from narrative analysis. The tables will complement and illustrate the description of obtained data and allow for the visible comparison both between the voluntary and involuntary CTs and between participants representing the same group of CT.

Table 2

Narrative analysis of voluntary career transitions, n = 4

Person	Triggers of CT	Current situation	Dominating themes	Common theme	Illustrative quotes	Emotional tone
1	2	3	4	5	6	7
Bfv	After 22 years in her profession as elementary school teacher she decided to change the industry because of insufficient salary and negative attitude of principal	Already working in previous workplace, she applied for the vacancy of career counsellor in National Employment Agency. Currently works as a career counsellor	Insufficient salary searching for the new industry strong family successful career transition	“Faith, hope and love ensure success in career and all other spheres of life”	“Then I probably became dissatisfied with salary” “Experiencing career transitions from one step to another, one has to get satisfaction from his/her work, now I am getting delight in my career”	Faith
Cmv	After 20 years as a principal in rural school he decided to change the employer, not the industry. Fear to loose his job because of closing school as the consequence of administrative territorial reform	Already working in previous place applied for the State Gymnasium public call for the vacancy of principal. Currently works as a principal in this gymnasium	Missing chance to become a construction worker because of unfair admission at university career development successful work at new place life in school	“School as a second home, founded on prosperity and well-being”	“State Gymnasium X issued a call for the applicants on the vacancy of principal and I decided to apply as I do not feel so old as to finish my career with the closure of school. I won the job and, thus, I am here now” “I was thinking to become a construction worker, but then, back there, I understood, and enjoyed myself what it is – personal contacts”	Satisfaction

Sequel to Table 2 see on the next page

Sequel to Table 2

1	2	3	4	5	6	7
Efv	After 10 years of work as a principal of Youth Center (not according to her acquired qualification) she decided to obtain the Master degree in the sphere of her job. Desire to learn and apply her knowledge working with youth	Currently studies for the Master degree to become career counsellor and specialist in youth affairs	Strive for lifelong learning and application for one's own knowledge support from family successful future useful experience	"Experience makes person rich, and he/she have to share it"	"I want to get the training in several professions, the more professions I learn, the more secure I feel" "Probably, family is not so important for other people, as they are happy at work, I need to feel good both about work and family, I need the balance"	Optimism
Ffv	After 14 years in the position of educationalist at preschool, principal offered her to change the title of her job and to carry out both the duties of educationalist and vice-principal. High professional potential of person	The person accepted the offer. Currently works as the vice-principal and educationalist at preschool establishment	Unfair competition on the job of principal unexpected job promotions self-development outside the professional sphere seizing the opportunity	"Every-thing can happen waiting for the lucky chance"	"If I would strive to become a principal, with my present experience, probably, I would do some more tricky staff, would keep my mouth shut. Let's say, with old everything what I would prefer to say at this competition for job." "First thing what I want to do is to publish the collection of dramatic plays for children"	Optimism

Source: elaborated by the authors.

Table 3

Narrative analysis of involuntary career transitions, n = 3

Person	Triggers of CT	Current situation	Dominating themes	Common theme	Illustrative quotes	Emotional tone
1	2	3	4	5	6	7
Amin	The last workplace where he worked already for 15 years as a welder (not according to his initial qualification) was abolished by employer	Having the status of unemployed person for six month, he decided to emigrate abroad thanks to the family support. Works abroad farming common mushrooms	Disappointment and forced changes negative experience skills in welding alone abolished jobs distraction of the family	“Negative and positive experience allow to learn from your mistakes”	“That day I felt bad to hear such devastating news, but I immediately thought that I will go fishing at last, finally I will finish the home repair” “I also had some hack-work, but I wanted to find some stable job in welding”	Lack of self-confidence
Dfin	After 37 years in one workplace, among them 14 years in position of principal of vocational school, she had to accept the early retirement. Merging and reorganization of four vocational schools caused the change of employer	The workplace was abolished, women is in early retirement now, at the same time she works now and then at flower shop substituting the shop assistant – her acquaintance	End of career contribution at the workplace fight for survival emotional distress	“All trials of our life are brought by our fate”	“It was the beginning of the end of elementary school and the beginning of end also for my career” “Then the dirty competition started between the neighboring schools, attracting the pupils, different party activities in terms of state funding and spending project money”	Disappointment

Sequel to Table 3 see on the next page

Sequel to Table 3

1	2	3	4	5	6	7
Gfin	After working six months on the project funded by the National Employment Agency and two months after the end of the project in clothing industry (not according to her qualification in education), employer abolished her workplace. The organization reduced the places of work because of low demand	Thanks to the information from acquaintances about the open vacancy, she immediately applied for the job of school cook assistant. Currently works at school as cook assistant	Inconstant workplaces lack of recognition at work status of an unemployed person regular change of employers	“Disregarded skills induce indifference”	“My life was full of regular career transitions, my career did not develop at all” “I have never thought that person with higher education can be unemployed person”	Resentment

Source: elaborated by the authors.

Prior events and future plans of life. The analysis of results will start with prior events of life that are connected to later voluntary or involuntary CTs. Six dominant themes were discerned in this regard: 1) childhood experience: nature, chores, responsibility; 2) importance of education; 3) support from family, 4) choosing career, 5) lucky chance, and 6) triggers of CT.

Childhood experience: nature, chores, responsibility. In terms of the childhood experience all research participants told very similar stories, they all were firstborn children with positive attitude toward nature, many chores and gratitude to their parents “for nurturing feelings of responsibility: we were raised outdoor, all the time played outside and worked a lot” (Dfin), “we should thank our parents who habituated us to work and responsibility” (Efv), “we had a cattle to take care of, a garden to weed and I had a sister, four years younger, I had to nurture her, accustom her to the chores, raise her as a person and I succeeded in this” (Cmv). Other subtheme of childhood experience relates to the dreams about the future profession. Only Dfin (currently 62 years old female) reached her dream to become a teacher and worked in this profession 37 years, other participants did not achieve their childhood dreams. For instance, Amin now cultivates common mushrooms abroad while in his childhood he wanted to become an astronaut, Bfv, currently with teacher qualification, had a dream to become veterinarian, Efv, having an accountant qualification, had a dream to become pediatrician, etc. The third subtheme of childhood memories can be called – positive and negative example of parents. Some interviewees stressed that they wanted to take an example from their parents and to become as successful, hard working and acquire the same profession as they did, others recalled that they definitely did not want to follow the career path of their parents seeing them always exhausted and with insufficient salary.

Importance of education. All research participants strongly emphasized the necessity of secondary education associating it with a prestige of such education. For instance, Amin recognized: “I did well at school and thus I made a decision by myself to enter secondary school”, while Dfin remembered that in elementary school she was among the best pupils at class: “I always got praised, I was good at everything, so I felt confident about my capacity to continue my education in secondary school”.

In terms of tertiary education, research participants reached it differently. Four interviewees (three with voluntary and one with involuntary CT experience) entered the higher education, though did not proceed with their studies. Amin commenced the part-time studies of agricultural mechanics that did not satisfy him and he decided to drop the studies. Also Cmv missed the chance to study a construction trade, according to his own words, because of unfair admission at university and entered other university to become teacher of mathematics. Ffv did not enter university after the high school to study biology because of her low scores in chemistry, while Efv, who opted for vocational school to get the qualification of accountant instead of secondary school, told about her first job after reaching this qualification. Three other research participants successfully finished the chosen tertiary studies after the secondary school. However, participants who did not manage to receive the higher education earlier in life, later re-entered universities and graduated with a degree.

Support from family. According to the theory, support from family is very important both in choosing one's career and in going through different kind of CTs. It is natural, that talking about their life and career all interviewees stressed the significant role of family. Though, some gender differences were observed: woman detailed on establishing family, love, role of wife, birth and nurturing of children, while men shortly mentioned such chapters of their life as family life and marriage, just naming the facts and anecdotal situations that can be explained with challenging family situation of both male respondents. Almost all research participants named family among the most important chapters of life: "family brings me inspiration to live (Amin), marriage had a huge impact on my life" (Cmv), "family, of course, always had been and still is a place where I get the support" (Ffv).

Choosing career. This theme emerged as clearly different for research participants with voluntary and involuntary CTs and also for men and women. With respect to adolescent years it was obvious that two men (Amin and Cmv) did not think about their further career at all. Answering the question about the career plans in adolescence, four women just recalled professions they liked or disliked at that time. According to previous research, the articulated life plans during adolescence are important predictors of consequent educational and occupational attainment (Clausen 1991; Elder 1999; Schneider, Stevenson 1999). Regarding the subtheme of choosing the career direction, the stories of the interviewees with voluntary CTs exhibited the lack of career planning – they did not plan for their future career neither in adolescence, nor in secondary school. Issues with admission to higher education show that almost none of them had elaborated career plans before entering the tertiary education. On the other hand, those research participants who had experienced involuntary CTs, recalled the huge impact of external factors on their career choice: "my teachers at school always suggested that I should become a teacher, besides, my mother was teacher, my example. I would like to thank my mother for raising me as a good teacher" (Dfin), "I wanted to follow the footsteps of my mother and older sister, to become an accountant" (Gfin).

Second subtheme of this subject describes the choice of workplace. Research participants with voluntary CTs spoke about entering workplace, acquired skills of work, activities outside workplace (e.g., additional studies or joining a political party) in a more detailed way as those with involuntary CT. They all also mentioned that it was not an issue to find a job, but deep down they were insatisfied with chosen profession and described various shortcomings of selected field of work. Their narratives show that, possibly, initial dissatisfaction with chosen direction was one of the main internal triggers of CT in later years (Briscoe, Hall, Mayrhofer 2012). On the other hand, those with involuntary CTs confessed that their attitude toward the job search was not quite serious, they found their workplaces just by accident, reacting to unforeseen invitations from other people, not by the deliberate search for appropriate work. Thus, this theme suggests four possible internal and external causes for mid-career CTs: lack of initial career planning, impact of external factors on career choice, dissatisfaction with workplace, lack of self-awareness in career choice.

"Lucky chance". Majority of interviewees with voluntary CT reported on career promotion suggested by their superiours, they all designate it as a "lucky chance". For one person (Cmv) this chance was the trigger of major CT, while for other three

persons this career development preceded the major CT focused on in this study. Cmv, who worked as a teacher of mathematics, became the school principal just by voting of staff, Dfin, who worked as a teacher of language and literature, had an offer for a supplementary job as a head of teaching department, later – also the principal of vocational school. Ffv received an offer from the principal of kindergarden to become educationalist, later also the deputy of principal. Finally, Efv experienced the unexpected career development some years before the current CT, when she was invited to work not only as an accountant, but also as a director of youth center. Again, as in case with the unsuccessful admission to university, this theme testifies to the impact of unplanned events on career path (Peakea, McDowall 2012) and indicates to the importance of external triggers and resilience (Luthans, Youssef 2007). Although the interviewees complained about their inner dissatisfaction with chosen career path, they probably would not be chosen for the promotion, if not because of their competences and motivation.

Triggers of career transition. This theme of career narratives was completely different for interviewees with voluntary and involuntary CT. All of them admitted that CTs was the turning point in their life in terms of their career. All research participants with involuntary CTs recognized that the reason for their CT was abolishment of their post because of redundancy or merger – external impact. On the other hand, interviewees with voluntary CT mentioned different causes of their CTs: dissatisfaction with salary, fear from abolishment of workplace – closing school, desire to develop one’s capacities outside the workplace and earn the Master degree as well as the attractive proposition for the career growth. Thus, these triggers were mostly internal in their essence. It should be mentioned that telling the retrospective stories and looking back in their life all research participants admitted that from the viewpoint of their current experience they would act otherwise: they would be more courageous, smart, and self-confident. This, actually, testifies that career development process is also the process of continuous learning and development.

Future plans of life. Majority of interviewees with voluntary CT admitted that the career is a lifelong process, e.g., “all my life is career (Cmv), somehow I can not separate my life from my career” (Dfin), “to my mind, career actually is all your life (Efv), for me it is hard to separate life from career” (Ffv). Thus, these persons will possibly proceed with their career development also after the experienced CT. Other subtheme illustrates the need of interviewees to serve the society. All interviewees plan to keep their job, some of them think about the further education, Ffv plan to publish the collection of dramatic plays for children, Cmv intends to improve the infrastructure of his school, while Dfin plans to keep herself healthy and expects for the full pension. The common thread was a wish to be useful and needed for other people, to become a good example for others. Interviewees want to get the satisfaction from their job, plan to work extra hours, want to apply their creative capacities, using their experience and knowledge, intend to plan for their finances, but they all have a common trend – wish to participate in nurturing their children or grandchildren and spend more time with their family, thus implicitly striving for work life balance.

Emotional attitude toward the experience of career transitions. For the interviewees with involuntary CT the experience of CT were evoked as the lowest point of career.

These negatively oriented parts of narratives contained two dominating threads – disappointment – changing attitude toward the world and disorientation – person does not know what to do, how to deal with the present problem.

Colourful emotional nuances were observed in the main themes of the narrative suggested by the interviewees themselves. Participants with involuntary CTs tried to rationalise and find some compensatory features in their situation. Thus, Amin's main theme was: "experience – probably as everybody I got a lot of good and bad experience which I can use now at older age". However, the overall emotional tone of his narrative was stained with the lack of self-confidence and disappointment telling about his negative experience, skills just in one profession, two abolished workplaces and collapse of the family.

Two women with involuntary CTs, on the other hand, emphasised their investment in family. Thus, Dfin summarised: "I live here and now, what I managed to do in my life will stay – I invested much in my career, my family, and family of my son". However, similarly as for Amin, her emotional tone bore the hint of disappointment. Explaining her involuntary CT, Dfin sounded sad, her intonation often changed. The main theme of her narrative: "all trials of our life are brought by our fate". The main images emphasized in her narrative were "teacher" and "faith" coming from her childhood: since her childhood she was raised as a future teacher, an example for others. Dfin repeatedly mentioned the image of fate, occasionally picturing what would be her life with another destiny.

In a similar manner, Gfin concluded that her main theme is support from her family: "all what I do, I do for my family and for all what I do I receive the family support", while the emotional tone of the narrative was filled with resentment and disappointment. This is reflected in redundant stories about precarious job, lack of recognition for her work, status of unemployed person, regular change of employers. Thus, the general theme of her narrative was: "disregarded skills induce indifference". The main metaphor of her narrative "feel like slave" is associated with situations when, to her mind, her superior did not perceive her like a person with her own perspective, but more like a robot simply doing what is told. Besides, her dominating image was "independence" since her narrative suggests that her largest wish is to become independent from others, from the views of others, etc.

Participants with voluntary CTs summarized their narratives in more distinct way. For instance, Bfv recognized the power of faith, hope and love and admitted: "I have a large faith in the power of God, I love my family and hope that also in future everything will go right way" and her emotional tone was endowed with faith. Bfv told her story with inspiration, mentioning dissatisfaction with salary, courage to find new job, strong family, successful CT. Thus, the main theme of her narrative was articulated like this: "faith, hope and love ensure success in career and all other spheres of life". In her story of life Bfv often stressed the images of God, support from God, answered prayers, power of God, caused by faith to the Saints nurtured by her grandparents.

Using the emotional tone of satisfaction, Cmv suggested, that his main theme of narrative could be about the school: "I studied 11 years at secondary school, then five years at university and now I am teaching already for 30 years". Cmv told his story

with pride, adding different remarks and examples, reflecting on his career development and successful work in the role of principal, missing chance to become a construction worker because of unfair admission at university. His narrative was summarized by following theme: “school as a second home, founded on prosperity and well-being”. Cmv often used expressions like “I was young, handsome and smart and surely, at school, like in family, I am the head of family”. The main image of his narrative – “school” is described like a personified object, which needs to be protected.

Efv and Ffv optimistically emphasized the role of experience in their life and opportunity to meet the right people who inspired them and oriented in right direction. Efv mentioned the experience of her life – “this is an experience I receive acquiring the professions, experience of meeting people, in nurturing children, working with adolescents, living with my husband”. The main themes of her narrative were strive for lifelong learning and application for one’s own knowledge, support from family, successful future, useful experience. Thus, the main topic of her story can be formulated like this: “experience makes person rich, and he/she has to share it”. The story of Efv enticed dominating metaphors like “I am like a child and making decision I feel like a milksop, but later I seem to myself like a hero”, probably coming from her childhood where she needed to take care of her younger sisters and brothers, making independent decisions. The main image of her narrative was “luck”.

Ffv also stressed the rich experience of her life: “My life is like an interesting detective movie” and displayed the optimistic emotional attitude to her experience. The main themes of her narrative were unfair competition on the job of principal, unexpected job promotions, self-development outside the professional sphere, seizing the chance. Thus, her story was summarized like this: “everything can happen waiting for the lucky chance”. The image that often appeared in her story with optimistic tone is integrity, as she recognized that both at work and in other spheres of life she keeps her integrity and does not trust people who have treated her dishonestly, denigrated or deceived her. She believed: “if you preserve your integrity in everything you do, you will definitely have an offers for promotion and succeed in life”.

Thus, both the Tables 1, 2 and description above show that interviewees with involuntary CTs express mostly negative emotional attitude toward their experience. They show disappointment, disorientation, fatalism, resentment, and tries to find their meaning and support in family as well as get rid of their “chains” of meaningless job. Eventually, they all agree that these career changes have been valuable experience, providing a chance to learn from mistakes, train character, etc.

In relation to the interviewees with voluntary CTs, their emotional attitude was mostly positive and can be signified as faith in God and hope for the best or just lucky chance, general optimism, satisfaction and pride in one’s job instead of “chains” of meaningless job. Similar as participants with involuntary Cts, this group of research participants strongly emphasized the role of experience, they were thankful for the rich experience of their life that made them who they are now.

Observing the richness of narratives during the interviews, it appears that interviewees were more talkative about those chapters of their life and career that elicited the positive memories at large. For instance, interviewees with involuntary CT were less extensive talking about these changes, while those with voluntary CT were quite

detailed in their stories about this event. This difference provides yet another prove that involuntary CT evokes mainly negative emotional attitude or kind of shame that people usually tries to keep to themselves, while voluntary CT as a courageous step in one's life boosts their pride and wish to share their success.

Discussion and conclusions

The presented study aimed to explore the experience of mature age participants with tertiary education in relation to their mid-career voluntary and involuntary transitions. The current study viewed the transitions as a part of a larger career narrative in its social and cultural context (Cohen, Mallon 2001) instead of focusing on a single specific career move. The concluding part of the paper will start with a short insight in the general discourse of the study and its results, following by aggregated answers on the research questions: about prior events and future plans of life in case of voluntary and involuntary CTs and about the differences in emotional attitudes toward these two types of CT. Since the nature of qualitative studies envisages the rich description of obtained textual data as well as, considering the limitations of the study, the authors will try to avoid from the reduced and generalized conclusions in the last part of paper.

The evidence of uncertain career path in this study was clearly observed in involuntary CTs, moreover, already starting from tertiary education (for some even earlier) the availability of selected choice is not guaranteed. However, as the results show, several participants demonstrated the responsibility for their own professional development and re-entered university to obtain bachelor or master degree, the sefeelings of liability were present also in further career development and, for some, possibly, led to voluntary CT. According to the findings, CTs really have become more frequent and difficult (Savickas et al. 2009) even for individuals with tertiary education as all participants reported more than one career transition. Despite the challenging situation with career development, people still wish to gain the meaning, purpose, sense of identity, creativity, community and, of course, income by their work: this was especially true for those who experienced voluntary CTs. Individuals are really striving for more meaningful careers that allow them to control and manage their work (Waterman et al. 1994), they do not want to be just slaves or nameless robots devoided of recognition and any possibility to control the situation (like in case with Gfin). In general, notwithstanding the small sample, the results of this study mirror the general situation in Latgale region of Latvia with large economical challenges, though, at the same time – with resilient and quite adaptable population.

Analysing the prior events of life that are connected to later voluntary and involuntary CTs, six dominant themes were discerned: 1) childhood experience: nature, chores, responsibility; 2) importance of education; 3) support from family, 4) choosing career, 5) lucky chance, and 6) triggers of CT. Since these themes were already discussed in previous chapter, the further presentation will illustrate the results coordinating them with the theoretical discourse and using more holistic way of interpretation.

In terms of self as one of the main factors having an impact on CT (Anderson et al. 2012), resilience and meaning making were well discernible in the results of this

study. In our sample resilience as a key feature to adapt to CT and other transitions appeared in several cases starting from early life: for the majority of sample it emerged as re-entering university for the second time and successful graduation, for all participants with involuntary CTs resilience was observed as finding new job (although not according the qualification, less paid, part time or abroad). The main feature of resilience of persons with involuntary CT is their capacity to reinterpret this transition as a positive event, for instance, losing job provides an opportunity to go for fishing, spend more time with family and, for all research participants – to obtain the learning experience from this event (Eby, Buch 1995; Taylor, Cook 1995). The resilience invoked positive reevaluation of experience and learning from mistakes for both groups of research participants. One of the potential sources of resilience for all participants could be the industrious childhood with many responsibilities and need to take care for others. The perceived important role of education also could help in becoming resilient in future career path and learning to make voluntary transitions.

It is interesting that from four potential sources of support in times of CT – close relationships, family, friends and institutions/communities (Anderson et al. 2012), only the family unit was mentioned as the main source of support both in case of voluntary and involuntary CTs. The interview results show that family can be important environmental variable in adaptation to transition – both as vulnerable entity and as supportive/compensatory mechanism (in objective and subjective terms). In terms of life environment in early life, the impact of parents was observed already since the early years – as role models, teachers of responsibility, positive or negative career example. However, parents were perceived as not quite engaged in the academic performance and career choice of their adolescents. The holistic analysis of narratives shows some correlation between the lack of parental guidance in terms of academic performance, unsupported decision making with regard to the choice of university and study program from one side and issues with realization of plans for tertiary education from other side. This observation is consistent with findings in other study (Schoon et al. 2007), showing that parental educational expectations are significantly associated with school motivation and job aspirations.

Similarly as in other studies, all involuntary CTs were shaped only by the environmental limitations or external causes, while the voluntary CTs were mostly driven by personal agency (Bauer 2017; Fouad, Bynner 2008). In our case personal agency was determined by the interest to other career path (Bfv, Ffv), search for integration of previous professional experience and expansion of personal capacities and identity (Ffv, Cmv, Efv). Since people are mostly unprepared for involuntary CT in terms of psychological readiness and capacity for other jobs or careers (So 2010), this can result in destruction of family unit and need to migrate abroad and engage in less qualified job.

Describing the life events prior to CTs, the research participants stressed their wish to enter secondary school because of its prestige, thus showing the guidance of social class reference groups, and also rather low parental aspirations in relation to the career orientation of their adolescents (Reitzle et al. 1998; Vondracek et al. 1986) resulting in issues with tertiary education and later with the selection of first place of work.

Internal and external causes for mid-career CTs differ for two types of CTs: those with voluntary CTs mainly reported the lack of initial career planning and dissatisfaction with workplace, while those with involuntary CTs – impact of external factors and lack of self-awareness selecting their career. Though, it seems that both factors could serve as the triggers of CTs and the strong causal relationships between these specific factors and types of CT should be examined yet in further quantitative research. The other theme, that are clearly distinct for two types of CTs, are triggers of CTs. Triggers of involuntary CTs were external impact – abolishment of the post, while voluntary CTs were provoked by several mostly internal (emotional/motivational) factors – fear, desire and dissatisfaction. Lucky chance was a distinct common way of career promotion for research participants with voluntary CTs. The further research is needed to explore, if they are really skilled at seizing the chance or they could not recognize the promotion as a natural outcome of their capacities and competences.

The presented study once again confirmed the Chaos Theory of Careers (Pryor, Bright 2007), showing the substantial role of lucky chance, unplanned events and complexity of outcomes in career success. At the same time, the results show that not everything should be left to chance: large impact also have several supportive external mechanisms (e.g., role of childhood, family), before the career development and during it (e.g., strive toward self-development).

As the research data shows, all four purposes of meaningful CT, mentioned by M. Lips-Wiersma – developing self, unity with others, expressing self and serving others, were reached in different configurations by all research participants with CT (Lips-Wiersma 2002). These purposes were reached before the main CT, in a process of main CT, as a consequence of main CT, but for some of research participants they also are planned for in the future.

For all participants CTs were important learning experience having impact on further career path and whole life. Regarding the future plans of life after the CTs, all research participants stressed the need to serve the society and family and expressed their need for establishing better work-life balance, that would be obtained because of experienced CTs (Bauer 2017; Gomes, Teixeira 2000; Wise, Millard 2005). Mature adults with voluntary and involuntary CT differed in one specific feature of their future life outlook: those with voluntary CTs viewed the career itself as a lifelong process, indicating their own agency in directing their career and possible career growth in future.

In terms of emotional attitude toward experienced CTs, drawing on N. Schlossberg's model of adaptation to transition, it appears that emotional adaptation to the experienced CT has involved the perception of the particular transition and features of pre-transition and post-transition environments (Schlossberg 1981, 2004). Emotional attitude of participants with involuntary CTs indicated disappointment, disorientation, fatalism, resentment, desire to find new meaning in life. Detrimental character of involuntary CTs manifested in negative emotions prevailing in their narratives: over a period of time they can have an adverse effect on the mental health of individual (Dooley 2003; Dooley et al. 1996). Those, who experienced involuntary CTs, talked much less about this event – possibly coping with transition by minimizing the personal response to the issue (Lazarus, Folkman 1984). Also, according to H. Ibarra and R. Barbulescu, involuntary CT can represent undesirable regress in status, title or

prestige thus deviating from social expectations and creating the feelings of shame and resentment (Ibarra, Barbulescu 2010).

Emotional attitude of interviewees with voluntary CTs was positive and expressed faith in God, hope for the best, satisfaction and pride in one's job. Similarly as participants with involuntary CTs they admitted that they were thankful for the rich experience of their life that made them who they are now.

Some gender differences were also observed in this study: women were more extensive and emotional talking about their family life, while men were more rational and brief on this topic. The other difference was career orientation during the period of adolescence – men were not interested in this subject at all, while women could at least name their likes and dislikes.

Limitations. There are several limitations that could have affected the findings of this qualitative study. First, the sample size was limited to seven participants, though, the larger number of participants would generate richer and more diverse results for this study. Second, the interviews were conducted by the career counsellor, thus making it harder to bracket her professional biases and assumptions. Third, similarly as in other narrative studies, “the temporal effects on the participants’ memory of past events and their psychological consequences may have caused them not to have been as accurate as they thought, although their responses reflected an interpretative assessment of their experiences within the context of their current lives” (Liu et al. 2012). Thus, different research participants may have displayed different levels of recall in terms of their experiences and may have re-interpreted past events to construct their career narratives. Finally, considering that all research participants were mature age persons with tertiary education, the generalisability of the findings is limited to similar samples. Integration of career transitions in the narrative of person's life and career would be preferably studied by means of longitudinal approach (e.g., Bauer 2017), however, it must be said that in given study some advantages of longitudinal study were obtained using the retrospective insight in the biography of interviewees from the early childhood until the current moment.

Practical implications. None of the research participants have been the clients of career counsellor, though, if they would seek the advice of career counsellor at an earlier period of their life, their careers possibly would be more fluent and sustainable. This might be especially relevant for those with involuntary CT. At the same time the results of this study can help to prepare clients of career counsellors for a variety of contingencies and to view change and chance as powerful and unavoidable aspects of career development. Thus, nowadays every person entering the job market should be fully prepared for the several career transitions and should perceive them as a chance for learning, development and meaning making. This is especially important for career counsellors in educational environment, as they could provide valuable advices considering the developing theoretical background of career transitions and results of current and other studies on career transition both for young and mature persons. Narrative approach in counselling for career development and change seems to be appropriate way to find out the most important socio-demographical and contextual features of clients as well as allow them to reflect on their situation, self, available support and coping strategies. According to S. Peake and A. McDowall, the narrative

approach is useful in itself to understand career scenarios (past experience, present situation and future plans) and individuals' overall experiences, eliciting unplanned and chance events that may not be obvious in a more traditional career discussion (Peakea, McDowall 2012).

Further research. Since the CTs are not very well represented in research literature yet, especially in terms of differences between the voluntary and involuntary transitions, more extensive qualitative and quantitative research would be advisable in future focusing on parental impact, choice of tertiary education and study direction, choice of first workplace, promotion and other factors that can be important prior events for different CTs in later life. Also, the qualitative research targeting resilience that might be developed in case of involuntary CT or any career changes would be fitting direction for this research area.

The presented study is the first step in qualitative exploration of career transitions in Latgale region of Latvia and, considering the prospects of current social and economic development, it seems that this research area will remain urgent and demanded many decades ahead.

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Jevgenija Sivoronova, Aleksejs Vorobjovs

COMPARATIVE ANALYSIS OF EPISTEMOLOGICAL ATTITUDE IN STUDENTS FROM LATVIA AND THE NETHERLANDS TOWARDS THE SOURCES OF KNOWLEDGE

The tendencies and aspects of the quality of knowledge sources and its content, the cognition of the subject, may be reflected in the use of a socio-psychological phenomenon such as epistemological attitude. The concept of epistemological attitude reflects on the student's cognitive orientation model, which is based on evaluative aspects of knowledge sources or psychological reactions – cognitive, emotionally prognostic, action / behavioural and pragmatic. Based on this model, the Epistemological Attitude Questionnaire (EAQ) was developed to determine the formal and substantive aspects of the assessment of five sources of knowledge, namely, scientific literature and articles, a lecturer in a higher education institution, popular science journals and newspapers, popular science television broadcasts, Internet resources, and significance of the sources of knowledge. The aim of the article is to study the content of student epistemological attitude towards the sources of knowledge and its relation to the study programmes in Latvia and the Netherlands. Results reflected that the content of the epistemological attitude depends on the type of source of knowledge to be studied and evaluated. As well as, peculiarities of source cognition and evaluation among the students of Latvia and the Netherlands have been identified, finding statistically significant differences in the epistemological attitude towards all sources of knowledge to be evaluated. It was found that the study programme was related to the epistemological attitude towards several sources of knowledge in Latvia and the Netherlands. In general, the results of this study show that the peculiarities of cognition of the source of knowledge are related to the type of the source of knowledge, a socio-cultural factor of the student's academic environment and student's study direction or study programme.

Key words: epistemology, social cognition, attitude, sources of knowledge, knowledge, students, study programme.

Latvijas un Nīderlandes studentu epistemoloģiskās attieksmes pret zināšanu avotiem salīdzinoša analīze

Zināšanu avotu un tā satura kvalitātes, subjekta izziņas tendences un aspekti var būt atspoguļojami, izmantojot sociālpsiholoģisko fenomenu tādu kā epistemoloģiskā attieksme. Epistemoloģiskās attieksmes jēdziens atspoguļo studenta izziņas orientācijas modeli, kura pamatā ir zināšanu avotu vērtēšanas aspekti jeb psiholoģiskās reakcijas – kognitīvās, emocionāli prognostiskās, uzvedības / darbības, pragmatisma. Uz šī teorētiskā modeļa pamata tika izstrādāta epistemoloģiskās attieksmes aptauja (EAA), kas ļauj noteikt piecu zināšanu avotu, zinātniskās literatūras un rakstu, pasniedzēja augstākajā mācību iestādē, populārzinātnisko žurnālu un avižu, populārzinātniskās televīzijas raidījumu, interneta resursu, formālos un saturiskos vērtējuma aspektus un zināšanu avotu nozīmību. Raksta mērķis ir izpētīt epistemoloģiskās attieksmes saturu pret zināšanu avotiem un tās saistību ar studiju programmu Latvijā un Nīderlandē studējošiem. Rezultāti parādīja, ka epistemoloģiskās attieksmes saturs ir atkarīgs no izzināmā un vērtējama zināšanu avota tipa. Latvijas un Nīderlandes studentiem konstatētas avotu vērtēšanas īpatnības, konstatējot statistiski būtiskas atšķirības epistemoloģiskajā attieksmē pret visiem zināšanu avotiem. Tika konstatēta studiju programmas saistība ar epistemoloģisko attieksmi pret vairākiem zināšanu avotiem gan Latvijā, gan Nīderlandē studējošiem. Kopumā

šī pētījuma rezultāti ļauj secināt, ka zināšanu avotu izziņas īpatnības ir saistītas ar zināšanu avota tipu, studenta akadēmiskās vides sociāli kulturālām īpatnībām, studenta studiju programmu.

Atslēgas vārdi: epistemoloģija, sociālā izziņa, attieksme, zināšanu avoti, zināšanas, studenti, studiju programma.

Сравнительный анализ эпистемологического отношения к источникам знаний у студентов Латвии и Нидерландов

Оценка студентами источников знаний, их содержания может быть осуществлена на основе социально-психологического феномена – эпистемологического отношения. Понятие эпистемологического отношения отражает модель познавательной ориентации студентов, в основе которой лежат оценочные аспекты источников знаний в форме психологических реакций – когнитивных, эмоционально-прогностических, деятельных/поведенческих, прагматических. На основе этой теоретической модели был разработан опросник эпистемологического отношения (ОЭО), посредством которого можно определять формальные и содержательные оценочные аспекты и значимость пяти источников знаний: научной литературы и статей, преподавателей в высшем учебном заведении, научно-популярных журналов и газет, научно-популярных телевизионных передач, Интернет-ресурсов. Целью данной статьи является изучение содержания эпистемологического отношения у студентов Латвии и Нидерландов в зависимости от источника знаний и учебной программы студента. В результате исследования было установлено, что содержание эпистемологического отношения зависит от типа познаваемого и оцениваемого источника знания. Были выявлены статистически значимые различия в содержании эпистемологического отношения в отношении всех типов источников знаний у студентов Латвии и Нидерландов. Общие результаты исследования позволяют сделать вывод о том, что особенности оценки источника знания студентами связаны с типом источника, социально-культурными особенностями академической среды студента, его учебной программой.

Ключевые слова: эпистемология, социальное познание, отношение, источники знания, студенты, учебная программа.

Introduction

The problem of knowledge and cognition is one of the most relevant in philosophy, however the epistemology is the main problem in its branch (Lektorsky 2018). The problem is multifaceted, for example, some of the disciplines in the humanities and social science studies showed the different sides and aspects of knowledge and cognition highlighting a certain element of the whole cognition system. The disciplines of the social science and the humanities in the study of cognition in its context of the epistemology link an issue about cognition and knowledge to objects, subjects, relations, interrelations, etc. within the framework of these scientific disciplines. This approach as the result reveals and provides methodological possibilities and objects of research through which fundamental issues of knowledge and cognition can be studied implicitly or explicitly, such as the sources of knowledge. In general form the source of knowledge is the source of cognition, an instrument and a result as knowledge. From the viewpoint of epistemology, the source of knowledge is a form of knowledge that contains certain types of knowledge of definite quality. Knowledge is formed by organized structures

according to laws of logic and a certain ontological approaches and methodology; and their function is to describe a particular object, a group of objects, interactions and sphere of it. From the perspective of the humanities, the source of knowledge is a certain nature and a form knowledge that describes reality, language, history, culture of human and social life. However, from the perspective of the social sciences, the source of knowledge is a reflection of cognition and experience of a person or group of people about some aspects of internal and external life, interaction and environment organized in a particular structure and form of social knowledge. Potentially “the source of knowledge” may reflect knowledge and its qualities, i.e. knowledge of knowledge or meta-knowledge, aspects of object being studied and described, current and historical aspects in context of social situation, as well the social psychological processes and interactions of the person, group and society. In this way, the problem of the sources of knowledge could be examined using systems of categories and objects of philosophy, epistemology and social psychology.

Based on this, it is proposed to study the source of knowledge and the qualities of its content through psychosocial phenomena such as attitudes. The phenomenon of attitude in the context of cognition research, being a priori as a form of interaction (Kokorin 2009), is one of the most important and studied, reflected as a cognitive technique and as a mediator of cognition at the same time. According to the social cognition approach the attitude includes aspects and features of both-the person being the subject of cognition and cognizable and interacting object, as well as the specific units of knowledge reflecting and characterising them (Fazio, Olson 2003; Hogg, Vaughan 2005). Hence, the concept of epistemological attitude proposed by the authors (Sivoronova 2015; Sivoronova, Vorobjovs 2016) is a socio-psychological model based on the basis of philosophy and epistemology which allows in social psychology from another perspective to evaluate the source of knowledge and the knowledge in its content.

Theoretical foundations of epistemological attitude

Epistemological attitude is an epistemological psychosocial phenomenon that allows to reflect some part of the interaction processes between the subject and the object, and subject's cognition and knowledge acquisition processes, using the source of knowledge in the context of social cognition. The concept and model of epistemological attitude is constructed as a structurally functional model and is based on a three-level methodology – philosophical, general scientific, and specific scientific (Iudin 1997). Philosophically (formally and substantively) model is based on “epistemological approaches” (Lektorskii 2010; Lektorsky 2018) and “epistemological strategies” (Spirkin 2002), principles of philosophical approaches – “functionalism” (Dewey 1916; Mead 1938; Schiller 1907) and “pragmatism” (James 1907; Peirce 1923). The principle of the structure of a general scientific methodology serves as a basis for the structure of the attitude model, constituting its formal aspect. In particular, the scientific psychological methodology of social cognition of attitude model is based on the attitude structure approach – “tripartite model of attitude” (Ajzen 2005; Breckler 1985; Rosen-

berg, Hovland 1960; Fazio, Petty 2007; Hogg 2006; Van den Berg et al. 2006; Schiffman, Kanuk 2004) and attitudes theories of “functional” approach (Herek 1987; Katz 1960; Prentice 1987; Smith 1947; Shavitt 1989). The structure of epistemological attitude consists of four psychological reactions, based on a three component structure (Rosenberg, Hovland 1960) – cognitive, emotional, behavioural (action as well), and the fourth psychological reaction constituted and named as pragmatic, mainly based on the idea of philosophical pragmatism. In psychosocial context, pragmatic psychological reaction reflects the personality reactions of an individual in his/her interaction with or attitude to an object. As pragmatic psychologically or personal reaction was distinguished on the basis of the functional theories of attitude (Gregory et al. 2002; Greenwald 1989; Katz 1960; Prentice 1987; Schade et al. 2016; Wang 2009) and according to its statement that the main function of attitudes is related to the needs of personality of individual. The emotional reaction in the context of model of epistemological attitude was complemented by the prognostic aspect, grounding on the concept of “epistemological strategy” (Spirkin 2002) substantially and the concept of strategy in psychology (Bors et al. 2006; Chang 2001; Pereira-Santos et al. 2019; Vermunt, Donche 2017; Vermunt, Vermetten 2004). Cognitive reaction content is based on epistemological approaches (Lektorskii 2010; Lektorsky 2018).

On this basis, the concept and model of epistemological attitude reflects a student’s cognitive orientation model based on evaluative responses in structured form – cognitive, emotionally prognostic, action or behavioural, and pragmatic. It allows to identify and assess aspects of student’s cognition and evaluation as well as tendencies of cognition and significance of the source of knowledge and its mechanisms that have to be identified.

Methodology

Participants. 202 respondents participated in the present research. These were students from different study programmes and different higher education institutions of Daugavpils city (Latvia) ($n = 102$) 19–53 years old ($M = 23.08$ years, $SD = 5.87$ years), 48 men (47.1%, $M = 21.5$ years, $SD = 4.36$ years) and 54 women (52.9%, $M = 24.48$ years, $SD = 6.68$ years). Also the participants were students from different faculties and study programmes from Rotterdam Erasmus University (the Netherlands) ($n = 100$) 18–44 years old ($M = 21.52$ years, $SD = 3.75$ years), 49 men (49%, $M = 22.08$ years, $SD = 4.18$ years) and 51 women (51%, $M = 20.98$ years, $SD = 3.24$ years). Distribution of respondents by age among students from Daugavpils were 68.6% whose age ranged from 19–22, from which 31.4% were over 22 years and among students from Rotterdam were 81% whose age ranged from 19–22 and 19% were over 22 years old. Distribution of respondents according study programmes and study levels among students from Daugavpils were 26 (25.5%) from Business Administration, 26 (25.5%) from Information Technology, 20 (19.6%) from Psychology, 14 (13.7%) from Law, 8 (7.8%) from Sociology and 8 (7.8%) were from Engineering, Mechanics and Mechanical Engineering; 92 (91.2%) Bachelor’s study programme, 9 (8.8%) Master’s study programme and 1 (1%) Doctoral study programme; among students

from Rotterdam – 13 (13%) were from Media and Communication, 16 (16%) from International Business Administration, 13 (13%) from International Business and Management, 16 (16%) from Financial Economics, 34 (34%) from International Psychology, 6 (6%) from Law and 2 (2%) were from other study programmes; 90 (90%) Bachelor's study programme, 8 (8%) Master's study programme and 2 (2%) Doctoral study programme.

Instrumentation. The Epistemological Attitude Questionnaire (EAQ) (Sivoronova 2015) method was applied in the present research, allowing to evaluate student's attitude towards the source of knowledge and its content, knowledge and source cognitive tendencies, aspects of evaluation. Attitude was determined towards five sources of knowledge: 1) scientific literature and articles (including those in electronic format); 2) a lecturer in a higher educational institution; 3) popular science journals and newspapers; 4) popular science television broadcasts; 5) Internet resources (all sources on the Internet, except the above mentioned). A survey included respondent's socio-demographic data to be filled in: study programme and level, gender and age.

EAQ ($k = 44$) is composed from 4 scales and 11 subscales. In compliance with the EA theoretical pattern *scales* reflect four different attitudes or *evaluation reactions* towards the source of knowledge and its knowledge, which reflects the *formal aspect* of respondent's evaluation of the source. Respectively subscales reflect eleven EA characteristic features (and content categories), which reflect the substantive aspect of respondent's evaluation of the source. The cognitive scale formally determines cognitive evaluation or reaction towards the source of knowledge and its content features, and determines, in terms of content, the presence and expression of four features on a scale – criticism, fundamentalism and normativism, subjectcentrism, science centrism. The emotionally prognostic scale formally determines the respondent's emotionally prognostic evaluation or reaction and determines the existence and intensity of three characteristics of the scale – optimism, scepticism, agnosticism. Action / Behavioural scale formally determines the nature of behavioural manifestations and activities with the source of knowledge and its content, and determines the content aspect by typical interaction situations with the source or behavioural / operational conditions, assessing the quality of two characteristics – academic and personal situation. The pragmatism scale formally determines the practical significance of the respondent's choice of the source of knowledge or the pragmatism of the source for the respondent's personality, and in substance determines the direction and expressiveness of the pragmatism through its two features – functionalism and adaptivism. EA formal and substantive aspects reflect the formal and substantive significance of source of knowledge and its content in an integrated and descriptive manner, determines the significance of every source of knowledge – essence, the importance of qualities and their severity in a descriptive and statistical way.

The overall reliability coefficient of the EAQ ranges from $\alpha = .86$ to $\alpha = .89$. Internal consistency of the questionnaire separately in evaluation of every source – α ranges from .59 to .82, in separate scales and subscales satisfactory ($> .65$) and inadequate ($< .60$), finding statistically significant correlations between subscales. Insufficient and low indices α are designed according to a theoretical model implied

by their emotionally prognostic scale containing polar signs, with low concordance, and the scales vary depending on the source of knowledge being evaluated, indicating the specificity of the source of knowledge evaluation.

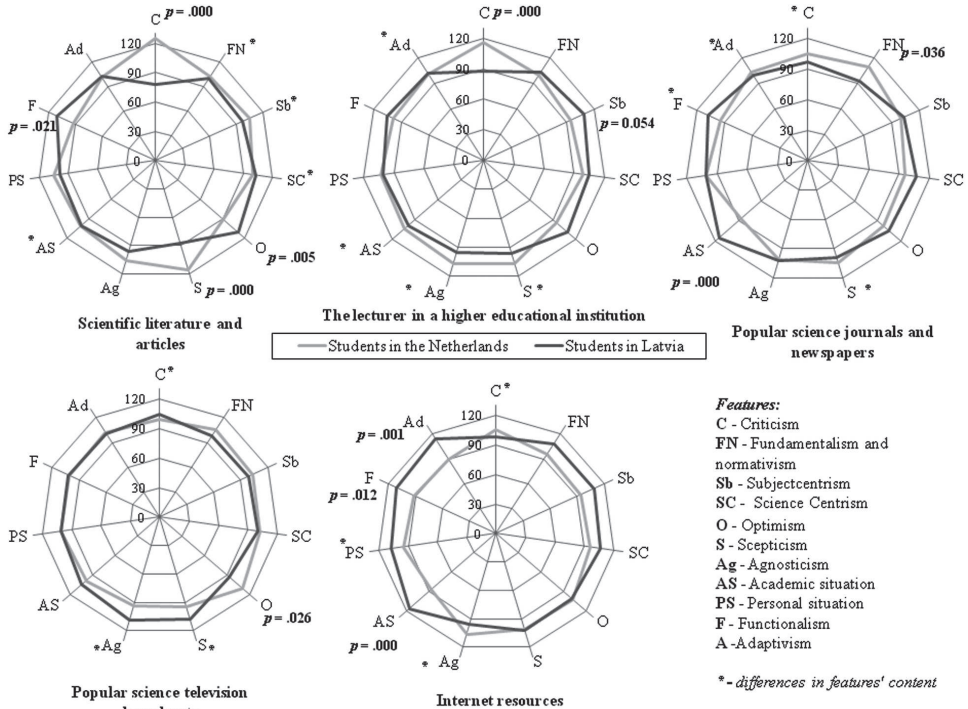
Procedure. Two surveys were conducted. The first one participating students from different higher education institutions of Daugavpils (n = 102) in December 2014, the second one was from Erasmus University in Rotterdam in March 2017 (Sivoronova 2019). From both samples, survey content and socio-demographic data – gender, age, level of study and programme – were collected through EAQ. The selection of both samples was random and the students' participation in the survey was voluntary. In both selections, the questionnaire was completed face-to-face, both individually and by organizing student groups before and after lectures and in groups.

Results and findings

Research on the content of student' epistemological attitudes towards the sources of knowledge in Latvia and the Netherlands showed that the content of the epistemological attitude depends on the type of source of knowledge to be studied and evaluated. This was evidenced by statistically significant differences in all epistemological attitudes (content) between the five sources in both – the student sample in Latvia and the student sample in the Netherlands. Students in Latvia and the Netherlands likewise rated scientific sources – scientific literature and articles, scientific literature and articles, and a lecturer in an educational institution, as having the highest potential to meet their knowledge needs. Also, these sources are at the core of academic communication and scientific cognition and inquiry. Using sources in the study process to acquire knowledge in depth has shown two tendencies. The tendency of students in the Netherlands is oriented to scientific cognition using scientific literature and articles, and a lecturer in an educational institution as a further cognitive and study scheme, while students from Latvia tend to use for same reasons scientific literature and articles as well as Internet resources. In general using scientific sources is less pronounced in personal situations in both student groups, but between students are some identified groups who associate inquiry in context of personal situations with study goals. Popular scientific sources, for example, journals, newspapers, television broadcasts, Internet resources, are related to psychological needs such as emotional. Therefore, the epistemological quality is not the primary factor in the content of these sources. These sources are considered to be highly psychologically significant they are associated with leisure time inquiry and less useful for academic purposes. Inquiry with communicative function, serves for realization of my own goals etc.

Comparative analysis of epistemological attitude towards the sources of knowledge between students from Latvia and the Netherlands showed the peculiarities of evaluation of sources of knowledge, finding statically significant differences in formal and substantive aspects. Figure 1 shows a comparison of epistemological attitude profiles in the assessment of five sources of knowledge between students from Latvia and the Netherlands.

Figure 1
Comparison between epistemological attitude profiles towards the sources of knowledge in students from Latvia and students from the Netherlands



Note: the significant results of a Kruskal-Wallis test and chi-squared test.

Source: elaborated by the authors.

Scientific literature and articles. Statistically significant differences in the cognitive scale ($U = 3656^{***}$) were found in the evaluation of formal aspect of scientific literature and articles (including those in electronic format), according to the comparison of the means rank values of the cognitive scale students from the Netherlands formally tend to be more cognitive in the evaluation. According to EA profiles (see Figure 1) statistically significant differences were found in content aspect of epistemological attitude, in criticism ($\chi^2 = 34.96^{***}$), in optimism ($\chi^2 = 7.76^{**}$) and scepticism ($\chi^2 = 13.13^{***}$), in functionalism ($\chi^2 = 5.31^{**}$) and four characteristics' content. The general mechanisms of evaluation and cognition of these sources are vastly epistemological (quality of methodology, capacity for evidence, credibility, cultural significance, high prognostic potential to satisfy knowledge needs, reflect the true knowledge, readiness to trust) and psychological used for academic communication, source for creative (productive) thinking, related to study conditions and purposes, importance in the system of personal meanings, targeted cognition).

The lecturer in a higher educational institution. In the assessment of the knowledge provided by the teacher students in Latvia and the Netherlands have formally equal tendencies, there were no statistically significant differences were found in EA reactions between students. In the terms of content there are statistically significant differences in criticism ($\chi^2 = 12.9^{**}$) and subjectcentrism ($\chi^2 = 3.71^*$), and in the content of four features, also the tendency to the difference in optimism characteristic was found. Students have general cognitive mechanisms such as epistemological (knowledge create a meaningful representation, quality of the methodology provided, highly scientific, relationship between theory and practice) and psychological (importance in academic communication, listening to the lecturer is required by a social and academic situation).

Popular science journals and newspapers. According to the results, the sources are statistically significant and differences were found in the activity / behavioural scale ($U = 4786^*$), formally students from Latvia tend to use source more intensively than students from the Netherlands. Comparison of EA profiles (see Figure 1) show statistically significant differences in two characteristics – fundamentalism and normativism ($\chi^2 = 4.42^*$), academic situation ($\chi^2 = 12.69^{***}$), and in the content of the four characteristics. The source and its content cognition mechanisms are moderate among all sources as journals and newspapers are either used or unused by students. For those students who tend to use sources the significance of the source is balance between epistemological quality (moderate criticism, controversial points on scientific base, successful style of presentation of material, creativity of author's approach) and their psychological importance (leisure, personal interests, popularity, positive expectations of using in comfortable conditions).

Popular science television broadcasts. The source formally is evaluated in an analogous tendency with students in Latvia and in the Netherlands; there are no statistically significant differences between the reactions of attitude among the students. In contrast, statistically significant difference was found in optimism ($\chi^2 = 4.92^*$) and in the three-feature content. The general cognitive mechanisms of the source are principally psychological (source of leisure time, cognition in comfortable conditions) and associated with high source of pragmatism. Overall, reflecting low epistemological value of the source content (lack of qualitative methodology, evidence and scientific justification; doubtful knowledge), but finding positive aspects in successful presentation of information and creative authors' approaches.

Internet resources. The cognition of the Internet sources (all sources on the Internet, except the above mentioned) formally is more intensive in activity and pragmatic in students from Latvia, indicating statistically significant differences in two formal aspects of attitude, action ($U = 3663^{***}$) and pragmatic ($U = 3718^{***}$). According to the EA profile (see Figure 1) there are statistically significant differences in the content aspect – academic situation ($\chi^2 = 34.96^{**}$), functionalism ($\chi^2 = 7.76^*$) and adaptivism ($\chi^2 = 13.13^{***}$), and in content of four characteristics.

The general mechanisms of the Internet cognition are predominantly psychological (cognition in personal situations and purposes, personally valuable content), but epistemological quality has several shortcomings (one-sided responses to problems, expressed criticism towards knowledge quality and scientific basis, an inadequate fundamental

basis, represent more subjective opinions). The choice of the internet by students' is more pragmatically adaptive of all sources in general, because source is acknowledged as highly popular knowledge acquisition method. Also, it is convenient for achievement of student's goals and objectives, allowing to gain knowledge easily and quickly, and it is used for leisure almost by all students.

In relation to the second part of the aim to study relationship between student's epistemological attitudes towards the sources of knowledge and study programme, firstly, was examined the impact of the study programme on difference in content of epistemological attitude in students in Latvia and the Netherlands, secondly, a comparison was implemented.

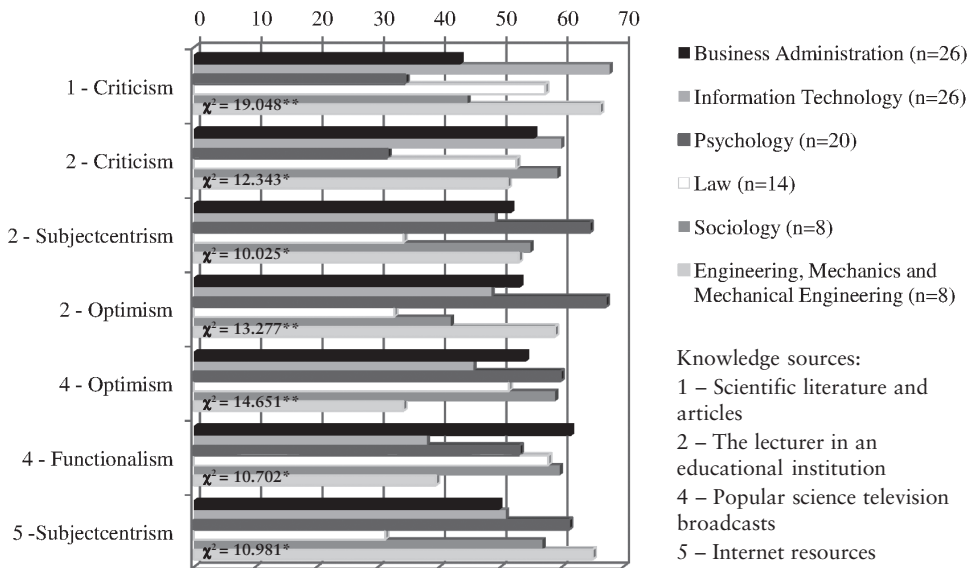
Comparison was conducted between students of six different study programmes from Latvia (n = 102): Business Administration (n = 26), Information Technology (n = 26), Engineering, Mechanics and Mechanical Engineering (n = 13), Sociology (n = 8), Psychology (n = 20), Law (n = 14). The following result was found: the study programme does not have relation formally to the emotionally prognostic reactions of students in any assessment of the sources of knowledge. Furthermore, the relationship of the study programme and other reactions of epistemological attitude of students have been found in the evaluation of individual sources. Statistically significant differences were found in the cognitive reaction in the assessment of the Internet resources ($F = 3.21^*$). According to the comparison of mean ranks of cognitive scale it is formally more pronounced among students of Engineering, Mechanics and Mechanical Engineering programme, but overall Business Administration programme students value epistemologically lower. The assessment of popular science television broadcasts showed statistically significant differences in activities ($\chi^2 = 11.9^*$) and pragmatism ($\chi^2 = 10.9^*$), formally the use of the source and the overall pragmatic value are more pronounced for social science students, studying Business Administration, Psychology and Law.

The results showed that the students' orientation on a particular subject to study influences differentiated in the content aspect of epistemological attitude, finding statistically significant differences in several features of epistemological attitude in the assessment of four knowledge sources of knowledge. The relationship of the study programme is more prominently observed in criticism, subjectcentrism, optimism and functionalism (see Figure 2).

In general, students in the Business Administration programme have a moderate criticism of epistemological quality of content of scientific literature and articles, and lecturer's knowledge. The importance of the lecturer as a source is formed by both epistemological and psychological qualities, high prognostic value and subjective significance, but its subjective meaning is approved equally in assessment of the Internet resources. The popular science television broadcasts are seen by them as a more functional ones, an objectively valuable and targeted inquired sources. Students in the Information Technology programme are the most critical in their assessment, the content of the lecturer's knowledge and the Internet resources as well are highly valued in average. Generally they are optimistic that the need for knowledge needs can be met and the true knowledge can be obtained both by listening to the lecturer and by using popular science television, nevertheless the perceived functionality of television

is inferior compared to all. In a similar tendency the students' assessment is expressed in another natural science programme such as Engineering, Mechanics and Mechanical Engineering. However, there are differences assessing the lecturer's knowledge, for example, reflecting less criticism of overall epistemological quality, valuing knowledge provided in depth and subjectively more valuable with high prognostic potential. Students in this programme have been valued with significance of content of popular science television broadcasts at the lowest compared to others, and on the other hand, subjective meaning of content value of the Internet resources is the highest.

Figure 2
Comparison of content of epistemological attitudes towards the sources of knowledge among students of different study programme from Latvia



Note: indicated only statistically significant results.

Source: elaborated by the authors.

Students in the Psychology programme are the least critically minded towards scientific types of sources. Above all they are acknowledging epistemological quality and importance of content of the scientific sources. The lecturer's knowledge is rated as highly significant in comparison to students of other programmes, and generally the high emotionally prognostic value and high functionality of popular science type sources – both television and the Internet is appreciated. Other social science programmes show different tendencies of cognition. Despite the similarities with the subject of psychology programme, sociology students are more critical to the lecturer's knowledge criticizing the credibility and provision of one-sided view of the issues, but they recognise the subjective value of content for personal and study purposes. Students'

assessment reflects an interesting tendency that the reliability of knowledge and a higher prognostic potential to satisfy needs of knowledge are attributed to a social sources such as the popular science television and the Internet resources rather than the lecturer in a higher educational institution. Students of the *Law* science programme underestimated the epistemological potential of the lecturer's knowledge, possibly due to the fact that the evaluation of the lecturer's personality possibly carrying out through the specific prism of the study subject. The content of the popular science television broadcasts was comparatively more highly valued, because of prognostic value in the sense of optimism and pragmatic meaning. The Internet resources were rated as moderately important.

Students' sample from the Netherlands ($n = 98$), excluding two respondents, includes also six study programmes for comparison – Media and Communication studies ($n = 13$), International Business Administration ($n = 16$), International Business and Management ($n = 13$), Financial Economics ($n = 16$), Psychology ($n = 34$) and Law ($n = 6$). The results revealed that the study programmes do not have influence on differences in formal aspect of epistemological attitudes among students in the Netherlands in cognitive and emotionally prognostic evaluation of the sources. Whereas the impact of the study programme on differences in action scale ($\chi^2 = 22.076^{**}$) was observed in the evaluation of scientific literature and articles. According to the mean rank values of the scale of activity, the comparison between students' groups of different study programmes has been shown that the students of Psychology studies formally are more intensive in use of the scientific literature and articles, whereas sources are less intensely used by students of programmes of Law, Media and Communication, and Financial Economics programmes, at least by students studying subjects related to business. The impact of the study programme has been observed on different pragmatic evaluation of the Internet resources ($\chi^2 = 11.475^*$). The results of the comparison of mean ranks on the scale showed that cognition of the Internet resources are more pragmatic in general for students of Financial Economy and International Business Management studies. Students of the Psychology programme valued choice of the Internet as less personally meaningful in the comparison to others.

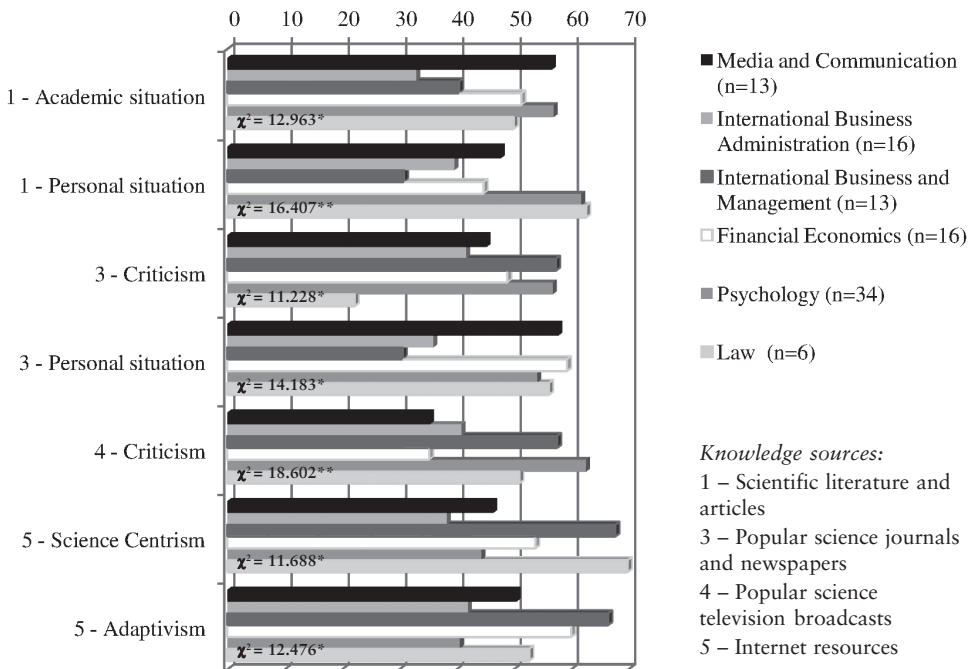
According to the obtained results, the impact of the study programme factor on differences in the content aspect of the epistemological attitude in the evaluation of four sources of knowledge was determined. The relation of the study programme factor has been observed in the use of the sources in academic and personal situation, in the features such as criticism, science centrism and adaptivism (see Figure 3).

Students of the Communication and Media study programme preferred acquiring the scientific literature and articles, used it intensively and especially in study-related conditions and purposes, and also were tend to use in personal situations outside of study circumstances in a lesser extent. The popular science journals and newspapers are useful for personal purposes as well. This tendency of cognition could be related to the specific nature of the subject of the study programme of mass media, reflecting the students' personal interest, which is also related to the moderate criticism of the epistemological quality of content of social sources such as journals, newspapers and television. Compared to students from other programmes students' in the International Business Administration programme assessment of the scientific literature, articles

and popular science type sources were not reflected to be highly psychologically significant, there was not observed a high usage among students. Students evaluated the Internet resources as lacking of epistemological quality for a low level of scientific base and substantiation. Students of the International Business and Management programme are most critical in the assessment of quality of knowledge of popular science journals and newspapers, expressed very low usage of the sources in personal circumstances. The quality of knowledge of the Internet resources has been evaluated as highly relevant to scientific criteria, also indicating the role of external factors in choice and use of the Internet. A particular attitude to some extent has been determined by students of the professional orientation possibly since the business and management have been implemented primarily through platforms on the Internet. Students in the Financial Economics programme tend to use intensively the scientific literature and articles in the context of academic cognition and communication. In turn, the popular science journals and newspapers are prioritized in the everyday personal cognition and are less criticized by epistemological qualities than the popular science television broadcasts.

Figure 3

Comparison of content of epistemological attitudes towards the sources of knowledge among students of different study programmes from the Netherlands



Note: indicated only statistically significant results.

Source: elaborated by the authors.

Students of the Psychology programme highly value the sources of scientific type as significant ones showing the tendency of actively using it in both situations even using is more pronounced in personal situations. Overall, the tendency points out on future psychologists as both personally interested in theory and research of scientific psychology and maintain in a high level of motivation in the study process. Popular journals and newspapers have been criticized for low credibility and reflection of one-sided point of view, in terms of the quality the most critical is content of popular science television, but the Internet resources have been ranked the lowest at its scientific quality and adaptability of choosing. Students of the Law science actively use the scientific literature and articles and value them as suitable for both situations with emphasis on the cognition for personal goals. In general, a positive attitude has been identified towards popular science sources such as the epistemological quality of journals and newspapers and using them in daily cognition. In addition, the content of the Internet resources evaluated as a highly substantiated with scientific content, but the choice of the Internet less was exposed to the influence of adaptive factors.

For examination of the differences between the epistemological attitudes of students in Latvia and the Netherlands towards the sources of knowledge in relation to the study programme has been applied only three comparable study programmes by equal subject for comparison and analysis: students in Latvia ($n = 60$) from the relevant programmes of different higher education institutions of Daugavpils city – Business Administration (hereafter as Business Management) ($n = 26$), Psychology ($n = 20$), Law science ($n = 14$); students in the Netherlands ($n = 69$) from the relevant programmes of Rotterdam Erasmus University – Business Management ($n = 29$) (combining two similar programmes by study subject as International Business Administration and International Business and Management), Psychology ($n = 34$) and Law ($n = 6$). Students of other study programmes were excluded from the analysis.

The results showed that there are differences between the formal aspect of epistemological attitude of students in the Netherlands and Latvia in the Business Management and Psychology programme in the assessment of several sources of knowledge. No statistically significant differences were found among students of Law science, possibly because the sample of the Netherlands was statistically too small.

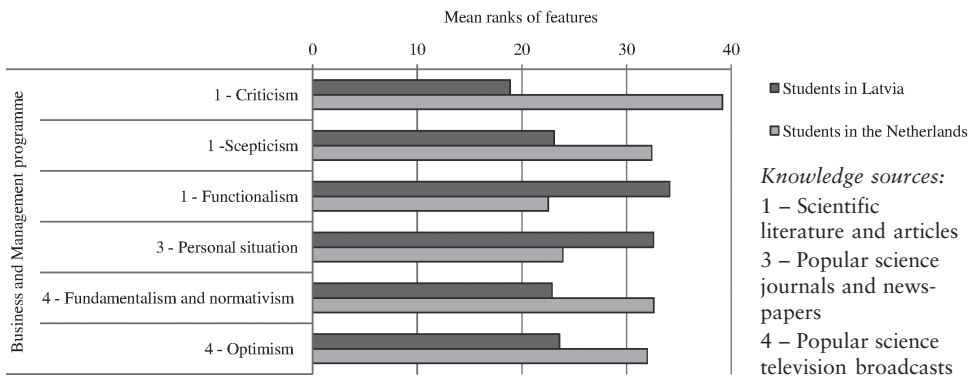
Cognitive evaluation formally is more intensive and significant in the assessment of scientific literature and articles ($U = 183^{**}$) for Psychology students from the Netherlands, while pragmatic value of these sources ($U = 243$) are more pronounced for Psychology students from Latvia. In its turn, the meaning of cognitive valuation of the Internet resources ($U = 221.5^*$) is more marked in students of Psychology programme from Latvia. Concerning the use of the Internet resources ($U = 178^{**}$), the intensity of actions is more pronounced among Psychology students from the Netherlands. Students of the Business Management in Latvia formally use more and notably popular science television broadcasts, indicating statistically significant differences in action / behavioural scale ($U = 253^*$). In Latvia students of Business Management programme reflect a higher pragmatism of choosing Internet resources ($U = 221.5^*$).

In terms of content, the peculiarities of cognition of students in the Business Management programme among Latvia and the Netherlands were identified. Statistically

significant differences were found in the epistemological attitude towards three sources, the scientific literature and articles, popular science journals, newspapers, and television broadcasts. The results of the comparison of mean ranks of the features were reflected (see Figure 4).

Figure 4

**The comparison of content of epistemological attitude
in the assessment of three sources of knowledge between students
in Latvia and the Netherlands of Business and Management programme**



Note: * indicated only statistically significant results.

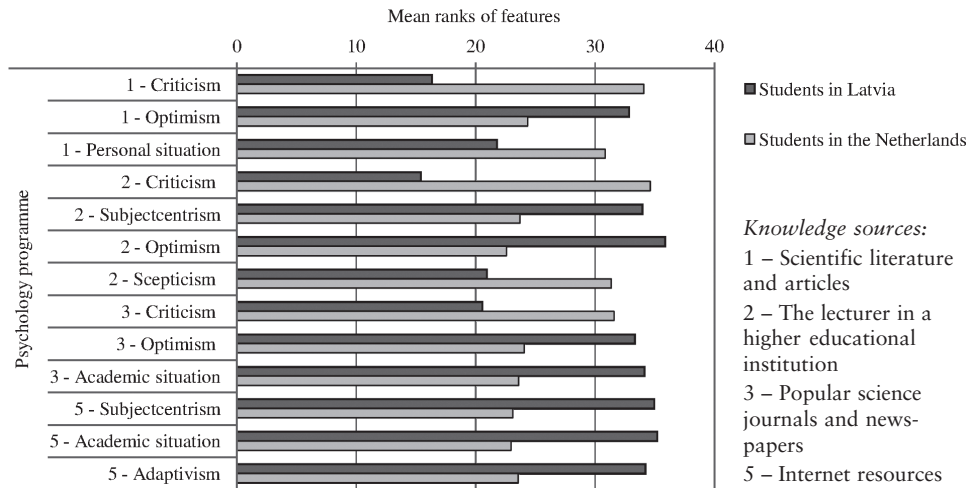
Source: elaborated by the authors.

According to the results the students of the Business Management programme in the Netherlands are more critical ($U = 139.5^{***}$) and sceptical ($U = 249^*$) in the assessment of the epistemological quality of scientific literature and articles. However, in Latvia students are more expressive in functionalism in the choice of scientific literature and articles ($U = 218^{**}$), as well as popular science journals and newspapers are used in personal circumstances and purposes more actively ($U = 258^*$). Students in the Netherlands value the content of popular science television broadcasts as more epistemologically significant, emphasizing pronounced feature of fundamentalism and normativism ($U = 244^*$) and are more prognostic in the sense of optimism ($U = 262^*$) towards knowledge potential.

In terms of the content, specificities of cognition were also found among students of the Psychology programme in Latvia and the Netherlands. Statistically significant differences were found in the epistemological attitude towards the four sources, scientific literature, articles, the lecturer in a higher educational institution, popular science journals, newspapers and Internet resources (see Figure 5).

Figure 5

**The comparison of content of epistemological attitude
in the assessment of four sources of knowledge between students
in Latvia and the Netherlands of Psychology programme**



Note: indicated only statistically significant results.

Source: elaborated by the authors.

An analysis of the content of epistemological attitudes among students of Psychology programme shows that students in the Netherlands have more solid critical position in evaluation of quality of scientific literature and articles ($U = 117^{***}$), of lecturers' knowledge ($U = 98.5^{***}$), and of content of popular science journals and newspapers ($U = 291.5^{**}$). Students from the Netherlands have been more sceptical about prognostic potentiality of the lecturer's knowledge ($U = 209^*$), and reflecting psychological significance of scientific literature and articles in personal situation ($U = 226^*$) they tend to use sources for personal purposes and circumstances more intensive than students of Psychology programme in Latvia. However, Psychology students in Latvia have pronounced subjectcentrism valuating the epistemological quality of the lecturer's knowledge ($U = 211^*$) and of the content of the Internet ($U = 191^{**}$). In addition, in Latvian students of Psychology studies are more optimistic about the potential of scientific literature and articles ($U = 233^*$), lecturer's knowledge ($U = 171^{**}$), and popular science journals and magazines ($U = 223.5^*$) to meet their needs of knowledge. As well as the high epistemological significance of popular science journals and newspapers being accepted by students in Latvia that promotes the use of that source in academic situations ($U = 207.5^*$). Also the higher psychological significance was identified in using the Internet resources in study-related conditions and purposes ($U = 186^{**}$), but the pragmatic value is more adaptive ($U = 206^*$) in choosing of the Internet.

Conclusions

The comparison of the content of epistemological attitude in students from Latvia between five sources of knowledge revealed statistically significant differences between all sources in all features of content ($p < .001$). Statistically significant differences were also found between five sources of knowledge in all features of content of epistemological attitude among students in the sample of the Netherlands.

Statistically significant differences were found between the epistemological attitude of students in Latvia and the Netherlands, in the formal and content aspects, in the importance of sources in the assessment of all five sources of knowledge: in the evaluation of scientific literature and articles in the formal aspect – in cognitive reaction ($U = 3656^{***}$), in the content aspect – in criticism ($\chi^2 = 34.96^{***}$), in optimism ($\chi^2 = 7.76^{**}$) and scepticism ($\chi^2 = 13.13^{***}$), in functionalism ($\chi^2 = 5.31^{**}$) and content of four features; in the assessment of the lecturer in a higher educational institution in the content aspect – criticism ($\chi^2 = 12.9^{**}$) and subjectcentrism ($\chi^2 = 3.71^*$), and in the content of four characteristics; in the evaluation of popular science journals and newspapers in the formal aspect – in the action/behaviour ($U = 4786^*$), and in terms of content – in fundamentalism and normativism ($\chi^2 = 4.42^*$) and academic situation ($\chi^2 = 12.69^{***}$), and content of four characteristics; in the assessment of popular science television broadcast in the content aspect – optimism ($\chi^2 = 4.92^*$), and content of three features; in the evaluation of the Internet resources in the formal aspect – in the action/behavioural ($U = 3663^{***}$) and pragmatism ($U = 3718^{***}$), and in the content aspect – in the academic situation ($\chi^2 = 34.96^{***}$), in functionalism ($\chi^2 = 7.76^{**}$) and adaptivism ($\chi^2 = 13.13^{***}$), and content of four features.

The results revealed the relationship between the study programme and the content of epistemological attitude of students in Latvia and in the Netherlands. Statistically significant differences were found in the formal and content aspects of epistemological attitudes among students of different study programmes from Latvia in the assessment of four sources of knowledge. Formally in cognitive scale of the assessment of the Internet resources ($F = 3.21^*$); in the assessment of popular science television broadcasts, in action/behaviour ($\chi^2 = 11.9^*$) and in pragmatic reaction ($\chi^2 = 10.9^*$). In terms of content, evaluating criticism ($\chi^2 = 19.048^{**}$) of scientific literature and articles; in valuation of criticism ($\chi^2 = 12.343^*$), subjectcentrism ($\chi^2 = 10.025^*$), optimism ($\chi^2 = 13.277^*$) towards the lecturer's knowledge; in the assessment of popular science television broadcasts in optimism ($\chi^2 = 14.651^{**}$) and functionalism ($\chi^2 = 10.702^*$); valuating subjectcentrism ($\chi^2 = 10.981^*$) towards the Internet resources.

Related to the Netherlands sample were revealed statistically significant differences in the formal and content aspects of epistemological attitude between students of different study programmes in the assessment of four sources of knowledge. Formally in the assessment of scientific literature and articles in action/behaviour ($\chi^2 = 22.076^{**}$) scale; evaluating the Internet resources by the pragmatism ($\chi^2 = 11.475^*$) scale. In content aspect assessing the scientific literature and articles in terms of academic situation ($\chi^2 = 12.963^*$) and personal situation ($\chi^2 = 16.407^{**}$); in the assessment of popular science journals and newspapers in criticism ($\chi^2 = 11.228^*$) and personal

situation ($\chi^2 = 14.183^*$); valuating criticism ($\chi^2 = 18.602^{**}$) of popular science television broadcasts; in the assessment of the Internet resources in terms of science centrism ($\chi^2 = 11.688^*$) and adaptivism ($\chi^2 = 12.746^*$).

The results revealed the relationship between study programme and differences between students' epistemological attitude in Latvia and the Netherlands towards the sources of knowledge in particular – Business Management and Psychology. Statistically significant differences were found between the students of the Business Management programme in formal aspect in action/behaviour ($U = 253^*$) scale evaluating popular science television broadcasts; in pragmatism ($U = 221.5^*$) evaluating the Internet resources. Statistically significant differences have been found among students of the Psychology programme in cognitive ($U = 183^{**}$) scale in the assessment of scientific literature and articles and of the Internet resources ($U = 229^*$); in action/behaviour ($U = 178^{**}$) scale in the assessment of the Internet resources; in pragmatism ($U = 243^*$) evaluating scientific literature and articles. In terms of content statistically significant differences were found between students of the Business Management programme in criticism ($U = 139.5^{***}$), in scepticism ($U = 249^*$) and functionalism ($U = 218^{**}$) in the assessment of scientific literature and articles; in personal situation ($U = 258^*$) evaluating popular science journals and newspapers; in fundamentalism and normativism ($U = 244^*$) and optimism ($U = 262^*$) in the assessment of popular science television broadcasts.

Significant differences in the content of the following sources were found among the students of the Psychology programme: in terms of the criticism ($U = 117^{***}$), optimism ($U = 233^*$), personal situation ($U = 226^*$) evaluating scientific literature and articles; in criticism ($U = 98.5^{***}$) and subjectcentrism ($U = 211^*$), in optimism ($U = 171^{**}$) and scepticism ($U = 209^*$) in the assessment of lecturer's knowledge; evaluating popular science journals and newspapers in criticism ($U = 291.5^{**}$), optimism ($U = 223.5^*$) and academic situation ($U = 207.5^*$) in the evaluation of popular science journals and newspapers; in terms of subjectcentrism ($U = 191^{**}$), academic situation ($U = 186^{**}$) and adaptivism ($U = 206^*$) in the assessment of the Internet resources.

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SOCIAL INTERACTION SHAPES INFANTS' EARLIEST LINKS BETWEEN LANGUAGE AND COGNITION

The article observes studies of word categorization in 3- to 4-months-old infants questioning their main conclusion that young infants may categorize words themselves. The review shows that there is no bilateral communication between them and adults as well as any perceptual interaction that can help infants acquire language. And yet language acquisition requires children to begin categorizing objects even before they initiate to develop their communication – which happens only from the age of 12 months – since they need to already understand social reality with a minimum set of its phenomena before any communication. Hence, the idea of some mental collaboration between young infants and their caregivers that helps them to acquire a first language makes sense, and these studies show the manifestation of such non-perceptual social interaction. There is every reason to believe that the authors of the analyzed researches excluded any perceptual interaction from experiments that could help infants improve their performance, which also supports this above idea. Their weak results with Cantonese language gives another reason to think so, since English-speaking caregivers (and/or supervisors) could not mentally help infants categorize words during this experiment, as they did not understand Cantonese language.

Key words: categorization, first language acquisition, non-perceptual social interaction, coherent intelligence.

Sociālā mijiedarbība – agrīno saišu veidotāja starp valodu un izziņu zīdaiņiem

Rakstā apskatīti un analizēti vārdu kategorizācijas pētījumi 3 līdz 4 mēnešu veciem zīdaiņiem – apšaubot viņu galveno secinājumu, ka tik mazi zīdaiņi vārdus var klasificēt paši. Pētījumu pārskats parāda, ka starp zīdaiņiem un pieaugušajiem nav bilaterālās saziņas, kā arī mijiedarbības, kas varētu palīdzēt zīdaiņiem apgūt valodu. Jebkuras pirmās valodas apguve prasa, lai bērni sāktu kategorizēt objektus pat pirms viņi sāk attīstīt komunikāciju – kas notiek tikai no 12 mēnešu vecuma, – jo viņiem pirms jebkādas komunikācijas jau ir jāsaprot sociālā realitāte ar minimālu tās parādību kopumu. Līdz ar to ideja par mentālo mijiedarbību starp mazu bērnu un viņu aprūpētāju, kas viņiem palīdz apgūt pirmo valodu, varētu apstiprināt neperceptīvas sociālās mijiedarbības ideju. Ir visi iemesli uzskatīt, ka rakstā analizējamo pētījumu eksperimenti, izslēdzot jebkādu perceptīvu mijiedarbību, kas varētu palīdzēt zīdaiņiem uzlabot viņu sniegumu, atspoguļo ideju par neperceptīvu sociālo mijiedarbību, kas notiek neapzinātā līmenī. Viņu rezultāti par kantonas valodu dod vēl vienu apstiprinošu argumentu idejai par mijiedarbību starp cilvēkiem neapzinātā perceptīvā līmenī, jo angļiski runājošie aprūpētāji, kas piedalījās pētījumā, nevarēja mentāli palīdzēt zīdaiņiem klasificēt vārdus šī eksperimenta laikā, jo viņi nesaprata kantonu valodu.

Atslēgas vārdi: kategorizācija, pirmās valodas apguve, neperceptuālā sociālā interakcija, koherentais intelekts.

Социальное взаимодействие как основа формирования связей между языком и познанием у младенцев

Статья рассматривает исследования категоризации слов у младенцев в возрасте от 3 до 4 месяцев, подвергая сомнению их основной вывод о том, что такие маленькие дети могут сами классифицировать слова. Этот обзор исследований показывает, что между мла-

денцами и взрослыми нет билатеральной коммуникации или какого-либо перцептивного взаимодействия, которые могли бы помочь младенцам овладеть языком. И все же овладение первым языком требует того, чтобы дети начали классифицировать объекты еще до того, как они начинают развивать свою коммуникацию – что происходит только с 12-месячного возраста, – поскольку им уже нужно понимать социальную реальность с минимальным набором ее феноменов ещё до начала любой коммуникации. Следовательно, идея ментального взаимодействия между младенцами и их воспитателями, которое помогает им приобрести первый язык, имеет смысл, и эти исследования показывают проявление такого перцептивного социального взаимодействия. Есть все основания полагать, что авторы проанализированных в данной статье исследований исключили любое перцептивное взаимодействие из экспериментов, которое могло бы помочь младенцам улучшить их результат, что также поддерживает вышеупомянутую идею о перцептивном социальном взаимодействии. Низкие результаты младенцев с кантонским языком дают еще один аргумент в поддержку этой идеи, поскольку англоговорящие воспитатели (и/или руководители эксперимента) не могли мысленно помочь младенцам классифицировать слова во время этого эксперимента, поскольку они сами не понимали кантонский язык.

Ключевые слова: категоризация, усвоение первого языка, перцептивное социальное взаимодействие, когерентный интеллект.

Introduction

It has already become convincingly that the first language acquisition can be explained as a set of successive and at the same time parallel mental process, in very easy words: “successful word-learning rests on the infant’s ability to discover the relevant linguistic units, the relevant conceptual units, and the mappings between them” (Waxman, Leddon 2010, p. 6). Starting their socialization, infants are required to constitute their conceptual domain of knowledge, forming core concepts to capture the various relations among the objects and events that they encounter, and from the other hand the broad linguistic domain of the current flow of language requires infants select words and phrases from them to apply each element to different grammatical categories for then remember words and adequately respond. Herewith, their advances in the conceptual and linguistic domains are fast and powerfully linked, that looks like too complicate problem for such inexperienced and young students. That is, first language learning requires a certain degree of abstraction in each of these above noted domains. Any given utterance of a word must be related to an abstract phonological representation, any given individual must be related to an abstract concept (Bates, Goodman 1997; Chomsky 1975), and all these mental actions arise in a short period at the very beginning of personal mental development.

Grammatical categories provide language users with an efficient and powerful means of representing regularities in linguistic structures and processes. Grammatical categories – withall difficulties of understanding the difference of application its components in real discourse – are the building blocks that structure human languages and the units over which syntactic and morphological processes operate. That is why over the past 30 years, the mechanism of categorization in word learning has become one of the main object of investigation in cognitive science on first language acquisition.

The two basic approaches – innate syntactic knowledge opposed to another view based on experience – attempt to explain categorization. “On one influential view, at least some aspects of syntax must be innate, since the child possesses syntactic knowledge that could not have been learned from his or her impoverished linguistic input” (Chomsky 1981; Pinker 1989; cited by Regier, Gahl 2004, p.147). The critics of this approach point weak arguments of the hypothesis of innate syntactic knowledge. Essentially, this synthetic statement can neither be proved nor disproved empirically. G. Sampson argues that the grammatical “rules” linguists posit are simply post-hoc observations about existing languages, rather than predictions about what is possible in a language (Sampson 2005). W. Hinzen summarizes the most common criticisms of universal grammar: 1) universal grammar has no coherent formulation and is indeed unnecessary; 2) universal grammar is in conflict with biology: it cannot have evolved by standardly accepted neo-Darwinian evolutionary principles; 3) there are no linguistic universals: universal grammar is refuted by abundant variation at all levels of linguistic organization, which lies at the heart of human faculty of language (Hinzen 2012). The core idea of the opposite approach is linguistic empiricism, which supports that children do not have linguistically-specific knowledge at birth, all ideas are derived from experience. Within this perspective, for example M. Ramscar and D. Yarlett propose a learning mechanism of unreasonable expectations, when infants erroneously expect any linguistic construction which is ungrammatical form that then never occurs, then this repeated unreasonable waiting becomes a form of implicit negative feedback (Ramscar, Yarlett 2007). Such experiences allow children to learn language, by correcting their errors over time. The weakness of this approach – first language acquisition is too difficult problem to infants, taking into account the following difficulties: lack of skills, communication, experience and knowledge – has become the argument for the idea of universal grammar in decades of opposition of these approaches. This broad discussion on the issue – with convincing arguments and a wide range of well-constructed hypothesis supported by numerous empirical studies – allow to assume that many of these ideas reflect (to a greater or lesser extent) the phenomenon and together contribute cumulatively to the understanding of how infants learn the first language. That is, highly likely, that some genetic mechanism promotes creation of a mental frame of language acquisition of newborns, which then helps infants to understand and learn words (Chomsky 1981); convincingly that, early in life, language promotes categorization in part through its status as a social, communicative signal, and that distributional patterns of words impact on categorization (Ferguson, Waxman 2017); obviously that the intensity of social interaction contributes to word learning, that there is a relation between cognitive and social skills with linguistic competence (Sampson, 2005; Tomasello 2008); it is also very likely that many other existing ideas also offer compelling theories with empirical evidence, complementing the complex mechanism of first language learning. Acquisition of knowledge mainly based on discovery of new key relationships between cause and effect within prior knowledge, and/or on the opening links between elements of prior knowledge and new information domain. This means that the acquisition of initial words also requires infants to demonstrate some basic knowledge on the social reality around – specific basic knowledge

of their particular group, considering the existence of about 6,000 languages in even more groups and communities, all with their unique social reality – as well as needs efficient communication which is a reciprocal exchange of mutually intended meanings. Even if one assumes that one of existing hypotheses or all together correspond to mechanism of word learning, if one also ignores the effectiveness of communicative needs that must maintain this mechanism (always keeping in mind the very young ages of students), the question of acquiring the meanings of the initial phenomena – the very first objects and events in the life of infants – the same meanings that already exist in their group remains unclear. That is, relating with what newborns' knowledge and/or with what kind of communication young infants can understand first meanings of phenomena of the surrounding social reality – the meanings of objects and events – in order to then create the appropriate conceptual units that connect them with the corresponding linguistic units (words). This is not a question of the language structure and grammatical categories – which also need to be accompanied with efficient communication with community to be accepted adequately – this is a problem of a comprehension of particular social reality. The above-mentioned approaches may explain the process of establishing a mapping between the conceptual and linguistic units, but cannot provide a convincing picture of how unclear and multivalued social interaction between very young infants and their social group can give them a set of meaningful impulses that begin word learning. What kind of prior knowledge or known communication or what else can help newborns begin and facilitate learning until they understand the meanings of enough words to begin categorization, to then understand phrases and complete their own questions?

Recent studies on language acquisition attempt to address this problem by suggesting that infants exhibit some general sensitivities and expectations at the onset of language acquisition that later become adjusted to the particular language environment that the young infants finds around. For instance, S. Waxman and E. Leddon have proposed that: 1) infants begin the task of word learning equipped with an initially general and universal expectation; 2) expectation is then formed by the structure of the particular language (Booth, Waxman 2003; Fulkerson, Waxman 2007; Klibanoff, Waxman 2000; Waxman 1998; Waxman, Booth 2000a; Waxman, Booth 2001b; Waxman, Markow 1995; cited by Waxman, Leddon 2010); and then 3) infants growing sensitivity to these perceptual cues permit them to separate two classes of words: open class words (nouns, adjectives, verbs) and closed class words, including determiners and prepositions. (Waxman, Leddon 2010)

According to G. Csibra and G. Gergely infants are sensitive to certain ostensive cues. Their theory of natural pedagogy suggests that infants expect to learn reference information through signals that relatives direct to them. In the case of young infants these ostensive cues for example manifest themselves in following the gaze (Csibra, Gergely 2009).

Social interaction of infants

May some general sensitivities and expectations as well as ostensive cues complement the children picture of reality in such a manner that 3- to 4-months-old infants understand enough phenomena from social reality to start categorization of words? The article discusses this issue to show that communication is a difficult problem for 3- to 4-months-old infants, they cannot successfully form categories of words on their own. The perceptual sensitivities and expectations (Waxman, Leddon 2010), and/or ostensive cues (Csibra, Gergely 2009) are not able alone to fill infants' personal reality with a sufficient number of phenomena in order to start categorization.

Social interaction constructs social reality, engaging a wide range of mental tasks of participants through various conscious and unconscious manifestations, which can be meaningful or meaningless. There are four possible domains of perceptual social interaction: 1) conscious meaningless interaction – conscious priming-sensitivity exchange; 2) unconscious meaningless interaction – unconscious priming-sensitivity exchange; 3) conscious meaningful interaction – conscious verbal and nonverbal communication; and 4) unconscious meaningful interaction – unconscious verbal and nonverbal communication. Communication is a complicated process of mutual exchange of meaningful signs with a goal-setting within the framework of participants needs and understanding of social reality. M. Argyle, V. Salter, H. Nicholson, M. Williams and P. Burgess argued that the primary function of nonverbal communication is to develop and strengthen interpersonal relationships, while verbal communication is used to convey the meaning of events (Argyle et al. 1970). It is important to note that emotional contagion, and behavioral assessment are only additional tools for any communication, that they together require some mutual exchange between infants and adults before them because: 1) the adoption of emotions of others means the same estimation of emotional states by both sides of this exchange, which is subject to prior agreement, and 2) principles and categories of behavioral assessment must also be convincingly taken before – for example, “true or false”, “good or bad”, etc. – with the purpose to correlate them with the actual condition. That is, any communication between 3- to 4-months-old infants and adults can occur within the framework of some prior mental cooperation between them. Non-verbal communication is an accompaniment of mutual exchange of meanings, helping participants to facilitate filling of all phenomena of reality with mutual meanings. But their impact is not so fruitful and lasting that 3- to 4-months-old infants can understand the meanings of symbols, for example, through tone of voice and/or body language, to then adopt necessary social skills, such as language. Newborn infants are faced with an unknown social reality, communication for them is a difficult problem as they do not understand enough surrounding social phenomena, and at the beginning of life, their social interactions are meaningless. While they collect and understand the phenomena of social reality, their expressions of basic instincts are also meaningless gestures. In the first months of life, they cannot even adequately move their body, they still need to learn how to express themselves. Infants' meaningless expression – priming-sensitivity exchange of stimuli with adults – is not yet communication, it does not operate signs

with reciprocal intended meanings. The meaningless interaction eventually transforms into communication later, when the participants in this exchange imbue interaction with mutually intended meanings, cascading their signals in response to the history of past meaningless interactions and in response to the history of social relationships between infants and the social reality surrounding them. That is, both conscious priming-sensitive exchange and unconscious priming-sensitive exchange can only be a preparation for communication, as well as the accompaniment of future communication on the basis of mutual signs, which will subsequently be created by the above-mentioned process of preparation. Pre-communication perceptual exchange manifests itself as newborns begin to interact and create their shared social reality with adults, but of all the known domains of perceptual social interaction, only communication can fill the phenomena of reality of meanings.

The article emphasizes that at the age of infants 3- to 4-months between them and adults there is no any communication at all. Non-verbal communication occurs only from 12 months, which can be assumed based on the facts: 1) “communicative pointing acts induce object expectations at 12 months of age, but not at 8 months of age, and that these expectations are specific to a referentialcommunicative as opposed to an attentiondirecting nonsocial cue” (Patzold, Liszkowski 2019); 2) non-verbal communication and decoding skills improve between the ages of 12 months and 8 years. K. Liebal, M. Carpenter and M. Tomasello have shown the ability to recognize markedness (gesture during speech) is learned in the early stages of development, somewhere between three and four years of age, but two-years-olds’ appreciation of these gestures was less clear-cut (Liebal et al. 2011); 3) R. Boone and J. Cunningham argued that 4-year-olds (not younger) could only correctly identify sadness at a rate that was better than random, by studying at what age children begin to recognize emotional meaning (anger, fear, happiness, and sadness) in expressive body movements (Boone, Cunningham 1998); 4) the absence of communicative signals, ostensive cues also cannot effectively convey the meanings of phenomena because of their polysemic manifestations: “6-months-old infants follow others’ gaze direction in situations that are highly attention-grabbing. This occurs irrespective of whether these situations include communicative intent and ostensive cues (a model looks directly into the child’s eyes prior to shifting gaze to an object) or not (a model shivers while looking down prior to shifting gaze to an object). Findings demonstrate that one of the central pillars of natural pedagogy is false. Sensitivity to gaze following in infancy is not restricted to contexts in which ostensive cues are conveyed” (Szufnarowska et al. 2014). In summary, all these facts taken together may mean that only from the age of 12 months, can social interaction with infants be transformed into communication after the previous cascading their signals in response to the history of past meaningless interactions and in response to the history of social relationships the surrounding social reality.

Certainly, young infants should begin language categorization even before they initiate to develop their communication – which occurs only from the age of 12 months – since they need to already understand social reality with a minimum set of its phenomena before any communication. Thus, some mental collaboration between young

infants and their social environment should accompany the mental development of infants, helping them to acquire the meanings of the initial phenomena of social reality. But the essence of this process is still in question due to the lack of perceptual interaction of infants with the surrounding reality.

The reinterpretation of results of two studies on categorization in 3- to 4-months-old infants

A. Ferry, S. Hespos and S. Waxman as well as D. Perszyk and S. Waxman conducted the series of experiments on categorization of words in 3- to 4-months-old infants (Ferry et al. 2010; Perszyk, Waxman 2019). But, as can be seen from the above reflections, young infants could not perceptually interact with their social group so effectively that at the age of 3–4 months, their personal reality may contain enough phenomena to successfully form categories of words on their own. Thus, the critical question to the studies is what helped these infants in their performances. It is necessary to note several circumstances to assess their results:

- infants participated at the experiments always with adults: with their caregivers in pair, infants sat on a caregivers' lap facing the stage as well as a supervisor of the experiment, who was there in the contact with infants;
- infants did not perceptually interact with anyone during experiments;
- all persons involved in the experiment – both participants of the pairs infant-caregiver as well as the supervisor – received tasks simultaneously;
- infants improved performance during the experiments when objects were marked vocally that present adult also listened to;
- the chosen visual stimuli are fishes and dinosaurs from different classes, that do not fit into the personal reality of 3- to 4-months-old infants.

Both the adults' involvement in the procedure of the studies of A. Ferry, S. Hespos and S. Waxman as well as D. Perszyk and S. Waxman and the impact of caregivers and supervisors on the performance are not very clear from the publications as well as the isolation of infants from their influence is not obvious (Ferry et al. 2010; Perszyk, Waxman 2019). During the experiments of A. Ferry, S. Hespos and S. Waxman, the caregivers could know both visual and auditory stimuli: “infants sat on a parent's lap. Parents were instructed not to influence their infant's attention in any way and to close their eyes during test trials” (Ferry et al. 2010). The second study tried to minimize the impact of caregivers on the performance: “infants were seated on a caregiver's lap facing a screen. Caregivers, who wore opaque glasses, were instructed not to talk to their infants or influence their attention in any way” (Perszyk, Waxman 2019). There are several disputable points that need to be clear to understand of what helped these infants in their performance. How the experimenters managed the procedure and supported the infants as they sat on the lap of the “blinded” parent – was there someone else, a supervisor, in the room at that moment, whether this supervisor perceived the stimuli. As also whether the caregivers knew about the stimuli and procedure before the experiment. Even if one assumes that the caregivers were not

informed of the tasks and procedure before the experiment and they were “blinded”, they could still listen to the auditory stimuli throughout the experiment and mentally follow its procedure. Even if one assumes that the supervisor of the experiment did not stay together with testees in the same room, he or she knew the procedure and stimuli, as well as highly likely that the supervisor was connected emotionally with infants before the experiment and followed the procedure mentally together with testees. That is, there was always someone with infants, who knew the procedure and stimuli and was interested in the performance.

Anyway, both studies emphasized successfully formation of object categories by infants, while their perceptual assimilation of phenomena as well as a reception of any perceptual help from their caregivers (or supervisor) were impossible. Due to the above mentioned reflections, the increase in infants’ performance may mean either some prior innate knowledge of objective reality or – following the above considerations and mainly the fact that there was always someone with infants during the experiments, who knew the procedure and stimuli – some non-perceptual social interaction between infant-adult pairs which should also be considered.

The last idea is supported by another finding of D. Perszyk and S. Waxman from their experiment with Cantonese language, which is an East Asian language with 62 million (2013) native speakers mainly from Southern China, Hong Kong, Macau, Malaysia and Singapore (Perszyk, Waxman 2019). D. Perszyk and S. Waxman argued that their study provides “evidence that infants’ increasing precision in speech perception shapes which signals they will link to cognition. Infants listening to German, a nonnative language that shares key rhythmic and prosodic properties with their own native language (English), successfully formed object categories. In contrast, those listening to Cantonese, a language that differs considerably in these suprasegmental properties, failed” (Perszyk, Waxman 2019). There is no information about the language these caregivers/supervisor speak, but obviously they had to speak English – and highly likely, they understood simple phrases in German as well – as they were the caregivers of English speaking infants and the supervisor was someone from the Northwestern University, Evanston, USA. There is a correlation between adults’ main language and the infants’ performance. That is, the contribution of non-perceptual interaction to the mental collaboration between pairs infant-adult may seem more probabilistic than infants’ prior innate knowledge. From this perspective results of A. Ferry, S. Hespos and S. Waxman as well as D. Perszyk and S. Waxman may also mean an evidence of a mental collaboration within – pairs infants and their caregivers (Ferry et al. 2010; Perszyk, Waxman 2019). The weak results of their experiment with Cantonese also supports this idea that may also mean that English-speaking caregivers/supervisor could not help infants categorize words during this experiment, as they did not understand Cantonese language, which also supports the hypothesis of non-perceptual interaction.

Another argument that supports above reinterpretation of the results of A. Ferry, S. Hespos and S. Waxman as well as D. Perszyk and S. Waxman based on the chosen visual stimuli. Two 8-item familiarization sets and two test pairs were the images of dinosaurs and fish. Infants saw images from one object category (dinosaurs) during a

series of “familiarization” tasks. They then simultaneously viewed two new “test” images from the familiarization category (another dinosaur; “familiar object”) and a new exemplar from a novel category (a fish; “novel object”). The current article believes that the images for such a task has to be phenomena from infants’ personal reality. Dinosaurs from different classes and fishes are probably not the right objects for the experiment of categorization with very young infants. It is very difficult to believe that they can themselves categorize such phenomena. Whether 3- to 4-months-old infants know enough about nature and its evolution to categorize objects that are absent or inaccessible to their reality.

Recent experiments show an improvement of the group’s performance that can be explained as unconscious mental collaboration through non-perceptual interaction. This series of studies was conducted at the Riga Stradins University in Latvia. The within-subject design with a multiple-choice test – which required participants to simultaneously guess the English translation of Latin paraphrases – adhered to two research paradigms: 1) the two-step experiment with the primed/unprimed conditions for confederates with the same questionnaire for all in the both steps, that confederates and unprimed participants had to take the same questionnaire twice as a repetition task; 2) the experiment with the unprimed condition in the baseline and primed condition in experimental testing, that primed confederates and unprimed participants had to complete the questionnaire as one task. In particular, experiments in each paradigm examined how accurately the group of unprimed participants could classify Latin phrases, comparing their performance under two conditions for confederates: unprimed or primed with hints regarding the correct answer.

The study under the paradigm 1 conducted three experiments with forty six adults (mean age $M=18$ years). Forty students speak Latvian and six Russian, they also speak English and have not studied or spoken Latin language. Participants and confederates with Android-based tablet computers sat at their tables face to face at a distance of more than three meters between their seats in the auditorium, so they saw each other’s faces. The Latin paraphrases with options from the questionnaire appeared for all examinees on their tablet computers at the same time, participants and confederates were not able to see the content/display of the others tablet or the answers that other member of the group enters. These devices presented one after another simultaneously 10 Latin paraphrases of 30 seconds each with the same 10 variants of English translation, all questions and answers were the same for all examinees. Any communication between participants and confederates during experiment was excluded. The experiments consisted of two steps with the same task in each: the first session was held without assistance for both confederates and participants, and, during the second session, confederates were primed with hints regarding the correct answer on each Latin paraphrase. The confederates were asked to follow the tips on correct answers. All volunteers did not know before the experiments about the second step with the repeated task. The correct answers were calculated only for the unprimed participants. The ratio of $R(1) = 1.68$ was presented, that is, an increase of performance was 21 percentage points. The result of the study 1 is 5.7 times higher than random choice (the score $S(1|2) = 0.57$, and the probability $P(1|2) = 0.1$). The study under the

paradigm 2 conducted the experiment with eleven adults (mean age $M = 18$ years). The native language of students is Russian, some of them also speak English and all of them have not studied or spoken Latin language. The volunteers performed the experiment in one group with five confederates and six participants. This experiment was conducted with the same procedure as the previous ones with several changes: 1) the experiment consisted of one list of 20 Latin paraphrases and their 10 answer choices for each phrase: the baseline questionnaire with 10 Latin paraphrases, and the experimental testing questionnaire with another 10 Latin paraphrases; 2) the baseline questionnaire and experimental testing questionnaire proceeded without any pauses, during the experimental testing confederates were primed with hints regarding the correct answer to each Latin paraphrase. All volunteers did not know when someone and who will be assisted in answering questions. The correct answers were calculated only for the unprimed participants. The ratio of $R(2) = 1.56$ was presented, that is, the productivity gain was 9 percentage points. The result of study 2 is 2.5 times higher than random choice (the score $S(2|2) = 0.25$, and the probability $P(2|2) = 0.1$).

These studies examined the ratio of correct answers between primed and unprimed conditions, whether it is possible, that confident knowledge of the correct answers of primed confederates can allow unprimed participants to find the correct answer to the problem of an unknown language. The research shows a significant increase of performance of the unprimed participants (the ratio of correct answers $R(1) = 1.68$ and $R(2) = 1.56$) between primed and unprimed conditions of confederates, showing empirical evidence for the effect of non-perceptual social interaction on group outcome, which occurs without verbal and non-verbal communication and does not engage five basic human senses. I. Val. Danilov, S. Mihailova, and V. Perepjolkina presented their research at the 12th annual International Conference of Education, Research and Innovation Seville (Spain) on 11th–13th of November, 2019. The study shows the effect of the group performance which is weak for communication, but significant for outcome of non-perceptual mental collaboration. I. Val. Danilov believes that non-perceptual social interaction is so slight and implicit that it does not allow consciousness to recognize it as a transmission of information (Danilov 2019). This mental collaboration is less effective than communication, comparing their possible outcomes. The advantage of non-perceptual social interaction is that it can accompany the mental development of infants, helping them to acquire meanings of the initial phenomena of social reality. In such a manner, this mental collaboration may contribute to the first language acquisition in the absence of communication. Non-perceptual social interaction may be a possible explanation for how infants may understand social reality with a minimum set of its phenomena before any communication at the beginning of their lives. This idea underscores how important it is for very young infants to have a strong emotional connection with caregivers.

One possible explanation for non-perceptual social interaction, based on the existing laws of physics, was introduced by I. Val. Danilov: “Coherent Intelligence is an effect of unconscious collaboration provided by interconnection of many brains united by entanglement state of their neurons – the phenomenon of quantum entanglement of particles – which is stimulated by common emotional arousal. This connection

of entangled neurons may unite neural chains of different cerebrums and maintain their coherent mental process” (Danilov 2019, p. 109). I. Val. Danilov supposes that the phenomenon emerges from collective efforts and collaboration of many individuals if: 1) participants experience the same emotional arousal; 2) they simultaneously solve the problem, which is important for them, within the framework of this emotional stimulation (Danilov 2019).

Conclusions

The article observes studies of words categorization in 3- to 4-months-old infants – the two studies of A. Ferry, S. Hespos and S. Waxman (2010) as well as D. Perszyk and S. Waxman (2019) on – questioning their main conclusion that young infants may categorize words themselves. Obviously, that young infants have to begin language categorization even before they initiate to develop their non-verbal communication, which only occurs since 12 months of age, because they need to already understand social reality with a minimum set of its phenomena before any communication. The current study assumes some mental collaboration between infants and their caregivers that helps young infants to acquire first language and the manifestation of which occurs in these experiments with young infants. Non-perceptual social interaction between pairs infants and caregivers (or supervisors) may be the possible explanation of their performance, due to the fact that experimenters excluded any perceptual interaction with infants that could help them improve their performance. The main arguments of this reinterpretation are:

- 1) there is no doubt about the relevance of the chosen method and the correctness of the procedure of these studies; but it is incredible that 3- to 4-months-old infants can perceptually interact with their corresponding group so effectively that their personal reality may contain enough phenomena to begin successfully acquiring first words in their lives to then forming categories of words on their own;
- 2) very young infants cannot themselves recognize and classify inappropriate phenomena that are absent or inaccessible to their reality; even if one forgets about the problem of assimilating of first notions and the acquiring of the first words, and supposes that infants somehow themselves have already learned some basic set of meanings, there is another problem of comprehension of abstract phenomena – the above-noted fishes and dinosaurs are not suitable objects for the categorization experiment with 3- to 4-months-old infants; it is very hard to believe that without the help of adults they can categorize such abstract phenomena;
- 3) during the experiments on categorization of words there was always a pair infant-caregiver as well as the supervisor of the experiment; that is, there was always someone, who knew the procedure and stimuli and could interact with infants;
- 4) there is a correlation between adults' main language and the infants' performance; this last argument, combined of previous ones, also supports some non-perceptual interaction in the collaboration within pairs infant-adult and thus the idea of the contribution of non-perceptual interaction to mental development of infants may seem convincingly.

The recent research on non-perceptual social interaction and its impact on group performance gives possible explanations of this notion basing on the existing laws of physics (Danilov 2019).

Acknowledgments

We thank Dr. Viktorija Perepjolkina and Dr. David Vernon for their help commenting this review.

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ZINĀTNISKĀ DZĪVE

AIZSTĀVĒTIE PROMOCIJAS DARBI

Alona Eisenberg

THE INTERRELATION BETWEEN ORGANIZATIONAL LEARNING CULTURE AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR IN LOCAL GOVERNMENT IN ISRAEL



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Topicality and rationality of the research. Globalization, information technology development, resource depletion, privatization, decentralization of budgets and economic crises – lead to a search for new ways to increase organizational productivity, profitability, efficiency and to improve service, by finding internal resources. Survival of organizations nowadays depends on their ability to learn properly and quickly to adapt to the changing environment. The emphasis shifted from the pursuit after product and profit to the development of an organizational learning ability that will enable the organization to survive. Under these conditions, where the speed of changes and their power are unmeasurable, the organization's ability to learn is critical (Pedler 1996). Organizations need to anticipate their ability to change, accelerating the development of new products, processes and services (Mirkamali et al. 2011). In this atmosphere, it seems impossible for organizations to preserve their out-

dated structure and it is inevitable to transform them into a more flexible and adaptive organism.

In the 21st century, when all the systems in our lives are changeable, there are still archaic, conservative, bureaucratic and stagnant organizations that are unable to manage changes. These organizations usually belong to the public sector. Public organizations have a big impact on the lives of civilians. An effective, responsible, efficient and quality public sector ensures the existence of modern democratic society and is a necessary condition for its existence. Local government is the level of public sector

closest to the citizen. It has a central and extensive role that affects the quality of life of a resident in their daily activity. It stands at the forefront of governmental authority and are the first address for the residents (Beeri, Yuval 2015). The quality of the local authorities' service has significant effects on the level of trust the public acquires in the local government system. Israel has three kinds of local government with different municipal statuses:

- Municipal council – a local government that has the status of a municipality;
- Local council – a local government that is not large enough to have the status of a municipality;
- Regional council – a local government of several settlements, usually rural but sometimes urban localities are also included.

According to the Central Bureau of Statistics (2018), in July 2017 Israel had 255 local authorities – 76 municipal councils, 125 local councils and 54 regional councils. Among the local authorities in Israel, there is considerable variation in the quality and quantity of the services they offer, quality of regular budgets, development budgets, areas of jurisdiction, personnel in local authorities, municipal owned enterprises, organizational development, and physical planning (Doron, Yuval 2014). In many cases, the local authorities are a monopoly, so that citizens are essentially captive clients who cannot turn to another supplier. In Israel, a local government is characterized by strong emphasis on centralized control, transferring the services from the state to the local government without defining this in law and providing budgets and over politicization of local government. The Israeli civil service has many more political appointees than its counterparts in other developed countries. N. Cohen emphasized main problems of Israeli local authorities: the excessive influence of the political echelon, a stronghold of trade unions, not professional senior bureaucracy and low motivation of employees, high employment protection and premium pay, not trained employees and disable dealing with the social-economic changes (Cohen 2016). Like other Western democracies, the local government in Israel has experienced an economic, administrative and political crisis. Findings of studies in recent decade indicate a medium to a low assessment of the services provided by the local government in Israel and a significant decrease in evaluating the level the performance (Berner et al. 2004; Beeri, Yuval 2015; Vigoda-Gadot, Mizrahi 2016). Trachtenberg Committee (2011) established following the social protest that broke out in Israel in the summer of 2011, recommended immediate improvement of the human resources in the public service. The quality of the public service has significant effects on national resilience, efficiency, effectiveness, productivity and the level of trust the public acquires in the government system (Folkman Committee 2016). That's why administrative reform is one of the most important challenges for governments today (Repucci 2014).

Only the organizations that can transform themselves into more intelligent, profitable and such that are capable of learning will survive. This new kind of organization structure will contain greater knowledge, flexibility speed, power and learning ability and will be named as a “learning organization”. A learning organization has a positive impact, not only on the individuals but also on the effectiveness of the organization (Watkins, Marsick 2003a).

Organizations that have prioritized learning and development have achieved an increase in productivity and profitability. Creating learning processes and culture could attract, motivate and train employees and in this way cause them to invest in their work and to detect organizational involvement beyond the demands of the role. D. Organ called human behavior that is expressed in the employees' contribution beyond the job's demands, beyond the level they are committed to and for what they are not recompensed by the organization as "Organizational Citizenship Behavior" (OCB) (Organ 1990). It is suggested that the organization should look for ways of improving the OCB of their employees by generating an Organizational Learning Culture (OLC) motivated by the leadership. According to H. Pickford and G. Joy, employees who feel organizational citizenship will "go the extra mile" out of personal motivation – identifying these motivations can lead to increased performance and job satisfaction (Pickford, Joy 2016, p. 1). By demonstrating high OCB, the image of the public sector as the engine of economic and social growth can be strengthened and fortified (Ibrahim et al. 2013).

Although the organizational learning is one of the leading research subjects over the last decade, only a few researches have been made in the field of the public system, and there is no previous research that deals with the relationship between organizational learning culture and civil behavior of the local government employees. In addition to the theoretical target of examining the above relationship, this research is expected to benefit the public system, especially local governments in practice. The OCB indices can be used by the manager as evaluation tools to determine employees' levels of performance. These indices would help to identify an organization whose employees express willingness to maintain an OCB beyond the requirement in the formal role framework. This may help to recognize the degree of success of the organization in fulfilling its objectives and especially the employees' attitude towards the organizational apparatus.

The object of research: organization citizenship behavior of employees and their evaluation of organizational learning culture of local government in Israel.

The subject of research: the interrelation between the organization's ability to learn to adapt to the changes and the employees' motivation to invest in their work beyond the demands of the role.

The aim of the research is to investigate the interrelation between organizational learning culture and organizational citizen behavior and their values in the Israeli local government, to provide the theoretical background and practical implementation.

The hypothesis of the research: organizational citizenship behavior of employees has a significant relation to organizational learning culture.

To achieve the abovementioned aim the following tasks were provided:

- 1) to determine the theoretical basis of the study;
- 2) to develop a structural model based on existing theories;
- 3) to develop indicators for the OLC and OCB;
- 4) to test empirically the structural model that describes the relationship of OLC and OCB;
- 5) to determine methodological framework for the analysis of OCB by identifying OLC factors that influence it;

- 6) to test the hypothesis and predicted relationships by analysis of regression coefficients and coefficients of multiple correlations for improving significant correlations between OCB and OLC factors;
- 7) to work out practical recommendations for improving organizational learning culture and civil behavior of employees in Israeli local government;
- 8) to fulfill the empirical gap in the field of research at local government in Israel.

Research basis: the empirical basis of the research was the data obtained from a survey of 529 respondents from 12 local authorities in Israel. Local government had chosen to allow diversity in terms of geographical location (north, center, and south), its type (municipal, local and regional council), size of a municipality (big, medium and small), socioeconomic cluster (1 to 10) etc. The respondents were from all types of local government: municipalities, local and regional councils, from all places in the country: North, Central and Southern, all sizes of cities: small, medium and large, and all types of socioeconomic status.

Research methods:

- Theoretical analysis of relevant scientific literature, as well as Israeli government documents and data from the Central Bureau of Statistics;
- Data were collected through questionnaires which contained three parts: a questionnaire for measuring the organizational learning culture, a questionnaire for measuring civic behavior in the organization and socio-demographic details;
- A questionnaire was analyzed using statistical methods and visualization of results in SPSS (Statistical Package for the Social Sciences), version 23 for Windows;
- The adaptation of the questionnaire included an analysis of the factorial structure of the questionnaire and an analysis of the suitability of indicators displaying the OCB and OLC components. Data analysis consisted of such stages as the adaptation of the constituent parts of a questionnaire, preliminary analysis, which allowed formulating research hypotheses and their proofing; for the purpose of analyzing the factor structure of the parts of the questionnaire, an Exploratory Factor Analysis was performed;
- In order to classify respondents and organizations in the space of the identified factors, a two-stage cluster analysis was carried out. Clusters allocated in the OCB factor space allow respondents to be classified according to their relation to work in the organization. Clusters allocated in the space of OLC factors allow classifying organizations by the level and structure of OLC;
- Data analysis included descriptive statistics of quantitative data (calculation of mean values of characteristics, mean square deviation, median, quantile function);
- For the analysis of the relationship between the phenomena studied (OLC and OCB), a correlation-regression analysis was used; Correlation analysis made it possible to assess the strength, nature and significance of the relationships between two quantified characteristics, such as the OLC and OCB factors identified;
- The decision trees method was used for classification and forecasting. The classification trees constructed in the OCB and OLC factor space allowed estimating the descriptive ability of the identified factors, as well as predicting the distribution of respondents according to the relevant clusters on the basis of simple rules;

- To prove the hypotheses, one-way analysis of variance, two-factor analysis of variance, analysis of variance (ANOVA), and chi-square test were used. One-way analysis of variance allowed analyzing the influence of measured characteristics ones by comparing the average values of quantitatively measured characteristics in more than two independent samples. Two-factor analysis of variance allowed evaluating the influence of two indicators on the index, measured on an interval scale. The Criterion Chi-square statistic was used to analyze the relationship between two indicators, such as, for example, socio-demographic indicators of respondents and OCB and OLC factor levels.

The novelty of the research:

- The analysis of theoretical literature and the empirical study have contributed to a new approach to the understanding OLC and OCB and their connection;
- For the explanation of the OLC dimensions, a new set of factors have been identified: Employees Inclusion, Continuous Learning, Encouraging Leadership, Supporting System, and Proactive Learning Environment;
- For the explanation of the OCB dimensions, a new set of factors have been identified: Job Dedication, Civil Virtue and Loyalty;
- For the first time the structural model has been built to explain the interrelation between organizational learning culture and organizational citizenship behavior;
- New proposed methodology enabled systematically assesses and identify organizational affiliation in terms of an organizational learning culture. Identified four types of organizations: Learning Organizations, Organizations in Conflict, Outdated Organizations and Organizations in Evolution;
- New proposed methodology enabled identifies four types of employees' behavior in accordance with their orientation to perform their work: Job Orientation, Civil Service Orientation, Career Orientation and Calling Orientation;
- A significant link was found between organizational learning culture and Organizational Civic Behavior that was not previously examined according to the proposed model;
- The results of the quantitative study of OLC and OCB and their correlation, originally viewed in the context of the implementation in local government.

Theoretical significance of the research:

- Expanding scientific knowledge regarding OCB while offering measuring tools to test the work orientation of employees. This research proposed new dimensions for OCB measure: Job Dedication, Civil Virtue and Loyalty;
- Expanding scientific knowledge about employee evaluation of learning culture in their organization, and developing tools for examining learning factors. This research proposed new dimensions for OLC measure: Employees Inclusion, Continuous Learning, Encouraging Leadership, Supporting System, and Proactive Learning Environment;
- Contribution theoretically and empirically to the science by demonstrating the relationship between OLC and OCB. This research has added to the understanding of the interrelation between OLC and OCB by finding a correlation between their dimensions;

- A new Model was proposed for understanding the relationship between organizational learning culture and organizational citizenship behavior.
- A significant link was found between OLC and OCB that was not previously examined according to the proposed Model;
- This study revealed different types of organizations according to their approach to learning: Learning Organization, Organization in Conflict, Outdated Organization and Organization in Evolution;
- This study identified different types of employees according to their attitude toward work: Job Orientation, Civil Service Orientation, Career Orientation, Calling orientation;
- Findings from the quantitative study deepened the understanding of OLC and OCB by situating it in the context of local authorities.

Practical significance of the research: outcomes of this research provide a useful methodology for organizational managers and leaders:

- Understanding the relationships between OLC and aspects of OCB behavior may be invaluable to organizations because more efficient and productive employees can lead to increased organizational profitability and quality of service;
- Giving strategic tool for the organization's managers to increase the involvement of the organization's employees to its goals by creating an organizational learning process, promoting knowledge via giving training courses, preparing necessary facilities to continue their education and also improving their interpersonal and work relationships to create a learning organization culture;
- The proposed methodology can be used to assess the type of organization according to OLC and to classify employees in relation to their organization to develop methods for improving the efficiency of the organization;
- The proposed methodology allows an organization to implement self-assessment in terms of effective performance of the OLC and OCB, based on the analysis of the results obtained, develop plans for improvement. Proposed methodology helps build an action plan and take steps toward becoming a learning organization that targets OCB behavior;
- This study used the decision tree method as a predictive model. Using this method, managers could develop understandings of employees' career goals and changes in behavior and thus influence career decisions and workplace motivations. Understanding an individual employee's goals can be a powerful indicator of what types of OCBs can be expected;
- The classification of the different types of employees enables the management of the organization not only to affect each of the OCB parameters but also the type of employees that the organization "manufactured". OLC allows keeping the best employees in an organization, to attract the most talented, to increase productivity and performance;
- In the public sector, it is often difficult to conduct performance research because a product is not goods but service. In the proposed method, the OLC and OCB dimensions can be used to locate individual and organization performance;

- The suggestion of this study is that, given the OLC levels revealed in the sample, managers should implement an improvement in training and create real-time for specific courses to promote OLC and in this way OCB.

Theses for defence:

- 1) According to the empirical research and statistical analysis of its results, an Adaptive Model of the Interrelation between OLC and OCB characterizes the relationship between organizational learning culture and organizational citizenship behavior. Respectively to this Model an OLC, that includes Employees Inclusion, Continuous Learning, Encouraging Leadership, Supporting System, and Proactive Learning Environment, affects OCB described by Job Dedication, Civil Virtue, and Loyalty. There is a correlation between the level of organizational learning culture and organizational learning behavior: the higher the level of a learning culture, the more respondents are ready to implement OCB.
- 2) Depending on the level of organizational learning culture four types of organizations were found: Learning Organization, Organization in Conflict, Outdated Organization and Organization in Evolution. In addition, four types of employees were found in accordance with their attitude to work: Job Orientation, Civil Service Orientation, Career Orientation and Calling Orientation. In the Learning Organizations and in the Organizations in Evolution, the majority of respondents are belonging to Calling Orientation or to Civil Service Orientation. In the Outdated Organizations and in the Organizations in Conflict the greater weight is given to Job Orientation and Career Orientation.
- 3) The widespread adoption of OLC in the local government in Israel has a positive economic, strategic and managerial basis. The purposeful management of the learning culture in local government in Israel provides the development and improvement of the organizational citizenship.
- 4) The organizational learning process and OCB are important strategic tools for the organization's management to increase the involvement and contribution of the organization's employees to its goals, to increase efficiency, productivity and service quality. Evaluation indicators as Continuous Learning, Employees Inclusion, Encouraging Leadership, Supporting System, Proactive Learning Environment, Job Dedication, Civil Virtue, and Loyalty may be used in order to predict the type of organization according to OLC and work orientation according to OCB. The predict method (tree of decisions) allows an organization to implement processes having an impact on productivity, efficiency, and outcomes behavior.

Conclusions and key findings:

- 1) This research defined OLC and OCB as multifactorial phenomena and their perception are multidimensional.
- 2) This study pointed to five organizational learning culture dimensions instead of seven as suggested in the initial model. This research proposed new dimensions for OLC measure: Employees Inclusion, Continuous Learning, Encouraging Leadership, Supporting System, and Proactive Learning Environment. Only one dimension – Continuous Learning – was consistent with the original model. This study pointed to three OCB dimensions instead of five as it was proposed in the initial

model. This research proposed new dimensions for OCB measure: Job Dedication, Civil Virtue and Loyalty. Only one dimension – Civil Virtue – was consistent with the original model.

- 3) According to the empirical research and statistical analysis of its results, a posteriori Adaptive Model of the Interrelation between OLC and OCB has been developed.
- 4) Four types of organizations were found: Learning Organization, Organization in Conflict, Outdated Organization and Organization in Evolution. The definitions have been formulated:
 - Learning Organization is an organization, in which all elements of organizational learning operate in synergy;
 - Organization in Conflict is an organization that has long been stagnant although the management is constantly trying (apparently unsuccessfully) to introduce methods of learning and improvement;
 - Outdated Organization is an organization without motivation to improve and study both at the managerial level and at the employee level;
 - Organization in Evolution is an organization in a positive process of learning and improvement.
- 5) In order to classify respondents to examine their attitude toward their work, a two-stage cluster analysis was carried out. Cluster analysis allowed finding four types of employees: with Job Orientation (employees who focus on financial rewards), Civil Service Orientation (employees who make efforts to provide service and assistance regardless of affiliation to the organization), Career Orientation (employees who are willing to work hard, perform the tasks, to impress others in order to reach a higher status, to receive power and influence), and Calling Orientation (employees who see their work as integral to their lives and their identity, view their career as a form of self-expression, and feel a personal and emotional connection to their work).
- 6) A correlation-regression analysis that was used in the study identified strength, nature, and significance of the relationships between OLC and OCB factors. The result of the regression analyses supports the hypothesis, which states that the OLC had a significant effect in stimulating OCB and positively related to OCB. Therefore, organizational learning culture has an important role to strengthen organizational citizenship behavior. It means that an organizational learning process enables employees at all levels to improve their performance, thereby helping to achieve the organization's goals.
- 7) The research found a significant relationship between the type of organization according to its learning culture and the behavior of its employees. A significant link was found between OLC and OCB was not previously examined according to the proposed Model.
- 8) Most employees who discover a type of Job Orientation behavior are found in archaic organizations as an Outdated Organization. Their numbers are decreasing but still constitute the highest percentage, in Organizations in Conflict. Career Orientation is also seen in large numbers in these organizations, respectively. The vast majority of employees who belong to Calling Orientation behavior come from Learning Organizations or Organizations in Evolution. Civil Service Orien-

tation behavior is also typical for organizations from a type of Learning Organizations or Organizations in Evolution but in lower percentages. The employees who discover Calling Orientation behavior come mainly from organizations that are aware of a high organizational learning culture. In these organizations, it is clear that employees care about the organization, their level of service, dedication, and loyalty to the organization is high.

- 9) Demographic variables (e.g., employee time, gender, education level) were not found to be related to OLC and OCB. There is no statistically significant effect of geographical location, type of local authority or size on a type of OCB or OLC orientation group. Only one finding was statistically significant: the respondents with Civil Service Orientation and Calling Orientation have average age higher than a Job and Career Orientation.
- 10) The proposed methodology provides an understanding of the relationships between OLC and aspects of OCB behavior that invaluable to managers and leaders for increasing organizational profitability, productivity, employees' involvement and service quality by creating OCB behavior. This methodology can be used to systematically assess and identify organizational affiliation in terms of organizational learning culture and employees' behavior in accordance with their orientation to perform their work to develop a better strategy for successful implementation change initiatives. Methodology helps build an action plan and take steps toward becoming a Learning Organization that targets OCB behavior.
- 11) The same organization may have employees who see their organization differently in terms of the OLC. It means that access to them and the work plan should be different according to their perception. With the purpose of effective realization of OLC, individual and group work is necessary, depending on at what level of perception the employee is and to which of the clusters belong. The methodology allows an organization to implement self-assessment in terms of effective performance of the OLC and OCB, based on the analysis of the results obtained, develop plans for improvement.
- 12) This study used the decision tree method as a predictive model to go from observations about an item to conclusions about the item's target value. Analyzing the decision tree, it possible to formulate rules that allow predicting the organization's belonging to the OLC cluster group based on quantitative indicators of OLC factors and employees belonging to the OCB cluster group. Using this method, managers could develop understandings of employees' career goals and changes in behavior and thus influence career decisions and workplace motivations.
- 13) The classification of the different types of employees enables the management of the organization not only to affect each of the OCB parameters but also the type of employees that the organization "manufactured". Organizational learning culture allows keeping the best employees in an organization, to attract the most talented, to increase productivity and performance.
- 14) In the public sector, it is often difficult to conduct performance research because a product is not goods but service. In the proposed method, the OLC and OCB dimensions can be used to locate individual and organization performance. The

suggestion of this study is that, given the OLC levels revealed in the sample, managers should implement an improvement in training and create real-time for specific courses to promote OLC and in this way OCB.

Israeli context. It appears that there are very few studies related to the study of organizational learning in local government. Beyond academic aspects, there is a hope that this research will contribute to the improvement of local government in Israel, to strengthening its status and improving the quality of life on the local level. In local government in Israel, manpower is usually permanent, which affects negatively to employee performance. Due to the fact that municipal employees receive the status of permanent employees, the leadership of the organizations must act to improve efficiency with existing employees without being able to replace them. For this purpose, it is important to create an OLC that motivates the employees to learn and improve. The creation of an organizational learning culture may help change perceptions in the employees and cause them to maintain OCB behavior. This learning culture can be aimed at acquiring new technological knowledge, which enables the introduction of digital tools to empower local government to become an open and e-government, save resources, streamlining, improve responsiveness, accessibility and increase transparency.

Since managers in these organizations must continue to function with the existing workforce, ways must be found to transform employees into knowledge producers in order to promote organizational learning processes. It is important to remember that these employees have 'organizational knowledge and memory', stemming from long-term experience. This is essential for the efficient and proper functioning of the organizations and saves resources. There is no need to 'the wheel'. The veteran employees, in order to feel connected and interested, will become mentors of the younger employees in the organization. All this while creating teams and integrative, saving and streamlining the use of resources and producing quality service.

E. Vigoda-Gadot, I. Beeri, T. Birman-Shemesh and A. Somech support that despite individual OCB is important, only the collective effect of group-level OCB can stimulate and drive the organization forward. In other words, if many employees engage in OCB, it will have a positive impact on municipality effectiveness (Vigoda-Gadot et al. 2007).

Studying the types of employees according to their orientation towards work will help maximize productivity and performance. Researching the types of organizations according to learning processes may enable them to understand what types of employees are lacking in them and thereby invest efforts in learning processes accordingly.

Recommendations and future research. Additional studies examining the relationship between OLC and OCB should be conducted on the basis of the proposed methodology, in other sectors and in other countries. P. Podsakoff, S. Mackenzie, J. Paine and D. Bachrach argue that "cultural context may affect the forms of citizenship behavior observed in an organization" (Podsakoff et al. 2000, p. 556). OCB depend upon the cultural background that's why may be influenced differently in different cultural contexts. It is necessary to examine whether the findings of this study will overlap with the findings coincide with research carried out in other countries. The

Latvian Association of Local and Regional Governments (LALRG) could be a leading organization bringing together local authorities to conduct a systematic study for examination proposed model in Latvia. Israel and Latvia have a common feature: both of them are small and “young” countries with many agrarian settlements and a relatively small number of cities. In order to generalize the research, the proposed OLC and OCB factors and the structural model should be empirically examined not only in Israeli local government, but in other sectors and countries. Future research is suggested to confirm this model by collecting data from private and public sectors in different countries.

This study used self-reports of respondents for OLC and OCB scales that might not objectively present the employees’ behavior. In order to overcome this limitation, coworkers’ reports or manager reports may be used in future researches. Those reports may be compared to the self-reports of the respondents for more coherent data. But here, too, there will be a limitation stemming from a certain identification of the questionnaire, which may lead to bias. Proposed methodology enables predicting the types of organizations in terms of their learning processes and the types of employees in relation to their attitude to work. It can be used for working out practical recommendations for improving learning culture and as a result OCB. It can be used by organizational consultants and managers both at the day-to-day management level and at the level of building strategic learning.

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Raksti krājumos:

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2019 2 (29)

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