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SELF-EMPLOYMENT OF THE POPULATION IN THE REGIONS OF LATVIA

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Abstract
The Republic of Latvia is divided into four historical regions. The capital of Latvia – Riga is the most economically developed and largest industrial centre. The income of many rural regions of Vidzeme, Zemgale and Kurzeme is approximately € 550 per person, while in Latgale it does not reach € 450. Self-employment in the modern economy is not only a way to reduce the unemployment rate, but also one of the ways to solve the socio-economic problems of the population. *The objective of the research* is to establish the degree of influence of various factors characterising the self-employment of the population in the regions of Latvia on the main socio-economic indicators of the population's life. *The novelty of the research* lies in the fact that for the first time a comparison and analysis of the factors characterising the self-employment of the population in different regions of Latvia have been performed. *The research methods* include the analysis of statistical data of the State Revenue Service (SRS) and of the Central Statistical Bureau of Latvia (CSB) using multidimensional scaling. The income of people self-employed in the regions and the taxes derived from it are important statistical indicators related to the employment of people. The research also uses indicators of income and taxes per self-employed taxpayer in each region to compare and analyse the self-employment of the population. A distance model of the Euclidean distances has been constructed. The main indicator of the accuracy of the distance model is the so-called "stress": the smaller it is, the better the model. To assess the quality of distance models, the research also uses the Coefficient of Determination (RSQ). The analysis of the distance model has demonstrated that the factor of tax from the self-employed person is closest to the unemployment factor. To identify similarities and differences in the regions of Latvia, taking into account the main factors characterising the self-employment of the population, the model of Euclidean distances between regions in a two-dimensional space has been constructed. Riga and the region (negative pole) and Latgale region (positive pole) are located at the opposite poles of scale 1of the model. Kurzeme and Zemgale are located side by side on the distance model, which is explained by similar conditions of self-employment of the population. All five regions of Latvia differ significantly from each other in terms of the development of self-employment as an alternative to unemployment. To stop the departure of the economically active population of Latvia to countries with a higher standard of living it is necessary to develop self-employment of the population. The main factors hindering the development of self-employment of the population in Latvia and, owing to this, the reduction of unemployment are rather large taxes on employees, instability of tax policy. It is necessary to develop with the participation of the state and public organisations a program for the development of self-employment of the population.
KEY WORDS: self-employment, regions of Latvia, development, income, unemployment.

Introduction

Latvia is located on the eastern shores of the Baltic Sea, where Northern and Eastern Europe intersect. The parliamentary republic of Latvia borders with Estonia in the north, Russia and Belarus in the east and Lithuania in the south, and has a sea border with Sweden in the west. The length of the coastline of Latvia is 498 km. The Republic of Latvia is divided into four historical regions, which are not administrative territorial units, but officially recognised by the constitution. Vidzeme region is located in the north-eastern part of the country. Latgale region occupies the territory of Eastern Latvia and is called the "Land of Blue Lakes". Kurzeme region is located in the western part of the country. Zemgale region is the smallest historical region of Latvia, stretching along the southern border of the country, along the left bank of the Daugava River. Riga, the capital of the country, and Riga region are located on the southern coast of the Gulf of Riga.

Each municipality in Latvia annually submits a report, which lists budget revenues derived mainly from personal income tax, as well as real estate tax. The sum of these revenues also shows the richest regions and cities of Latvia (SRS 2017, CSB 2018). The capital of the country, whose tax revenues, for example, in 2017 amounted to € 683.7 million, wins the lead. Compared to 2016, this amount increased by € 57 million. Jurmala – a resort town, known for its rather high real estate prices – wins the second place. However, due to a significantly smaller number of inhabitants, its revenues, compared to Riga, turn out to be much more modest, i.e., amounting to € 59.3 million in 2017. Daugavpils that is the second largest city in Latvia wins the third place. Daugavpils collected taxes in the amount of € 44.8 million. Other large cities of Latvia are in the top five: Liepaja (€ 43.7 million) and Jelgava (€ 42.6 million). The major cities of Latvia show relatively stable development, and the residents of the country tend to move there, willing to improve their financial situation, to find a higher-paying job (Kochetkov 2015).

The capital of Latvia is the most economically developed and largest industrial centre, attracting a large amount of labour. About 60 % of Latvian enterprises operate in this city and adjacent territories, more than half of the working-age population is employed. As a result, the lowest unemployment rate is recorded in Riga – at the end of December 2017, only 4 % of the economically active residents of Riga aged 15 to 64 years did not have a job, whereas the national average was 6.8 %. In other major cities of Latvia, the situation is different: the standard of living of the population is lower than in Riga, but significantly higher than in the rural municipalities that border with them. The most prosperous cities are Ventspils and Valmiera, with an income of € 943 / person and € 811 / person, strongly standing out against less

wealthy regions in the neighbourhood, the residents of which tend to leave.

The situation in Jekabpils (€ 573 / person), Rezekne (€ 571 / person) and Daugavpils (€ 530 / person) is somewhat worse. The income of many rural regions of Vidzeme, Zemgale and Kurzeme is approximately € 550 per person, while in Latgale it does not reach € 450. Latgale is the region with the highest unemployment rate in the country – 15.8 % of economically active residents living there did not have a job at the end of December 2017. The largest proportion of long-term unemployed is observed in Latgale, which is not conducive to improving the well-being of residents. In Daugavpils and Rezekne, the employment situation is slightly better. However, compared with other cities of republican subordination, they are far behind.

High unemployment rate, low wages and, consequently, a low standard of living will never lead to an improvement in the economic performance of the region, but drag the region deeper and deeper into the quagmire of poverty, prompting residents to leave. According to the Central Statistical Bureau of Latvia (CSB), since 2010 Latgale has lost 14 % of its inhabitants — more than any other territory of the country. This is not surprising if people cannot find work in their own region, then the most capable ones leave, and the remaining population is gradually dying out (Invest…2018).

The last wave of emigration began in 2009, and it was based on purely economic factors. Since 2009, the CSB notes, Latvia has lost more than 200 thous. inhabitants. In the past three years, the rate of emigration declined slightly. In the period from 2014 to 2016, the negative migration balance was 8–12 thousand people per year. For comparison: during the crisis years (2009–2010), Latvia lost 35 thousand people a year due to negative migration. The Central Statistical Bureau of Latvia notes that, on average, 55 people leave Latvia every day due to emigration: 25 men, 22 women and 8 children. Most often all of them (except children) are of working age. Especially a lot of people aged 25 to 29 years leave the country (in 2014 there were 18.2 %, in 2015 – 18 % and in 2016 – 17 % of all emigrants) (CSB 2018).

Subject and relevance. Almost 2 million people live in Latvia, of which more than half live in the capital, the centre of business and cultural life — Riga, or in its district. The population of the second largest city in the country, Daugavpils, is about 86 thousand inhabitants. Due to its relatively small population, Latvia is not a large market. The main advantage of the country is its location, providing access to nearby neighbours. Latvia also stands out due to the two main criteria that satisfy the requirements of investors: infrastructure and relatively cheap labour. The experienced and multilingual workforce, the beautiful nature and the strategic position of Latvia form the basis for the country's economy and make Latvia a good place for business development (Kochetkov et al 2016).

At one time, the economy of Latvia had one of the highest GDP growth rates in Europe: from 2005 to 2007, the average annual GDP growth rate exceeded 10 %, since large inflows of foreign capital stimulated a significant increase in consumer spending. In 2008, in Latvia, as in many other countries of the world, the economic crisis began as a result of the instability of the trade deficit, the collapse of the real estate market and a large number of non-government loans subject to risks. During the crisis, GDP fell by a quarter, foreign debt doubled, the number of employed people declined by 16 %, and real wages decreased by 12 % (Sventitskaya et al, Problems... 2018).

Latvia successfully overcame the crisis at the end of 2010, and economic growth resumed mainly due to the growing role of exports (Aliev et al 2018). From 2011 to 2013, GDP grew by an average of 4.4 % per year. In 2015, GDP grew by 2.7 %, whereas in 2016 — by 2.0 %. The slowdown in recent years is due to trends in global commodity markets, slower economic growth in the EU than expected, as well as the deteriorating economic situation in Russia. It should be noted that current exports exceed pre-crisis levels by more than 25 %.

The monthly salary in Latvia ranges from a minimum salary of € 430 gross for low-skilled workers in the manufacturing and retail sectors to over € 10,000 gross for top managers in branches of large international companies. According to the Central Statistical Bureau of Latvia, in the third quarter of 2017 the average monthly salary in Latvia was € 925 gross, the net salary of which was € 664. Salary in Riga region is about 10 % higher than the average salary in Latvia, in other regions salary is 15 %–30 % lower than the average level; the lowest salary is in Latgale.

This does not refer to highly qualified specialists that are in great demand. For example, highly qualified engineers and production management personnel are often hired in Riga for work in the regions by maintaining appropriate salary levels. Survey on salary confirms that the total wage rate in Latvia increases annually by 4 %–6 %. However, this is only a trend, wage growth is becoming increasingly related to the individual performance of employees and the overall results of the company. As a result, it is possible to foresee the growing difference in wages at different qualification levels of employees in the future. Sectors with a wage level above average: IT / telecommunications, pharmaceuticals, financial operations, construction, representative offices of wholesale companies. Compared to other EU countries, the overall wage rate is low in Latvia (Sventitskaya et al 2017). For example, the level of remuneration of unskilled labour is three to four times lower in Latvia than in such countries of Western Europe as Germany or France.

At present, the state of the labour market in Latvia is characterised by a rather high rate of unemployment, a low level of real wages, a mismatch between the structure of supply and demand, a large number of inefficient jobs and other features. This leads to the fact that in many cases employment is not able to perform its main function – the satisfaction of the material and non-material needs of employees.

Self-employment in the modern economy is not only a way to reduce the unemployment rate in the labour market, but also one of the ways to solve the socio-economic problems of the population. Self-employment, being a transitional form from hired labour to entrepreneurship, is the basis for the formation of the middle class. Global experience suggests that neither the government nor large business in any country is able to

create enough jobs. Therefore, emphasis should be placed on the development of small and micro businesses based on self-employment of the population (Sventitskaya et al, Self... 2018).

At the present stage, entrepreneurs and self-employed persons (the most numerous and mobile layer) are socially "invisible" in Latvia. For government agencies, they are only a source of tax revenue. For some economists, they are an insignificant addition to the overall picture. At the same time, exactly this layer ultimately interacts most massively with the consumer; it is a real rather than a nominal indicator of the standard of living of the population and the state of the market. Under current conditions, when the state is unable to reliably ensure a guaranteed minimum standard of living, personal social security of citizens and stability, self-employment becomes one of the central elements of solving not only employment problems of the population, but also allows solving socio-economic problems (Ivanova 2015).

High rate of unemployment has not only negative economic, social, but also moral consequences. There is an increase in crime rate, professional and social degradation of the population, the outflow of qualified personnel. One of the promising areas for solving the above-mentioned problems is the development of various forms of self-employment of the population.

Self-employment is such a form of employment of the population, when a person independently finds for him/herself a certain type of activity, organises a labour process, the results of which provide him/her with a certain monetary or in-kind income. Self-employment implies a cardinal change in work motivation, a person's work behaviour due to his/her full responsibility for positive or negative work results.

Self-employment is a type of economic activity of citizens, expressed in the independent organisation of the production of goods or services, often without the use of hired labour in order to generate income. Self-employment covers, as a rule, those activities where a significant concentration of production is impossible and personal labour (consumer services, consulting services, etc.) plays the main role in the production of goods or services. Self-employment, as a rule, involves using the place of residence as a workplace, which is associated with cost savings and the nature of work activities.

The development of micro and small businesses has a positive effect on the state of demand for labour and reduces unemployment, being one of the forms of economic self-activity of the population, aimed at providing employment and income (Horvath 2018). Small business plays a social role in a market system, expressed in the ability of each capable individual to be the owner of the business, to demonstrate their individual talents and capabilities most efficiently.

The objective of the research is to establish the degree of influence of various factors characterising the self-employment of the population in the regions of Latvia on the main socio-economic indicators of the population's life.

The object of the research is a cluster of enterprises owned by self-employed persons in the regions of Latvia.

The novelty of the research lies in the fact that for the first time a comparison and analysis of the factors characterising the self-employment of the population in different regions of Latvia have been performed.

The goal of the research is to identify the features of the general structure of the regions of Latvia, taking into account the self-employment of the population, and to develop recommendations for improving the situation.

The research methods include the analysis of statistical data of the State Revenue Service (SRS) and of the CSB using multidimensional scaling.

Calculations and analysis

Each of the five regions of Latvia has its own characteristics of the development of the economy, culture and social life. The unemployment rate of the population in the region plays the most important role in assessing the quality of life of people, social and economic development of the territory (Kochetkov 2015). For example, it is known that in the capital of the country and Riga region the unemployment rate was the lowest in all the years after the restoration of Latvia's independence. The standard of living of people in the metropolitan area has always been the highest in the country. At the same time, Latgale region is considered depressed; there has always been the highest unemployment rate and, accordingly, low income of people and their standard of living.

According to the State Revenue Service and the Central Statistical Bureau of Latvia, the income of people self-employed in the regions and the taxes derived from it are important statistical indicators related to the employment of people. The research also uses indicators of income and taxes per self-employed taxpayer in each region to compare and analyse the self-employment of the population. For example, Table 1 shows the statistical data for the regions of Latvia in 2016 relating to the sphere of self-employed persons.

Table 1. Statistics of the self-employment cluster in the regions of Latvia

Regions	Unemployment, %	Income of 1 taxpayer, €	Tax from 1 taxpayer, €	Total income, thous. €	Total tax, thous. €
Kurzeme	10.1	5370	204	66116	2510
Latgale	17.9	5662	119	58318	1230
Riga & district	7.2	9212	1015	382280	42134
Vidzeme	9.4	5254	238	54145	2448
Zemgale	12.3	5843	228	52047	2034

An analysis of the correlation dependencies between the actual factors (Table 1) has shown that there is no multivariable correlation of such an important indicator as the unemployment rate from the other factors. This is due to the multicollinearity of factors, i.e., the presence of a fairly significant level of correlation between the actual factors affecting the unemployment rate. It has been established that the paired regression dependencies of these factors are mostly non-linear. Therefore, the methods of correlation and regression analysis have not been used within the framework of the research.

To identify the features of the general structure of the main factors of self-employment of the regional development of Latvia, the method of multidimensional scaling (Alscal procedure-SPSS) has been used in the research (Davison 1992). The initial information for multidimensional scaling is data on differences or degree of proximity of factors. A distance model of the Euclidean distances has been constructed, characterising the degree of proximity and mutual influence of factors on each other in the reconstructed space. The distances between the factors in this space are a function of the degree of interconnections and differences between objects: the farther apart are the points on the distance model corresponding to certain factors, the less communication and mutual influence between the factors, but more differences and vice versa.

The distance model is based on three matrices of differences corresponding to the data of 2014–2016, by calculating the Euclidean distances between the factors in a two-dimensional space. Matrices of differences were square and asymmetrical. The main indicator of the accuracy of the distance model is the so-called "stress": the smaller it is, the better the model. Calculation of stress has been performed by Young's S-stress formula in the Alscal procedure. Stress is a measure of the deviation of the final configuration of model objects from the initial estimates of their differences.

Therefore, the multidimensional scaling algorithm is aimed at finding estimates of the coordinates of factors in space that minimise the value of stress. The magnitude of the stress reduces in the process of calculations by the method of iterations. This provides improved accuracy of the distance model. Using the method of multidimensional scaling, it is desirable that the stress value does not exceed 0.2 for the considered case of two-dimensional models.

To assess the quality of distance models, the research also uses the coefficient of determination – the square of the correlation coefficient RSQ, which characterises the proportion of dispersion in the matrix of differences for a particular model. The closer RSQ is to one, the more accurately the model reproduces the differences between the factors studied. It is usually accepted that RSQ should be at least 0.7 for distance models.

During the calculations, the value of the S-stress convergence has been assumed to be 0.001. The number of integrations has been 8. The fit condition has been specified: the entire matrix (Conditionality: Matrix). A comparison of the cells of three matrices corresponding to 2014–2016 has been performed. As a result of the calculations, optimally scaled matrices of differences have been obtained by year.

The average indicators of the quality of calculations: stress – 0.20055, which is acceptable for the configuration of factors in two dimensions; RSQ=0.84607 (more than 84.6 % of the variance of factors in the original matrices correspond to the calculated distance model). Given the fairly accurate fit of the parameters of the distance model to the original data, it can be used for a meaningful analysis of the situation (Fig. 1). Notation: doho - the total income of self-employed people in the region; nalo - the total self-employment tax in the region; bezrab - the unemployment rate; dohod - income per self-employed taxpayer; nalog - tax from one self-employed taxpayer.

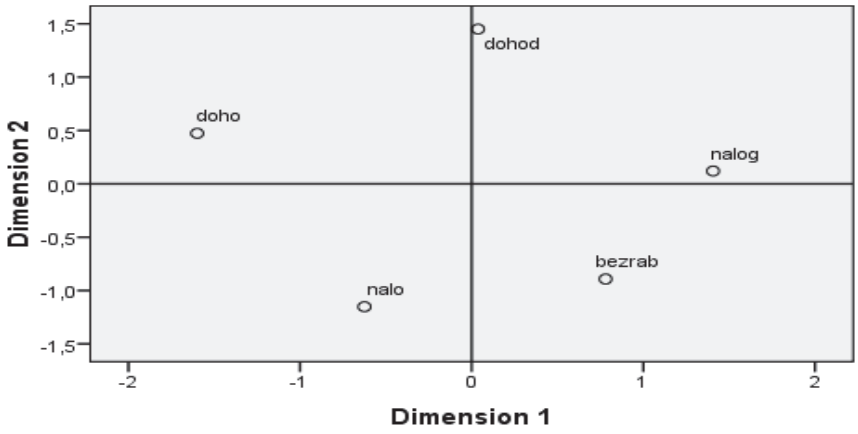

Fig. 1. Euclidean distance model of the main factors characterising the self-employment of the population in the regions of Latvia.

The analysis of the distance model has demonstrated that the factor of tax from the self-employed person is closest to the unemployment factor, which indicates their certain good relationship. The factor of total tax from self-employed persons in the regions is located somewhat farther from the unemployment factor. The total income of self-employed persons in the regions and individual income are far away from the unemployment factor than

the tax factors. Moreover, total income is located at the largest distance from the unemployment factor compared to all other factors. This suggests that unemployment is less related to the total income of self-employed persons.

Individual income of self-employed persons is located at almost the same distance from the factors of total income, total tax and unemployment, which indicates a practically equal degree of influence. Taxes paid by self-employed persons are somewhat closer to individual income. This suggests a greater degree of influence of individual taxes on the income of self-employed persons. It is known that Latvia, compared to other EU countries, has rather large taxes on employees.

In general, the total income (negative pole) and individual taxes from self-employed persons (positive pole) are located at the opposite poles of the scale "1" (Dimension 1). The remaining factors take an intermediate position. This indicates that individual taxes have little to do with the total income of the self-employed population. At the scale "2" (Dimension 2), individual income (positive pole) and total tax with the unemployment factor (negative pole) are at the opposite poles. Thus, individual income is little related to total tax and the level of unemployment in the regions; unemployment is most associated with taxes paid by self-employed persons.

To identify similarities and differences in the regions of Latvia, taking into account the main factors characterising the self-employment of the population, the model of Euclidean distances between regions in a two-dimensional space has been constructed based one the Alscal procedure using the data of Table 2. Table 2 demonstrates the average statistical data for regions of Latvia for 2014–2016 (CSB 2018).

Table 2. Average annual statistical data on self-employed persons in the regions of Latvia

Regions	Vidzeme	Latgale	Zemgale	Kurzeme	Riga & district
Employment, %	88.5	81.9	87.7	88.7	92.6
Income of 1 taxpayer, €	4957	5316	5474	4981	8102
Tax from 1 taxpayer, €	186	96	177	146	484
Ratio of self-employed persons to economically active residents, %	11.8	8.26	7.83	10.9	8.03
Total number of economically active residents, thous.	96	132	119	121	523

As a result of the calculations, the average quality indicators of the distance model (Fig. 2) are good: stress – 0.109 and RSQ =0.965. Notation: riga - Riga & district; kurz – Kurzeme; zemg – Zemgale; latg – Latgale; vidz – Vidzeme. In calculations using the method of multidimensional scaling, the fit condition has been taken "across rows" (Conditionality: Row); the number of iterations has been 14, S-stress convergence – 0.001.

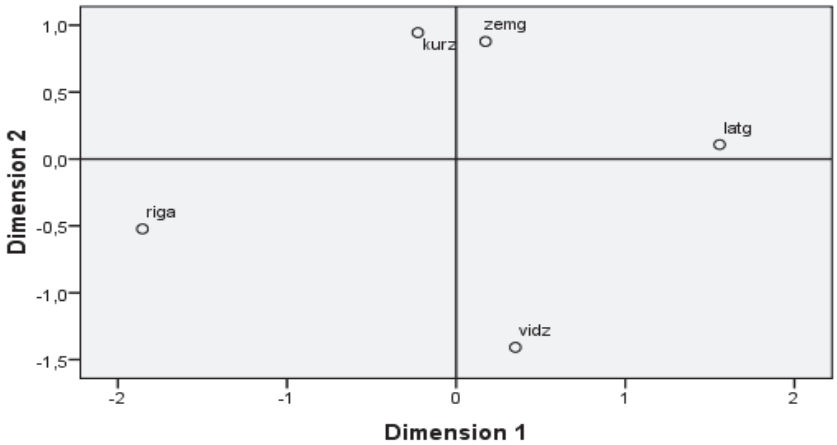

Fig. 2. Euclidean distance model of the regions of Latvia depending on the factors of self-employment of the population.

Given the good fit (stress and RSQ) of the distance model to the actual source data, it can be successfully used to analyse the situation. Riga and the region (negative pole) and Latgale region (positive pole) are located at the opposite poles of scale 1 (Dimension 1) of the model. The distance between these regions according

to the model is the greatest, which confirms the differences that exist. The signs of the scales (plus and minus), as for the first model (Fig. 1), do not matter here. Only the distance between the model objects is important. In Riga and Riga region, self-employed persons make up 8.03 % of the economically active population; in Latgale a little bit more – 8.26 %. At the same time, the income of self-employed persons in Riga and the region is on average 1.524 times more than in Latgale, and the taxes paid by self-employed persons in Riga and its region are 5.04 times higher than in Latgale (Table 2). The unemployment rate in Latgale is 2.446 times higher than in Riga. These differences explain the large distance on the distance model between Riga and Latgale.

The other two regions, i.e., Kurzeme and Zemgale are located side by side on the distance model, which is explained by similar conditions of self-employment of the population. Kurzeme and Zemgale are located on the positive pole of scale 2 (Dimension 2); Vidzeme region occupies the negative pole of this scale. The distances from Vidzeme region to Kurzeme and Zemgale regions are very close in size. Consequently, Vidzeme region has similar differences from both regions: Kurzeme and Zemgale. The two regions – Zemgale and Vidzeme – are located on the model almost at the same distance from Riga and its region. Kurzeme region is located on the model closest to Riga region. Such proximity suggests that the conditions for the development of self-employment of the population in Kurzeme are more similar to those in Riga and the region than in other regions of Latvia.

Conclusions

All five regions of Latvia differ significantly from each other in terms of the development of self-employment as an alternative to unemployment. The considerable differences are observed between Riga and its region and Latgale region. Riga and its region are the most prosperous in terms of self-employment of the population, and to a large extent due to this aspect the unemployment rate is the lowest here, and the income of people is on average the largest in the country.

To stop the departure of the economically active population of Latvia to countries with a higher standard of living, especially in depressed regions of the country, it is necessary to develop self-employment of the population. This will help level the living standards of people in different regions of Latvia. As the experience has shown, the campaign devoted to returning people who went abroad to their homeland with the payment of special benefits to them is not very effective. A more promising, albeit costly, way to combat unemployment and the departure of the population could be the replacement of unemployment benefits for those who are willing to do their business by giving them subsidies and loans guaranteed by the state to organise self-employment of people following the example of France. For the successful implementation of this idea, it is necessary to organise special training courses for those who are willing to run their "business" and create preferential tax conditions in the first few years of operation of these start-ups (in different regions – in different ways).

The main factors hindering the development of self-employment of the population in Latvia and, owing to this, the reduction of unemployment are rather large taxes on employees, instability of tax policy and a cumbersome reporting system. It is necessary to develop with the participation of the state and public organisations a program for the development of self-employment of the population, taking into account the specific conditions for each region of Latvia. State guarantees can be that in the first years of work self-employed persons will be provided with free health care and social protection, based on the minimum wage in the country.

References

Aliev, B., & Kochetkov, Yu. (2018). Strategies of Latvian enterprises in international competition. Theses of paper. The 16th International Scientific Conference *"Information Technologies and Management 2018",* p.129 – 131, April 26 – 27, ISMA University, Riga.

Central Statistical Bureau of Latvia. (2018). Statistics Database. [revised 2018.11.14.], http://www.data.csb.gov.lv/Table.

Davison M. L. (1992). Multidimensional scaling. Krieger Pub Co, USA, p. 242.

Horvath, B., Magda, R. (2018). The Relations of Unemployment Rate and Inflation in the European Union. *VADYBA, Journal of Management,* 32(1), 9 – 20.

InvesteRiga.Lv.(2018) [revised 2018.12.15.], http://www.investeriga.lv/wp-content/uploads/2018/01/Rigas-ekonomikas-profils-2018-RUS...

Ivanova, S. (2015). Sustainable social and economic development of regions – case study of counties municipalities in Kurzeme planning region. *VADYBA, Journal of Management,* 27(2), 59 – 64.

Kochetkov, Yu. (2015). Influence of Latvian GDP on the Main Indicators of Inhabitant Life Quality. *VADYBA, Journal of Management,* 26(1), 95 – 100.

Kochetkov, Yu., Sventitskaya, E. (2016). Characteristics of small business in Latvia. *VADYBA, Journal of Management,* 29(2), 19 – 25.

State Revenue Service (SRS) (2017).

Sventitskaya, E., & Kochetkov, Yu. (2017). The instability of taxation policy in Latvia as a deterrent to the successful development of micro business. Theses of paper. The 15th International Scientific Conference *"Information Technologies and Management 2017",*p.150 – 151, April 27 – 28, ISMA University, Riga.

Sventitskaya, E., & Kochetkov, Yu. (2018). Self-Employed Persons and Micro-Entrepreneurship in Latvia. *VADYBA, Journal of Management,* 32(1), 31 – 37.

Sventitskaya, E., & Kochetkov, Yu. (2018). Problems of Micro & Small Enterprises Development in Latvia. *VADYBA, Journal of Management,* 33(2), 7 – 14.

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