



## WHO BECOMES SELF-EMPLOYED: COMPARATIVE ANALYSIS OF LITHUANIA AND LATVIA

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**Abstract.** A decision to change one's status from a hired employee or unemployed person to that of a self-employed person is extremely important in such countries with small economies as Lithuania or Latvia. Previous research (Startienė and Remeikienė 2012) revealed that self-employment in Lithuania is treated as an alternative to escape unemployment but not as an opportunity to find new business niches or implement one's dreams. Latvia, however, demonstrates a different approach. According to the data of Global Entrepreneurship Monitor (2012) and Krumina (2013), it took the second position from all the EU countries given the share of its population's activity in the early-stage entrepreneurial activity. In general Lithuania and Latvia may be treated as similar countries in terms of the level of their economic development and culture. That is why the aim of the article is to assess, which group of people (hired employees or unemployed) are more inclined to self-employment in Latvia, and carry out a comparative analysis of the results of the research in Latvia and Lithuania on this topic.

**Keywords:** self-employment, unemployed, employed, Latvia, Lithuania.

**JEL classification:** L26, E624.

### 1. Introduction

*Relevance of the problem.* Although self-employment requires more personal time, provides lower wages in comparison to hired work and involves higher risk, it offers independence, flexibility, an opportunity to work at home or near it, increases personal self-worth and satisfaction from the performed activities (Kautonen *et al.* 2012; Still, Walker 2006; Rosti, Chelli 2009). Often self-employment is treated as one of the ways to escape unemployment and ensure oneself a source of income during the periods of economic recession in the country. "Self-employment sector offers better opportunities and monetary success" (Constant 2009: 145).

*Entrepreneurship Action Plan 2020* indicates that one of the ways to seek for employment rate increase is the promotion of self-employment among the groups of more sensitive people (the youth, unemployed, women, elderly) and bankrupt businessmen. Another opportunity seeking for employment rate increase could be the attention paid by the government to a hired person, motivating him to change his employment status from a hired employee to a self-employed person. Moti-

vation is recommended to be strengthened by using the "pull" factors instead of the "push" factors, i.e. by creating convenient and attractive conditions of business environment. In transition economies, such as Latvia or Lithuania, there is a tendency to view self-employment as reflecting the inability of a person to find a satisfactory regular job as a hired employee (Saar, Unt 2006). Hanley (2000) analysis shows that self-employment in Eastern European countries encompasses two distinct class locations: the individually self-employed, on the one hand, whose socio-economic status differs little from that of ordinary workers, and employers on the other hand, who receive income and possess assets far greater than both the individually self-employed and the ordinary workers. Thus, self-employment should be promoted diversifying people by "pull" and "push" factors. In order to explain "pull" and "push" forces, some scientists (Uhlener, Thurik 2007) interpret "pull" factors as the ones that lead to material and/or non-material benefits, while "push" factors are related to the disappointment with hired work, unemployment and personal crises. According to Verheul *et al.* (2010), the distinction is more tendentious: the necessity entrepreneurs are

largely driven by push motivations, whereas pull factors are the predominant foundation for opportunity entrepreneurs. So self-employment is not necessarily restricted to one or the other motivational category, but can constitute a combination of both.

The necessity of the clarity between the factors “pull” and “push” was emphasized by Dawson and Henley (2012), Nabi *et. al.* (2013). According to Falter (2005), before providing and promoting self-employment funds, the government should assess whether this form of employment is really acceptable on individual level and what motives make / encourage a person seek for self-employment. According to Saar, Unt (2006), “whether self-employment represents the ‘entrepreneurial pull’ or the ‘unemployment push’ has important implications for evaluating the success of economic transition in different countries” (p. 416).

In order to assess whether the employed are inclined to become the self-employed, it is necessary to carry out the research in different countries. The research would reveal the employment status of the people who have bigger potential for self-employment and would enable to take appropriate stimulating actions in self-employment process.

The situation in the labour market, i.e. the employment status of the people (the unemployed or employed) who have more opportunities to start- self-employment, was researched by a significant number of scientists. Applying the method of cross correlation, Startienė, Remeikienė (2012) found that self-employment in Lithuania was related to the opportunity to escape unemployment during the period of 1998–2011, i.e. people became self-employed only in order to earn a livelihood. It means that the employed are inclined to self-employment only driven by such “push” forces as job / income loss. It was established that Lithuania can be treated as the country where the entrepreneurship is influenced by external factors (unemployment, income loss) more than by internal factors (objectives, implementation of dreams). Similar results were obtained in Sweden (Andersson, Wadensjö 2007), and they revealed that the unemployed are more inclined to self-employment. Thus, in this case, “push” factors are prevailing. The results of the research, which was carried out in Germany (Constant 2009) showed that few employed women choose self-employment. According to the author, “self-employment offers businesswomen a lucrative avenue with higher monetary rewards, albeit for a shorter spell. If salaried businesswomen went into self-employment, they would receive considerably higher wages and for at least 30 years” (p. 145).

Hammarstedt (2009) concludes that “the predicted differential between self-employment and wage-employment earnings plays an important role for the self-employment decision and that an increase in this earnings differential will lead to a higher self-employment rate and to an increase in total employment in Sweden.” (p. 349). The results of the study, which was carried out by Saar and Unt (2006) in Estonia, showed that “push” factors have bigger impact on individual self-employed people or employers with one or some employees, while the creation of small and medium enterprises is more significantly influenced by “pull” factors. The results in Vietnam show that better access to non-farm wage employment increases the likelihood of becoming an opportunity entrepreneur but has no effect on necessity entrepreneurship (Brünjes, Diez 2013). Canada is treated as a country where entrepreneurs are characterized as opportunity-driven (Karin 2011).

As it can be seen from the studies carried out in different countries (Germany, Sweden, Lithuania, Estonia), both the hired persons and the unemployed are inclined to seek for self-employment, however, the results of the studies revealed that “push” effect is predominant. This raises the question whether “push” effect is predominant choosing self-employment in Latvia – a country that is similar to Lithuania by its economy and culture.

*The aim of the article* is to assess which group of people (hired employees or the unemployed) is inclined to self-employment in Latvia and carry out a comparative analysis of the results of the research in Latvia and Lithuania on this topic.

The following *objectives* were raised to fulfil the aim of the research:

1. to analyze statistical data of the activity of Latvian population (the employed, unemployed and self-employed) during the period of 1998–2012;
2. to evaluate the opportunities for the employed and unemployed to seek self-employment during the period of 1998–2012 (the case of Latvia) and to carry out a comparative analysis between Lithuania and Latvia.

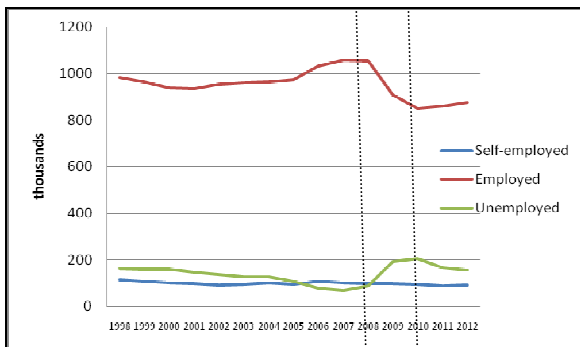
The following *hypothesis* has been formulated: in Latvia, “push” effect is predominant since the unemployed are inclined to self-employment due to the absence of another income source or inability to find hired work.

*Research methods:* systematic comparative analysis of the scientific literature, Pearson’s and cross-correlation coefficients, and statistical data analysis.

The outline of this paper is as follows: statistical data of the activity of Latvian population is presented in the next section, the third section presents the results, and the summarizing conclusions have been presented at the end of the article.

## 2. Analysis of the activity of Latvian population during the period of 1998–2012

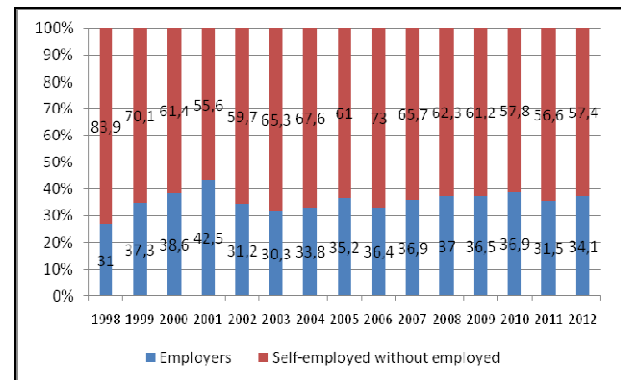
Analysing the dynamics of active population in Latvia during the period of 1998–2012 (Fig. 1), the strong interdependence between the number of the employed and the unemployed ( $r = -0.89$ ) was disclosed, i.e. it is obvious that there is “a specular reflection” between the curves: employment is increasing, unemployment is decreasing and vice versa. The data of the employed and the unemployed reveals the stages of business cycle in the country: from 2008 to 2010 – the period of economic recession, from 2010 up to now – the period of economic revival. Comparing the tendencies of the dynamics of the number of the employed and the unemployed, it was established that in 2012, the employment rate had not reached the level of that in 2008, i.e. in 2012, the number of the employed was 0.8 times lower than that in 2008. Similar results were obtained while comparing the tendencies of the number of the unemployed during the period of 2008–2012. With reference to the statistical data, the number of the unemployed in Latvia in 2012 was 1.75 times bigger than that in 2008.



**Fig. 1.** Population activity distribution by the employment status in thousands of people during the period of 1998–2012 (source: compiled by authors in reference to Eurostat database 2014. Employment growth and activity branches – annual averages. Available at: <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>)

Analysing the dynamics of the self-employed, a continuous trend of self-employment increase was noticed: total self-employment, including employers and self-employed individuals, decreased by 7.7 per cent in 2012 in comparison to 2008. Com-

paring the number of the employers and self-employed individuals during the same period, it was established that the number of the employers decreased by 7.8 per cent while the number of self-employed individuals increased by 1.4 per cent (Fig. 2). With reference to the statistical data, an average decrease of the number of the self-employed was 1.6 times during the period from 2007 to 2011, and only in 2012 it increased by 1.01 times in comparison to 2011. The average number of the employers dropped by 0.5 times at the same period. The analysis of the statistical data proposes the conclusion that neither the number of self-employed individuals nor that of the employers has reached the pre-crisis level of 2007.



**Fig. 2.** The structure and tendencies of self-employment in Latvia during the period of 1998–2010 (source: compiled by authors in reference to Eurostat database 2014. Self-employment by sex, age and nationality (1000). Available at: [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa\\_esgan&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_esgan&lang=en))

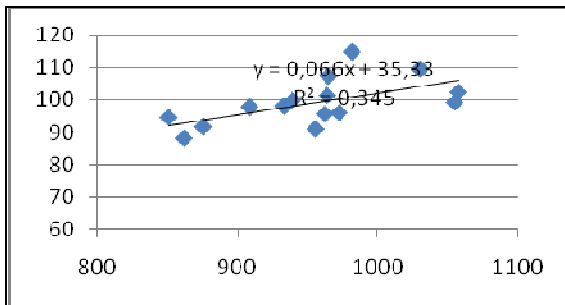
## 3. Methodology and the analysis of the empirical results

In order to establish what form of employment (employed or unemployed people) is likely to turn into self-employment, *Pearson's* correlation coefficient (marked with  $r$ ), which shows the strength of linear relationship between quantitative variables, was applied. According to Čekanavičius, Murauskas (2004), Kruopis (1993) and Moore (2000), *Pearson's* correlation coefficient is usually applied while establishing the strength of linear relationship between the variables in practice. It is because *Pearson's* correlation coefficient, unlike other coefficients (Spearman, Kendall Tau-a, Kendall Tau-b, Kendall Tau-c and others), enables to cover the biggest amount of information.

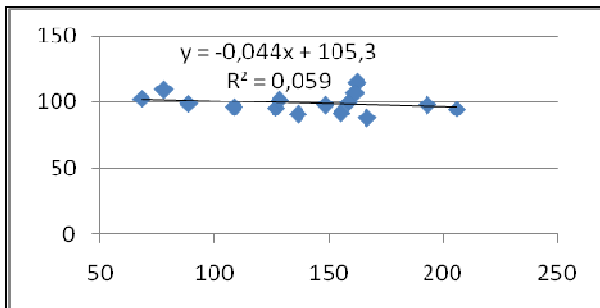
In order to ensure calculation expedience of the links between the number of the self-employed, hired and unemployed people, the first step was to check whether there exists any correlation between these three categories of people. The

results of the calculations revealed that during the period of 1998–2012, medium-strong positive linear link exists between the number of self-employed and employed ( $r_{\text{employed}} = 0.58$ ), while the correlation between the self-employed and unemployed is weak and negative ( $r_{\text{unemployed}} = -0.24$ ) (Figs 3–4).

Since the results of the research did not reveal any clear correlation between the number of the self-employed, hired people and the unemployed, the authors found it purposeful to look for the economic reasons that could have caused such results. In authors' opinion, the obtained results could have been caused by the peculiarities of the analysed period since the period of 1998–2012 includes both the stages of economic revival and economic decline. That is why the decision was made to calculate Pearson's correlation coefficient for the analysed factors dividing the period into the stages of economic revival and recession (Startienė, Remeikienė 2009). The stage of revival covers the period of 2002–2007, and the stage of recession covers the period of 2008–2011. The periods of revival and recession were defined considering the fluctuations of employment and unemployment rates in Latvia. The results have been presented in Table 1.



**Fig. 3.** The strength of correlation between the number of the self-employed and employed during the period of 1998–2012 (source: compiled by authors)



**Fig. 4.** The strength of correlation between the number of the self-employed and unemployed during the period of 1998–2012 (source: compiled by authors)

**Table 1.** Summary of the results obtained applying the method of Pearson's correlation (source: compiled by authors)

Revival period, 2002–2007		Recession period, 2008–2011	
Unemployed people and self-employed	-0.75	Unemployed people and self-employed	-0.35

Strong positive correlation was established between the number of the self-employed and the number of the hired people during the period of 2002–2007, in 2008 and 2011, which proposes that when the number of the hired people is increasing/decreasing, the number of the self-employed is increasing/decreasing. These tendencies can be related to country's GDP, total employment, paces of industrial production and consumption. When country's GDP is increasing, industrial production and consumption develops, the number of the employed people is growing, thus, the number of hired as well as self-employed people is also rising due to the increased demand. Economic decline causes industrial production and consumption to shrink, and the number of the hired people decreases. Demand surplus drives down the need for the self-employed people. Demographic characteristics of the hired people who may transfer to self-employment will not be analysed considering the fact that self-employment level tendencies, comparing them with the dynamics of the number of the hired people, are influenced by other external economic factors such as GDP, business cycle, supply/demand forces, industrial production and consumption level.

Due to the established weak correlation between the number of the unemployed and the self-employed ( $r = -0.35$ ) during the period of economic recession, this interdependence does not call for any detailed analysis.

Strong negative correlation between the self-employed and unemployed people during the period of revival ( $r = -0.75$ ) enables to carry out a more detailed analysis of demographic characteristics such as age, gender, unemployment duration and education of the unemployed who are inclined to self-employment. The analysis was carried out applying the method of cross-correlation ( $r_k$ ) (Box, Tiao 1975).

The method of cross-correlation was selected with a view to include a maximum time shift because a person who makes a decision to act independently in the market or become an employer creating work places for other people can take several years for self-employment start-up or development (Golpe, Stel 2007; Thurik, Verheul 2002; Baptista, Thurik 2007).

Applying the time shift of four years, the dependence of the number of the self-employed on the number of the unemployed by demographic characteristics during the period of 2002–2007 was estimated (Table 2).

**Table 2.** Cross-correlation coefficients between the number of the self-employed and the number of the unemployed (source: compiled by authors)

Lag value	Dependent variable (y), thousands	Independent variable (x), thousands	Correlation
0	The self-employed of the age 25–49	The unemployed of the age 25–49	<b>-0.86</b>
1	The self-employed of the age 50–64	The unemployed of the age 50–64	-0.72
0	The self-employed of the age 15–74	The unemployed of the age 15–74	-0.83
0	The self-employed men	The unemployed men	<b>-0.80</b>
0	The self-employed women	The unemployed women	-0.59
1	The self-employed women	The unemployed women	-0.70
-1	The self-employed	The unemployment duration between 1 and 2 months	-0.65
0	The self-employed	The unemployment duration between 1 and 2 months	-0.56
0	The self-employed	The unemployment duration between 3 and 5 months	-0.64
0	The self-employed	The unemployment duration between 6 and 11 months	<b>-0.86</b>
0	The self-employed	The unemployment duration between 18 and 23 months	-0.64
0	The self-employed	The unemployment duration between 24 and 47 months	<b>-0.81</b>
0	The self-employed	The unemployment duration 48 months and more	<b>-0.80</b>
0	The self-employed with upper secondary and post-secondary non-tertiary education	The unemployed with upper secondary and post-secondary non-tertiary education	-0.63
0	The self-employed with first and second stage of tertiary education	The unemployed with first and second stage of tertiary education	<b>-0.93</b>

The data presented in Table 2 can be interpreted as follows: zero or current year means that  $x$  values of 2002–2007 are compared with  $y$  values of 2002–2007, i.e., for example, the aim is to establish how

the number of the unemployed whose unemployment duration is 1–2 months could affect the level of self-employment during the current years. “+1” means time shift one year back, i.e.  $x$  values of 2002–2006 are compared with  $y$  values of 2003–2007, i.e. the aim is to establish how the changes of the number of the unemployed could affect the level of self-employment during earlier years. “-1” means time shift one year forward, i.e.  $y$  values of 2002–2006 are compared with  $x$  values 2003–2007.

Summarizing the results of the cross-correlations between the demographic characteristics of the self-employed and unemployed people, it can be concluded that:

- the strongest correlation between the self-employed and unemployed middle-aged people (25–49 year-olds) proposes that the people who fall into this age interval were the most inclined to self-employment during the period of 2002–2007;
- stronger correlation between the number of the unemployed and self-employed men ( $r_{k0} = -0.8$ ) in comparison with the correlation between the unemployed and self-employed women ( $r_{k0} = -0.59$ ;  $r_{k1} = 0.7$ ) proposes that in Latvia, unemployed men rather than unemployed women are inclined to self-employment during the period of economic revival;
- rather strong correlation between the number of the long-term ( $r_k$  between 24 and 47 months =  $-0.81$ ;  $r_k$  48 months and more =  $-0.80$ ) and medium term ( $r_k$  between 18 and 23 months =  $-0.86$ ) unemployed and the self-employed proposes that the short-term unemployed are not inclined to start self-employment, and the alternative of a hired work is more attractive to them;
- during the period of economic revival, the unemployed with first and second stage of tertiary education ( $r_k$  unemployed with first and second stage of tertiary education) =  $-0.93$ ) can be considered to be the most potential people inclined to self-employment.

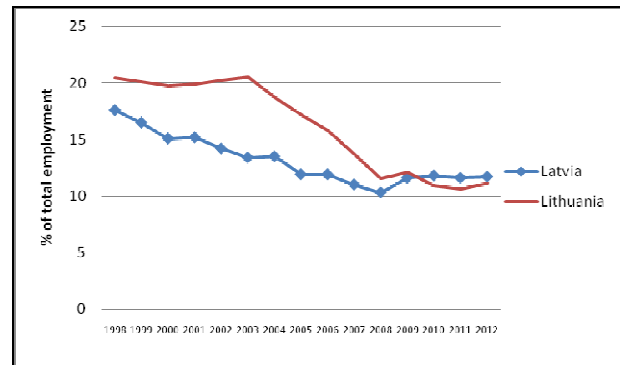
In order to establish which form of employment was more inclined to self-employment in Lithuania, the empirical research on this point was carried out in 2012. It included the data of the period of 1998–2010. The results of the empirical research revealed “the fact that both the employees and the unemployed are inclined to become self-employed due to high rate of unemployment and the necessity to earn a livelihood” (Startienė, Remeikienė 2012: 348). The main difference between the two countries is that strong correlation between the number of the unemployed and the self-employed was established only in Latvia in the cycle of business revival while in Lith-

uania strong correlations were established between the number of the people of both employment status groups (hired and unemployed) and the number of the self-employed during the entire analysed period. The results of the research in Lithuania revealed the links existing between the number of the unemployed, hired people and the self-employed, and supported the conclusion that Lithuanian people choose self-employment driven by “push” force (to earn a livelihood, escape unemployment). The research in Latvia revealed opposite results. According to the research, Latvian unemployed are inclined to self-employment during the period of economic revival when labour market offers many opportunities to get a hired work. Plausible reasons of this phenomenon are as follows: self-employment is chosen with a view to fulfilling one’s ideas during the time when market offers more business establishment opportunities, an employee is dissatisfied with wages for the hired work or current work conditions raise the thoughts about self-employment.

The main similarity between Lithuanian and Latvian unemployed who are inclined to self-employment is that these people fall into the interval of all age groups from 15 to 74 (correlations in the age group from 15 to 24 could not have been researched due to the absence of the appropriate data). The strongest correlations were established in the medium-age group (from 25 to 49) for both countries. However, some differences were also revealed (Fig. 5):

- In Lithuania, unemployed women ( $r_{\text{unemployed women}} = 0.78$ ) had higher potential to start a business, while in Latvia unemployed men were inclined to self-employment more than unemployed women during the period of economic revival ( $r_{\text{unemployed man}} = -0.8$ );
- In Lithuania, the unemployed with pre-primary, primary or lower than secondary education were more inclined to self-employment than those with higher education ( $r_{\text{unemployed with pre-primary, primary or lower than secondary education}} = 0.77$ ). In Latvia, the unemployed with first and second stage of tertiary education ( $r_{\text{k unemployed with first and second stage of tertiary education}} = -0.93$ ) could be considered to be the most potential people inclined to self-employment.

Summarizing the results of the research in both countries, it can be stated that with reference to the data of Eurostat (2014), Lithuania and Latvia show similar volumes and dynamics of self-employment as % of all total employment (Fig. 6). From 1998 to 2008, in both Lithuania and Latvia self-employment as a part of total employment had



**Fig. 6.** Self-employment as % of total employment in Latvia and Lithuania during the period of 1998–2012 (source: (source: compiled by authors in reference to Eurostat database 2014. Self-employment by sex, age and nationality (1000). Available at: [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa\\_esgan&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_esgan&lang=en))

a general tendency to decline. The critical year, when self-employment rate stopped falling, was 2009. In 2009, self-employment in Lithuania constituted 12.1 per cent, and in Latvia – 11.6 per cent of total employment. The number of the self-employed decreased by 6 per cent in Latvia and by 8.3 per cent in Lithuania from 1998 to 2009. These statistical figures should be treated as “an alarm for self-employment” by the governments of the countries since they reveal that the conditions of business environment are not favourable enough for the people who are inclined to self-employment.

According to Vanags (2010), “anecdotal evidence suggests that many people have turned to self-employment as they have lost their ordinary jobs during the economic downturn” (p. 2). At the same time, there is clear evidence from the Latvian Global Entrepreneurship Monitor report that between 2007 and 2009 entrepreneurial activity has increased and that much of it has been driven by necessity (Vanags 2010). According to the Global Entrepreneurship Monitor for Latvia, the share of the population involved in the growing entrepreneurial activity rose from 2 % in 2007 to over 5 % in 2009. In the same period, the share of necessity driven entrepreneurial activity in the total entrepreneurship increased from 15 % to 32 %.

Explanation of stronger correlations between the number of the unemployed and the self-employed than between the number of the hired people and the self-employed in Lithuania is that, with reference to the statistical data, the end of the drop in the number of the self-employed is the year of crisis, when unemployment makes a person to start looking for the opportunities to start his own business. In Latvia, this explanation cannot be applied since the results of the calculations

revealed that Latvian unemployed are more inclined to self-employment, but only during the period of economic revival. These differences may have been caused by different demographic characteristics of the unemployed in Lithuania and Latvia. In Latvia, unemployed men with tertiary education are more inclined to self-employment during the period of economic revival. Hence, current conditions of hired work do not suit for the people who are seeking to achieve their objectives or are able to see vacant niches in the labour market. This motivates them to become self-employed. In Lithuania, unemployed women with primary education are more inclined to self-employment. In this case, “push” effect is obviously dominating since fewer opportunities in the labour market often make the women to become self-employed against their own will.

#### 4. Conclusions

The economic and financial crisis has been difficult for the self-employed. Policy makers who want to encourage self-employment must explore the motives, needs and the main business environment related problems of the people who are interested in self-employment. The analysis of the self-employment statistics in Lithuania and Latvia revealed that recession (especially in 2009) determined that both official records and in practice, self-employment and entrepreneurial activity started to be regarded as a potential alternative to unemployment and a means of creating new jobs.

Data processing applying the methods of Pearson’s correlation and cross-correlation allows to conclude that the unemployed are more inclined to self-employment in Latvia ( $r_{\text{unemployed}} = -0.75$ ;  $r_{\text{employed}} = 0.73$ ). Existence of the strong positive correlation between the number of the hired people and the self-employed can be explained by the changes in balance of such macroeconomic indicators as GDP, consumption, industrial production and demand/supply forces, which cause similar changes of self-employment and the total employment in economics. Due to this reason, the inclination of the hired people to self-employment was not researched.

In Lithuania, both the unemployed and the hired people are attracted to self-employment, but the main motive for that is high unemployment rate. Thus, the high rate of unemployment and the necessity to earn a livelihood, limited the scope of the research in Lithuania, so it included only the analysis of the correlation between the unemployed and the self-employed.

The main differences that have emerged between Latvia and Lithuania while analysing the

inclination of the unemployed to self-employment are the period of the activeness of the unemployed and their demographic characteristics. Lithuania showed strong correlation ( $r_{\text{LTbedarbiai}} = 0.73$ ) between the number of the unemployed and the number of the self-employed revealing that the unemployed were inclined to self-employment during the period of 1998–2010. Due to the strength and reliability of the correlation, there was no necessity to detail the analysed period into the stages of economic revival and decline. In Latvia, the initial research revealed weak correlation between the number of the unemployed and the number of the self-employed ( $r_{\text{LVbedarbiai}} = -0.24$ ), which caused the need to divide the analysed period of 1998–2012 into the stages of business cycle. Repeated calculations revealed that the unemployed in Latvia were inclined to self-employment only during the period of economic revival while no strong correlations between these two statistical figures were established for the period of economic decline. Substantiating these patterns, it can be proposed that the established correlations could have been determined by demographical factors: in Latvia, self-employment was chosen by the unemployed men with tertiary education while in Lithuania it was more attractive to the unemployed women with primary or secondary education.

#### References

- Andersson, P.; Wadensjö, E. 2007. Do the unemployed become successful entrepreneurs?, *International Journal of Manpower* 28(7): 604–626.  
<http://dx.doi.org/10.1108/01437720710830070>
- Baptista, R.; Thurik, R. 2007. The relationship between entrepreneurship and unemployment: is Portugal an outlier?, *Technological Forecasting & Social Change* 74(1): 75–89.  
<http://dx.doi.org/10.1016/j.techfore.2006.04.003>
- Box, G. E. P.; Tiao, G. C. 1975. Intervention analysis with applications to economic and environmental problems, *JASA* 70: 70–79.  
<http://dx.doi.org/10.1080/01621459.1975.10480264>
- Brünjes, J.; Diez, J. R. 2013. ‘Recession push’ and ‘prosperity pull’ entrepreneurship in a rural developing context, *Entrepreneurship & Regional Development: An International Journal* 25(3–4): 251–271.  
<http://dx.doi.org/10.1080/08985626.2012.710267>
- Constant, A. F. 2009. Businesswomen in Germany and their performance by ethnicity. It pays to be self-employed, *International Journal of Manpower* 30(1/2): 145–162.  
<http://dx.doi.org/10.1108/01437720910948456>
- Čekanavičius, V.; Murauskas, G. 2004. *Statistika ir jos taikymai*, 2 dalis. Vilnius: TEV. 272 p.
- Dawson, C.; Henley, A. 2012. „Push“ versus „pull“ entrepreneurship: an ambiguous distinction, *International Journal of Entrepreneurial Behaviour*

- &Research 18(6): 697–719.  
<http://dx.doi.org/10.1108/13552551211268139>
- European Commission. 2013. Entrepreneurship 2020 Action Plan. Reigniting the entrepreneurial spirit in Europe. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0795:FIN:en:PDF>
- Eurostat database 2014. Employment growth and activity branches – annual averages. Available at: <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>
- Eurostat database 2014. Self-employment by sex, age and nationality (1000). Available at: [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa\\_esgan&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_esgan&lang=en)
- European Parliament 2013. Social protection rights of economically dependent self-employed workers. Available at: [www.europarl.europa.eu/.../IPOL-EMPL\\_ET\(2013\)507449\\_EN.pdf](http://www.europarl.europa.eu/.../IPOL-EMPL_ET(2013)507449_EN.pdf)
- Falter, J. M. 2005. The changing structure of male self-employment in Switzerland, *International Journal of Manpower* 26(3): 296–312.  
<http://dx.doi.org/10.1108/01437720510604965>
- Global Entrepreneurship Monitor: 2009 Latvia Report. Available at: <http://gemdev.dev.marmaladeontoast.co.uk/docs/740/gem-latvia-2009-report-latvian>
- Global Entrepreneurship Monitor. 2012–2013. Available at: [http://www.biceps.org/assets/docs/gem/GEM\\_2012.pdf](http://www.biceps.org/assets/docs/gem/GEM_2012.pdf)
- Golpe, A.; Stel, A. 2007. Self-Employment and unemployment in Spanish regions in the period 1979–2001, *Jena Economic Research Papers*: 1–13.
- Hammarstedt, M. 2009. Predicted earnings and the propensity for self-employment. Evidence from Sweden, *International Journal of Manpower* 30(4): 349–359.  
<http://dx.doi.org/10.1108/01437720910973043>
- Hanley, E. 2000. Self-employment in post-communist Eastern Europe: a refuge from poverty or road to riches?, *Communist and Post-Communist Studies* 33(2): 379–402. [http://dx.doi.org/10.1016/S0967-067X\(00\)00012-X](http://dx.doi.org/10.1016/S0967-067X(00)00012-X)
- Kariv, D. 2011. Entrepreneurial orientations of women business founders from a push/pull perspective: Canadians versus non-Canadians – a multinational assessment, *Journal of Small Business & Entrepreneurship* 24(3): 397–425.  
<http://dx.doi.org/10.1080/08276331.2011.10593546>
- Kautonen, T.; Hytti, U.; Bögenhold, D.; Heinonen, J. 2012. Job satisfaction and retirement age intentions in Finland. Self-employed versus salary earners, *International Journal of Manpower* 33(4): 424–440.  
<http://dx.doi.org/10.1108/01437721211243778>
- Krumina, M. 2013. Entrepreneurship in Latvia and other Baltic States: results from the Global Entrepreneurship Monitor. Available at: [http://freepolicybriefs.files.wordpress.com/2013/11/freepolicybriefs\\_kruminanov41.pdf](http://freepolicybriefs.files.wordpress.com/2013/11/freepolicybriefs_kruminanov41.pdf)
- Kruopis, J. 1993. *Matematinė statistika*. Vilnius: Mokslo enciklopedijų leidykla. 416 p.
- Moore, D. S. 2000. *Statistics: Concepts and Controversies*, Fifth Edition, New York: W.H. Freeman & Company.
- Nabi, G. A.; Walmsley, A. & Holden, R. 2013. Pushed or pulled? Exploring the factors underpinning graduate start-ups and non-start-ups, *Journal of Education and Work*.  
<http://dx.doi.org/10.1080/13639080.2013.805189>
- Rosti, L.; Chelli, F. 2009. Self-employment among Italian female graduates, *Education + Training* 51(7): 526–540.  
<http://dx.doi.org/10.1108/00400910910992736>
- Saar, E.; Unt, M. 2006. Self-employment in Estonia: Forced move or voluntary engagement?, *Europe-Asia Studies* 58(03): 415–437.  
<http://dx.doi.org/10.1080/09668130600601842>
- Startienė, G.; Remeikienė, R. 2009. Is the diversity of the employment forms affected by the business cycle? Changes in social and business environment, in *Proceedings in the 3<sup>rd</sup> international conference*, 411–416.  
<http://dx.doi.org/10.5755/j01.em.17.1.2288>
- Startienė, G.; Remeikienė, R. 2012. Who becomes a self-employed? The case of Lithuania, *Economics and Management* 17(1): 342–351.
- Still, L. V.; Walker, E. A. 2006. The self-employed woman owner and her business: An Australian profile, *Women In Management Review* 21(4): 294–310.  
<http://dx.doi.org/10.1108/09649420610666597>
- Thurik, R.; Verheul, I. 2002. The relationship between entrepreneurship and unemployment: the case of Spain. Available at: [http://people.few.eur.nl/verheul/hvi\\_6.pdf](http://people.few.eur.nl/verheul/hvi_6.pdf)
- Uhlaner, L.; Thurik, R. 2007. Postmaterialism influencing total entrepreneurial activity across nations, *Journal of Evolutionary Economics* 17(2): 161–185. <http://dx.doi.org/10.1007/s00191-006-0046-0>
- Vanags, A. 2010. EEO review: self-employment, 2010. Latvia. Available at: <http://www.eu-employment-observatory.net/resources/reviews/Latvia-SERvw2010.pdf>
- Verheul, I.; Thurik, R.; Hessels J.; van der Zwan, P. 2010. *Factors influencing the entrepreneurial engagement of opportunity and necessity entrepreneurs*. In EIM Research Reports.