FACTORS AFFECTING THE INSOLVENCY IN LATVIA

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Abstract. The solvency of an enterprise is one of the central problems that is tackled by the management of the enterprise during the entire period of doing business by the enterprise. The research aim is to examine exogenous factors affecting the solvency of enterprises in Latvia. The research novelty involves the identification and analysis of exogenous factors affecting the solvency of enterprises in Latvia in the period 2006-2015 by means of pairwise correlation analysis. The research concluded that the global economic crisis affected the solvency of enterprises in Latvia, yet since 2011 the situation has stabilised and the number of proclaimed insolvency cases reached the precrisis level – on average, 84 cases per 10 000 registered enterprises. In tackling insolvency problems in Latvia, entrepreneurs mainly preferred insolvency proceedings, in the result of which the economic activity of the enterprise was terminated. In the period 2006-2015 in Latvia, only 1 % of entrepreneurs who underwent insolvency proceedings and 4 % of entrepreneurs who filed for legal protection proceedings were able to restore their solvency and continue their business. In the period 2006-2015 in Latvia, the solvency of enterprises was affected by: (1) socio-economic factors of the overall development of the country (GDP contraction, increase in unemployment and decrease in the number of the employed), (2) market factors (decrease in imports) and (3) other factors (negative demographic trends).

Key words: solvency, insolvency, affecting factors. **JEL code:** M21, O1, E3

Introduction

The solvency of an enterprise is one of the central problems that is tackled by the management of the enterprise during the entire period of doing business by the enterprise. The term solvency means a financial situation of an enterprise where the enterprise can perform its financial activity sufficiently successfully in the nearest future in order to meet all its debt obligations. The term insolvency is used for an opposite situation.

The term insolvency has been known in the economic environment in Latvia since the 1990s when the country regained its independence, and along with the development of entrepreneurship, an opposite process was observed – entrepreneurs were unable to meet their liabilities and, consequently, became insolvent.

The factors affecting solvency may be diverse; they are usually classified into two groups: exogenous and endogenous.

The **group of exogenous factors** may be characterised by the inability to manage the factors by the enterprise's management, yet their negative effects have to be predicted and taken into account for tackling solvency problems (Newton G., 2003). The **group of endogenous** **factors** comprises up to a hundred various factors that are specific to some particular enterprise (Sneidere R., 2009). According to research studies, in countries with a stable political and economic system the negative effects of a third of exogenous factors and two thirds of endogenous factors contribute to the insolvency of an enterprise (Sneidere R., 2009). The authors begin their research on the factors affecting insolvencies with exogenous factors that the enterprise's management cannot influence but have to timely predict and adapt itself to the factors.

The research **hypothesis** is as follows: various exogenous factors having different strengths of correlation affect the solvency of enterprises.

The research **aim** is to examine exogenous factors affecting the solvency of enterprises in Latvia.

Specific research tasks:

- 1) To examine changes in the indicators of enterprise insolvency in Latvia.
- To identify the exogenous factors affecting solvency and to examine the mechanism of their effects in Latvia.

The research **object** is enterprise insolvency, while the research **subject** is exogenous factors affecting the insolvency.

The period of analysis is 2006-2015.

The present research is based on the data of the Central Statistical Bureau of Latvia, the Ministry of Economics and the Register of Enterprises of the Republic of Latvia and Lursoft Ltd, explanations provided by the Insolvency Administration and research papers on insolvency problems.

The research employed the following methods: monographic, statistical analysis, synthesis and analysis and Pearson's correlation analysis.

The research **novelty** – the identification and analysis of exogenous factors affecting the solvency of enterprises in Latvia in the period 2006-2015 by means of pairwise correlation analysis.

Research results and discussion 1. Statistical analysis of the research object

Insolvency is a financial situation where an enterprise is unable to make payments and its liabilities exceed its assets.

Jelgava, LLU ESAF, 27-28 April 2017, pp. 295-302 In the period 2006-2016 in Latvia, 11 758 insolvency cases were initiated for legal entities (entrepreneurs), while the number of proclaimed cases totalled 11 084, which means that 674 insolvency cases (6 %) were rejected by courts as unjustified (Register of Enterprises, s.a.).

An analysis of changes in the number of proclaimed insolvency cases (Figure 1) shows that the largest number of proclaimed insolvency cases was reported in 2009 and 2010 (more than 2000); the highest annual increase rate was observed in 2009 (67 %). The authors of the paper explain the sharp increase in the number of the cases by the economic recession in the country, which began at the end of 2008. The number of proclaimed insolvency cases considerably decreased (by 66%) in 2011 compared with 2010, and since that year the average number of the cases has been 845 in Latvia.



→ Annual change, %

Source: authors' calculations based on data of the Register of Enterprises and Lursoft

Fig. 1. Number of proclaimed insolvency cases for legal entities (entrepreneurs) and annual changes in their number(%) in Latvia in 2006–2016

To fully characterise the insolvency problem, a relative indicator – the number of insolvent enterprises per 10 000 registered enterprises – is employed in international practice. For the purpose of analysis and assessment, R. Sneidere

(2009) suggests dividing this indicator into three levels:

- 1-100 insolvent enterprises a low level;
- 101-200 insolvent enterprises a medium level;

 201-300 insolvent enterprises – a high level (Table 1).

Table 1

Number of proclaimed insolvency cases per 10 000 registered enterprises in Latvia in 2006-2015

Year	Number of insolvency cases per 10 000 registered enterprises	Indicator level	
2006	118		
2007	127	Medium level	
2008	150		
2009	258	High level	
2010	296		
2011	94		
2012	88	Low level	
2013	79		
2014	89		
2015	72		

Source: authors' calculations based on data of the CSB and the Register of Enterprises

An analysis of the data reveals that a high level of enterprise insolvencies in Latvia was observed in 2009 and 2010. In the period 2006-2008, the number of insolvent enterprises per 10 000 registered ones gradually increased, as the annual rate of increase in this number was higher than that of increase in the total enterprises. Since 2011, the number of insolvency cases gradually decreased, except for the year 2014 (when a slight increase was reported), while the number of registered enterprises continued increasing, which contributed to a gradual decrease in the number of insolvent enterprises per 10 000 registered enterprises.

An analysis of the statistics on the kinds of solution to insolvency shows that most of the insolvent enterprises in Latvia terminated their economic activity and were liquidated (Table 2).

As shown in Table 2, a small number of enterprises that filed for insolvency could improve their financial situation and continue their economic activity. The authors' calculations showed that in the period of analysis, a solution to 98.9 % of the number of closed insolvency cases was bankruptcy, which meant that the property of the debtor was sold and the funds acquired were used to cover the claims of creditors.

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Table 2

Number of closed insolvency cases by kind of solution to the insolvency in Latvia
in 2008–2016

	Kind of solution					
		bankruptcies			_	
Year	total	number	percentage	settlement	financial rehabilitation	
2008	231	230	99.6	1	0	
2009	907	902	99.4	5	0	
2010	1175	1172	99.7	3	0	
2011	1173	1164	99.2	6	3	
2012	897	893	99.6	4	0	
2013	633	625	98.7	4	4	
2014	394	389	98.7	4	1	
2015	400	390	97.5	4	6	
2016	148	144	97.3	0	4	

Data for 2006 and 2007 are not available Source: authors' calculations based on data of the Register of Enterprises

The largest number of bankruptcies per 10 000 registered enterprises in Latvia was reported in 2010 – 135 –, and since 2011 it has gradually declined.

In the period 2008-2016, in 2 477 instances insolvency administrators made a report on the lack of any property owned by the debtor and made a proposal to creditors to close the insolvency case, which meant that the creditors' claims were not met in the mentioned instances (Register of Enterprises, s.a.).

Since 2008, legal protection proceedings (LPP) and extrajudicial legal protection proceedings (ELPP) may be used in Latvia to solve the problem of enterprise insolvency. In accordance with Section 3 of the Insolvency Law of the Republic of Latvia (2010), *legal protection proceedings are an aggregate of measures of a legal nature, whose purpose is to renew the ability of a debtor to settle their debt obligations, if a debtor has come into financial difficulties or expects to do so.* No explanation of ELPP is given in the general provisions of the Insolvency Law. An essential difference between LPP and ELPP is that in the case of LPP, the debtor is provided with legal protection at the moment of initiation of an LPP case (Insolvency Administration, s.a.).

ELPP as a means of solving insolvency problems is intended for situations where the debtor needs no immediate legal protection from creditors, i.e. the debtor can agree with the creditors about the restructuring of the debts. If creditors do not wish to help their debtor to restructure the debts and therefore the debtor faces insolvency, the debtor, submitting an LPP application, has two extra months, during which the debtor can convince the creditors to agree to the restructuring of the debts (Insolvency Administration, s.a.).

As shown in Table 3, debtors preferred ELPP in the first years of availability of this opportunity, while since 2011 the debtors have more opted for LPP, and the number of proclaimed ELPP cases has decreased.

To tackle financial problems, debtors less frequently opted for LPP and ELPP than for insolvency proceedings; however, the number of rejected cases of legal protection proceedings was larger (17 % of the total).

LPP and ELPP can be effective instruments to overcome financial problems if the debtor has a clear vision and a business plan for the restructuring of the business. According to the Register of Insolvencies, half of LPP cases were closed in the period of analysis, as a plan for measures of legal protection proceedings was not coordinated with creditors or did not comply with the Insolvency Law's (2010) requirements. In the Jelgava, LLU ESAF, 27-28 April 2017, pp. 295-302 period 2008-2016, debtors managed to fulfil their plans for measures of legal protection proceedings and restore their solvency only in 30 cases (4 %) (Register of Enterprises, s.a.).

Table 3

Year	LPP cases	ELPP cases	Total
2008	13	0	13
2009	28	55	83
2010	61	155	216
2011	71	44	115
2012	112	35	147
2013	166	49	215
2014	203	50	253
2015	135	10	145
2016	143	6	149

Number of initiated LPP and ELPP cases in Latvia in 2008-2016

Source: authors' calculations based on data of the Register of Enterprises

If the debtor fails to fully restore the solvency during the period of limited solvency, an insolvency case is usually initiated. In the period of analysis, according to the Register of Insolvencies, insolvency cases were proclaimed for 162 (19%) of debtors that initially filed for LPP (Register of Enterprises, s.a.).

2. Identification and analysis of the exogenous factors affecting insolvency

Analysing the causes of insolvency for a number of enterprises, a USA scientist, G. Newton (2003), found that the key exogenous factors were as follows: (1) change in the economy, (2) competitive environment, (3) government restrictions, (4) change in technologies.

I.A.Blank (1999) distinguishes three exogenous factor groups for insolvency: (1) socio-economic factors of the overall development of the country; (2) market factors; (3) other factors.

L.T.Gilyarovskaya (2003) attributes the following factors to exogenous ones: (1) demographic situation, (2) economic situation,

(3) political stability, (4) scientific and technological progress, (5) culture, (6) insolvency of business partners.

То identify which exogenous factors affected the number of proclaimed insolvency cases in Latvia in the period of analysis, the authors performed а pairwise correlation analysis. Based on the above-mentioned, the following variables were chosen as dependent ones: (1) total GDP (EUR), (2) GDP change (EUR), (3) GDP change(%), (4) nonfinancial investment (EUR), (5) change in the number of employed individuals, (6) number of unemployed individuals, (7) number of recipients of unemployment benefits, (8) average gross and net annual wages and salaries of employees (EUR), (9) average annual disposable household income per household member (EUR), (10) change in the population, (11) total population in the country, (12) imports (EUR), (13) exports (EUR), (14) inflation, (15) number of committed crimes, (16) number of convicted individuals.

The key results of a Pearson's correlation analysis are summarised in Table 4. The factors that were selected as dependent ones but were not presented in Table 4 had p-values greater than 0.05, which meant that no statistically significant correlation existed between the variables.

The data of Table 4 allow concluding that there was a medium strong negative correlation between the number of proclaimed insolvency cases and the GDP change (EUR) and a strong negative correlation between the number of proclaimed insolvency cases and the percentage GDP change, which means that the number of proclaimed insolvency cases increased owing to a decrease in economic activity. The relevant pvalues showed that the correlation between the variables was statistically significant.

The p-value calculated (0.189) by the authors indicated that there was no statistically significant correlation between the total GDP and the number of proclaimed insolvency cases. Jelgava, LLU ESAF, 27-28 April 2017, pp. 295-302 In his research studies, G.Newton too found that with economic growth declining, a sharp increase in the number of bankruptcies was reported in the USA at the turn of the century.

Table 4

Dependent variables	Correlation coefficient	P-value (2 tailed)
GDP change, EUR	-0.663*	0.037
GDP change, %	-0.731*	0.016
Number of the unemployed	0.770**	0.009
Number of recipients of unemployment benefits	0.646*	0.044
Population change	-0.907**	0.000
Population change, %	-0.915**	0.000
Change in the number of the employed	-0.804**	0.005
Imports, EUR	-0.790*	0.006

Correlation coefficients for the factors affecting the insolvency of enterprises in 2006-2015

** - Correlation is significant at the 0.01 level;
 * - Correlation is significant at the 0.05 level
 Source: authors' calculations

In the last decade (2005-2015), growth in the national economy of Latvia was volatile. An economic boom in 2005-2007, which contributed to an imbalance in the national economy, was followed by an economic collapse. The global financial crisis of 2008-2009 heavily affected the national economy of Latvia, considerably raising economic uncertaintv over arowth and complicating decision-making to stabilise the economic situation. The economy of Latvia contracted by almost 20 % in 2009, compared with its maximum level in 2007, which was followed by rapid growth in economic activity (Bessonovs A., 2014). The authors' research results show that a sharp increase in the number of bankruptcies was observed in Latvia owing to the decline in economic growth.

In the period until 2007 in Latvia, GDP growth was due to the huge inflow of foreign capital,

which stimulated private consumption and investment. In the post-crisis period, GDP growth was determined by increases in exports and domestic demand. In 2014 and 2015, the country's GDP growth gradually slowed down, which was determined by trends in the external environment - a slower than expected pace of growth in the EU as well as the deterioration of the economic situation in Russia (Ministry of Economics..., 2008-1 - 2016-1). For these reasons, nonfinancial investment was chosen by the research as the next variable to be examined; however, the authors did not identify any statistically significant correlation between the nonfinancial investment and the number of proclaimed insolvency cases in the period 2006-2015 (p-value=0.290).

L.T.Gilyarovskaya (2003) pointed out that the deterioration of the overall economic situation in a country decreases market demand, which, in its turn, increases competition among enterprises and not always the enterprises are able to survive.

Affected by the global financial crisis of 2008, the situation in the labour market in Latvia considerably deteriorated at the end of 2008 the unemployment rate sharply rose and the number of employed individuals decreased. The lowest level in employment was reached in the 1st quarter of 2010 when the employment rate decreased to 57.7 %, while the unemployment rate rose to 20.4 %. Since the middle of 2010, the number of employed individuals has gradually increased. According to labour surveys, the number of employed individuals increased annually, on average, by 9.1 thousand in the period 2011-2015. The increase in employment was due to the economic recovery. The increase in employment contributed to a decrease in unemployment by almost a half (Ministry of Economics..., 2012-1 - 2016-1).

The correlation coefficient values also indicate that there was a strong negative correlation between the number of proclaimed insolvency Jelgava, LLU ESAF, 27-28 April 2017, pp. 295-302 cases and the change in the number of employed individuals (r=-0.804), as well as a strong positive correlation between the number of proclaimed insolvency cases and the number of unemployed individuals (r=0.770).

As shown in Table 4, there was a medium strong positive correlation between the number of proclaimed insolvency cases and the number of recipients of unemployment benefits (r=0.646).

Researching changes in the numbers of the unemployed and enterprise bankruptcies in Europe in the period 1998-2007, R.Sneidere (2009) too found that there was a strong causal association between changes in the number of the unemployed and changes in the number of enterprise bankruptcies.

L.T.Gilyarovskaya (2003) has pointed out that the demographic situation significantly determines the quantity and structure of market demand as well as the purchasing power of the population in combination with the economic situation; accordingly, the present research also selected indicators that showed population incomes (average gross and net annual wages and salaries of employees (EUR) and average disposable household income annual per household member (EUR)), but no statistically significant correlation was identified between these indicators and the number of proclaimed insolvency cases in Latvia in the period 2006-2015.

The research also chose such indicators as population change and total population in the country.

The population decreased owing to both negative natural population growth and negative net migration in Latvia in the period of analysis. The sharp population decrease was mainly observed in 2009 (-42330 residents) and 2010 (-45899 residents), which was primarily determined by the negative net migration (CSB, s.a.). As shown in Table 4, there was a strong negative correlation between the number of proclaimed insolvency cases and the population change (r=-0.909). The authors also identified a statistically significant correlation between the number of proclaimed insolvency cases and the total population in the country (p-value – 0.531).

L.T.Gilyarovskaya (2003) has pointed out that the economic situation is affected by inflation, while the authors of the paper did not find a statistically significant correlation between the variable "inflation" and the number of proclaimed insolvency cases (p-value – 0.599).

Latvia is a country with a small economy and cannot produce all goods and services consumed by the modern society; consequently, a lot of goods and services are imported by enterprises.

The value of imports into Latvia started decreasing already in the second half of 2007, as the domestic demand declined, and this trend continued until the 2nd quarter of 2009, decreasing to the level of the beginning of 2005. At the end of 2009, the value of imports started slowly increasing, yet since 2013 the growth rate has been low. A slight decrease in imports was reported in 2015 (CSB, s.a.).

As shown in Table 4, there was a strong negative correlation between the number of proclaimed insolvency cases and the value of imports (r=-0.790). The relevant p-value indicated that the differences between the variables were statistically significant.

Despite the fact that exports of goods and services is the key driver of the national economy of Latvia (Ministry of Economics..., 2016-1), the authors identified a statistically significant correlation between the number of proclaimed insolvency cases and the value of exports (p-value – 0.178).

I.A.Blank (1999) included also a deterioration of the crime situation in the group of the other

Jelgava, LLU ESAF, 27-28 April 2017, pp. 295-302 exogenous factors along with the factor of negative demographic trends. The authors selected two statistical indicators to characterise the crime situation: the number of committed crimes and the number of convicted individuals, yet no statistically significant correlation was identified between the indicators of the crime situation and the number of proclaimed insolvency cases (p-values were 0.808 and 0.214, respectively).

Conclusions

- The global economic crisis affected the solvency of enterprises in Latvia, especially in 2009 and 2010, yet since 2011 the situation has stabilised and the number of proclaimed insolvency cases reached the pre-crisis level – on average, 845 cases per year or 84 cases per 10 000 registered enterprises.
- In tackling insolvency problems in Latvia, entrepreneurs mainly preferred insolvency proceedings; legal protection proceedings and extrajudicial legal protection proceedings were less frequently used by the entrepreneurs.
- 3) In the period of analysis in Latvia, only 1 % of entrepreneurs who underwent insolvency proceedings and 4 % of entrepreneurs who filed for legal protection were able to restore their solvency and continue their business.

4) In the period 2006-2015 in Latvia, the solvency of enterprises was affected by: (1)
socio-economic factors of the overall development of the country (GDP contraction, increase in unemployment, decrease in the number of the employed), (2)
market factors (decrease in imports) and (3)
other factors (negative demographic trends).

5) In the period of analysis, the solvency of enterprises in Latvia was not affected by the amount of nonfinancial investment, change in population incomes, inflation, exports and the crime situation. Proceedings of the 2017 International Conference "ECONOMIC SCIENCE FOR RURAL DEVELOPMENT" No 46 Jelgava, LLU ESAF, 27-28 April 2017, pp. 295-302

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