IMPACT OF INSTITUTIONAL ENVIRONMENT ON THE EXISTENCE OF FAST-GROWING BUSINESS IN TIME OF ECONOMIC DISTURBANCES

Katarína Valenteová, Miroslava Čukanová, Dušan Steinhauser, Ján Sidor

Abstract: As a result of the economic crisis is the restoration of economic growth and job creation one of the main aim of economic policy. Economic growth and employment can be achieved through the creation of conditions for increasing business competitiveness. We assume that there is a positive relationship between economic freedom, innovation, and the share of high-growing enterprises in the total number of enterprises. In this paper, we used a pair linear regression analysis between variables in which our assumptions are verified.

Keywords: Institutional Environment, Innovation, High-growing Enterprises, Small and Medium-sized Enterprises.

JEL Classification: L50, O44, L25

Introduction

A business in the form of new and high-growth enterprises is increasingly important for supporting economic growth and development (Audretsch, Thurik 2004; Barringer, Jones, Neubaum, 2005). High-growing enterprises (HGE) have a positive impact on economic growth through the competition and diversification between firms. The importance of these companies, mostly SMEs, further underlines the fact that these companies are perceived as "the engine of employment" (Audretsch, Thurik, 2004; Henrekson, Johansson, 2010).

We pay attention that despite the bad economic situation in the world, which was triggered from the global economic crisis, HGE exist and emerged. This suggests that, despite the unfavourable institutional environment, innovative enterprises have emerged. Innovative enterprises like HGEs are characterized by high employment and higher sales than others. This is mainly due to their ability to respond flexibly to changes in the environment and also to innovations.

We divide and characterize the environment in accordance with our previous work and in accordance with the new institutional economic theory on the institutional and macroeconomic environment (Steinhauser, Kittová, 2017): “The individual institutions influence other institutions, organizations and vice versa. The prosperous enterprise influences other formal and informal institutions but also other enterprises. We can expect the institutional environment with lower transaction costs has a backward effect on individual institutions and the business itself.” As institutions according Mlčoch (2005) are considered laws, but also customs, language and others. In contrast with our division authors Smit, Pennings and Bekkum (2017) divide the environment on institutional and business.
1 Literature review

Many studies indicate high-growth enterprises as a key source of economic growth, innovation and creation of well-being (OECD 1998, 2000, 2002). By OECD high-growth enterprises (HGE) are enterprises with 20% average annual growth and maintained it over 3 consecutive years. European Commission (2007) defines that, the growth can be observed in two areas: employment or turnover. Enterprises are HGEs if they fulfill at least one criterion. In the statistical data are expressed only HGEs, which have ten or more employees (OECD, 2015). Micro enterprises (employing less than 9) are excluded but are able to faster generate gain due to the low number of employees (Petersen, Ahmad, 2007; Dautzenberg et al., 2012). In recent studies the authors Henrekson and Johansson (2008, 2010) and Krošláková et al. (2015) are presenting HGE as young, rapidly growing businesses, which achieve stronger majority in the tertiary sector. Portuguese Instituto Nacional de Estatistica (2014) presents that the HGEs are the most representative in the service sector, but also achieves significant share in industry. According to Melikhova et al (2015) HGEs are an essential element of strategy for promoting growth in developing countries. HGE also contributes to enhancing the performance of downstream economic activities in service industries.

A quality of institutional environment is the basis for long-term development of the business activities, including HGEs and also for sustainable increase in economic performance and living standards. Experiences from previous years have shown that the systematic introduction of positive changes in environment could significantly accelerate economic development (Bacík et al. 2015). Quality of institutional environment is determinant element of business sector development (Šoltés and Gavurová, 2015). Institutional environment is influenced by public policy. Public policy supports investment in knowledge and forming the basis for enterprises growth, which become to HGE (Audretsch, Keilbach, Lehmann, 2006). The role of government in this field describes the OECD Innovation Strategy (OECD, 2015). In recent is necessary the involvement of wide range actors as: enterprise, non-profit organizations, universities, scientific institutions, public sector agencies, civil associations, consumers to work closely together (Gavurová and Šoltés, 2016).

Share HGE in service enterprises draw attention to the important role of cooperation with the public and private sectors, development of partnerships because this cooperation accumulates resources for innovation and transfer knowledge (Kubičková, Benešová, 2011). Heintel and Schienstock (2007) report that although companies rarely develop new products or renew their processes structure in isolation. But the firms do not use multilateral innovative networks and benefits from them. Strengthening of the network externalities supports HGE growth through to facilitate the creation and distribution of knowledge (Audretsch, Keilbach, Lehmann, 2006).

Support programs by OECD (2013) for HGE growth are based on their importance in turnover, employment but also qualitative characteristics such as ambition entrepreneur, management structure in the company, innovative products and services. Recommendations focus on HGE support, which mainly lead to technology sector, less healthy regions because of HGE potential to job creation. According to Warwick and Nolan (2014) reduction of barriers in regulation as bureaucratic barriers may allow the support of HGE growth. Therefore, it is necessary to point out on large
administrative, social and fiscal requirements, which generally increase with firm size and also increase cost of expansion.

So, we decided to deeply analyse the business - institutional environment through the Index of Economic Freedom and Innovation. World Intellectual Property Organization together with Cornell University and INSEAD publish an annual Global Innovation Index. Index is used for more than 140 economies as reference of their efforts to improve innovation and economic growth of individual countries. It focuses on five areas, including institutions, human capital and research, infrastructure, market sophistication and business. The index of Global Innovation (III) provides two output pillars as evidence of innovation action in the economy (III, 2009).

The second is the Index of Economic Freedom, which compares 42 indicators in five areas as the size of government, legal system and property right, sound money, freedom to trade internationally and regulation. Based on these areas it is compiled ranking countries according to the extent of economic freedom. Ranking focuses on comparable data available for all reviewed countries. The Economic Freedom of the World 2010 Annual Report describes a condition of individual countries for year 2009.

2 Methodology and Data

The paper analyses relationship between the proportion HGE of the total number enterprises (dependent variable) and the independent variables - economic freedom and innovation. Data were obtained from Global Innovation Index Report 2009-2010 and reflect the state of the environment for year 2009. Also, was used data from published Annual Report Index of Economic Freedom by Fraser Institute for year 2009.

The year 2009 is characterized as a year in which global, economic and financial crisis fully resulted. The crisis represents a difficult economic environment that HGEs have to adapt to.

A data of HGE were obtained from Eurostat for the year 2012. We assume that the state of the business environment in 2009 creates a favourable environment for enterprises that can be defined in three years as HGE. We applied a pair linear regression analysis between variables and correlation analysis. The data were processed in MS Excel, the estimated regression equation and correlation analysis, together with the indicators of business environment quality and the overall model has been processed by program Dell Statistica. Linear multiple regression equation has the following form (Lukáčík, Lukáčiková, Szomolányi, 2011):

\[ HGE/\text{Number of enterprises}_{2012} = b_0 + b_1 \times \text{III}_{2009-2010} + b_2 \times \text{Economic Freedom Summary Index} \]

Our research was focused on 28 selected European countries (states of European Union without Greece and Norway). For more detailed review, we decided to use a pair linear regression analysis in graphic form by using Dell Statistica. The secondary research was based on the study and processing of numerous national and foreign theoretical and statistical sources and research studies from databases ProQuest, Ebsco Host, Scopus, Web of Knowledge, OECD, Eurostat. Our research was based on data from secondary research.
3 Results

For capacity reasons, we do not present source database but descriptive statistics in Tab. 1. The research sample represents 28 countries (N). Share HGE on total number of enterprises (HGE/Number_of_enterprises_2012) was used as dependent variable. Index of Economic Freedom (Economic Freedom Summary Index 2009), Global Innovation Index (III_2009_2010) and GDP per capita (GDP_p_c_2012_current_USD) were used as independent variables.

Tab. 1: Description statistics - the output of the Excel

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
<th>Standard Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP_p_c_2012_current_USD</td>
<td>28</td>
<td>33787.30000</td>
<td>30778.15000</td>
<td>6843.30000</td>
<td>103267.30000</td>
<td>23421.40697</td>
<td>1.28948</td>
<td>1.98651</td>
</tr>
<tr>
<td>III_2009_2010</td>
<td>28</td>
<td>4.59143</td>
<td>4.48500</td>
<td>3.79000</td>
<td>5.54000</td>
<td>0.54502</td>
<td>0.14696</td>
<td>-1.22677</td>
</tr>
<tr>
<td>HGE/Number_of_enterprises_2012</td>
<td>28</td>
<td>0.00705</td>
<td>0.00611</td>
<td>0.00000</td>
<td>0.01477</td>
<td>0.00371</td>
<td>0.51539</td>
<td>-0.28676</td>
</tr>
<tr>
<td>Economic Freedom Summary Index 2009</td>
<td>28</td>
<td>7.41679</td>
<td>7.40000</td>
<td>6.79000</td>
<td>8.01000</td>
<td>0.26618</td>
<td>-0.08016</td>
<td>0.31417</td>
</tr>
</tbody>
</table>

Source: own processing using the program Excel. Data were obtained from Annual Report Index of Economic Freedom by Fraser Institute, Global Innovation Index Report, and Eurostat.

Tab. 2 shows the linear multiple regression analysis between the share HGE on total number of enterprises and the Global Innovation Index, Index of Economic Freedom as well as GDP p.c.

Tab. 2: Model - Linear multiple regression analyses

<table>
<thead>
<tr>
<th>N=28</th>
<th>Regression Summary for Dependent Variable: HGE/Number_of_enterprises_2012, R=,53475274 R2=,286 Adjusted R2= 0,19670555, F(3,24)=3,2039 p&lt;,04122</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b*</td>
</tr>
<tr>
<td>Intercept</td>
<td>-0,037980</td>
</tr>
<tr>
<td>GDP_p_c_2012_current_USD</td>
<td>0,368010</td>
</tr>
<tr>
<td>III_2009_2010</td>
<td>-0,265679</td>
</tr>
<tr>
<td>Economic Freedom Summary Index 2009</td>
<td>0,497318</td>
</tr>
</tbody>
</table>

Source: own processing using the program Dell Statistica. Data were obtained from Annual Report Index of Economic Freedom by Fraser Institute, Global Innovation Index Report, and Eurostat.

The model in Tab. 2 is statistically significant according to the F-statistics and explained 29% of observations by R-squared. Variables marked with the symbol @ were statistically significant at p <0.05000. T-statistics and p-value are estimated as statistically significant on 95% probability only for the variable Economic Freedom index and constant. With the increasing of Economic Freedom Index by 1 point is increasing the share of HGE on total number of enterprises by 0.007 points. Based on Multiple regression analysis was not identified statistical significance between variables share of HGE / Number_of_enterprises_2012 and Global Innovation Index and also GDP p.c. Therefore, we decided to use pair linear regression analysis in graphic form.
**Fig. 1: Regression analysis share of HGE on the total number of enterprises against Index of Economic Freedom**

Source: own processing data from the Annual Report 2010 Economic freedom Index by using the program Dell Statistica. Data were obtained from Annual Report Index of Economic Freedom by Fraser Institute, Eurostat.

Fig. 1 shows a graphic processing of regression analysis between HGE shares on the total number of enterprises against Index of Economic Freedom. From the estimated parameters implies, that the Index of Economic Freedom is 0; the HGE share on the total number of enterprises is equal to -0.505. Theoretically, if the Index of Economic Freedom reached level 10 we expect an increase in the proportion of HGE on total number of enterprises to the level of 0.0275. The level of economic freedom of countries in the last decade will generally increase. Countries with higher economic freedom achieve higher economic performance and they are creating a favourable business environment for HGE. Based on the graphical analysis, we can identify the countries in V4 Group, which achieved similar level of economic freedom. Between the most economically freedom countries on the basis of our analysis is UK and the country with the highest proportion of HGE on total number of enterprises is Germany.
Graph 2 shows a graphic processing of regression analysis between HGE shares on the total number of enterprises against Summary Global Innovation Index. Estimated parameters show that the Global Innovation Index reached score 0; the HGE share in the total number of enterprises is equal to -0.0054. Theoretically, if the Index of Global Innovation reached score 10 we expected increase in the proportion of the total number of enterprises on level 0.0226. Based on the graphical analysis, we can also identify that from Visegrad countries just Czech Republic has a better innovation environment than other countries in V4 Group. Among the innovation leaders including mainly Nordic countries, the higher share HGE on total number of enterprises at the same time better innovation performance reached - UK and Germany.

4 Discussion

The country level of economic freedom in the last decade successively increases and countries with greater economic freedom achieve higher economic performance and thus create a favourable business environment for HGE. Therefore, our recommendation for the future is to monitor the impact of these variables across time, which unfortunately in the current circumstances is not possible because of lack of observation and therefore we cannot deeply determine the specific parameters for the development of HGE. Benefits from HGE are important and it is necessary to focus on reducing the barriers in legal and administrative area:

- Legal enforcement of contracts
- Legal system & property rights
- Impartial courts
- Business regulation
- Judicial independence
- Protection of property rights
- Foreign ownership / investment restrictions

These points present subindices of Index of Economic Freedom. We confirmed direct positive relationship between the index value and the HGE activity. If the institutional environment is composed of individual institutions, it is important to approach with particular importance to each single institution separately. In this way, we can step by step improve the institutional framework. High growth enterprises activity proved their resistance even in times of economic crisis. However, we assume that targeted focusing on support HGE could achieve a higher overall effect.

Therefore, it is necessary to point out on large administrative, social and fiscal requirements, which generally increase with firm size and also increase cost of expansion.

**Conclusion**

We recommend for the future to observe HGE in the economy related to their impact on economic growth and employment. HGE is characterized by a more flexible response to market changes through innovation. However, the basis for their long-term development, increasing economic performance and employment is a quality institutional environment. For this reason, we analysed in our paper the influence of independent variables such as Economic Freedom Index as well as the impact of the Global Innovation Index on HGEs. Results of regression and correlation analysis showed moderate linear relationship between these variables.

In our paper we chose the characteristics of the institutional environment in the crisis year 2009. This year was marked by the deteriorating economic conditions with which businesses had to deal – they had to innovate. Despite the poor economic development, enterprises achieved the status of HGE. This environment was later influenced by number of HGE and indirectly the level of GDP in year 2012. We have proven the hypothesis, that there is a direct linear dependence between the emergence of the HGE and the Economic Freedom Index. The relationship between the business class and the Global Innovation Index has not been statistically proven.

Therefore, is important to repeat that it is necessary to point out on large administrative, social and fiscal requirements, which generally increase with firm size and also increase cost of expansion. We recommend also statistical monitoring micro-enterprises because we assume, that they generate HGE indicators (employment increase and turnover increase).

**References**


**Contact Address**

**Ing. Katarína Valenteová, PhD.**
University of Economics in Bratislava, Faculty of Commerce, Department of Services and Tourism
Dolnozemská cesta, 1, 852 35, Bratislava, Slovak Republic
Email: valente.katarina@gmail.com
Phone number: +421267291520

**Ing. Miroslava Čukanová**
University of Economics in Bratislava, Faculty of Commerce, Department of Services and Tourism
Dolnozemská cesta, 1, 852 35, Bratislava, Slovak Republic
Email: cukanova.miroslava@gmail.com
Phone number: +421267291584

**Ing. Dušan Steinhauser**
University of Economics in Bratislava, Faculty of Commerce, Department of International Trade
Dolnozemská cesta, 1, 852 35, Bratislava, Slovak Republic
Email: steinhauser.dusan@gmail.com
Phone number: +421267291260

**Ing. Ján Sidor, PhD.**
University of Economics in Bratislava, Faculty of Commerce, Department or Institute
Dolnozemská cesta, 1, 852 35, Bratislava, Slovak Republic
Email: jan.sidor@euba.sk
Phone number: +421267291512

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