

## INSTITUTIONAL DETERMINANTS AND ENTREPRENEURIAL ACTION\*

*Katja Crnogaj\*\**  
*Barbara Bradač Hojnik\*\*\**

Received: 17. 7. 2015  
Accepted: 29. 1. 2016

Review  
UDC 005.342

*The paper examines the effect of specific institutional factors on entrepreneurial activity. In the course of the examination, we encounter various viewpoints regarding entrepreneurship and different needs of national politics. The research objective is to determine whether institutional factors influence early-stage entrepreneurial activity. There is a broad array of opinions on appropriate set of factors that influence the entrepreneurship processes, on ways of their influence and on differentiating between the developed and less developed countries. Therefore, we examined the defined research hypothesis in the light of 24 countries (Argentina, Belgium, Brazil, Chile, Columbia, Croatia, Denmark, Finland, France, Greece, Hungary, Island, Italy, Japan, Latvia, Netherlands, Norway, Peru, Russia, Slovenia, Spain, United Kingdom, Uruguay and USA), in the period between the years 2006 and 2010 (24 countries \* 5 years = 120 observations). The data was obtained from Global Entrepreneurship Monitor (GEM) database and complemented with data from other international sources such as Heritage Foundation, among others. With econometrics business methods, we determined that greater economic freedom in the institutional context of a country affects the extension of productive entrepreneurship, while the individual's*

---

\* A previous version of this paper has been presented and discussed at the 11th International Conference "Challenges of Europe: Growth, Competitiveness and Inequality", organized by Faculty of Economics Split, in May 2015. *Management – Journal of Contemporary Management Issues* is one of the supporting journals of the Conference. All the papers have been reviewed and revised, according to the standards of this Journal.

\*\* Katja, Crnogaj, PhD, Assistant Professor, University of Maribor, Faculty of Economics and Business, Institute for Entrepreneurship and Small Business Management, Razlagova 14, 2000 Maribor, Slovenia. Phone: +386 2 2290 263; E-mail: katja.crnogaj@um.si

\*\*\* Barbara Bradač Hojnik, PhD, Assistant Professor, University of Maribor, Faculty of Economics and Business, Institute for Entrepreneurship and Small Business Management, Razlagova 14, 2000 Maribor, Slovenia. Phone: +386 2 2290 256; E-mail: barbara.bradac@um.si

*decision for the entrepreneurship is conditioned significantly by the prevailing cultural and social norms.*

*Key words:* entrepreneurship; entrepreneurial activity; institutional environment factors; entrepreneurship policy.

## **1. INTRODUCTION**

Researching the entrepreneurship field requires the implementation of several levels of discussion, which are not mutually exclusive, but complement one another. The reasons for the adherence of a multiple-level analysis lie in the characteristics of the entrepreneurship phenomenon itself, which takes place and has an impact on different social levels simultaneously (Davidsson and Wiklund, 2001). Drawing on the findings of their predecessors from various areas of activity, Wennekers and Thurik (1999) developed a framework that considers such multidimensional nature of entrepreneurship and, in its connection with the economic growth also different levels of analysis – the individual level, enterprise's level, and the macro level. On the other hand, Shane (2003) put an emphasis on the fact that the entrepreneurial process, which includes the perception, discovery or creation of business opportunities, making decisions towards their exploitation and operative implementation is, at all times, influenced by the entrepreneur's individual characteristics and the factors of the institutional and industrial (organisational) environment.

The analysis at the individual level is focused on the entrepreneurs – individuals, characterised by the activity connected with innovations, risk taking and growth (Galindo and Méndez-Picazo, 2013). The entrepreneurial initiatives are then reflected at the level of organisation, where entrepreneurship is often viewed from two standpoints – the organisation as a whole or as an intrapreneurship – and where the direction and enterprise's activities, which enable the production function, are encompassed (Hafer, 2013). The entrepreneurship has long been seen as an activity at the micro level, although later its consequences have spread also to a broader, macro-level of the environment, including industries, geographic regions, societies, and countries (Luke et al., 2007). The belief that such a process has a positive impact on economic growth and social development presents one of the main reasons for the growth of interest in entrepreneurship in recent years.

Welter and Smallbone (2011: 107) state that the majority of the entrepreneurial researches focuses on the micro-level of explanation, while it is becoming increasingly clear that the entrepreneurial behaviour of an individual should be considered in the context in which it occurs in the first place. The

latter involves the institutional level, formed by the economic, political and cultural environment in which the entrepreneur operates (Shane, 2003). The socio-cultural and the politico-institutional environment influence entrepreneurial attitudes and motives, the resources that can be mobilized as well as the constraints and opportunities on/for starting and running a business (Martinelli, 2004, in: Welter and Smallbone, 2011: 108). Wishing to focus on the influential institutional environment factors and their connections with the entrepreneurial activity, we raised the following research question: Why do only certain individuals, but not others, discover and evaluate the business opportunity and then start with an early-stage entrepreneurial activity; To what extent is it possible to search the causes in the institutional environment factors where the opportunities arise? The research question was then tested by a hypothesis, on the basis of which we schemed our findings in the empirical part of the paper. The paper is divided into five sections. Section two presents theoretical background. Section three presents research hypotheses, data, variables and statistical methods. Section four explains the model and regression results and section five presents the discussion and conclusion.

## **2. INSTITUTIONAL ENVIRONMENT FACTORS**

According to, for example Wennekers et al. (2002), Szyliowicz and Galvin (2010), it is precisely the role of the external environment that is critically important to gain some understanding of the entrepreneurial behaviour while, on the other hand, the country's effects play an important role in the entrepreneurial decisions. Up to now a lot of attention has been paid to the examination of how the institutional framework and entrepreneurship influence the economic growth (e.g. Nissan et al., 2011; Minniti and Lévesque, 2010), while the influences of the economic politics and institutional framework on the entrepreneurship have remained much less analysed. The already performed researches confirm namely that the institutional environment is connected directly to the entrepreneurial activity and that the policy makers can have a significant impact on the amount and the form of this activity, which makes the institutional environment interesting in particular for the researchers (e.g. Fotopoulos, 2012; Tang and Koveos, 2004; van Stel et al., 2014; Aparicio et al., 2016).

The external macro environment can enable and encourage the entrepreneurial activity, but it can also slow it down and influence the enterprise's competitive attitude. Therefore, the explanation regarding the perception or exploitation of entrepreneurial opportunities emphasises the meaning of institutions and rules, which predominate in the political sphere, the

protection of property rights, the functioning of labour markets, capital markets, knowledge and culture, and the perception of entrepreneurial activities (Cuervo, 2005: 298). Given the fact that a correlation between the entrepreneurship and economic growth/development is assumed, the improvement of institutional conditions for the field of entrepreneurship is crucial for the formation of appropriate economic policy. Wennekers et al. (2005) found out that the rate of entrepreneurship is connected to the stages of economic development and it has to be taken into account. Other authors (e.g. van Stel et al., 2005; Carree et al., 2002) also found out that the impact of entrepreneurship on economic growth is smaller or even negative for developing countries than for more developed economies. Their findings suggest that entrepreneurship has different roles in countries at different stages of economic development.

The institutions, defined as the “rules of the game“ are not only formal, but informal as well. While economic and political arrangements, such as the government, judicature and bureaucracy, can be found among the formal institutions, the informal encompass for example, values, norms, taboos, customs and the social networks. Both formal and informal institutions influence the structure of incentives in a particular country heavily and, consequently, generate an economic performance (North, 1991; Autio and Fu, 2014). As a fundamental pre-condition for the development of a successful entrepreneurship, the soundness of institutions, suitability of infrastructure, macro-economic stability, soundness of health care, and the suitability of basic education, can be seen within the institutional framework (Bosma et al., 2008). The factors that contribute to a greater efficiency and innovation of economy can therefore be enforced only on the establishment of these fundamental conditions.

### **2.1. Economic, political and socio-cultural factors**

The list of institutional factors connected to the entrepreneurial activity is a very long one and it involves everything from the size of a government, bureaucratic hindrances, tax environment, intellectual property protection, competitiveness, business and political freedom, labour legislation, social security and corruption to the availability of financial capital, export policy, etc. Every individual factor highlights some aspects of intertwining between the individual/entrepreneur and country. The already performed empirical researches show that the nature of the economy in which the individual operates on a daily basis has a significant influence on his/her willingness for the entrepreneurial activity (e.g. Cuervo, 2005; Audretsch et al, 2007). Such environmental factors that ensure incentive and enable the entrepreneurial

activity are the following: the macroeconomic environment, market or industry conditions, and financial and geographic environment (Cuervo, 2005: 301-302). Shane (2003), on the other hand, uses the empirical evidence in order to confirm that, for example, economic growth, social wealth, and stable economic conditions increase the level of exploitation of business opportunities, while taxes on income, profit and ownership decrease it.

In addition to the economic environment, the political factors which affect the perception of the risk and revenues of entrepreneurial activity are important as well. The general rules of conduct and the political environment factors not only enable the discovery of entrepreneurial possibilities, but also their transformation into enterprises and their further development (Cuervo, 2005: 305). The government policies may affect the entrepreneurial dynamism of an individual country or region with either the introduction of specific policy measures or the creation of a general institutional structure that encourages the entrepreneurial activity. There is a growing amount of literature which examines the role of individual policy measures on entrepreneurship (Audretsch et al., 2007).

Such theoretical and empirical researches examine the characteristics of various entrepreneurship policies and estimate their implementation (Stevenson and Lundström, 2005, 2007; Hoffmann, 2007). Shane (2003) also points out that the level of exploitation of business opportunities in this field is increased especially by freedom, strong legislation, settled property rights and the decentralisation of power.

The third dimension of an institutional environment, which affects the entrepreneurial activity and is pushed more and more to the front, is the socio-cultural environment in terms of values, beliefs and the legitimacy of entrepreneurial activity that ensures incentives for the exploitation of the perceived opportunities (Thornton et al., 2011; Aparicio et al., 2016).

Additionally, the admiration of success and acceptance of failure, changes and creativity are also brought to the forefront. The progressive culture is based on five values, namely: autonomy and independence, innovation or freedom of experimentation, risk-taking, initiative and competitiveness (Lumpkin and Dess, 1996) while more traditional societies emphasise the respect of social status and the rejection of changes. The differences in the entrepreneurial activity among the countries are, therefore, dependent on certain institutions that direct or limit the behaviour of private enterprises in the individual country (Busenitz et al., 2000). As the influence of the socio-cultural environment on the exploitation of

opportunity, Shane (2003) emphasises in particular the social desirability of entrepreneurship, the presence of entrepreneurs – role models, and special cultural values that increase the level of exploitation of business opportunities. However, the empirical assessment of the national culture influence on the level of entrepreneurship is very complex and not yet understood entirely.

## **2.2. Economic freedom as an institutional quality**

The fact that the economic freedom plays an important role in the economic growth has presented a foundation of economic theory for some time. The meaning and the role of an “invisible hand” in well-functioning markets was already presented by Smith (1776) while Ricardo (1821) saw the key meaning of economic development in the free trade (in: Gwartney et al., 1999). Therefore, we can assume that the institutions of economic freedom are connected with the economic growth and development at the macro level and that the same connection can also be found at the micro level – with the entrepreneurship. The individual’s decision for entrepreneurship and the form of entrepreneurial activity are embedded into a matrix, composed of various economic freedom institutions within the national economy (Ali and Crain, 2002; Cole, 2003: in: McMullen et al., 2008: 876). Both the economic freedom, as well as the entrepreneurship, is correlated strongly by the economic growth. The institutional structure, measured by the economic freedom, namely motivates the productive entrepreneurial activity, which is the source of economic growth/development.

Sobel et al. (2007: 225) state that the authors such as Farr et al. (1998), Gwartney et al. (1999) and Gwartney and Lawson (2004) determined through their studies that various levels of economic freedom explain a substantial part of the differences in economic growth between countries, while Ovsaka and Sobel (2005) and Kreft and Sobel (2005) tried to join both sides of the empirical literature, as they claimed that it was precisely the economic freedom which motivated the growth of the economy through entrepreneurship.

Thus, a higher freedom creates the conditions for the economic growth to a greater extent, as it motivates the productive entrepreneurial activity. In this way, these two seemingly conflicting sets of empirical researches are uniform through the recognition that the institutional quality (economic freedom) influences the allocation of entrepreneurial energy between the productive and unproductive operations and that the productive entrepreneurship is a channel through which the good institutions influence the creation of wealth and economic growth.

### 3. MEASUREMENT CONSTRUCT

#### 3.1. Hypotheses

Entrepreneurship is embedded tightly into a specific social environment, which influences whether or not an individual will develop his/her entrepreneurial potentials and accept a decision to enter into the field of entrepreneurship (for example, Busenitz et al., 2000; Wennekers et al., 2002; Szyliowicz and Galvin, 2010; Acs and Szerb, 2011). Therefore, the current paper examines the impact of institutional environment factors on entrepreneurial activity, testing the described relationship through the following hypothesis:

*H1: The institutional environment factors significantly influence the scope of an early-stage entrepreneurial activity.*

In order to research the institutional factors of entrepreneurial activity between countries empirically, we have chosen to restrict ourselves to the categorization, summarized by Shane (2003: 147) on the basis of all previous researches examining the institutional environment; the latter is defined with the help of three dimensions: *By economic, political and socio-cultural environment* in which an entrepreneur operates and influences his/her willingness for the socially-productive entrepreneurship. Due to the fact that only the productive entrepreneurship is the source of the economic growth and social progress, the policy must be focused on the improvement of the institutions' quality in order to get the most productive entrepreneurial results through the help of different inputs (Sobel, 2008).

#### 3.2 Data

The data used for the performance of empirical research have been gained from various databases.

Global Entrepreneurship Monitor (GEM)<sup>1</sup> is an extensive international research project, started in 1998 and coordinated by the London Business School (London, Great Britain) and Babson College (Boston, USA). Every year the project provides international harmonised data on entrepreneurship, which are gained through (1) telephone or personal survey of a sample of at least 2,000 randomly chosen adults in an individual country (Adult Population Survey –

---

<sup>1</sup> <http://www.gemconsortium.org/>

APS) and (2) standardised questionnaires of an average 36 national experts in every country (National Expert Survey – NES).

Our empirical research included the APS data (from the national database) relating to the years 2006, 2007, 2008, 2009, and 2010 and encompassed those GEM countries with data available for the selected variables in all the years studied. These countries are the following: *Argentina, Belgium, Brazil, Chile, Denmark, Finland, France, Greece, Croatia, Iceland, Italy, Japan, Colombia, Latvia, Hungary, the Netherlands, Norway, Peru, Russia, Slovenia, Spain, Uruguay, Great Britain, and the USA*. The GEM research groups the participating economies into three developmental levels: factor-driven, efficiency-driven, and innovation-driven. These are based on the World Economic Forum's (WEF) Global Competitiveness Report, which identifies three phases of economic development based on GDP per capita and the share of exports comprising primary goods. In addition, Porter et al. (2002) pointed out that we can differentiate among factor-driven economies, where development is based on exploiting basic natural resources; efficiency-driven economies, where development is based on an efficient exploitation of these resources; and innovation-driven economies, whose development is based on innovations. The countries falling within the group of factor-driven economies were not included in the research, as they did not provide sufficient time series.

The data for the institutional environment, studied through the collected dimensions of economic freedom, have been obtained from The Heritage Foundation<sup>2</sup> database that, together with the renowned business newspaper the Wall Street Journal, develops, measures, and publishes data on the Index of Economic Freedom (IEF) on an annual basis. The index is a criterion of the quality of institutions that direct the entrepreneurial efforts towards the productive entrepreneurial activities. The index is based on several secondary data (for example, WB, OECD, Eurostat, IMF and other national sources), wherein each of the freedoms is assessed on a level from 0 to 100, 100 being the maximum freedom. All ten fields are weighted equally and, as a weighted average, composed of the results of an individual country that, in terms of providing significant opportunities for the improvement of economic performance, indicate the necessary attention of the policy makers in specific fields.

Due to the lack of internationally and timely comparable data on cultural and social norms, the research has included only the elements of social

---

<sup>2</sup> <http://www.heritage.org/>

environment and cultural and social norms, as covered by the GEM research. The data were taken from the global GEM APS database at the national level.

### 3.3. Variables

The total early-stage entrepreneurial activity (TEA) index is defined as a percentage of adult individuals (18 to 64 years old) who are either actively involved in starting a new venture or are the owners/managers of a business that is less than 42 months old (Bosma et al., 2012). TEA is further divided into the entrepreneurial activity due to opportunity and the entrepreneurial activity due to necessity. The GEM research points out the need to distinguish whether the people had gone into the entrepreneurship only because they did not have any other option to secure themselves a revenue that would guarantee them survival, or because they had found a good business opportunity.

The level of economic freedom may be defined through the key areas that measure the quality of institutions and direct the entrepreneurial efforts towards the productive entrepreneurial activities. In doing so, the essence of economic freedom is perceived as the freedom of individuals that perform business, and as a belief that the entrepreneurship presents a key factor of social development and wealth. The focus of this research is dedicated to the ten widely defined key areas that, nowadays, present the criterion of economic performance of countries around the whole world (IEF) (IEF, 2016): business freedom, trade freedom, fiscal freedom, government spending, monetary freedom, investment freedom, financial freedom, property rights, freedom from corruption and labour freedom.

Our research included the elements of social environment and cultural and social norms as covered by the GEM research. The measurement of people's values, as an indicator of culture, is generally more difficult feasible and is determined by the researches where individual's preferences and opinions are identified through survey. Since individual responses reflect the general attitude of the population towards entrepreneurs and entrepreneurship, they are classified to the national (macro) level of examination. The individual elements of cultural and social norms, included into the research, present (GEM, 2016):

- The share of the working population who believe that most people would prefer to have the same standard of living (*equalinc*);
- The share of the working population who believe that the entrepreneurship is a desirable career choice or career path (*nbgoodc*);

- The share of the working population who believe that successful entrepreneurs are respected in society and have a high social status (*nbstatus*);
- The share of the working population who believe the stories on successful entrepreneurs and their enterprises, which can often be seen in the media (*nbmedia*).

### 3.4. Statistical methods

We created a model that was empirically tested using a stepwise OLS (ordinary least squares) regression. Factors that are strongly correlated with other factors (multicollinearity) were excluded from the stepwise regression. Type (development) of individual economies has also been taken into account in the analysis.

## 4. FINDINGS

The correlation analysis results show that the influence of economic freedom factors on the entrepreneurial activity is often different for both groups of countries included in the sample (innovation vs. efficiency-driven economies - see Table 1).

Based on the correlation coefficients, the indicative assumptions can be determined on the influence of individual dimensions of economic freedom to the early-stage entrepreneurial activity. In doing so, it is important to consider the development (type) of the economy, since correlations for individual groups of countries differ from the correlations for all countries together. We can point out the negative correlation between early-stage entrepreneurial activity and investment freedom in innovation-driven economies. The results coincide with the fact that entrepreneurs in more developed countries are less willing to take risks as entrepreneurs in less developed countries, which was confirmed by the GEM results for the year 2010 (Kelley et al., 2011).

In addition to the dimensions of economic freedom, we have also considered the already chosen elements of cultural and social norms, as suggested by McMullen et al. (2008: 891) in their research, in order to ensure a greater explanation of the variance. Given this basis, we expect that all the chosen elements of cultural and social norms shall influence the early-stage entrepreneurial activity in a positive way.

*Table 1. The correlation coefficients among the variables of economic freedom and an early-stage entrepreneurial activity according to the economy type, 2006-2010.*

		Innovation-driven economies	Efficiency-driven economies
<b>Business freedom</b>	r	.114	.195
	Sig.	.346	.174
	N	70	50
<b>Trade freedom</b>	r	.117	-.151
	Sig.	.333	.296
	N	70	50
<b>Fiscal freedom</b>	r	.516**	-.043
	Sig.	.000	.764
	N	70	50
<b>Government spending</b>	r	.403**	.494**
	Sig.	.001	.000
	N	70	50
<b>Monetary freedom</b>	r	-.193	.364**
	Sig.	.110	.009
	N	70	50
<b>Investment freedom</b>	r	-.300*	.056
	Sig.	.012	.697
	N	70	50
<b>Financial freedom</b>	r	.069	.168
	Sig.	.570	.243
	N	70	50
<b>Property rights</b>	r	.281*	-.110
	Sig.	.018	.448
	N	70	50
<b>Freedom from corruption</b>	r	.239*	-.039
	Sig.	.047	.789
	N	70	50
<b>Labor freedom</b>	r	-.051	-.113
	Sig.	.673	.434
	N	70	50

Notes: r – Pearson product-moment correlation coefficient; sig. 2-tailed.

We have used the institutional environment factors as independent variables in a stepwise regression analysis. A dummy variable for the development (type) of economy has also been added to the regression model. Due to the larger number of independent variables, a stepwise regression has been used in order to evaluate the *Model 1* with thirteen<sup>3</sup> independent variables

<sup>3</sup> In order to study the multicollinearity out of all the 15 institutional variables we decided to exclude the variable freedom from corruption from the model as the latter is connected strongly

and an early-stage entrepreneurial activity as a dependant variable in a sample of 24 GEM countries in the period from 2006 to 2010.

*Model 1*

$$TEA_{it} = a_1 + b_j \text{Factor}_{jit} + c_1 \text{Economy type} + \varepsilon_{it}, \quad (1)$$

$$i = 1, 2, \dots, 120; \quad t = 1, 2, \dots, 5; \quad j = 1, 2, \dots, 15,$$

where:

- the total early-stage entrepreneurial activity (*TEA*) is a dependent variable, given as a proportion of all the adult population in a country, included in the early-stage entrepreneurial activity;
- $a_1$  is a regression constant,
- $b_j$  is a regression coefficient,
- factor  $j$  denotes an independent variable (an institutional environment factor),
- $i$  means the number of observations (24 countries \* 5 years),
- $t$  marks the years observed (2006-2010), and
- $c_1$  is a differential coefficient of the regression constant  $a_1$ , which considers the influence of country's development on the economic growth.

If the coefficient  $c_1$  is statistically significantly different from 0, the evaluated constant elements for the value  $c_1$  change for those countries where GDP per capita exceeds the GDP median per capita of all the countries included in the sample, while the  $\varepsilon_{it}$  presents an error term of the regression.

The results of the stepwise OLS regression are presented in Table 2, which demonstrate that five steps have been necessary. In the first step, the *government spending*, which positively and statistically significantly influences the early-stage entrepreneurial activity (0.146;  $t = 8.103$ , sig. 0.000) has been chosen as the most important variable (with the highest bivariate correlation coefficient). This means that the early-stage entrepreneurial activity increases on average by 0.146% when the government spending increases by one unit.

---

with other variables included in the model (the value  $r$  between the property rights and freedom from corruption amounted to a staggering 0.933, sig. 0.000, while the value  $r$  between the business freedom and freedom from corruption was 0.843, sig. 0.000). Additionally, we also excluded the variable trade freedom, as normal distribution of values was not possible even by using logarithms.

The variable explains 37% of variability of the early-stage entrepreneurial activity.

Table 2. Multiple Regression (Dependant variable: Early-stage entrepreneurial activity for the period from 2006 to 2010, Method of estimation: Stepwise OLS).

	Step 1	Step 2	Step 3	Step 4	Step 5
a <sub>1</sub>	1.403	-6.775	-9.971	-6.397	-19.249
constant	(1.485)	(-4.696) <sup>***</sup>	(-6.880) <sup>***</sup>	(-3.624) <sup>***</sup>	(-6.337) <sup>***</sup>
b <sub>1</sub>	0.146	0.111	0.088	0.062	0.076
government spending	(8.103) <sup>***</sup>	(6.918) <sup>***</sup>	(5.823) <sup>***</sup>	(3.694) <sup>***</sup>	(4.912) <sup>***</sup>
b <sub>2</sub>		0.157	0.134	0.113	0.141
nbgood		(6.806) <sup>***</sup>	(6.281) <sup>***</sup>	(5.296) <sup>***</sup>	(6.974) <sup>***</sup>
b <sub>3</sub>			0.102	0.108	0.090
nbmedia			(5.090) <sup>***</sup>	(5.631) <sup>***</sup>	(5.019) <sup>***</sup>
c <sub>1</sub>				-2.309	-5.566
type of economy				(-3.282) <sup>***</sup>	(-6.090) <sup>***</sup>
b <sub>4</sub>					0.172
business freedom					(4.979) <sup>***</sup>
R <sup>2</sup>	0.365	0.550	0.634	0.667	0.728
R <sup>2</sup> adjusted	0.360	0.542	0.625	0.655	0.716
F	65.654 <sup>***</sup>	69.043 <sup>***</sup>	64.808 <sup>***</sup>	55.541 <sup>***</sup>	58.917 <sup>***</sup>
N	116	116	116	116	116
Durbin-Watson (DW)					1.052
Condition Index (CI)	4.807	10.557	12.406	15.880	36.981

Notes: The t-values in the brackets are \*p ≤ 0.10; \*\*p ≤ 0.05; \*\*\*p ≤ 0.01. The number of observations is lower than 120 due to the elimination of observations with the excessive diverging values (outliers) and the missing variable values (Denmark in 2010).

In the second step, the variable with the highest partial correlation coefficient – *nbgood* - was added which estimates the entrepreneurship as a desired career choice. The regression coefficient *b*<sub>2</sub> is 0.157 (t = 6.806, sig. 0.000), while the variable explains an additional 18.5% of the variability in an early-stage entrepreneurial activity (R<sup>2</sup> equals 0.550 and the adjusted R<sup>2</sup> 0.542). In the third step, the variable of cultural and social norms – *nbmedia* - which has positive and statistically significant influence on the early-stage entrepreneurial activity (0.102; t = 5.090, sig. 0.000), was additionally chosen once again. R<sup>2</sup> totals 63.4% of the variability of the dependant variable. In the

fourth step, the dummy variable was added, which is used for measuring the *development (type) of the economy*. Its regression coefficient  $c_1$  was negative and statistically significant ( $t = -2.309$ , sig. 0.001). This means that, on average, the early-stage entrepreneurial activity in the innovation economies is lower by 2.309% as a result of economic development and is conditioned on the motive for the entrepreneurship. With the increase of economic development, the share of the early-stage entrepreneur's decreases, which was already confirmed by Carree et al. (2007). Necessity-driven self-employment activity tends to be higher in less developed economies (e.g. factor-driven economies). Such economies are unable to keep pace with the demand for jobs in high-productivity sectors, and consequently many people must create their own economic activity. As an economy develops (to efficiency- and then to innovation-driven), the level of necessity-driven entrepreneurial activity gradually declines as productive sectors grow and supply more employment opportunities. At the same time, opportunity-driven entrepreneurial activity tends to pick up with improvements in wealth and infrastructure, introducing a qualitative change in the overall entrepreneurial activity (Bosma and Levie, 2010). By using the dummy variable for the developmental level (type) of economy, it is possible to explain an additional 3.3% of variability of the dependent variable.

In the fifth and last step, the variable that measures *business freedom* was added. However, in this case there is a strong multicollinearity present (CI equals to 36.981). If a variable of business freedom (the variable is connected strongly to the variable of *property rights*;  $r = 0.8$ , sig. 0.000) is excluded from the model, a variable which measures the *financial freedom* is introduced in the fifth step. Therefore, the early-stage entrepreneurial activity increased, on average, by 0.043% when financial freedom is increased by one unit. In this case, the  $R^2$  equals 68.2% of variability of the dependent variable (adjusted  $R^2 = 66.7\%$ ). Thereby, in the final model, the CI is lower than the critical value 30 (Condition Index = 19.526), which means that a multicollinearity of moderate intensity is present in the model. Nevertheless, the Durbin-Watson statistic, which verifies the presence of autocorrelation in the analysis of the time series, remained relatively low ( $DW = 1.052$ ) and that means that there is some positive autocorrelation present in the model – dependence of the residues from the residues with a delay. The model in this case includes the following values:  $a_1$  regression constant -8.842 ( $t = -4.326$ , sig. 0.000),  $b_1$  government spending 0.070 ( $t = 4.176$ , sig. 0.000),  $b_2$  nbgood 0.105 ( $t = 4.904$ , sig. 0.000),  $b_3$  nbmedia 0.112 ( $t = 5.919$ , sig. 0.000),  $c_1$  economy type -2.877 ( $t = -3.914$ , sig. 0.000),  $b_4$  financial freedom 0.043 ( $t = 2.261$ , sig. 0.026). The other institutional

environment factors were excluded from the regression, mostly due to the fact that they are correlated with other factors (multicollinearity).

## 6. CONCLUSIONS

Using the empirical results, we can confirm the H1 hypothesis, which says that the institutional environment factors influence significantly the scope of an early-stage entrepreneurial activity. At the forefront are the elements of cultural and social norms, especially entrepreneurship as a desirable career choice and the presence of entrepreneurial stories in the media. It is also a well-known fact that more entrepreneurial activity can be expected in the environments where the entrepreneurship is socially desirable and legitimate, while the entrepreneurial profession is respected and exalted (Liao and Welsch, 2003).

By using the regression *Model 1*, which encompasses two out of the seven<sup>4</sup> variables of economic freedom included in the model, we have managed to confirm the fact that the freedom of government spending and financial freedom influence the early-stage entrepreneurial activity in a significantly positive way. The findings partially coincide with the results of some other researches (for example Sobel et al., 2007), which show primarily to the maximum connection between the entrepreneurship, economic freedom and the scope of government intervention (as measured by Frasier's Index of Economic Freedom) or to the smaller government sectors and levels of self-employment (Bjørnskov and Foss, 2008; Nyström, 2008). These mentioned researches have managed to confirm the fact that a positive connection exists between the entrepreneurial activity and a stable financial environment, which also includes partially some elements of IEF financial freedom.

Among the factors of economic freedom, the variables of business freedom, property rights and freedom from corruption that are heavily correlated among each other can be detected, as well as the influence of government spending and fiscal and financial freedom on the early-stage entrepreneurial activity. In doing so, we can, therefore, conclude that the institutional factors are influenced strongly by the government politics, national culture, and economic development. All this points to the fact that the government measures for the field of entrepreneurship must be adjusted specially to the individual developmental level of the economy and, at the same time also to a certain entrepreneurship type that needs or wants to be stimulated.

---

<sup>4</sup> Three variables of economic freedom were excluded from the analysis, namely: Freedom from corruption, business freedom, and the trade freedom.

Greater economic freedom in the institutional context of a country affects the extension of productive entrepreneurship, while the individual's decision for the entrepreneurship is conditioned significantly by the prevailing cultural and social norms. Considering the economic development (economy types), the connections are different, which reiterates the meaning of consideration of the development perspective in the drawing of conclusions and starting points to the policy makers. In particular, the policies, which relate to the provision of an adequate infrastructure, removal of administrative barriers and ordered financial system are vital for the promotion of entrepreneurial activity. The focus of innovative countries is to create a perspective environment for domestic and foreign investments, technological development and greater competitive strength. Of course, other numerous factors, related to the environmental education, support of the research and development organisations and other measures that provide further development and exploitation of the effects of economies of scale and comparative advantages that lead towards the entrepreneurial economy could be highlighted at this point.

Things are quite on the contrary in the group of the efficiency-driven economies, where there exists a need to create such conditions which will attract foreign capital or enable the exploitation of economy of scale through indirect foreign investments. What we have in mind here is the establishment of an adequate infrastructure, education and improvement and all the other conditions needed for the development of entrepreneurship and greater efficiency of the economy. It is also necessary to develop additional frameworks to encourage opportunity-based entrepreneurship. Regardless of the economic crisis and adapted economic policy instruments, more emphasis should be devoted to stimulating innovation-oriented entrepreneurship to enable all countries to develop. The environment is a significant factor influencing both the emergence and development of entrepreneurship; therefore, identifying policies leading to appropriate levels of entrepreneurial activity is a significant challenge (Bosma 2012: 35). Irrespective of the economic development stages, entrepreneurship always remains important.

The limitation of the current study is its lack of data regarding various aspects of entrepreneurship. As such, entrepreneurial activity in the next stage of development (i.e. established businesses) could not be excluded. In the current research, we considered the scope of early entrepreneurial activity; such an activity is particularly sensitive to socio-economic factors, which either promote or hinder entrepreneurship. Future research should use some other international comparable measure of entrepreneurial activity as well. Further analysis will be appropriate with multi-level analysis that considers

determinants of entrepreneurship focused on the individual, enterprise, and macro levels to explain entrepreneurial progress.

## REFERENCES

1. Acs, Z. J., and Szerb, L. (2011). *Global Entrepreneurship & Development Index, inaugural ed.* UK, USA: Edward Elgar.
2. Aparicio, S., Urbano, D., and Audretsch, D. (2016). Institutional Factors, Opportunity Entrepreneurship and Economic Growth: Panel Data Evidence. *Technological Forecasting and Social Change, 102*, 45–61.
3. Audretsch, D. B., Grilo, I. and Thurik, R. (2007). Explaining Entrepreneurship and the Role of Policy: A Framework, in D.B. Audretsch, I. Grilo and A.R. Thurik, ed. *Handbook of Research on Entrepreneurship Policy*, Cheltenham: Edward Elgar Publishing Limited, 1-17.
4. Autio, E., and Fu, K. (2014). Economic and Political Institutions and Entry into Formal and Informal Entrepreneurship. *Asia Pacific Journal of Management, 32*(1), 67-94.
5. Bjørnskov, C., and Foss, N. J. (2008). Economic Freedom and Entrepreneurial Activity: Some Cross-Country Evidence. *Public Choice, 134*, 307-328.
6. Bosma, N., Coduras, A., Litovski, Y., and Seaman, J. (2012). *GEM Manual, A Report on the Design, Data and Quality Control of the Global Entrepreneurship Monitor*. GEM Working Papers.
7. Bosma, N., Jones, K., Autio, E., and Levie, J. (2008). *Global Entrepreneurship Monitor: 2007 Executive Report*. Babson College, London Business School, and GERA.
8. Bosma, N. S., and Levie, L. (2010). *Global Entrepreneurship Monitor 2009: Executive Report*. Babson Park, MA, US: Babson College, Santiago, Chile: Universidad del Desarrollo and Reykjavík, Iceland: Háskólinn Reykjavík University, London, UK: Global Entrepreneurship Research Association.
9. Busenitz, L. W., Gomez, C., and Spencer, J. W. (2000). Country Institutional Profiles: Unlocking Entrepreneurial Phenomena. *Academy of Management Journal, 43*(5), 994-1003.
10. Carree, M., van Stel, A., Thurik, R., and Wennekers, S. (2007). Economic Development and Business Ownership Revisited. *Entrepreneurship and Regional Development, 19*, 281-291.
11. Carree, M. A., van Stel, A. J., Thurik, A. R., and Wennekers, A. R. M. (2002). Economic Development and Business Ownership: An Analysis Using Data of 23 OECD Countries in the Period 1976–1996. *Small Business Economics, 19*, 271–290.

12. Cuervo, A. (2005). Individual and Environmental Determinants of Entrepreneurship. *International Entrepreneurship and Management Journal*, 1(3), 293-311.
13. Davidsson, P., and Wiklund, J. (2001). Levels of Analysis in Entrepreneurship Research: Current Research Practice and Suggestions for the Future. *Entrepreneurship Theory and Practice*, 25(4), 81-100.
14. Fotopoulos, G. (2012). Nonlinearities in Regional Economic Growth and Convergence: The Role of Entrepreneurship in the European Union Regions. *The Annals of Regional Science*, 48(3), 719-741.
15. Galindo, M. Á., and Méndez-Picazo, M. T. (2013). Innovation, Entrepreneurship and Economic Growth. *Management Decision*, 51(3), 501 – 514.
16. GEM (2016). Global Entrepreneurship Monitor. Available at: [www.gemconsortium.org/data](http://www.gemconsortium.org/data).
17. Gwartney, J. D. Lawson, R. A., and Holcombe, R. G. (1999). Economic Freedom and the Environment for Economic Growth. *Journal of Institutional and Theoretical Economics*, 155(4), 643-663.
18. Hafer, R. W. (2013). Entrepreneurship and State Economic Growth. *Journal of Entrepreneurship and Public Policy*, 2(1), 67-79.
19. Hoffmann, A. N. (2007). A Rough Guide to Entrepreneurship Policy. in: D Audretsch, I Grilo and R Thurik, ed.: *The Handbook of Entrepreneurship Policy*, Cheltenham: Edward Elgar, 94-129.
20. IEF. (2016). Index of Economic Freedom. Available at: <http://www.heritage.org/index/explore>.
21. Kelley, D., Bosma, N., and Amoros, J. E. (2011). *Global Entrepreneurship Monitor: 2010 Global Report*. Babson College, Babson Park, MS, US; Universidad del Desarrollo, Santiago, Chile; London Business School, London, UK in GERA.
22. Liao, J., and Welsch H. (2003). Social Capital and Entrepreneurial Growth Aspiration: a Comparison of Technology- and Non-technology-based Nascent Entrepreneurs. *Journal of High Technology Management Research*, 14(1). 149-170.
23. Luke, B., Verreynne, M. L., and Kearins, K. (2007). Measuring the Benefits of Entrepreneurship at Different Levels of Analysis. *Journal of Management and Organization*, 13(4), 312-330.
24. Lumpkin, G. T., and Dess, G. G. (1996). Clarifying the Entrepreneurial Orientation Construct and Linking it to Performance. *Academy of Management Review*, 21(1), 135-172.
25. McMullen, J. S., Bagby, D. R., and Palich, L. E. (2008). Economic Freedom and the Motivation to Engage in Entrepreneurial Action. *Entrepreneurship Theory and Practice*, 32(5), 875-895.

26. Minniti, M., and Lévesque, M. (2010). Entrepreneurial Types and Economic Growth. *Journal of Business Venturing*, 25(3), 305-314.
27. Nissan, E., Galindo Martín, M., and Méndez Picazo, M. (2011). Relationship Between Organizations, Institutions, Entrepreneurship and Economic Growth Process. *International Entrepreneurship and Management Journal*, 7(3), 311-324.
28. North, D. C. (1991). Institutions. *Journal of Economic Perspectives*, 5(1), 97-112.
29. Nystrom, K. (2008). The Institutions of Economic Freedom and Entrepreneurship: Evidence from Panel Data. *Public Choice*, 136, 269-282.
30. Porter, M. J., Sachs, J., and McArthur, J. (2002). Executive Summary: Competitiveness and Stages of Economic Development. In: MJ Porter, PK Sachs, JW Cornelius, J McArthur and K Schwab (eds): *The Global Competitiveness Report 2001 – 2002*. New York, USA: Oxford University Press, 16 – 25.
31. Shane, S. (2003). *A General Theory of Entrepreneurship. The Individual-Opportunity Nexus*. Cheltenham, UK; Northampton, MA, USA: Edward Elgar.
32. Sobel, R. S. (2008). Testing Baumol: Institutional Quality and the Productivity of Entrepreneurship. *Journal of Business Venturing*, 23(6), 641-655.
33. Sobel, R. S., Clark, J. R., and Dwight, R. L. (2007). Freedom, Barriers to Entry, Entrepreneurship, and Economic Progress. *The Review of Austrian Economics*, 20(4), 221-236.
34. Stevenson, L., and Lundström, A. (2005). Entrepreneurship Policy for the Future: Best Practice Components, in: R van der Horst, S King-Kauanui and S Duffy, ed.: *Keystones of Entrepreneurship Knowledge*, Oxford: Blackwell Publishing, 177-94.
35. Stevenson, L., and Lundström, A. (2007). Dressing the Emperor: The Fabric of Entrepreneurship Policy, in: D Audretsch, I Grilo and R Thurik, ed.: *The Handbook of Entrepreneurship Policy*, Cheltenham: Edward Elgar, 94-129.
36. Szyliowicz, D., and Galvin, T. (2010). Applying Broader Strokes: Extending Institutional Perspectives and Agendas for International Entrepreneurship Research. *International Business Review*, 19(4), 317-332.
37. Tang, L., and Koveos, P. E. (2004). Venture Entrepreneurship, Innovation Entrepreneurship, and Economic Growth. *Journal of Developmental Entrepreneurship*, 9(2), 161-171.
38. Thornton, P. H., Ribeiro-Soriano, D., and Urbano, D. (2011). Socio-cultural Factors and Entrepreneurial Activity: An Overview. *International Small Business Journal*, 29, 105-118.

39. Van Stel, A. J., Carree, M. A., and Thurik, A. R. (2005). The Effect of Entrepreneurial Activity on National Economic Growth. *Small Business Economics*, 24(3), 311-321.
40. van Stel, A., Wennekers, S., and Scholman, G. (2014). Solo Self-employed versus Employer Entrepreneurs: Determinants and Macro-economic Effects in OECD Countries. *Eurasian Business Review*, 4(1), 107-136.
41. Welter, F., and Smallbone, D. (2011). Institutional Perspectives on Entrepreneurial Behavior in Challenging Environments. *Journal of Small Business Management*, 49(1), 107-125.
42. Wennekers, A. R. M., Uhlander, L. M., and Thurik, R. (2002). Entrepreneurship and its Conditions: A Macro Perspective. *International Journal of Entrepreneurship Education*, 1(1), 25-64.
43. Wennekers, S., and Thurik, R. (1999). Linking Entrepreneurship to Economic Growth, *Small Business Economics*, 13(1), 27-55.
44. Wennekers, S., van Stel, A., Thurik, R., and Reynolds, P. (2005). Nascent Entrepreneurship and the Level of Economic Development. *Small Business Economics*, 24(3), 293-309.

## INSTITUCIONALNE DETERMINANTE I PODUZETNIČKA AKTIVNOST

### Sažetak

U ovom se radu analizira djelovanje specifičnih institucionalnih čimbenika na poduzetničku aktivnost, pri čemu se u obzir uzimaju različiti pogledi na poduzetništvo i potrebe nacionalne politike. Cilj istraživanja je utvrditi utječu li institucionalni čimbenici na ranu poduzetničku aktivnost. Pritom postoji veliki broj različitih mišljenja o odgovarajućem broju čimbenika, koji utječu na poduzetnički proces, kao i prirodi njihova utjecaja te razlikama između više i manje razvijenih zemalja. Stoga smo analizirali svoju hipotezu s obzirom na podatke iz 24 zemlje (Argentine, Belgije, Brazila, Čilea, Kolumbije, Hrvatske, Danske, Finske, Francuske, Grčke, Mađarske, Islanda, Italije, Japana, Latvije, Nizozemske, Norveške, Perua, Rusije, Slovenije, Španjolske, Velike Britanije, Urugvaja i SAD-a), za period između 2006. i 2010. godine, a što čini ukupno 120 opažanja. Podaci su preuzeti iz baze podataka istraživanja *Global Entrepreneurship Monitor (GEM)* i dopunjeni podacima iz međunarodnih izvora, kao što je *Heritage Foundation*. Korištenjem ekonometrijskih modela, utvrđeno je da razina ekonomske slobode, u institucionalnom kontekstu, utječe na povećanje produktivnog poduzetništva. Na individualne odluke o ulasku u poduzetništvo, pak, značajno djeluju prevladavajuće kulturne i društvene norme.