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Drivers of Entrepreneurial Motivations: The Role of Institutional Quality[1]

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Abstract

The aim of our research is to empirically evaluate and analyse the effects of quality of institutions on the level of early-stage entrepreneurial activity, but also the effects on the motivation of individuals to start new businesses and thus to enter into entrepreneurship. Our research focuses on member countries of the European Union, using panel data estimation techniques and targets a period of fifteen years, between 2002 and 2016. The results of our study show that, the level of the total early-stage entrepreneurial activity can be significantly affected by the quality of institutions, and the impact of institutional factors is different depending on the types of entrepreneurial activities analysed. The findings of the study confirm previous findings showing that the economic freedom and the quality of governance are significant predictors of entrepreneurial activity but also of individuals' motivation to start a business. The results of our empirical investigation could be of interest to policymakers, who should be concerned about identifying and implementing the most appropriate measures to increase the quality of institutions, which should lead to the promotion of entrepreneurship and the development of entrepreneurial activities within a country.

Keywords: *entrepreneurship, opportunity-motivated entrepreneurs, necessity--motivated entrepreneurs, economic freedom, governance indicators*

JEL Classification: L26, M13, C23

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Introduction

The level of entrepreneurial activity varies significantly across countries, so that more studies in entrepreneurship literature have focused on identifying and analysing the factors that could explain the differences in rate of entrepreneurial activity (Wennekers et al., 2005; Wennekers, 2006; Levie and Autio, 2008; Bosma and Schutjens, 2011; Stenholm, Acs and Wuebker, 2013; Simón-Moya, Revuelto--Taboada and Guerrero, 2014; Chowdhury, Terjesen and Audretsch, 2015; Amorós, Borraz and Veiga, 2016; Aparicio, Urbano and Audretsch, 2016). The results of the undertaken researches indicate that some of these differences are due to the specific institutional environment in which entrepreneurs operate, including institutional quality. Hall and Sobel (2008) emphasize that recognizing the importance of quality of institutions is an important first step in the process of promoting entrepreneurship, which is a driver of economic growth and prosperity.

In order to understand the impact of the institutional environment on entrepreneurship, but also to explain the differences between countries regarding the level of entrepreneurial activity, most studies take into account the institutional theory, which states that the institutions shape the activity and behaviour. North (1990) defines institutions as „rules of the game in a society or, more formally, are the humanly devised constraints that shape human interactions." According to North (1990), institutions are classified into formal (laws, rules and regulations) and informal (such as values, culture, and social norms of a particular country). These institutions are considered to play a crucial role in reducing the uncertainty within a society (Stenholm, Acs and Wuebker, 2013) and may be important predictors of entrepreneurial activity (Valdez and Richardson, 2013).

The main objective of our research is to empirically evaluate and analyse the effects of quality of institutions on the level of early-stage entrepreneurial activity, but also on the motivation of individuals to start a business. Our research focuses on eighteen member countries of the European Union (Belgium, Croatia, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, the Netherlands, Portugal, Romania, Slovenia, Spain, Sweden, and the United Kingdom) and covers a period of 15 years (2002 – 2016).

Our study brings at least two contributions to the current literature on institutional environment and entrepreneurship. First of all, we offer empirical evidence on the different impact of institutional quality on entrepreneurial motivation. Thus, our research contributes to understanding how the quality of institutions, especially the quality of governance institutions, influences a person's motivation to start a business and thus enter into entrepreneurship. Secondly, our research focuses on a sample of EU countries and examines how the changes in the quality of institutions affect people's motivation to be entrepreneurs in the countries studied.

Our paper is structured as follows: section 1 briefly reviews the literature on institutional environment and entrepreneurship, presenting the findings of the main empirical studies that address the impact of institutional factors on entrepreneurship, the role played by economic freedom and also by the quality of governance on entrepreneurial motivations; section 2 presents the methodology used, the sample surveyed, the variables and the econometric methods used; section 3 discusses our empirical results regarding the effects of economic freedom and quality of governance on the motivation of individuals to become entrepreneurs; the final sections conclude the study and indicate the implications of our results.

1. A Brief Review of the Literature on the Institutional Environment and Entrepreneurial Activity

The impact of the institutional environment on entrepreneurship has been examined by many researchers, and the results of empirical studies show a lack of consensus on institutional factors that could encourage or, on the contrary, hinder the development of entrepreneurial activity. The different results obtained by the researchers are due in particular to the different way of measuring entrepreneurship in the studies, to the number of variables used but also to the sample of countries surveyed (Sobel, Clark and Lee, 2007; Simón-Moya, Revuelto--Taboada and Guerrero, 2014; Chowdhury, Terjesen and Audretsch, 2015). However, there is considerable evidence to allow us to sustain that the institutional environment is a significant determinant of entrepreneurial activity in an economy (Bruton, Ahlstrom and Li, 2010). Danis et al. (2006) have shown that, the institutional changes have a significant impact on competitive strategies and managerial activities. Managers try to adapt to environmental changes and to institutional reforms and might change their strategies.

Busenitz, Gómez and Spencer (2000) proposed and empirically validated, on the case of six countries, an instrument that help researchers to identify how specific country-level institutional differences contribute differently to levels and types of entrepreneurship. Their study emphasizes the importance of identifying a country institutional profile due to the effect it has on the development of different types of business in that country.

Among other early empirical studies that have analysed how institutions affect entrepreneurship, we mention those made by Kreft and Sobel (2005), Hall and Sobel (2008), Bjørnskov and Foss (2008), McMullen, Bagby and Palich (2008), and Nyström (2008). Kreft and Sobel (2005) argue that in the countries that show an increase in the index of economic freedom, individuals are more interested to engage in entrepreneurial activities. The authors also stressed the

need to increase economic freedom in order to encourage entrepreneurial activity, which is vitally important for economic growth. In agreement with Hall and Sobel (2008), increasing economic freedom would lead to higher levels of productive entrepreneurial activity, which would generate higher income per capita and a higher rate of economic growth.

In the study of Bjørnskov and Foss (2008), there are analysed the effects of economic freedom (measured by the five indices, namely government size, legal quality, sound money, international trade and regulatory quality) on the level of entrepreneurial activity for a sample of 29 countries. The authors find that size of government, the quality of the monetary policy and the overall financial environment are key determinants of entrepreneurship in the investigated countries. The results of the empirical study indicate that the size of government is negatively correlated with entrepreneurial activity, while sound money is positively correlated. Similarly, Nyström (2008) investigates the influence of institutions of economic freedom on entrepreneurship and finds that it is positively correlated with a smaller government sector, better legal structure and security of property rights, but also with less strict regulation of credit, labour and business.

Compared to the authors mentioned above, McMullen, Bagby and Palich (2008) have been concerned with examining the impact of various components of economic freedom on a person's motivation to be an entrepreneur. Empirical results show that entrepreneurial activity motivated by opportunity is positively correlated with increasing economic freedom in terms of property rights and labour freedom, while entrepreneurial activity driven by necessity is positively correlated with increasing economic freedom expressed through fiscal freedom, monetary freedom, and labour freedom. Overall, the study points out that the components of economic freedom affect entrepreneurial activity differently according to governmental restrictions imposed on economic freedom and on the motivation of a person to start a business. Estrin, Korostelva and Mickiewicz (2011) empirically examines how some institutional factors affect the aspirations of entrepreneurs to create more jobs. The results of the study show that high levels of corruption negatively affect entrepreneurial aspirations, while stronger property rights encourage entrepreneurs' aspirations to employment growth. In addition, the authors find that the large size of the state sector has a demotivating effect on employment growth plans of entrepreneurs. Similar to the previous study, but considering another form of measuring entrepreneurial activity, Aidis, Estrin and Mickiewicz (2012) analysed the influence of the institutional environment (freedom from corruption, the quality of property rights and the size of the state sector) on the decision of a person to be an entrepreneur, on a sample of 47 countries. The results of the empirical research indicate that the choice of an

individual to start a business depends significantly on the size of the state sector and on freedom from corruption. Stenholm, Acs and Wuebker (2013) discussed the relationship between institutions and entrepreneurship and showed that institutional arrangements have a varied influence on both the rate and type of entrepreneurial activity. The authors also point out that institutional arrangements related to regulations encourage entrepreneurial activity in a country to a much greater extent than any other factor.

The analysis of literature on entrepreneurship shows that a growing number of studies emphasizes that the effects of the institutional environment on entrepreneurship are differentiated according to entrepreneurial motivations. Among the more recent studies investigating the impact of institutional factors on entrepreneurship, motivated by opportunity and necessity, we mention those of Friedman (2011), Valdez and Richardson (2013), Amorós and Stenholm (2014), Simón-Moya, Revuelto-Taboada and Guerrero (2014), Fuentelsaz et al. (2015), Amorós, Borraz and Veiga (2016), Amorós et al. (2017), Angulo-Guerrero, Pérez-Moreno and Abad-Guerrero (2017). The empirical study of Fuentelsaz et al. (2015) highlights, for a sample of 63 countries, how formal institutions (e.g., property rights, business freedom, fiscal freedom, labour freedom and financial freedom) are affecting entrepreneurial motivations. Overall, the results of the study indicate that an increase in quality of formal institutions has a positive impact on both the entrepreneurship opportunity and also on the relationship between opportunity entrepreneurship and necessity entrepreneurship. The authors also find a negative correlation between economic freedom indicators and necessity entrepreneurship.

Angulo-Guerrero, Pérez-Moreno and Abad-Guerrero (2017) examine the effects of economic freedom on the motivation for starting a business. The authors find that the index of economic freedom is significantly correlated with types of entrepreneurship motivation, but association is positive with entrepreneurship opportunity and negative with necessity entrepreneurship. Using data for 51 countries and for a period of nine years, Amorós et al. (2017) examine the influence of state fragility (calculated as the average of the World Bank's six global governance indicators, namely, voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption) and of the level of economic development on the likelihood of a person to start a business, either for reasons of opportunity or for necessity. Empirical results show that state fragility reduces incentives for opportunity-based entrepreneurship and increase incentives to engage in entrepreneurial activities based on necessity. The authors also point out that the link between fragility and necessity-based entrepreneurship is particularly important in poorer economies and becomes less important as the economy grows.

The review of recent empirical studies that examined the influence of quality of institutions on the level of early-stage entrepreneurial activity and on the motivation of individuals to enter into entrepreneurship shows the existence of a small number of researches focused on EU countries. Therefore, our paper complements the literature in the field of entrepreneurship by providing empirical evidence on the different impact of institutional quality on entrepreneurial motivations in EU countries.

2. Data and Methodology

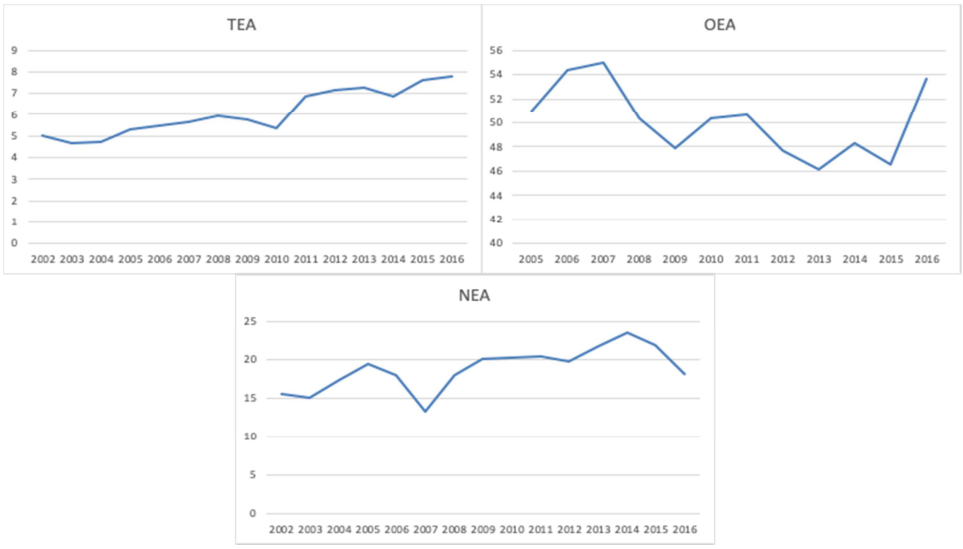
Our paper empirically investigates the effects of institutional quality on entrepreneurial activity but also the motivation of a person to start a business in the 18 EU member states (Belgium, Croatia, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, the Netherlands, Portugal, Romania, Slovenia, Spain, Sweden, and the United Kingdom). We did not consider all EU countries because the data was not available for the entire period considered, and for each indicator examined. The analysis covers a period of 15 years (2002 – 2016) and is based on data coming from the Global Entrepreneurship Monitor (GEM) database, the Heritage Foundation, the World Bank's Worldwide Governance Indicators (WGI) database and the World Bank's World Development Indicators (WDI) database.

As dependent variables of our models, we have used the indicators calculated at country level by Global Entrepreneurship Monitor (2017) for measuring entrepreneurial activity and the motivation of entrepreneurs. Thus, we used as proxy for the level of entrepreneurial activity, *the total early-stage entrepreneurial activity (TEA) rate*, which is a key indicator of entrepreneurship and is of significant importance to a country's economy because entrepreneurs involved in this phase of entrepreneurial activity are expecting job creation and innovation. According to the GEM methodology, the TEA rate expresses the percentage of working age population who are either actively involved in starting a new business (nascent entrepreneurs) or are running a new business that is less than 42 months old (new entrepreneurs). These two types of entrepreneurs (early-stage entrepreneurs) are engaged in new business activity. For measuring the motivation to become entrepreneur, we use as proxy the *improvement-driven opportunity entrepreneurial activity rate* and the *necessity-driven entrepreneurial activity rate*. The *improvement-driven opportunity entrepreneurial activity* (OEA) *rate* is measured by the percentage of early-stage entrepreneurs who indicate that their main driver for becoming entrepreneur is the opportunity of being independent, or increasing their income, as opposed to finding no other option for work or just

maintaining their income. The *necessity-driven entrepreneurial activity* (NEA) *rate* is defined by the percentage of early-stage entrepreneurs who are involved in entrepreneurship because they had no other option for work. We choose to make the distinction between opportunity and necessity entrepreneurs because the literature in the field of entrepreneurship highlights the fact that the changes in the external environment affects differentiated entrepreneurial activity, depending on the entrepreneurial motivations. Opportunity-based entrepreneurs usually start a business for reasons of profit, innovation, and sometimes personal aspirations, and they are related to innovative activities with the potential of creating new jobs and even increasing productivity (Reynolds et al., 2005; McMullen, Bagby and Palich, 2008; Stenholm, Acs and Wuebker, 2013; Cullen, Johnson and Parboteeah, 2014). Comparatively, necessity motivated entrepreneurs start a new business due to the lack of alternatives of employment (Shane, 2009; Valdez and Richardson, 2013; Amorós et al., 2017). Moreover, Benzing, Chu and Kara (2009) have shown that entrepreneurs' motivating factors are different according to the country where they operate, respectively in some countries a significant number of the entrepreneurs are motivated by necessity and security, while in others most entrepreneurs are motivated by income, the desire for autonomy. Figure 1 presents the average EU-18 evolution of the dependent variables for the period of fifteen years considered in our analysis (for TEA and NEA) and thirteen years, for OEA (data was not available for this variable between 2002 and 2004). The figure shows that all the dependent variables vary significantly over time.

F i g u r e 1

The Average EU-18 Evolution of TEA, OEA and NEA (in %)



Source: Own calculations based on data from Global Entrepreneurship Monitor (2017).

As explanatory variables of our empirical models, we have considered *institutional quality* reflected by two institutional dimensions, namely: *economic freedom* and *the quality of governance institutions*. In regard to the first dimension, *the index of economic freedom* (IEF) is used as explanatory variable. This measures the economic freedom based on twelve quantitative and qualitative factors that are grouped on four pillars, namely: rule of law (property rights, government integrity, judicial effectiveness), government size (government spending, tax burden, fiscal health), regulatory efficiency (business freedom, labour freedom, monetary freedom), and open markets (trade freedom, investment freedom, financial freedom). The value of IEF varies from 0 (indicating the lowest freedom) to 100. The data used for the IEF is retrieved from Heritage Foundation (2017). The literature in the field has shown that greater economic freedom is positively related to entrepreneurship (Kreft and Sobel, 2005; Hall and Sobel, 2008; McMullen, Bagby and Palich, 2008; Nyström, 2008; Crnogaj and Bradač Hojnik, 2016). Moreover, other studies found that economic freedom encourages opportunity-based entrepreneurship and discourages necessity-based entrepreneurship (McMullen, Bagby and Palich, 2008; Fuentelsaz et al. 2015, Angulo-Guerrero, Pérez-Moreno and Abad-Guerrero, 2017).

Besides the index of economic freedom, we also use as explanatory variable *governance quality*. Kaufmann, Kraay and Mastruzzi (2009) define governance as „the traditions and institutions by which authority in a country is exercised" and measures the quality of governance through six dimensions, namely voice and accountability, political stability and absence of violence, government effectiveness, control of corruption. Each of these dimensions has scores ranging between –2.5 and 2.5 (the highest scores expressing the best results) and are defined by Kaufmann, Kraay and Mastruzzi (2009) as follows:

- *voice and accountability* (VA) expresses the perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and free media;
- *political stability and absence of violence* (PS) measures the likelihood that a government will be destabilized by unconstitutional or violent means, including terrorism;
- *government effectiveness* (GE) measured by the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies;
- *regulatory quality* (RQ) measured by the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development;

- *rule of law* (RL) the extent to which agents have confidence in and abide by the rules of society, including the quality of property rights, the police and the courts, and the risk of crime;
- *control of corruption* (CC) measures the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as the „capture" of the state by elites and private interests.

In our study, we use as proxy for governance quality, *the governance index* (GOV), which we have calculated as the simple average of the six dimensions of governance quality. The annual data for the indicators used for calculating the governance index are obtained from the World Bank's Worldwide Governance Indicators database (World Bank, 2017b). The relationship between the governance indicators and entrepreneurial activity has been examined by many authors. Dau and Cuervo-Cazurra (2014) found that governance is negatively associated with total entrepreneurship, and other authors (Bowen and De Clercq, 2008; Anokhin and Schulze, 2009; Amorós et al., 2017; Rodríguez-Gulías, De Sousa Gabriel and Rodeiro-Pazos, 2018) have shown that each component of the governance indicator affects differently the entrepreneurs depending on their motivation (opportunity or necessity).

To offer a clear image of the variables considered in our model we summarized their description, together with their definition and source in Table 1.

We have also included two control variables at country level, which are frequently used in empirical studies, namely GDP growth and unemployment. Data on control variables was obtained from the World Bank's World Development Indicators (WDI) database (World Bank, 2017a). In relation to GDP growth (measured as annual percentage growth rate of real GDP), we aim to test if economic growth creates opportunities for starting a business. The unemployment rate (measured by the share of the labour force that is without work but available for seeking employment, as % of total labour force) might affect the decision of a person to engage in entrepreneurial activities (Wennekers et al., 2005; Lasch, Gundolf and Kraus, 2007; Fairlie, 2013; Vidal-Suñé and Lopez-Panisello, 2013; Vivarelli, 2013; Amorós, Borraz and Veiga, 2016). Thus, entrepreneurs motivated by necessity do not have other options for work and are seeking to obtain the income necessary for living, so, the changes of unemployment rate have a direct relation with this type of entrepreneurs.

Moreover, opportunity driven entrepreneurs are discouraged by higher rates of unemployment (Wennekers et al., 2005; Vidal-Suñé and Lopez-Panisello, 2013; Fuentelsaz et al. 2015), because a significant increase in the rate of unemployment can be linked to a stagnation of economic growth, which leads to fewer entrepreneurial opportunities.

T a b l e 1

Description of the Variables

Variable (Abbreviation)	Definition	Source
Dependent variables		
Total early-stage entrepreneurial activity rate (TEA)	the percentage of working age population who are either actively involved in starting a new business (nascent entrepreneurs) or are running a new business that is less than 42 months old (new entrepreneurs)	Global Entrepreneurship Monitor
Improvement-driven opportunity entrepreneurial activity rate (OEA)	percentage of early-stage entrepreneurs who indicate that their main driver for becoming entrepreneur is the opportunity of being independent, or increasing their income, as opposed to finding no other option for work or just maintaining their income.	Global Entrepreneurship Monitor
Necessity-driven entrepreneurial activity (NEA) rate	the percentage of early-stage entrepreneurs who are involved in entrepreneurship because they had no other option for work.	Global Entrepreneurship Monitor
Independent variables		
Economic freedom (IEF)	measures the economic freedom based on twelve quantitative and qualitative factors that are grouped on four pillars. Takes values from 0 (indicating the lowest freedom) to 100.	Heritage Foundation
Governance Quality (GOV)	measures the quality of governance through six dimensions (described bellow). Each dimension has scores ranging between –2.5 and 2.5	World Bank's Worldwide Governance Indicators database
1. Voice and accountability (VA)	expresses the perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and free media	World Bank's Worldwide Governance Indicators database
2. Political stability and absence of violence (PS)	measures the likelihood that a government will be destabilized by unconstitutional or violent means, including terrorism	World Bank's Worldwide Governance Indicators database
3. Government effectiveness (GE)	measured by the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies	World Bank's Worldwide Governance Indicators database
4. Regulatory quality (RQ)	measured by the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development	World Bank's Worldwide Governance Indicators database
5. Rule of law (RL)	the extent to which agents have confidence in and abide by the rules of society, including the quality of property rights, the police and the courts, and the risk of crime	World Bank's Worldwide Governance Indicators database
6. Control of corruption (CC)	measures the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as the „capture" of the state by elites and private interests	World Bank's Worldwide Governance Indicators database
Control variables		
Real GDP growth (GDPR)	Annual percentage growth rate of real GDP. Represents the total value, at constant prices of final goods and services produced within a country during a specific time, such one year.	International Monetary Fund (2019) Data Mapper, World Economic Outlook
Unemployment (UNEMP)	Unemployment refers to the share of the labour force that is without work but available for and seeking employment.	World Bank's World Development Indicators (WDI) database

Source: The authors.

To achieve the main purpose of our paper, we have formulated the following hypothesis:

H1: *the institutional quality has a significant effect on level of new business activity;*

H2: *the institutional quality has a significant effect on entrepreneurial motivations (opportunity or necessity).*

At the beginning of our empirical analysis we have tested every variable for the existence of unit root, to ensure the accuracy of our regression results. If the variables used in the regression are not stationary we could obtain high levels of R-squared even though the variables are not related. After that we have analysed the descriptive statistics, the correlations between variables and regression analysis using three different models for each category of explanatory variables considered.

The basic specification of our panel data model, which enables us to analyse the existence of significant effects of institutional environment on entrepreneurship and on the motivation to become entrepreneur, is a regression model expressed by the following equation (Greene, 2003):

$$D_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Y_{it} + \varepsilon_{it} \quad (1)$$

where

- i – represents the countries, t represents the year,
- D_{it} – the dependent variable,
- β_0 – the intercept,
- X_{it} – represents the vector of independent variables,
- Y_{it} – the control variables,
- β_1 and β_2 – the coefficients,
- ε_{it} – the error term.

To obtain the coefficients of the panel data regression models we have used the Pooled Least Square method (by adopting the O.L.S. method to panel data). Also, we determine the estimator variance–covariance matrix by the White cross method, because we see the pool regression as a multivariate regression.

To test our hypothesis, we apply three different panel data models, which are presented below:

$$TEA_{it} = \beta_0 + \beta_1 gov_{it} + \beta_2 ief_{it} + \beta_3 gdp_{it} + \beta_4 unemp_{it} + \varepsilon_{it} \quad (2)$$

$$OEA_{it} = \beta_0 + \beta_1 gov_{it} + \beta_2 ief_{it} + \beta_3 gdp_{it} + \beta_4 unemp_{it} + \varepsilon_{it} \quad (3)$$

$$NEA_{it} = \beta_0 + \beta_1 gov_{it} + \beta_2 ief_{it} + \beta_3 gdp_{it} + \beta_4 unemp_{it} + \varepsilon_{it} \quad (4)$$

Also, because the six components of the Governance Indicator appear to be correlated with each other we have run different panel data regression for each component (see Table 5).

3. Results and Discussion

The descriptive statistics of the variables are presented in Table 2. The results obtained highlight the fact that the total early-stage entrepreneurial activity (TEA) rate data is distributed between a minimum of 1.6% of the sample population (France, 2003) and a maximum of 14.2% (Latvia, 2016). The opportunity motivated entrepreneurs are distributed between 18.4% (Italy, 2013) and 80.5% (Denmark, 2006), while the necessity entrepreneurs are distributed between 3% (France, 2002) and 50% (Croatia, 2005). Thus, we observe the existence of a substantial amount of cross-country variation.

T a b l e 2

Descriptive Statistic of the Variables Included in the Analysis

Variable	Obs.	Min.	Max.	Mean	Std. deviation
TEA	242	1.629	14.190	6.153	2.213
OEA	198	18.380	80.470	51.148	11.984
NEA	242	3.003	50.174	18.887	9.729
IEF	270	48.700	82.600	67.742	7.122
GOV	270	–0.043	1.969	1.116	0.522
GDPR	270	–14.400	25.000	1.653	3.612
UNEMP	270	3.400	27.500	9.207	4.366

Source: Own calculations.

The index of economic freedom varied from 48.7% (Romania, 2002) to 82.6% (Ireland, 2007). The countries with higher values of the overall index of economic freedom have better market economy oriented institutions and policies compared to countries with lower values of this index.

The governance index, which is measuring the quality of governance, had negative values in Romania (2003, 2004) due to the fact that the most of its components had negative values. The highest quality of governance was registered in Finland (2003). In fact, the data analysed shows that the best results on good governance are obtained by the Nordic countries.

To testing the variables for the existence of correlation between them we analysed the correlation matrix of all the variables used in our empirical analysis. The matrix is presented in Table 3. The Governance index is correlated with the index of economic freedom, thus in our further analysis we will run separate models for each of those two variables. The Governance index is also highly correlated with each one of its components, and the six components are highly correlated with each other (except for the variable measuring political stability). Therefore, for analysing the relationship between entrepreneurship and entrepreneurial motivations and the quality of governance and obtaining accurate results, we use separate regression models for each one of the six indicators the compound the Governance index.

Table 3

The Correlation Matrix

	TEA	OEA	NEA	IEF	GOV	VC	PS	GE	RL	RQ	CC	GDP	UNEMP
TEA	1.000												
OEA	–0.140*	1.000											
NEA	0.206*	–0.674*	1.000										
IEF	0.020	0.349*	–0.496*	1.000									
GOV	–0.191*	0.605*	–0.582*	0.792*	1.000								
VA	–0.293*	0.584*	–0.636*	0.722*	0.948*	1.000							
PS	–0.120*	0.511*	–0.357*	0.435*	0.689*	0.573*	1.000						
GE	–0.189*	0.580*	–0.535*	0.725*	0.970*	0.910*	0.629*	1.000					
RL	–0.145*	0.567*	–0.561*	0.800*	0.979*	0.936*	0.577*	0.950*	1.000				
RQ	–0.099	0.503*	–0.559*	0.882*	0.928*	0.880*	0.527*	0.863*	0.924*	1.000			
CC	–0.218*	0.604*	–0.578*	0.779*	0.985*	0.931*	0.620*	0.956*	0.970*	0.907*	1.000		
GDPR	0.066	0.094	–0.106	0.143*	0.130*	0.077*	0.214*	0.083	0.103	0.139*	0.125*	1.000	
UNEMP	0.132*	–0.533*	0.465*	–0.414*	–0.446*	–0.390*	–0.493*	–0.338*	–0.377*	–0.488*	–0.435*	–0.256*	1.000

Note: * denotes that coefficients are significant at 5% level.

Source: Own calculations.

The results of the regression analysis are summarized in Table 4. Our empirical findings confirm both hypotheses formulated above. Therefore, according to our results, the quality of institutions has a significant effect on new business activity, and this effect has different signs depending on the motivation of entrepreneurs. In accordance with the findings from the literature, we observe a different behaviour in the relationship between economic freedom, the quality of governance and both types of entrepreneurial motivations.

Thus, we observe that greater economic freedom is positively related to the total early-stage entrepreneurial activity (TEA) rate, in accordance with the findings of Kreft and Sobel (2005), Sobel, Clark and Lee (2007), Hall and Sobel (2008), McMullen, Bagby and Palich (2008), Nyström (2008), Dau and Cuervo-Cazurra (2014), Crnogaj and Bradač Hojnik (2016). Also, our results indicate that economic freedom is positively and significantly associated ($p < 0.05$) with opportunity-based entrepreneurship, which proves that a higher level of economic freedom tends to be favourable for the opportunity entrepreneurs, encouraging them to start new business. These results are in line with the findings of some empirical studies (McMullen, Bagby and Palich, 2008; Fuentelsaz et al. 2015; Angulo-Guerrero, Pérez-Moreno and Abad-Guerrero, 2017). By contrast, we have obtained a powerful negative relationship between the index of economic freedom and entrepreneurship motivated by necessity ($p < 0.01$). Usually, necessity entrepreneurship might increase in condition of little economic freedom, when there is a more difficult economic environment, with little opportunities and might determine some people to become self-employed. Our results are in agreement with the ones of Valdez and Richardson (2013), Fuentelsaz et al. (2015), Angulo-Guerrero, Pérez-Moreno and Abad-Guerrero (2017), which highlighted that increased economic liberalization tends to discourage necessity entrepreneurship.

Regarding the quality of governance, we find a negative association with the total early-stage entrepreneurial activity (TEA) rate, similar to the findings of Dau and Cuervo-Cazurra (2014). When we consider entrepreneurial motivations to start a business, our results indicate a strong and different significant influence of the quality of governance on early-stage entrepreneurs ($p < 0.01$). According to some studies (Amorós and Stenholm, 2014; Amorós et al., 2017), poor governance quality stimulates necessity-based entrepreneurship (NEA) and hampers opportunity-based entrepreneurship (OEA). The negative relationship between governance and NEA can be explained by the poor quality of governance that causes individuals to look for survival because of the lack of employment alternatives (Díaz-Casero et al., 2013). Also, in agreement with Chowdhury, Terjesen and Audretsch (2015), the negative association between governance and NEA,

but also between economic freedom and NEA could be explained by the fact that poor governance quality and low economic freedom would lead to an increase in NEA because individuals can engage themselves in entrepreneurial activities in the informal sector.

T a b l e 4

The Impact of the Governance Index on Entrepreneurship and Entrepreneurial Motivations

	TEA	**TEA**	**OEA**		**NEA**	
IEF	0.058***	–	0.279**	–	–0.506***	–
GOV	–	–0.698***	–	10.651***	–	–9.020***
GDPR	0.044	0.043	–0.157	–0.163	0.088	0.085
UNEMP	0.110***	0.035	–1.197***	–0.850***	0.671***	0.519***
Observations	242	242	198	198	242	242
Adjusted R^2	0.038	0.030	0.296	0.447	0.309	0.378
F-statistic	4.176***	3.520**	28.712***	54.285***	37.066***	49.946***

Note: *, ** and *** indicate significance at 10%, 5% and 1% levels, respectively.

Source: Own calculations.

The results broken down on the six indicators, which compose the governance index, show important differences between opportunity and necessity motivated entrepreneurs (see Table 5).

For *voice and accountability* (VA), our results indicate a positive association with the early-stage entrepreneurs motivated by opportunity and negatively with the necessity motivated ones. The positive effect was also obtained by Brás and Soukiazis (2014) and Yolaç (2015). If the government is providing a voice to its citizens, then it determines a procedural utility and the opportunity set increases. Thus, it is leading to a more favourable outcome compared to the situation where no such possibilities exist and is encouraging entrepreneurs motivated by opportunity. If voice and accountability is lacking, citizens might feel less satisfied with the system, might fell, and thus might be less inclined to become entrepreneurs. The negative coefficient for the relation between voice and accountability and necessity entrepreneurs was also obtained by Naudé (2009) and can be explained by the fact that, even though voice and accountability is lacking, the individual that does not have other option for work will still decide to become entrepreneurs.

Political stability and absence of violence (PS) displays highly significant ($p < 0.01$) positive relation with opportunity entrepreneurs and a negative relation with the necessity motivated ones. The coefficient is statistically significant only for the OEA variable. These results are in line with our expectation and with the findings of Baumol (1990) and Amorós et al. (2017). According to these authors, a high level of political stability provides a stable economic and business environment encouraging the creation of new firms especially for opportunity

reasons. The negative relationship between political stability and necessity-based entrepreneurship could be explained by the fact that political instability may cause some people to enter into entrepreneurship for survival reasons.

Another variable with a positive and significant effect on opportunity entrepreneurs is *government effectiveness* (GE). This variable is negatively correlated with necessity entrepreneurs. Increasing the quality of services and public administration, the degree of independence from political pressure and the quality in government policies is encouraging the opportunity motivated entrepreneurs, but it looks like it discourages the necessity motivated entrepreneurs. Our results are in line with the findings of Rodríguez-Gulías, De Sousa Gabriel and Rodeiro--Pazos (2018). For the necessity entrepreneurs we did not obtain a statistically significant coefficient.

T a b l e 5

The Impact of Institutional Quality on Entrepreneurial Motivations

Opportunity-Motivated Entrepreneurship						
Variable	OEA 1	OEA 2	OEA 3	OEA 4	OEA 5	OEA 6
GDPR	–0.105	–0.228*	–0.133	–0.154	–0.148	–0.161
Unemp	–0.919***	–0.963***	–0.975***	–0.971***	–0.957***	–0.862***
VA	15.077***					
PS		9.735***				
GE			8.534***			
RQ				8.003***		
RL					8.246***	
CC						6.637***
Obs.	198	198	198	198	198	198
Adj-R^2	0.474	0.361	0.459	0.354	0.434	0.450
F-stat	53.642***	38,217***	56.746***	37.108***	51.500***	54.821***
Necessity-Motivated Entrepreneurship						
Variable	NEA 1	NEA 2	NEA 3	NEA 4	NEA 5	NEA 6
GDPR	0.049	0.132	0.067	0.081	0.059	0.076
Unemp.	0.518***	0.836***	0.637***	0.517***	0.608***	0.545***
VA	–14.629***					
PS		–3.619				
GE			–6.900***			
RQ				–9.127***		
RL					–7.058***	
CC						–5.571***
Obs.	242	242	242	242	242	242
Adj-R^2	0.428	0.221	0.379	0.346	0.366	0.378
F-stat	61.286***	23.822***	50.052***	43.530***	47.431***	50.009***

Note: *, ** and *** indicate significance at 10%, 5% and 1% levels, respectively.

Source: Own calculations.

Regulatory quality (RQ) is strongly correlated ($p < 0.01$) with both types of entrepreneurial motivation, but the association is positive with opportunity entrepreneurship and negative with necessity entrepreneurship. If the government

is promoting policies designed to increase the development of new business opportunities for potential entrepreneurs, then the opportunity motivated entrepreneurs will be encouraged. On the other hand, the negative coefficient obtained for necessity entrepreneurs can be explained by the fact that, increasing regulatory quality will result in creating new jobs or better paid jobs, that will determine some of the individuals preference to be employed rather than self-employed, probably because this is the only choice they have. These findings are in agreement with other studies in the field (Verheul et al., 2001; Bjørnskov and Foss, 2008; Vidal-Suñé and Lopez-Panisello, 2013; Nistotskaya and Cingolani, 2015; Fuentelsaz et al., 2015).

Regarding the *rule of law* (RL), our empirical results would indicate that this dimension of governance would have a strong effect ($p < 0.01$) on the two types of early-stage entrepreneurs. We find that the impact is positive for opportunity motivated early-stage entrepreneurs and negative for necessity motivated ones. The studies in the field have also highlighted the existence of a powerful relation between legal structure, the security of property rights and entrepreneurial activity (Nyström, 2008; Aidis, Estrin and Mickiewicz, 2009; Hartog, Van Stel and Storey, 2010). But, in that case, an inverse relationship between rule of law and entrepreneurship might appear, because many entrepreneurs find alternative methods for contract enforcement which are independent of the legal system and they might view greater transparency as a disadvantage. Also, the benefits of improvements in the rule of law are smaller for small enterprises comparatively with large firms because the latter ones are more abler to exploit their market dominance (Hartog, Van Stel and Storey, 2010).

Control of corruption (CC) is positively associated with opportunity entrepreneurship and negatively with necessity entrepreneurs. As highlighted by Bowen and De Clercq (2008) high levels of corruption can reduce the likelihood that entrepreneurs engage in high-growth activities because corruption can determine uncertainty in the business environment. Thus, an increased control of the level of corruption will stimulated the entrepreneurs to focus on activities that allow them to grow their income (improvement-opportunity driven entrepreneurs). Our results are also consistent with the findings of Anokhin and Schulze (2009), Alvarez and Urbano (2011), Aparicio, Urbano and Audretsch (2016), and Khyareh (2017).

Regarding the control variables at country level, our results indicate a negative and significant relationship between the *unemployment rate* and the opportunity motivated entrepreneurs, showing that a higher rate of unemployment is associated with a lower rate of new business starting from the identification of a good opportunity. For the necessity motivated entrepreneurs, the unemployment

rate presents a positive and statistically significant coefficient, highlighting that a higher rate of unemployment in a country will determine more individuals to decide to start business and thus engage in entrepreneurial activities. Surprisingly, the other control variable (real *GDP growth)* is not statistically significant in any of our models.

Looking at the values obtained for the Adjusted-R^2, we observe that although for the first model (TEA as dependent variable) only almost 3% of the variation of entrepreneurial activity is explained by the changes in the institutional quality, when analysing entrepreneurs according to their motivation we obtain higher values (between 36% and 47% for opportunity motivated entrepreneurs and between 22% and 42% for necessity motivated ones). We choose to analyse the value of R^2 adjusted because it offers information regarding the percentage of variation explained by only those independent variables that in reality affect the dependent variable. Based on the results of our empirical investigation, we can conclude that we have confirmed both our hypotheses formulated, namely: the institutional quality has a significant effect on the total early-stage entrepreneurial activity and the effect of institutional quality on entrepreneurship depends on the motivation of the individual to start new businesses and thus to enter into entrepreneurship (opportunity or necessity).

Conclusions

Entrepreneurship is of vital importance for an economy because it represents a significant source of economic growth and wealth creation. The major contribution of entrepreneurship to the economic and social development of a country has increased the interest of researchers in analysing the factors that would encourage or, on the contrary, hinder the development of entrepreneurial activity.

The literature in the field of entrepreneurship shows that among the factors that affect the dynamics of entrepreneurship an important role is played by the institutional factors and within them is noted the quality of institutions. In this context, through our study, we sought to examine the effects of quality of institutions (expressed by the economic freedom index and the governance index) on the level of early-stage entrepreneurial activity and also on the motivation of individuals to start a business. For the empirical analysis we considered eighteen countries members of the European Union. We gathered data for the period between 2002 and 2016. In addition, we have tested the effects of the six dimensions of governance quality (voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption) on the motivation of individuals to become entrepreneurs.

The empirical results obtained have confirmed our assumptions. Therefore, we found that the level of total early-stage entrepreneurial activity can be significantly affected by the quality of institutions, and its effects may vary depending on the motivation of an individual to start a business (opportunity or necessity). Our findings are in line with the results obtained from other empirical studies, as presented above. Thus, we observed that greater economic freedom is positively related to the level of new business activity. Also, our results indicate that economic freedom is positively and significantly associated with opportunity-based entrepreneurship, which means that a higher level of economic freedom tends to be favourable to the opportunity entrepreneurs, encouraging them to start new business. Necessity entrepreneurs are negatively related to the index of economic freedom, as increased economic liberalization tends to discourage necessity entrepreneurship. Regarding the quality of governance (expressed through the governance index), we found this to be negatively associated with the level of early-stage entrepreneurial activity.

When analysing the results broken down on the six indicators which compose the governance index we obtained several significant differences between opportunity and necessity motivated entrepreneurs. Thus, opportunity entrepreneurship appears to be positively and significantly correlated with all six dimensions of the quality of governance (voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption). On the other hand, necessity entrepreneurship resulted to be negatively and significantly related with five of the six dimensions of governance quality, respectively, voice and accountability, government effectiveness, regulatory quality and rule of law.

Our main conclusion is that institutional quality plays an important role in the promotion and development of entrepreneurial activity, and economic freedom as well as the six dimensions that measure the quality of governance, are significant predictors of individuals' motivation to start a business. Thus, we believe that the results of our empirical investigation could be of interest to policy-makers, who should be concerned about identifying and implementing the most appropriate measures to increase the quality of institutions, which should lead to the promotion of entrepreneurship and support the development of entrepreneurial activities in within a country.

One of the main limitations of our research is related to the fact that the countries from our sample have different degrees of development. Thus, in future research we intend to group the countries in the sample according to their level of economic development, and we anticipate that we will obtain other useful information about the role of institutional environment on entrepreneurial motivation.

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