



Article

Trust in European Institutions in Explaining the Entrepreneurship in European Union Countries

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Abstract: Entrepreneurship is believed to be shaped by institutions; however, the paper assumes that trust in institutions is a fundamental prerequisite for the impact of institutions on entrepreneurship. The aims of the paper are to determine (i) whether trust in European institutions affects the level of entrepreneurship in European Union countries, and (ii) whether there are any differences in this impact regarding the types of institutions and (iii) a country's government budget size. Based on yearly panel data for 27 European Union countries in the years 2004–2019 and estimations of panel regression models, the results show that confidence in institutions is a significant factor in explaining entrepreneurship. However, institutional trust has no homogeneous effect on entrepreneurship, as the impact depends on the kind of institutions related to their functions and values as well as on the country's characteristics in relation to the size of the government's budget. Practical implications suggest the possibilities of supporting entrepreneurship—especially in countries with a relatively lower public redistribution—by raising the level of confidence in the European Central Bank. The originality of the paper is related to distinguishing institutional trust based on the type of institutions and the country's characteristics of governmental budget size.

Keywords: institutions; European Union institutions; trust in European Union institutions; entrepreneurship



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1. Introduction

Entrepreneurship is supported by economic policy, as it is believed to be an important development factor (Hopp and Martin 2017; Saunoris and Sajny 2017; Bishop and Shilcof 2017). However, efficient support for entrepreneurship requires a deep understanding of the factors encouraging people to undertake entrepreneurial activities. There are several groups of factors impacting entrepreneurship, among which the factor of institutions is believed to be important. Entrepreneurs operate in the broader societal context and are influenced by outside factors, such as institutions (DiMaggio 1988), which determine the relative costs and benefits of entrepreneurs (Saunoris and Sajny 2017), as they impact a company's productivity, transaction costs, and level of uncertainty (Dorożyński et al. 2020).

Most studies in this field analyze the impact of different kinds of institutions on entrepreneurship, distinguishing between formal and informal institutions, or normative, regulative, and cognitive pillars (i.e., Stiglitz 2000; Wannamakok et al. 2020). However, the research gap identified in the present study is related to trust in institutions as a fundamental prerequisite for its impact on entrepreneurship. On the one hand, if institutions are supposed to shape entrepreneurial activity, then having trust in these institutions as well as in their values and functions seems to be a fundamental condition of their effect. On the other hand, there are different institutions existing worldwide, some of them with conflicting values and aims, which suggests the need to consider institutions and to have trust in them not just collectively but also individually for each institution.

To deepen the knowledge on trust in institutions as a prerequisite for institutional impact on entrepreneurship, the European Union perspective is applied in the study because of the strength of European institutions on the one hand, and the similar institutional backgrounds of countries belonging to the EU on the other. At the same time, based on the similar general values of the European Union, there are several institutions fulfilling various functions, which make it possible to compare their impact.

The aim of the study is to answer research questions and determine whether the trust in European institutions impacts the level of entrepreneurship in European Union countries (RQ1); in particular, the impact of trust with respect to entrepreneurship in two European institutions, i.e., the European Parliament (EP) and the European Central Bank (ECB), is investigated. The additional aims are to answer the questions of whether there are any differences in this impact regarding the type of institutions and their values (RQ2), as well as the size of country's governmental budget, i.e., government revenues and expenditures (RQ3).

To answer the research questions, econometric analyses are conducted with the use of panel data from 27 member countries of the European Union in a yearly timespan for the period of 2004–2019, which provide 16 years of observations. The research method used in the study is based on panel data model estimations with fixed and random effects.

The results show that although the confidence in intuitions is a significant factor in explaining entrepreneurship in European Union countries, institutional trust has no homogeneous effect on entrepreneurship, as the institutions have different functions and represent different values. The European Parliament represents social values, such as human rights and democracy, while the European Central Bank supports economic values, such as economic growth and stability. On the other hand, the effect of trust also depends on the size of the government's budget. The effect of trust in institutions representing social values seems to be negatively associated with entrepreneurship in the countries with higher governmental budget amounts, but the effect of trust in institutions that promote economic values is positively associated with entrepreneurship in the countries with lower governmental budget amounts.

Our study is structured as follows. The literature review in Section 2 discusses the role of institutions in shaping entrepreneurship (Section 2.1) and values of European Union institutions (Section 2.2). Section 3 of the paper presents our research method, and Section 4 discusses the results, followed by discussion in Section 5 and conclusions in Section 6.

2. Theoretical Considerations on Entrepreneurship and Institutions

2.1. Institutions in Shaping Entrepreneurship

Entrepreneurship is believed to be one of the important factors for economic development (Hopp and Martin 2017; Saunoris and Sajny 2017); hence, in many countries economic policy is aimed at supporting entrepreneurs (Bishop and Shilcof 2017). Effective policy supporting entrepreneurship requires a deep understanding of the factors affecting people in order to operate and develop their businesses; however, an in-depth discussion is needed on that topic.

The concept of entrepreneurship is widely understood, and it has been defined in both narrow and broad terms (Guerrero et al. 2020; Gumbau Albert 2017); it is also grounded in many scientific disciplines, including economics, management, psychology, and sociology (i.e., Ferreira et al. 2017). The narrow understanding associates entrepreneurship with the creation of a new economic activity or/and running one's own business (i.e., Ferreira et al. 2017; Markowska et al. 2019), which permits the measurement of it as, for example, a share of newly created companies in the total number of existing companies (start-up rate) or share of entrepreneurs in the labor force. The broad understanding of entrepreneurship combines it with seeking and exploiting market opportunities, implementing innovations (Ferreira et al. 2017), or undertaking risk (Markowska et al. 2019). Entrepreneurship is analyzed at the micro level of individuals (Larsson and Thulin 2019; Markowska et al. 2019); the mezzo level of regions (Fritsch and Wyrwich 2014; Huggins et al. 2017; Gumbau

Albert 2017), such as industries and sectors (Gumbau Albert 2017) or social groups e.g., females and immigrants as in (Hopp and Martin 2017); and the macro level of countries (Saunoris and Sajny 2017; Ferreira et al. 2017; Rodrigues Brás and Soukiazis 2019).

In the present study, the concept of entrepreneurship is implemented as a form of occupational choice (Hopp and Martin 2017; Jovanovic 2019). Entrepreneurs are understood as persons who run their own businesses instead of working as employees (Larsson and Thulin 2019; Jovanovic 2019). In this sense, running one's own business is always related to the risk of failure and requires some innovative and proactive adaptation to the local environment to survive on the market. There are numerous factors related to personal characteristics—such as skills and competences—that affect entrepreneurship and also broader sociodemographic characteristics, such as human capital (Hopp and Martin 2017). Further, entrepreneurs strongly interact with the broader society, which is also known as the entrepreneurship ecosystem (Spigel and Harrison 2018; Song 2019), and it consists of interrelated economic, social, and institutional factors (Elnadi and Gheith 2021). The environmental conditions shaping entrepreneurship consist of elements such as policies, culture, infrastructure, and market dynamics, and they are characterized by heterogeneity across countries (Guerrero et al. 2020). Moreover, regional or spatial differences in the level of entrepreneurship show the persistence over long time periods, due to regional entrepreneurial culture (Fritsch and Wyrwich 2014; Bishop and Shilcof 2017).

Institutional theory observes that entrepreneurs interact with the broader society. Entrepreneurial activity is influenced by factors that originate in sources that are outside the enterprises (DiMaggio 1988). In institutional theory, these factors are called institutions, which can enable or constrain entrepreneurship, including the start-up rate and firm growth. The main reason for the importance of institutions is that they determine the relative costs and benefits of entrepreneurs (Saunoris and Sajny 2017), impacting the relative advantage of entrepreneurship over paid employment. A high quality of institutions helps to increase a company's productivity, decrease the transaction costs, raise the expected return on investment, and decrease the level of uncertainty (Dorożyński et al. 2020; Chowdhury and Audretsch 2014).

There are several approaches to entrepreneurship in institutional theory (Scott 1995). First, studies have emphasized the division of formal (e.g., government) and informal (e.g., gender) institutions and how they affect entrepreneurship (Stiglitz 2000). Second, some studies underline the different functions of institutions (Meyer and Rowan 1977, pp. 347–48; Wannamakok et al. 2020). Regulative function is based on the legitimacy of governments and other regulative organizations. Normative function pushes actors to adopt the policies and practices of the broader society. Cognitive function underlines the fact that people not only follow norms and regulations, but they also take part interactively in defining the rules and norms. Third, institutional function is seen as a hierarchy, with the first level at the top being the informal rules of the game, which are reflected by customs, traditions, taboos, and religious norms; the second level being formal institutions defining economic rules such as property rights, taxes, or labor market regulations; the third level being the governance of contractual relations, which determine the influence of government organizations on private transactions; and the fourth level being the incentive structure of society, which influences resource allocation (Boudreaux and Nikolaev 2019). The impact of institutions can be also recognized at the macro, meso, or micro level, depending on the scope of their influence (Zhai et al. 2019).

In the present study, we are approaching entrepreneurs and their connection with broader society at the country level because there seems to be significant differences in the shares of entrepreneurship in the labor force across countries. Generally, the more organized a society is, the better its rules are internalized, which in turn supports economic growth (Temple 1999; Shchegolev and Hayat 2018) and strengthens the environment of entrepreneurship (Raza et al. 2019). On the contrary, in countries with a lower quality of institutions, human and financial capital impact entrepreneurship; however, with the increase of institutional quality, this influence decreases (Boudreaux and Nikolaev 2019). Thus, we

assume that it is justified to explore the country-level differences in entrepreneurship from the perspective of institutional theory.

2.2. Value Basis of Trust in European Institutions

Trust between entrepreneurs and public institutions are sometimes believed to reflect the institutional factors (Xu et al. 2021). Institutional trust refers to people's trust in different institutions, such as the police, judiciary, or parliament. For instance, Warren (1999) argued that modern, complicated political systems rely on citizens' trust in governmental organizations. On the other hand, Offe (1996) argued that the term confidence, not trust, should be used when talking about institutions because the concept of trust is understood as depicting interpersonal trust (Uslaner 2001). However, in this article, we rely on Warren's conceptualization of institutional trust (see also, Grönlund and Setälä 2012). Furthermore, it is noteworthy that in survey studies, the concepts of trust and confidence are seen often as interchangeable concepts (Foster and Frieden 2017).

Institutional trust focuses on actors and institutions, such as politicians, officials, and organizations (Hakhverdian and Mayne 2012; Welter 2012). Institutions that enjoy a large degree of trust tend to also have higher degrees of functional legitimacy among citizens. Trust creates connections between citizens and institutions. The more transparency there is in a society, the more trust there is in institutions (Bjørnskov and Méon 2013). Modern societies greatly rely on citizens' trust in governmental institutions (Van der Meer 2017). Institutional trust lets citizens focus on productive activities instead of the need to protect themselves from potentially poor institutions (Ehrmann et al. 2013).

According to Seligson and Carrion (2002), individuals who support democratic principles also have trust in a society's political institutions. At the European level, the European Parliament (EP) and the European Central Bank (ECB) are examples of key institutions for which legitimacy can be evaluated from the perspective of the citizens. The European Parliament emphasizes social values, such as human dignity, freedom, democracy, equality, rule of law, and human rights. In this sense, the European Union is seen as a value-based community, which promotes the general principles by which its member states are ruled. On the other hand, the values promoting the principles of the citizens are by entitlement. For instance, freedom of movement gives citizens the right to move and reside freely within the European Union.

Although the European Parliament is an independent entity, citizens' trust in the Parliament seems to be strongly related to trust in national political institutions through extrapolation, i.e., cues from national politics. For instance, Harteveld et al. (2013) suggested that although it does matter to engage in rational and deliberative thinking, citizens seem to trust or distrust the European-level institutions for reasons that are largely distinct from the Union itself. Citizens' trust in institutions is lower if the values of institutions do not seem to materialize well enough. For instance, citizens' views on inequality are associated with lower trust in the European Parliament (Guinjoan and Rico 2018). Further, the decline in trust is found to be more pronounced among citizens with a lower social status.

The European Central Bank (ECB) represents economic values, given that it implements economic and monetary policy in the Euro area. Its main aim is to keep prices stable, thereby supporting economic growth and job creation. ECB activity might directly impact countries that are members of the Eurozone and have adopted the Euro as national currency. However, the main characteristics of the Euro system, combined by both the ECB and the National Central Banks of Eurozone countries, is the decentralization of the operations of the ECB, meaning that commercial banks keep their liquid reserves with their National Central Banks (Chmielewski and Sławiński 2019).

Citizens associate the tasks of the ECB with economic stability. For instance, Fischer and Hahn (2008) found that higher inflation rates reduce public trust in the ECB. Thus, people appear to evaluate the performance of the ECB on the basis of its success in achieving its primary objectives (Christelis et al. 2020). Over the last 20 years, the Euro area has been struggling with some economic crises, which have affected the trust in the ECB. Gros and

Roth (2010) found that citizens' trust in the European Central Bank reached historical lows in the aftermath of the global financial crisis started in 2008. Roth et al. (2014) found that the decrease in trust was strongly driven by the significant increase in unemployment rates (Roth et al. 2012). It was also found that the decrease in trust in the ECB in times of crises reflected the general fall in trust in European institutions (Ehrmann et al. 2013).

It is assumed that the trust in institutions representing both social and economic values—institutions such as the European Parliament and the European Central Bank—foster national economic growth and socioeconomic development (Özcan and Bjørnskov 2011). For instance, Knack and Keefer (1997) suggested that economic activities requiring the actors to rely on other actions are accomplished more effectively in environments of higher trust. Muldoon et al. (2018) indicated that trust within an entrepreneurial ecosystem has a positive impact on productive entrepreneurship, while distrust within the ecosystem is expected to be unproductive and destructive (or potentially illegal) to an economy. However, Goel and Karri (2006) underlined that entrepreneurs may also overtrust in the society, which negatively influences entrepreneurship (Bernoster et al. 2018). Beugelsdijk (2006) reminded us also that trust reduces transaction costs, which then indirectly supports economic activity. In this sense, at least a part of the economic backwardness can be explained by the lack of mutual confidence.

Institutional theory conceptualizes societies as an institutional arrangement—as a set of game rules—that distributes economic growth (Özcan and Bjørnskov 2011). In this sense, both the European Parliament and the European Central Bank are assumed to have this kind of fundamental societal function for supporting socioeconomic development. The European Parliament, as part of the political apparatus of the European Union, represents the social values (equality, human rights, democracy) of the member states that create stability for society and indirectly promote entrepreneurial activity. The European Central Bank represents the economic values of the European Union. The ECB is the EU institution dedicated to setting up and controlling business, i.e., making prices more stable, making the EU financial system more predictable, and having impact on the decrease of transaction costs of running a business; consequently, the ECB reduces the risk of failure.

3. Research Assumptions and Method

The theoretical discussion led to the conclusion that trust in institutions is an important factor of modern societies, and it shapes the functional legitimacy of institutions (Hakhverdian and Mayne 2012; Welter 2012; Bjørnskov and Méon 2013; Van der Meer 2017; Ehrmann et al. 2013), while the institutional environment as part of the entrepreneurial ecosystem affects entrepreneurship (Spigel and Harrison 2018; Song 2019; Elnadi and Gheith 2021; Temple 1999; Shchegolev and Hayat 2018; Raza et al. 2019; Boudreaux and Nikolaev 2019). Most studies analyze the impact of different kinds of institutions on entrepreneurship (Abdesselam et al. 2018; Khalilov and Yi 2021) and on the entrepreneur's or investor's institutional trust (Xu et al. 2021; Santos et al. 2020; Williams and Efendic 2019); however, trust in institutions is a fundamental prerequisite for its effective influence. As little is known about this subject, the main aim of the present paper is to determine whether trust in European institutions impacts the level of entrepreneurship in European Union countries. All these discussions led to formulating the research question:

RQ1: Does trust in European institutions impact entrepreneurship in European Union countries?

Taking the example of two European Union institutions, the European Parliament and the European Central Bank, it becomes clear that institutions represent different values, as they fulfil diversified functions and goals (Guinjoan and Rico 2018; Chmielewski and Sławiński 2019; Christelis et al. 2020). The diversity of functions of institutions led to formulating the next research question:

RQ2: Does the impact of institutional trust on entrepreneurship depend on the type of institutions and their values?

Countries are characterized by their heterogeneity in certain environmental conditions such as policies, culture, infrastructure, or market dynamics (Guerrero et al. 2020); at the same time, regional or spatial differences in the level of entrepreneurship exist and tend to persist over long time periods (Fritsch and Wyrwich 2014; Bishop and Shilcof 2017). Countries' diversity could be a factor moderating the impact of institutional trust on entrepreneurship; however, among different national characteristics, the size of the governmental budget seems to be of the highest importance. As European institutions are considered public ones and thus are funded by public sources for European Union members¹, the level of governmental budget seems to be an important factor that distinguishes countries. This reason led to formulating the following research question:

RQ3: Does the impact of institutional trust on entrepreneurship depend on the country's government's budget size, which represents the country's level of redistribution?

All these theoretical investigations and research questions can be presented in the conceptual model of Figure 1. European institutions impact society and create trust in them, which consequently impacts entrepreneurship.

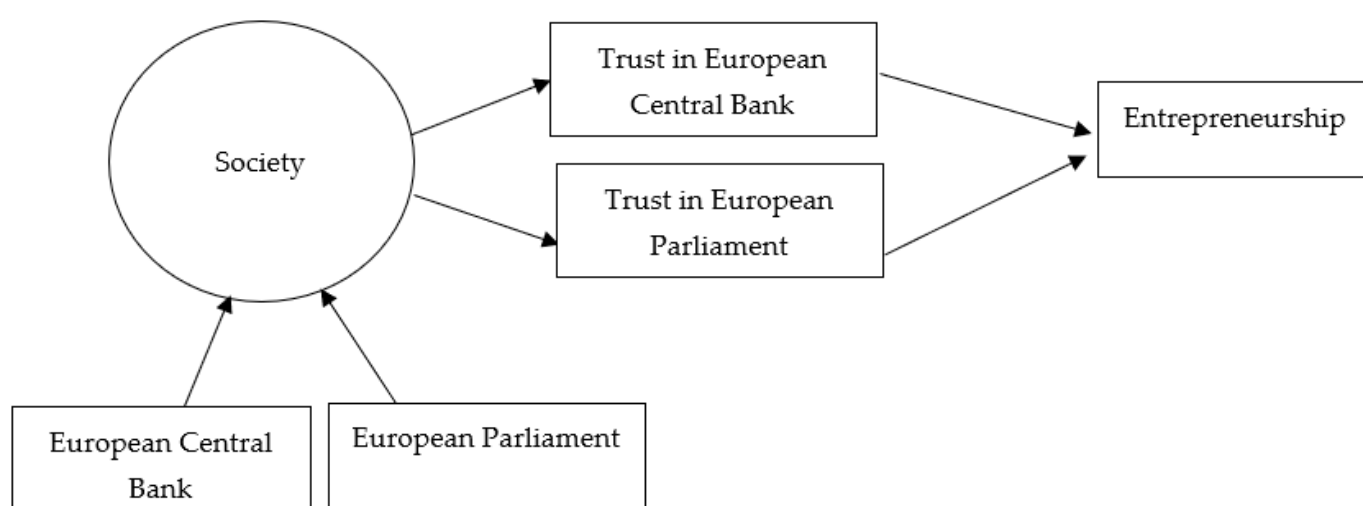


Figure 1. Theoretical framework of the research.

To answer these research questions and address the conceptual model of Figure 1, econometric analyses were conducted using panel data from 27 member countries of the European Union, the membership of which gives the sampled countries similar institutional backgrounds, which is an important aspect of the research, as it minimizes the risk of bias in results. The EU countries were analyzed both altogether and with a division into countries with higher or lower levels of government budget amount. The time period of the analyses was 2004–2019 in a yearly timespan, which provided 16 years of observations. The research method used in the paper is the panel data estimations model with fixed and random effects, as panel regression is the method that could be used with panel data (Bayar et al. 2018; Bosma et al. 2018). As the dependent variable, the entrepreneurship rate is accepted as one showing the share of self-employed persons in the active population of a country. The independent variables reflect the level of trust in two institutions of the European Union, i.e., trust in the European Parliament and trust in the European Central Bank; they are measured as the share of people trusting in these institutions. The independent variables are based on the Eurobarometer, whose indicators in this case measure the confidence level among EU citizens toward the European Parliament and the European Central Bank. The confidence is expressed as the share of positive opinions about the institutions, and this share entails the people who declare that they tend to trust these institutions. Hence, the Eurobarometer uses the concepts of confidence and trust as interchangeable concepts. To linearize the relationships in the model, all raw data

were converted into natural logarithms. The secondary data were used with Eurostat (the European Statistical Office), their online source. Details on the variables are presented in Table 1.

Table 1. Operationalization of variables.

Variable	Abb.	Operationalization	Mean Value *	Standard Deviation *
Entrepreneurship	lnENT	Share of self-employed persons (%) in total number of active population, converted into ln	12.40	4.05
Trust in European Parliament	lnTEP	Share of population (%) with confidence in European Parliament, converted into ln	53.19	10.21
Trust in European Central Bank	lnTECB	Share of population (%) with confidence in European Central Bank, converted into ln	47.19	11.56
General governmental revenue	lnTGR	Share of total governmental revenue (%) in GDP, converted into ln	42.56	6.28
General governmental expenditure	lnTGE	Share of total governmental expenditure (%) in GDP, converted into ln	44.90	6.60

Source: own elaboration based on Eurostat data. Note: * based on raw data.

The control variables are implemented into the estimations, which reflect the size of government budget, namely the total general government revenue (being a share in the GDP) and the total general government expenditures being a share in the GDP. The models are controlled by the size of a government's budget, as it reflects the level of redistribution of incomes in a country; it is related to the size of the public sector and the importance of budgetary policy in a country's economy. All of these aspects might moderate the level of institutional trust.

As the data in Table 1 show, on average in European Union countries in the years 2004–2019, entrepreneurs were 12.4% of the active population, and the level of total governmental revenues and expenditures was over 40% of their GDP (42.56% and 44.90% respectively). About 53% of the population trusted in the European Parliament and 47% in the European Central Bank. In looking at the values of standard deviation of all variables, it should be noted that there are significant differences among the countries in those values.

To answer the research questions, the first stage of analysis is dedicated to the full sample of 27 European Union countries (i.e., Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden). Although the United Kingdom was also a member of the European Union throughout the time covered by this research until Brexit took place on 31 December 2020 (Mroczek-Dąbrowska and Matysek-Jędrych 2021), it was excluded from the sample, as the referendum on exiting the EU took place in 2016, and the final years of the UK's presence in the European Union structure were focused on its withdrawal. Excluding the UK from the research sample permitted a more balanced relationship and a minimization of the risk of bias in the results.

In the second stage of the research, the full sample of EU countries was divided into 2 subsamples, i.e., countries with higher and lower levels of governmental budget amount. This distinguishing feature was made to discover whether the impact of institutional trust on entrepreneurship, if any, is sensitive to the social redistribution level. To have the same number of countries in both subsamples, the median values of total general government revenue and total general government expenditures being a share in GDP were used as the dividing criteria. The Netherlands was a country with both median values of welfare state measures; Portugal and Luxemburg were countries above one median and below the second median. In the end, these 3 countries were excluded from subsamples in the second stage of the research, and 12 countries were implemented in both subsamples. The

following countries were classified as those with a higher level of governmental budget amount: Austria, Belgium, Croatia, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Slovenia, and Sweden. The subsample of countries with a low level of governmental budget amount consists of Bulgaria, Cyprus, Czechia, Estonia, Ireland, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Spain.

With awareness that trust in the European Central Bank might depend on belonging to the Eurozone, given that the aim of the paper is to investigate institutional trust and not the operations of financial systems, all European Union countries are considered together, similarly to other studies on trust in the ECB (e.g., [Horvath and Katuscakova 2016](#)). Further, although the non-Euro area countries have their own currencies, their national central banks adjust their monetary policy to the Euro area. In this sense, the national central banks are interlinked with the ECB, and the policy of the ECB also affects the non-Eurozone countries. An additional argument for analyzing all European Union countries together in this aspect is that when comparing the average level of trust in the European Central Bank during the research period of 2004–2019, it can be noted that, on average, the level of trust in the ECB is similar in countries that are members of the Eurozone (46.4% of citizens trust the ECB) and in nonmember countries (47.9% of citizens trust the ECB), with a slightly higher level of trust among countries not participating in the Eurozone. Member countries of the Eurozone are very diversified with their level of trust; for example, countries such as Finland and the Netherlands represent very high levels of trust, with over 60% of citizens trusting in the ECB, while there are also numerous countries with very low levels of trust, such as Greece, France, and Spain (Table 2).

Table 2. Average level of trust in the European Central Bank in the years 2004–2019 (% of population trusting the ECB).

Countries	Average % of Population Trusting the ECB
Eurozone Countries	
Austria	51
Belgium	54
Cyprus	37
Estonia	50
Finland	70
France	32
Germany	45
Greece	23
Ireland	47
Italy	37
Latvia	44
Lithuania	53
Luxembourg	57
Malta	53
Netherlands	63
Portugal	50
Slovakia	46
Slovenia	36
Spain	33
Average level of trust in the Eurozone	46.37

Table 2. Cont.

Countries	Average % of Population Trusting the ECB
Non-Eurozone Countries	
Bulgaria	46
Croatia	41
Czechia	37
Denmark	56
Hungary	50
Poland	41
Romania	49
Sweden	63
Average level of trust in non-Eurozone	47.88

Source: own elaboration based on Eurostat data.

Before the estimation of panel models, analyses of the variance inflation factors (VIFs) were conducted to exclude the problem of collinearity. Results of VIFs analyses for both the entire sample of the 27 EU countries and the two subsamples of countries with higher and lower levels of governmental budget amount are presented in Table 3, with the assumption that the rate of entrepreneurship ($\ln ENT$) is a dependent variable in all cases.

Table 3. Results of VIF analyses.

Variables	Model for Full Sample of 27 Countries	Model for Subsample with Higher Size of Government Budget	Model for Subsample with Lower Size of Government Budget
$\ln TGR$	4.220	1.995	1.780
$\ln TGE$	4.075	1.810	1.789
$\ln TEP$	3.785	3.718	4.303
$\ln TECB$	3.945	4.097	4.145

Source: own elaboration.

As the results of the VIFs analyses in Table 3 shown, there is no problem with collinearity, as all values of VIFs are significantly lower than 10. All independent and control variables are accepted for estimations of models.

The next research step was to estimate the panel model, with entrepreneurship rate as the dependent variable, and the measures of intuitional trust and the level of government budget amount as the independent and control variables, respectively. The assumed model is represented in Equation (1):

$$\ln ENT_{it} = \beta_0 + \beta_1 \ln TEP_{it} + \beta_2 \ln TECB_{it} + \beta_3 \ln TGR_{it} + \beta_4 \ln TGE_{it} + v_{it} \quad (1)$$

where $\ln ENT_{it}$ is the dependent variable describing entrepreneurship rate in t period and in i country; $\ln TEP_{it}$ is the independent variable describing trust in the European Parliament in t period and in i country; $\ln TECB_{it}$ is the independent variable describing trust in the European Central Bank in t period and in i country; $\ln TGR_{it}$ is the control variable describing the share of total governmental revenue as GDP in t period and in i country; $\ln TGE_{it}$ is the control variable describing the share of total governmental expenditure as GDP in t period and in i country; $\beta_0, \beta_1, \beta_2, \beta_3$, and β_4 are the vectors; and v_{it} is the total random error, which consists of a purely random part ε_{it} and individual effect u_i referring to the specific i unit of the panel ($v_{it} = \varepsilon_{it} + u_i$)

After obtaining the panel data, the next step is to verify the estimation method, which permits us to choose among the classical least squares method, panel regression with fixed

effects (FE), or panel regression with random effects (RE). The Breusch–Pagan and Hausman tests, presented in Table 4, allowed us to choose the appropriate estimation method.

Table 4. Results of the Breusch–Pagan and Hausman tests.

Tests		Model for Full Sample of 27 Countries	Model for Subsample with Higher Size of Government Budget	Model for Subsample with Lower Size of Government Budget
Breusch–Pagan test	LM	1744.11	1036.84	697.90
	<i>p</i> -value	0	0	0
Hausman test	H	28.44	3.92	17.33
	<i>p</i> -value	0	0.42	0.002

Note: LM—Lagrange Multiplier test; H—Hausman test; Source: own elaboration.

The results presented in Table 4 allow us to reject the classical least squares method of estimations, as the *p*-values of the Breusch–Pagan tests are <0.05, which means that the panel regression method should be implemented. The Hausman test results allowed us to determine the nature of the effects in the panel models. Low values (<0.05) in the cases of the model for all 27 countries and the model for subsamples with lower governmental budget amount indicate the use of a model with fixed effects (FE), while the *p*-value (0.42) in the case of subsamples for countries with higher governmental budget amounts suggest using a model with random effects (RE).

4. Research Results

The results of the Breusch–Pagan and Hausman tests allowed us to estimate the models with the use of panel estimations. The results of estimations of models based on Equation (1) are presented in Table 5.

Table 5. Results of panel model estimations.

Variables	Model for Full Sample of 27 Countries	Model for Subsample with Higher Government Budget Size	Model for Subsample with Lower Government Budget Size
	Fixed Effects	Random Effects	Fixed Effects
Const.	1.832 *** (0.476)	6.859 *** (0.890)	0.609 (0.526)
lnTEP	−0.104 * (0.058)	−0.155 ** (0.064)	−0.125 (0.084)
lnTECB	0.192 *** (0.051)	0.003 (0.062)	0.273 *** (0.075)
lnTGR	0.044 (0.119)	−1.332 *** (0.180)	0.575 *** (0.149)
lnTGE	0.039 (0.072)	0.342 *** (0.116)	−0.194 ** (0.088)
Fit statistics	LSDV R ² = 0.901 Within R ² = 0.050	“Between” variance = 0.089 “Within” variance = 0.005	LSDV R ² = 0.851 Within R ² = 0.183

Note: standard errors in parentheses; *** *p* < 0.01; ** *p* < 0.05, * *p* < 0.1. Source: own elaboration.

Looking at the panel model estimations (Table 5), we can observe that when the full sample of 27 EU countries is considered, the confidence levels in both the European Parliament (lnTEP) and the European Central Bank (lnTECB) are the statistically significant independent variables that explain entrepreneurship (lnENT). The results show that trust in the European Parliament negatively impacts the entrepreneurship rate, meaning that the increase (decrease) of trust in the European Parliament influences the decrease (increase) of the level of entrepreneurial activity. Contrarily, trust in the European Central Bank

positively affects entrepreneurship, meaning that higher (lower) levels of trust in the ECB among citizens is associated with higher (lower) levels of entrepreneurial activity. Comparing the absolute values of the regression function parameters, we observed that trust in the European Central Bank has a stronger impact than confidence in the European Parliament, which suggests that when it comes to deciding to run one's own business, trust in the regulation of the financial markets is generally more important than trust in the legal framework of the European Union.

However, when the subsamples of countries based on the relative level of government budget amount are analyzed, there are some significant differences in the models. In the case of subsamples of countries with a relatively higher governmental budget amount, only confidence in the European Parliament, not in the European Central Bank, is the statistically significant independent variable explaining the level of entrepreneurship. In countries with a relatively higher governmental budget amount, a higher (lower) trust in the European Parliament affects the lower (higher) level of entrepreneurship, while trust in the European Central Bank is statistically insignificant. In the second subsample of countries with a relatively lower governmental budget amount, trust in the European Parliament is not significant in explaining entrepreneurship, while confidence in the European Central Bank is statistically significant and has a positive impact. Higher (lower) levels of trust in the European Central Bank impact higher (lower) levels of entrepreneurial activity in countries of this subsample.

Shares of total governmental revenues (InTGR) and expenditures (InTGE) in GDP are treated as control variables in the models, and because of this, their influence was not subject to theoretical discussion. It is noteworthy that their impact in the full sample of 27 EU countries is statistically insignificant. However, when the two subsamples of countries are modeled, the impact of both these variables on entrepreneurship is statistically significant, but they influence the entrepreneurship in opposite directions. The share of total governmental revenues negatively impacts entrepreneurship in countries with a relatively higher governmental budget amount, while in countries with a relatively lower level, positive impact is seen. On the contrary, the share of total governmental expenditures positively affects entrepreneurship in countries with a relatively higher governmental budget amount and negatively in those with a lower level.

5. Discussion

We approached the association of institutional trust and entrepreneurial activity by assuming that the societal environment affects entrepreneurial activity (Temple 1999; Spigel and Harrison 2018; Abdesselam et al. 2018; Shchegolev and Hayat 2018; Song 2019; Raza et al. 2019; Boudreaux and Nikolaev 2019; Elnadi and Gheith 2021; Khalilov and Yi 2021). More precisely, following the idea that trust reduces transaction costs (Beugelsdijk 2006), the study focused on the relationship between trust in European-level institutions and entrepreneurial activity across countries by exploring (i) whether the institutional trust impacts entrepreneurship in European countries; (ii) whether its effect depends on the type of institution; and (iii) whether the impact of institutional trust on entrepreneurship depends on the country's government's budget size.

Typically, institutional trust is thought to be associated with the quality of governance, which in turn could be expected to have a positive effect on the societal environment and economic development (Warren 1999; Özcan and Bjørnskov 2011; Grönlund and Setälä 2012; Bjørnskov and Méon 2013; Ehrmann et al. 2013; Van der Meer 2017). In the present study, institutional trust is focused on the European Parliament and the European Central Bank, which are the key institutions in the European Union (Guinjoan and Rico 2018; Chmielewski and Sławiński 2019; Christelis et al. 2020). However, their functional bases are different, as the European Parliament emphasizes values such as democracy, human rights, equality, and others, but the European Central Bank supports economic growth and stability in the Euro area. We found that the effect of trust is negatively related to entrepreneurship in the case of the European Parliament and positively in the case of the European Central

Bank. In this sense, research questions 1 and 2 are supported. To some extent, the results indicating the positive or negative effect of trust on entrepreneurship depending on the type of institution provide support for discussions about trust, distrust, and overtrust. Based on previous studies, trust is believed to support productive entrepreneurship, and distrust is seen as unproductive and destructive (Muldoon et al. 2018), while overtrust in society can reduce entrepreneurship (Goel and Karri 2006; Bernoster et al. 2018). Institutional trust and its impact on entrepreneurship seems to be a multidirectional problem.

Furthermore, tentative evidence was found that trust in institutions affects low- and high-budget countries in different ways. Among the countries with a relatively higher governmental budget amount, trust in European institutions seems to be associated with values such as democracy and human rights (the European Parliament); however, these are negatively associated with entrepreneurship. On the other hand, in the countries with a relatively lower governmental budget amount, trust is focused on economic growth and stability (the European Central Bank), which have a positive effect on entrepreneurship. Thus, research question 3 is also supported.

In the present study, institutional trust is focused on the attitudes towards supranational governance rather than on local level governance. However, many previous studies indicated that respondents evaluate their attitudes in the local context. For instance, Hartevelde et al. (2013) found that citizens seem to trust or distrust the European-level institutions for reasons that are largely distinct from the EU itself. Citizens' trust in institutions was found to be lower if the values of the institutions do not seem to be materialized well enough at the local level. Citizens' experiences of inequality seem to be associated with lower levels of trust in the European Parliament (Guinjoan and Rico 2018). It is assumed that the higher governmental budget amount is a way to redistribute wealth and income in a society, which in turn strengthens trust in political institutions. However, the positive attitudes towards the European Parliament were negatively associated with entrepreneurship. The result is consistent with the work of Bjørnskov and Foss (2008), who found that government size is negatively correlated with entrepreneurial activity.

The growing size of the public sector can reduce entrepreneurship through attracting people to apply for public positions instead of running their own business. In this sense, trust in social values, such as human rights and democracy, may be indirectly associated with labor market conditions, which are supposed to be better in countries with a higher governmental budget amount than in countries with a lower governmental budget amount. The countries with the higher governmental budget amount may emphasize employment security and stable labor markets, in which entrepreneurship is not an occupation as attractive as being a paid employee. The growth of the public sector also increases the redistributive transfers (such as taxes), consequently reducing the entrepreneur's profit and the attraction of the entrepreneur's occupation. On the other hand, the previous studies also had controversial results in regard to the effect of income redistribution on entrepreneurial activity. For instance, García-Peñalosa and Wen (2008) suggested that redistribution may also provide insurance to entrepreneurs and may thus increase the growth rate (Raza et al. 2019).

According to this study, trust in the European Central Bank, which has values such as economic growth and economic stability, is positively associated with entrepreneurship in those countries with a lower governmental budget amount. Entrepreneurs can be seen as risk-taking actors who are relatively more willing to take the risk of failure in an unsure environment than other people (employees) in general (Larsson and Thulin 2019; Jovanovic 2019). An entrepreneur also has a relatively greater chance of success in uncertainty than in secure environmental conditions. In this sense, regarding entrepreneurship, the institutions that support economic growth are more important for the countries with a lower governmental budget amount than for the countries with a higher governmental budget amount.

6. Conclusions

According to the present study, institutional trust has no homogeneous effect on entrepreneurship, as the institutions have different functions and they represent different values. The European Parliament represents social values, such as human rights and democracy; the European Central Bank supports economic values, such as economic growth and economic stability (for instance, low unemployment). In this sense, trust in institutions seems to be a fundamental prerequisite for its impact on entrepreneurship.

Furthermore, the effect of institutional trust on entrepreneurship seems to be conditional to the country-level environment. The effect of trust in institutions that represent social values seems to be negatively associated with entrepreneurship in countries with a higher governmental budget, but the effect of trust in institutions that promote economic values is positively associated with entrepreneurship in countries with a lower governmental budget amount. The governmental budget amount is a kind of prism that divides the effect of trust into two different dimensions. The countries with a higher governmental budget amount may be characterized as matured welfare states, where income redistribution has a central role in social and economic policy. In this sense, the higher governmental budget amount might be an instrument for achieving the aims of the matured welfare state, that is, to provide public services and benefits but also promote values such as democracy and human rights. On the other hand, countries with a lower governmental budget amount may be emphasizing policies supporting economic growth and development (low inflation and high employment) instead of income redistribution. In this sense, the lower government budget amount is seen as an instrument that supports the economic basis of the welfare state and its values.

Overall, trust in European-level institutions and in the social and economic values they represent has a significant effect on entrepreneurship, although the aspects depend on the type of welfare state. It is obvious that both societal and economic values have a central role in all European welfare states, but the values are emphasized in slightly different ways at the policy level, as well as at the level of public opinion in each country.

The novelty of the paper is related to several aspects of research. First of all, the discussion and results show the importance of social trust in institutions in affecting entrepreneurship, not just the activities of the institutions themselves. Second, by comparing the impact of trust in two institutions operating in the same institutional framework of the European Union, it was possible to distinguish the differences in the impact of trust, depending on values and functions of institutions. Third, the country's characteristics are also a factor that moderates the impact of trust on entrepreneurship. Altogether, the results show that institutional trust is a factor shaping entrepreneurship; however, it is also a heterogeneous factor.

These research results may have some implications for policies supporting entrepreneurship in the European Union. The effort to raise the level of social confidence in the European Central Bank seems to be a prerequisite for fostering the level of entrepreneurship, especially in countries with a relatively lower level of governmental expenditures and revenues. Research results also indicate the need to implement the aspect of social trust in the institutional theory of entrepreneurship.

On the other hand, the research also has its limitations, mostly related to the availability and nature of the panel data. Research was limited to European Union countries and European Union institutions, meaning that the context of the individual country's institutions is missed. Further investigation could analyze the impact of trust in national parliaments and in national central banks on a country's entrepreneurship. Furthermore, the study focused on trust at the European level, and as a result, trust in the national or local institutions was not explored, nor was the connection between trust at the local and European levels. Instead, the societal situation was approached indirectly via the size of governmental budget, which does not directly indicate trust in local institutions.

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Notes

¹ https://europa.eu/european-union/about-eu/eu-budget/revenue-income_en (accessed on 24 May 2021).

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