9. WHAT MATTERS FOR ENTREPRENEURSHIP? A GLOBAL VIEW ON ITS DETERMINANTS

Mariana NICOLAE[1]
Radu LUPU[2]
Irina ION[3]

Abstract

The role of entrepreneurship in societal wellbeing is well documented in the economic literature and well perceived in the public arena. The extensive positive externalities of entrepreneurship, such as innovation or increased productivity, have made researchers be interested in the conditions and motivations that can determine it to flourish. Many empirical studies test the relations between the entrepreneurial activity and different determinant variables, but the empirical results are mixed and sometimes contradictory, especially for developing versus developed countries. This can make public policy makers confused and misguided. In this article, we are interested in identifying the factors that influence the dynamics of entrepreneurship, aiming to understand whether there is a set of common factors globally, which explain entrepreneurship development. We use the density of newly registered companies for a set of 57 countries for yearly observations from 2004 to 2012, as a proxy for entrepreneurship development. Our conclusions indicate that the bankruptcies, the economic situation, the producer prices and competitiveness are directly influencing the new density, while the wages, the bank lendings to the private sector, the bankruptcies and the leading indicator show cointegration with the new density. We consider this as evidence that there is a common set of determinants that affect entrepreneurship development. Such an analysis at global level increases knowledge in the entrepreneurship research, as it has the merit to inquire into the nature and conditions of entrepreneurship as a universal human behavior, in the countries of the world.

Keywords: entrepreneurship, factors, determinants, co-integration, panel data analysis, global perspective

JEL Classification: M130, L260, E600

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[1] *Bucharest University of Economic Studies.*
[2] Bucharest University of Economic Studies, Institute for Economic Forecasting, Romanian Academy. E-mail: radu.lupu@rei.ase.ro
[3] *Bucharest University of Economic Studies.*

I. Introduction

Considered a goal-oriented process whereby an individual identifies market opportunities, entrepreneurship is a pillar of economic development, growth and innovation. Entrepreneurship plays multiple roles in contemporary societies, such as an information, efficiency, market regulating roles and a job creating function (Howar and Jarillo, 1990). Not the least, entrepreneurship development is considered a powerful tool for addressing chronic social problems, such as poverty, illiteracy, and widespread diseases (Sambharya and Musteen, 2014).

Its crucial role in the real economy has made academics and decision makers increasingly interested in the conditions in which entrepreneurship can flourish, thus contributing to societal wellbeing. Today there is an abundant and eclectic theory of factors that determine entrepreneurial development. The latest perspective on entrepreneurship development is based on the institutional theory. As Nicolae *et al.* (2015) show, entrepreneurship is currently understood as a reflection of the local competitive advantages and disadvantages of the external environment or, in other words, of the overall micro and macroeconomic business, social and economic conditions.

Meanwhile, researchers have reached a certain consensus on the conceptual framework of these factors; the empirical results are mixed and many times contradictory. This may lead to confusion for public policy makers.

In this context, we aim at identifying *the factors that influence entrepreneurship on long term,* for 57 countries, using yearly observations from 2004 to 2012. We will determine whether there are common factors for the countries included in the analysis and implicitly whether entrepreneurship can be built on common patterns, at global level.

Our inquiry consists of the analysis of the relevant literature on the factors that influence entrepreneurship development, a statistical and analytical description of the quantitative data used, a brief explanation of the methodology, a section of results and one of conclusions.

II. Literature Review

The factors that influence entrepreneurship development are a central preoccupation of the broader field of entrepreneurship, resulting in several theoretical explanatory models of the entrepreneurial motivation.

Generally, an individual's decision to open a business is considered to be the result of *a complex mix of factors*, mainly personal/individual characteristics, values, perceptions and external environment characteristics. Authors, such as Gartner (1985), consider that the entrepreneurial process is the result of the interaction of the environment, individual, organization (type of company created) and behavior (the necessary efforts made to start a new venture).

George *et al.* (2014) conducts a comprehensive literature review of the factors that influence entrepreneurial opportunity recognition which is, in its turn, the first condition for entrepreneurial development. Their study shows that prior knowledge, cognition / personality or cognition / personality traits, social capital, systematic search, alertness and environment conditions were among the most prominent factors relevant to entrepreneurial opportunity recognition.

In a simplified but widespread perspective, the explanatory models of entrepreneurial motivation divide the factors that determine entrepreneurship into: a) personal/psychological characteristics – also called individual or micro factors; and b) environmental/macro factors. This separation between the two types of factors is an oversimplification due to convenience of approach and the urge of classifying and represents, therefore, a limitation of the current research in the field of entrepreneurial motivation theories.

Examples of personal characteristics most commonly considered determinant for entrepreneurship are issues such as the internal locus of control, the need of achievement, self-confidence or overconfidence, tolerance for ambiguity, willingness to bear uncertainty, risk adversity (Estay *et al.*, 2013), education or family entrepreneurial background.

Since the '60s and '70s, authors such as McClelland, 1961, Greenfield, Stricken and Aubey, 1979, Pennings, 1982, started to focus on the environment as an entrepreneurship motivator. From this perspective, personal motivations are also determined by environmental conditions (Nicolae *et al.*, 2015), which become a key aspect in explaining how people behave in response to entrepreneurial opportunities (George *et al.*, 2014). Environmental conditions usually refer to economic, social, political, cultural and technological factors such as the unemployment rate, income disparity, capital availability, government regulations and policies, the accessibility to capital, the economic environment or other direct social influences (Vliamo and Tzeremes, 2012). This theoretical framework stems from the institutional theory. Its main aim is to influence public policy, by revealing those conditions and factors that can maximize the social and economic role of entrepreneurship.

Economic freedom, rule of law, expenses, GDP, investment, openness, RandD, corruption and schooling, the access of capital and institutional environment characteristics are other examples of the variables used.

The empirical results are usually mixed.

For example, Castaño *et al.* (2015) study a series of European and Latin-American and Caribbean countries: the results confirm that in countries where the rule of law is more evolved and individuals enjoy higher economic freedom, entrepreneurship is more developed. Also, they show that both cultural and economic factors are positively correlated with entrepreneurship.

The similar conclusions are reached by Sambharya and Musteen (2014). They use a sample of 43 countries to investigate how the cultural as well as the regulatory environment influence the type of entrepreneurial activity over a period of 5 years. The authors find that the countries characterized by less market openness, greater power distance and collectivism tend to have higher levels of necessity-driven entrepreneurship. On the other hand, according to the results obtained, countries with less market openness and regulatory quality and smaller power distance are associated with opportunity-driven entrepreneurship.

Other results neglect the importance of cultural factors for entrepreneurial development. Brancu *et al.* (2015) conduct a research that examines various entrepreneurial behaviors of Romanian and Icelandic students, assuming that the behaviors are explained by cultural differences. The results do not confirm such a hypothesis,

revealing that these differences are determined by macroeconomic and institutional variables, such as the development level, the institutional context and the national policies.

Vliamos and Tzeremes (2012) analyze the influence of several factors that impact entrepreneurship in Greece by looking at the access to capital, social aspects and the regional institutional environment. Their results show that, from the variables tested, the three most influential factors are the institutional environment, the availability of finance and the entrepreneurs' educational level.

In the literature review, we notice that empirical results are divergent and varied. These differences are explained sometimes by differences between developing and developed countries. Because of this, some authors advocate a strict differentiation between developing and developed countries in international comparisons, due to different contexts of these countries, or due to the different effects of factors in different countries (Cala *et al.*, 2015, Ionita *et al.*, 2015). As Cala *et al.* (2015) show, current cross-country analyses on the determinants of entrepreneurship for the developing countries focus mostly on the impact of governance indicators, financial development and access to credit. The empirical studies show that usually market entry is hampered by bureaucratic barriers; employment rigidity (especially in labor intensive industries); meanwhile, financial development and access to credit have a positive overall impact. Also, a special attention was given to ex-communist nations, in which the creation of entrepreneurship itself was the main and true purpose of the entire transition (Kolodko, 2000). For these countries, the development of entrepreneurship was and still is hindered by extra barriers, such as cognitive frames related to risk acceptance, the lack of cultural free-market support and the deficient formal institutions to support the functioning of the private market (Kshetri, 2009). In Romania, for example, Nicolae *et al.* (2015) consider that entrepreneurship development is a reflection of the local competitive advantages and the disadvantages of the external environment.

In the context of the high heterogeneity of the factors and conclusions reached, we aim at analyzing the impact of twelve factors of the external environment on entrepreneurship – both of macro and institutional nature:

1. Inflation rate
2. Bank lending to private sector
3. Bankruptcies
4. Economic situation in the previous year
5. Global bank lending rate
6. Industrial production
7. Labor force
8. Leading indicator (the Composite Leading Indicator)
9. Personal consumption expenditure
10. Producer prices
11. Competitiveness
12. Wages

In our analysis, we are interested in a global perspective of entrepreneurship, in the sense that we do not test the effects of groups of countries, in order to understand whether there are commonalities that explain entrepreneurship all around the world or if they do not exist.

III. Data and Methodology

Our analysis is developed using data that cover the number of newly registered companies with limited liability per 1,000 working-age people (aged 15-64), which is referred to as new density4. The data are available on the Datastream platform. The values of this variable are collected on an annual basis for a set of 52 countries, for the 2004 – 2012 period and the time series is shown in Appendix 1.

A statistical description of the data is presented in Figure 1, in which we notice the box plot for all the countries in our sample. We notice larger means of these variables across the nine years in our analysis for Australia (AU), Bulgaria (BL), Costa Rica (CR), Denmark (DK), Estonia (EO), Finland (FN), France (FR), Hungary (HN), Ireland (IR), Israel (IS), Latvia (LV), New Zealand (NZ), Norway (NW), and to a lesser extent but relatively important in their last chart, for Romania (RM), Singapore (SP), Slovenia (SJ), South Africa (SA), Spain (ES), and Sweden (SD). The larger fluctuations in the values of the new densities are observed in the case of Costa Rica, Hungary and New Zealand. Additionally, less fluctuant but still large values for the new density are observed for France, Israel and to a lesser extent for Norway.

Figure 1

The Box Plot for New Density across Time for all the Countries in Our Sample
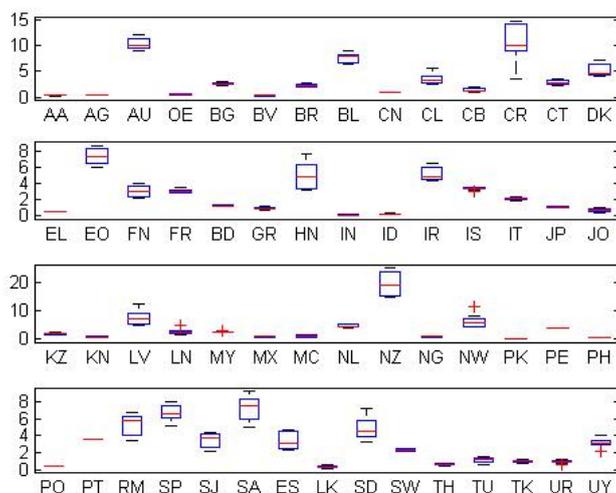
Source: Authors' computations based on Datastream; the country codes are presented in Appendix 2.

We used this set of values to construct a panel data framework in which they act as a dependent variable in relation to a set of twelve other explanatory variables. Figure 2 depicts the cross-section averages and standard deviations for each year and the

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[4] *Our study also provides a statistical analysis of the numbers of newly registered corporations during a calendar year, collected from the same source. We only used the new density due to its standardized nature, allowing the development of comparisons necessary in the panel data analysis.*

standardized values of these averages for all the explanatory variables in our analysis. The raw data covered a heterogeneous set of countries that we needed to match the countries existing in the panel for the new density variable. We present the countries obtained after matching in the legend of Figure 2.

Figure 2
Standardized Averages of Cross-Section Values for the Explanatory Variables
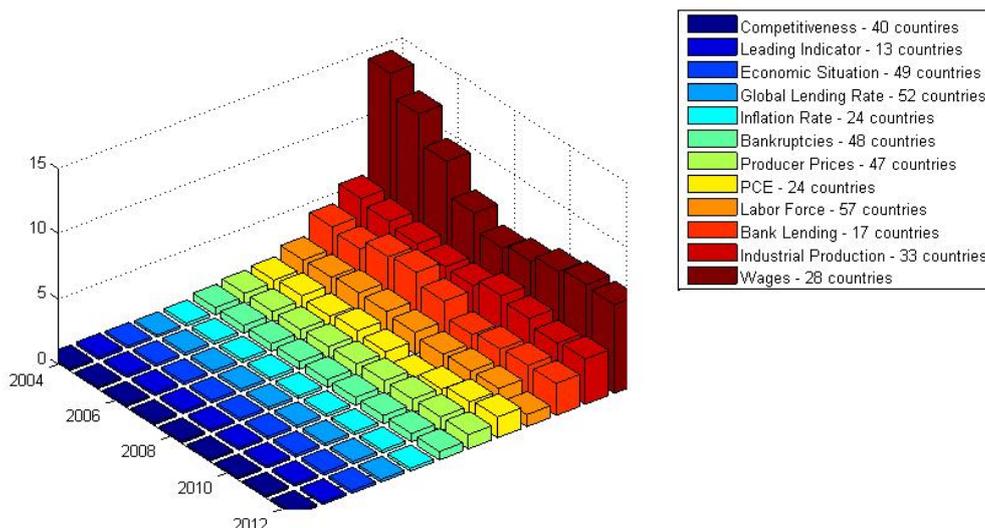
Source: Authors' computations based on Datastream.

This arrangement helped us to develop twelve panels of independent variables and one panel of dependent variables. In this respect, we built twelve balanced panels that represent the bilateral relationships of the density of new firms with the following variables:

- inflation rate, bank lending to private sector (direct credit facilities extended from banks to the private sector),
- bankruptcies (the number of companies entering a form of external administration for the first time),
- economic situation in the previous year (an assessment of worldwide economic trends performed by World Economic Survey and available in Datastream),
- global bank lending rate,
- industrial production,
- labor force,
- the composite leading indicator (an aggregated time series displaying reasonably consistent leading relationship with the reference series for the macroeconomic cycle in a country according to the definition in the Reuters Datastream database),
- personal consumption expenditure,
- producer prices,
- competitiveness (the Harmonized Competitiveness Indicator),
- wages

As we mentioned above, our objective is to identify the factors that could explain the dynamics of the new density variable from 2004 to 2012.

The first stage in our analysis was the investigation of the stationarity of the panels for the dependent variables, on the one hand, and the twelve independent (explanatory) variables, on the other hand.

Table 1

Probability Values for the Tests for Stationarity for New Density

	Levin, Lin and Chu	Breitung	Im, Pesaran and Shin	ADF-Fisher	PP - Fisher
Density - levels	0.0000	0.0690	0.3711	0.1766	0.8095
Density - first difference	0.0000	0.0031	0.5252	0.4692	0.3735

Source: Authors' computations.

In order to select the type of variable to be used, in the subsequent analysis five different tests for panel stationarity were employed. Table 1 shows the p-values for all the tests of stationarity. The null hypothesis for all these tests is that the variable is not stationary. Since we do not have homogeneous results for these tests, we decided to consider that the first difference of the density variable exhibits more stationarity evidence than the levels, so that in the analysis that follows we build panel regressions in which the dependent variable is the transformed first-difference panel of New Density.

Table 2

Probability Values for the Tests for Stationarity for the Explanatory Variables

	Levin, Lin and Chu	Breitung	Im, Pesaran and Shin	ADF-Fisher	PP - Fisher
Inflation rate - levels	0.0000	0.1738	0.0243	0.0007	0.0002
Bank lending to private sector - levels	0.0000	0.9966	0.8271	0.6851	0.9999
Bank lending to private sector - first difference	0.0000	0.0000	0.5323	0.5439	0.0011
Bankruptcies - levels	0.0000	0.2144	0.2564	0.0525	0.8579
Bankruptcies - first difference	0.0000	0.0038	0.6809	0.8350	0.2324
Economic situation - levels	0.0000	0.0000	0.0005	0.0000	0.1238
Global bank lending rate - levels	0.0000	0.0082	0.1587	0.0072	0.7880
Industrial production - levels	0.0000	0.0000	0.3044	0.1192	0.0063
Labor force - levels	0.0000	0.9918	0.6452	0.3530	0.6113
Labor force - first difference	0.0000	0.9711	0.3635	0.2142	0.0000
Leading indicator - levels	0.0000	0.6467	0.1369	0.0035	0.1073
Leading indicator - first difference	0.0000	0.0000	0.6096	0.7702	0.0608
Personal consumption expenditure - levels	0.0036	0.5000	0.5696	0.3124	0.2665
Personal consumption expenditure - first difference	0.0000	0.0000	0.5948	0.6528	0.0011
Producer prices - levels	0.0000	0.0000	0.0438	0.0000	0.0000
Competitiveness - levels	0.9301	1.0000	0.9905	0.9997	1.0000
Competitiveness - first difference	0.0000	0.0899	0.5715	0.6408	0.0382
Wages - levels	0.0000	0.9838	0.6722	0.6950	0.2184
Wages - first difference	0.0000	0.0000	0.3159	0.1066	0.0000

Source: Authors' computations.

Table 2 shows the p-values for the tests of stationarity computed for the twelve national economic explanatory variables in the panel analysis. For each panel, we computed both the tests for levels and first differences. When we considered the levels as showing sufficient evidence in favor of stationarity, we did not show the results for the first difference.

According to our results, the variables for the next investigation are the following:

- the inflation rate in levels,
- the bank lending to private sector as first difference,
- the bankruptcies as first differences,
- the economic situation in levels,
- the global bank lending rate in levels,
- the industrial production in levels,
- the labor force as first differences,
- the leading indicator as first differences,
- the PCE as first differences,
- the producer prices as levels,
- the competitiveness as first differences,
- the wages as first differences.

The next stages of our investigation follow two directions of analysis: the first step consists of the construction of panels that comprise the dependent variable and **each** of the explanatory variables.

For the situations when we found variables that were shown as I(1), a panel vector error correction model was fitted. Based on the connections detected in these bilateral representations we perform a second procedure that uses the New Density as explanatory variable and attempts to connect it simultaneously with the set of variables that exhibited significant relationships in the first step. This second stage will therefore consist of a multiple panel regression.

Following the standard panel analysis algorithm, we test the panels for fixed effects versus random effects by employing the Hausman test and then we show the results of the panel regressions performed using the resulted type of estimation. For the case of the multiple panel regression we also used a Wald test to investigate the possibility that the set of identified variables could influence the dynamics of New Density for the sample under analysis.

IV. Results

We first used the Hausman test to investigate the bilateral panels. The second column of Table 3 shows the p-values for this test for each panel regression in which New Density is the dependent variable and the variable mentioned in the first column of the same table is the explanatory variable. As mentioned above, for each panel we had to match the countries in order to obtain a balanced panel with the same set of countries (the last column of Table 3 shows the number of countries in each panel regression analysis).

The null hypothesis of the Hausman test favors the random effects estimation, while the alternative supports the fixed effects. We notice that the only situation for which we found evidence in favor of the fixed effect is the panel that uses competitiveness as an explanatory variable.

The third column shows the p-values for the beta coefficients in the panel regressions estimated with the random effects model, as revealed by the Hausman test. We notice that the panel regression of density on bankruptcies exhibits significant linear panel dependence at the 5% level, the panel with economic situation as explanatory variable shows significance at the 1% level, while the panel with producer prices as explanatory variable flags dependence at an approximate 10% level. Looking at the number of countries used in each panel regression, we notice that the significance achieved by the bankruptcies variable relies only on a sample of 17 countries, while the other variables look more reliable with samples of 57 and 49 countries.

Table 3

Probability Values Showing the Dependence of First Difference of Density on Stationary Variables

	Hausman	Random Effects	Fixed Effects	Wald test	No. of countries
Inflation rate - levels	0.4139	0.7105		0.9612	28
Bank lending to private sector - first difference	0.9429	0.7735		0.9933	33
Bankruptcies - first difference	0.6741	0.0427**		0.988	17
Economic situation - levels	0.1467	0***		0***	57
Global bank lending rate - levels	0.406	0.7465		0.0998	24
Industrial production - levels	0.9709	0.7503		0.8607	47
Labor force - first difference	0.7595	0.9592		0.9691	48
Leading indicator - first difference	0.9325	0.2426		0.7265	24
Personal consumption expenditure - first difference	0.1398	0.6213		0.1985	52
Producer prices - levels	0.0808	0.1001*		0.6732	49
Competitiveness - first difference	0.0003***	0.0092***	0.0181**		13
Wages - first difference	0.4087	0.9414		0.3244	40

* signals significance at 10%, ** signals significance at 5% and *** signals significance at 1%.
Source: Authors' computations.

The fourth column shows the results for the fixed effect estimation of panels, which is only the case of the panel that uses competitiveness as an explanatory variable since the Hausman test rejected the null hypothesis of random effects with a p-value of only 0.03%. We highlight that the p-value for the beta coefficient in the fixed effect model is significant at the 0.92% level, but we also mention that the sample of this panel regression covers only 13 countries, which is the smallest sample size in all the panel regressions.

The fifth column of Table 3 shows results for regressions that took into account the impact of two lags of the explanatory variables on the dynamics of the dependent variable in the panel regression. Our purpose here was to analyze the possible dependence of new density on the values of the explanatory variables in the previous two years in pursuit of evidence for the Granger causality. We highlight the economic

situation and competitiveness as we have evidence of such causality only for the case of panels that use explanatory variables in these regressions.

Taking into account the results obtained in this analysis, we also attempted to build a multiple panel regression taking into account only the variables previously proven as significant. Due to the reduced number of countries in the panels that proved significant, our construction of the multiple panel rendered a sample of only six countries, which reduced our statistical power significantly.

Table 4

The Hausman Test for the Multivariate Panel Comprising the Four Explanatory Variables

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.289632	4	0.9905

Source: Authors' computations.

Table 4 shows the results of the Hausman test for this multiple panel regression. The data showed no evidence to reject the null hypothesis of the suitability of the random effect model for this regression, because the p-value was 99.05%.

Table 5

Results for the Random Effects Models with All the Explanatory Variables Considered Independently Significant

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	-0.54099	0.420565	-1.286334	0.2052
d(bankruptcies)	-0.0001	8.44E-05	-1.197179	0.2378
economic situation	0.086124	0.062028	1.388467	0.1721
producers prices	0.000615	0.000982	0.626275	0.5344
d(competitiveness)	-0.02388	0.020663	-1.15547	0.2543
		Weighted Statistics		
R-squared	0.14587	Mean dependent var		0.022449
Adjusted R-squared	0.066416	S.D. dependent var		0.622665
S.E. of regression	0.601632	Sum squared resid		15.56432
F-statistic	1.835904	Durbin-Watson stat		1.941184
Prob(F-statistic)	0.139434			
		Unweighted Statistics		
R-squared	0.142256	Mean dependent var		0.040229
Sum squared resid	16.56601	Durbin-Watson stat		1.823808

The results of the random effects model for this regression are presented in Table 5. However, we did not find sufficient evidence in favour of an impact of these variables on the new density. As already mentioned, one reason for this situation could be the fact that this panel comprises only six countries, which is a significantly reduced number if we were to compare it with the 57 countries taken into account for the statistical characterization of the time and cross-sectional dynamics of the new density.

A Wald test for the hypothesis that all coefficients in the multiple panel regression are different from zero is presented in Table 6. Despite the significance connection identified in the simple panel regressions with the same variables, we did not find any evidence

in favor of such an impact. However, we need to recall the fact that the sample size in this multiple regression is too small to be sufficient for a generalized conclusion.

Table 6

The Wald Test for All the Coefficients in the Random Effects Model for the Multivariate Model

Test Statistic	Value	df	Probability
F-statistic	1.677488	(4, 43)	0.1727
Chi-square	6.709952	4	0.152

Source: Authors' computations.

The last part of our analysis deals with the investigation of the co-dependence of the new density and all the other explanatory variables in our sample that were identified as I(1) by using a panel Vector Error Correction model. The results for this type of connections are presented in Table 7.

Table 7

The Cointegration Tests for the I(1) Variables

	Bank lendings to private sector	Bank-ruptcies	Labor force	Leading indicator	Personal consumption expenditure	Competi-tiveness	Wages
Pedroni Residual Cointegration Test							
Panel v-statistic	0.2919	0.7731	0.0057***	0.9137	0.9964	0.8418	0.0604*
Panel rho-statisc	0.6506	0.5721	0.0009***	0.5357	1	0.952	0.5835
Panel PP-Statistic	0.0724	0.0034	0***	0.0539	1	0.8854	0.0479**
Panel ADF-Statistic	0***	0***	0***	0.0294**	1	0.0705*	0***
Panel v-Weighted statistic	0.8868	0.5071	0.7048	0.579	0.7188	0.7622	0.848
Panel rho-Weighted statisc	0.6235	0.5622	0.995	0.688	0.9835	0.8972	0.7755
Panel PP-Weighted Statistic	0.0001***	0.0007***	0.8683	0.042**	0.4943	0.5733	0***
Panel ADF-Weighted Statistic	0***	0***	0.1283	0.0122**	0.8666	0.0156**	0***
Group rho-Statistic	0.9989	0.9808	1	0.9883	1	0.9957	0.9988
Group PP-Statistic	0***	0***	0.9968	0.0054***	0.947	0.8242	0***
Group ADF-Statistic	0***	0***	0.0114**	0.0001***	0.7032	0.0005***	0***
Kao Residual Cointegration Test	0.0009***	0***	0.0501**	0.0001***	0.0551**	0.0004***	0.0071***
Percentage of rejections	*58.33%*	*58.33%*	*50.00%*	*58.33%*	*8.33%*	*33.33%*	*66.67%*

Source: Authors' computations.

This analysis consisted in running a set of twelve tests for proof of cointegration for each panel comprising the new density, on the one hand, and each of the variables: bank lendings to private sector, bankruptcies, labor force, leading indicator, personal consumption expenditure, competitiveness and wages, on the other hand.

The last row of Table 7 shows the percentage of significant rejection of the null of no cointegration found by the various tests. We can conclude that wages show the most important evidence in favor of cointegration with new density, while bank lending to private sector, bankruptcies and the leading indicator show evidence of long-term association by more than 50% of the tests used for this analysis. There is also evidence that personal consumption expenditure to a great extent and competitiveness to a lesser extent do not tend to be associated on long term with the new density.

We conclude that the bankruptcies, the economic situation, the producer prices and the competitiveness exhibit strong evidence of behaving as influencers of the dynamics of entrepreneurship as proxied by new density. When the investigation was carried on to include all the I(1) panels in cointegration tests, we also concluded that there is evidence of long-term association between the new density, on the one hand, and the wages, the bank lendings to private sector, the bankruptcies and the leading indicator, on the other hand.

We consider this as evidence that, despite obvious differences at country level in the external conditions in which entrepreneurship can be developed, there is a common set of determinants that affect its flourishing. Decision makers in public policy should use this common platform of entrepreneurship determinants to improve public support for the entrepreneurial action in their countries

V. Conclusions

The purpose of this study is to identify some of the macroeconomic factors that could affect the dynamics of entrepreneurship at a global level.

In order to meet this objective, we used the density of new firms that was computed as number of newly registered limited liability companies per 1,000 working-age people (aged 15-64) for a set of 57 countries as a proxy for our measurement of the dynamics of entrepreneurship at the global level.

We decided to employ a set of macroeconomic variables that play the role of proxies for a set of factors usually considered as relevant when entrepreneurship is investigated in the academic literature. After a thorough statistical analysis of the dynamics of the new density, we built a set of regressions that we analyzed with the standard panel data analysis.

We concluded that the bankruptcies, the economic situation, the producer prices and the competitiveness exhibit strong evidence of behaving as influencers of the dynamics of entrepreneurship as proxied by new density. When the investigation was carried on to include all the I(1) panels in cointegration tests, we also concluded that there is evidence of long-term association between the new density, on the one hand, and the wages, the bank lendings to private sector, the bankruptcies and the leading indicator, on the other hand.

Our analysis shows that, despite obvious differences among countries in the external conditions in which entrepreneurship can be developed there is a common set of determinants that affect its flourishing. Decision makers in public policy should use this common platform of entrepreneurship determinants to improve public support of the entrepreneurial action in their countries. Basically, the results indicate that sound economic policies that help macroeconomic equilibria do matter for encouraging entrepreneurship, and may be seen as a set of minimum standards, or *sine qua non* conditions, without which this positive human action is hard to develop.

Building a global view does not obviously mean that national and local peculiarities should not be the most important factor to be taken into account on drafting public policies. On the contrary, academic research should focus on understanding entrepreneurship as being closely related to the local environment. In fact, we can consider that one limitation of this study is that the analysis was not carried out on groups of countries that share similar development and/or economic/cultural patterns, in order to understand how the same factor has a different impact at country/regional level. This is a task that we shall approach in a future study, using the same methodology, but making the analysis more sensitive to local/regional differences. Still, research on the topic at the global level helps us understand, and in fact confirms the nature of entrepreneurship as a universal human behavior, with multiple societal benefits, that is worth being supported by public policies.

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Appendix

Annual Dynamics of New Density
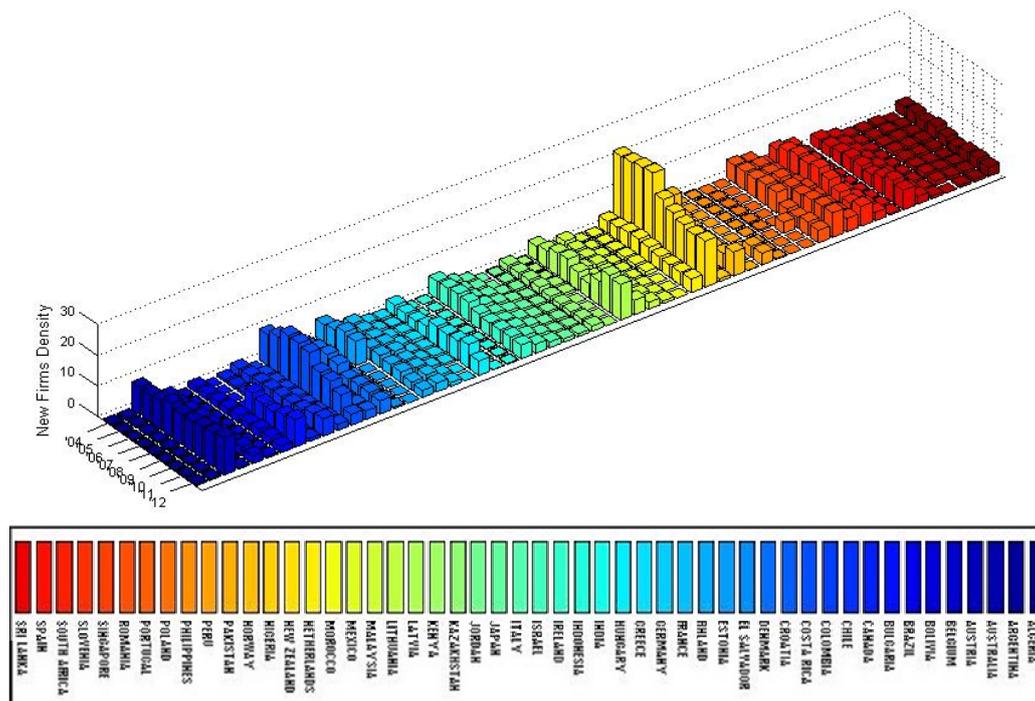
Source: Authors' computations based on Datastream.

Country Codes for All the Countries in the New Density Panel

Country	Code	Country	Code	Country	Code	Country	Code
Algeria	AA	Estonia	EO	Latvia	LV	Singapore	SP
Argentina	AG	Finland	FN	Lithuania	LN	Slovenia	SJ
Australia	AU	France	FR	Malaysia	MY	South Africa	SA
Austria	OE	Germany	BD	Mexico	MX	Spain	ES
Belgium	BG	Greece	GR	Morocco	MC	Sri Lanka	LK
Bolivia	BV	Hungary	HN	Netherlands	NL	Sweden	SD
Brazil	BR	India	IN	New Zealand	NZ	Switzerland	SW
Bulgaria	BL	Indonesia	ID	Nigeria	NG	Thailand	TH
Canada	CN	Ireland	IR	Norway	NW	Tunisia	TU
Chile	CL	Israel	IS	Pakistan	PK	Turkey	TK
Colombia	CB	Italy	IT	Peru	PE	Ukraine	UR
Costa Rica	CR	Japan	JP	Philippines	PH	Uruguay	UY
Croatia	CT	Jordan	JO	Poland	PO		
Denmark	DK	Kazakhstan	KZ	Portugal	PT		
El Salvador	EL	Kenya	KN	Romania	RM		