# Country's Development as a Determinant of Early-Stage Entrepreneurial Activity

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Our study is built on the dependence of early-stage entrepreneurial activity on GDP per capita, GDP real growth rate, unemployment rate, inflation rate, investments and public debt of different countries. We divide the early-stage entrepreneurial activity into necessity-driven and improvement-driven opportunistic entrepreneurial activity. To establish the dependencies we have conducted the regression analyses. Our three main findings are: (a) early-stage entrepreneurial activity does depend on our predictors; (b) necessity-driven entrepreneurial activity is negatively correlated to country's development; and (c) improvement-driven opportunistic entrepreneurial activity is positively correlated to country's development.

**Keywords:** entrepreneurship, early-stage entrepreneurial activity, economic development indicators

## 1 Introduction

Country's development has been a key aim of every country and therefore an interesting topic for researchers in the field of entrepreneurship and macroeconomics for quite some time. Entrepreneurial activity is an important part of country's development. We also believe that country's development, in turn, has effect on the development of early-stage entrepreneurial activity of its residents. In our research we distinguish between the necessity-driven early-stage entrepreneurial activity and improvement-driven opportunistic early-stage entrepreneurial activity. We have used six indicators of economic development for the selected countries: the GDP *per capita*, the GDP real growth rate, the unemployment rate, the inflation rate, investments and public debt. We tested our hypotheses if and to what extend necessity-driven entrepreneurial activity and improvement-driven opportunistic entrepreneurial activity is effected by those six predictors.

Based on our results we have concluded that the early-stage entrepreneurial activity does depend on our predictors. Results of our research also indicate that GDP *per capita* and the unemployment rate have the highest and not always positive correlations. We suggest at the end that entrepreneurial activity plays an important role especially in the long term and not as much in the short term.

The structure of the contribution is based on six parts where the introduction is followed by the theoretical background on country's development and entrepreneurship. This is followed by description of the methodology used for the contribution and discussion of the results of our study with conclusions.

## 2 Entrepreneurship and country's economic development

The importance of entrepreneurship has been recognized by economics since the beginning of the 18th century, at the microeconomic as well as at the macroeconomic levels (Minniti, Lévesque, 2008). Since then it has been increasingly gaining respect from the research com-

munity as a field of scholarly study as well as a practical application worldwide (Ma and Tan, 2006). Both the causes and consequences of entrepreneurship are a matter of extensive scientific debate as well as of great policy importance (Verheul *et al.*, 2001). Governments increasingly consider entrepreneurship and innovation as the cornerstones of a competitive national economy (OECD report, 2008). Entrepreneurship is becoming one of the explicit parts of the economy in EU (European Commission, 2009) as well as in the other world countries (Bednarzik, 2000; Venkataraman, 2004).

Entrepreneurship is a complex phenomenon that spans a variety of contexts. A variety of definitions of entrepreneurship exists in the literature which reflect this complexity (Bosma *et al.*, 2009) and no single definition has been generally agreed upon. However, entrepreneurship is usually defined as an "economic system" that consists of three components: (1) entrepreneurs, who desire to achieve their goals of economic survival and advancement; (2) the social constitution, that the entrepreneur's right of free enterprise is granted; and (3) the government, that has the ability to adjust the economic institutions that can work to protect each individual entrepreneur and to stimulate entrepreneurs' motive to achieve toward fostering of economic development and growth (Lowrey, 2003). Ma and Tan (2006) stress the four major components of entrepreneurship in their 4-P framework of entrepreneurship: "Pioneer", denoting the entrepreneur as an innovator or champion for innovation; "Perspective", denoting the entrepreneurial mindset; "Practice", denoting the entrepreneurial activities; and "Performance", denoting the outcome or result of entrepreneurial actions and activities. The OECD-Eurostat approach has combined the conceptual definitions of entrepreneurship with (available) empirical indicators and established following definitions (OECD report, 2008):

- *Entrepreneurs* are those persons (business owners) who seek to generate value through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets.
- *Entrepreneurial activity* is enterprising human action in pursuit of the generation of value through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets.
- *Entrepreneurship* is the phenomenon associated with entrepreneurial activity.

Early-stage entrepreneurial activity is defined (Hessels *et al.*, 2007) as the entrepreneurial activity of the adult population (18-64 years old) that is either actively involved in starting a new venture (nascent entrepreneur) or the owner/manager of a business that is less than 42 months old (young business entrepreneur).

As noted by Hessels *et al.* (2007), at the micro level people may have different motives for becoming self-employed. Some people mainly start a new business to exploit a perceived business opportunity. These people usually elect to start a business as one of several possible career options. This is for example the case when people choose to become an entrepreneur because they want to be their own boss, to realize a dream or to try and earn more money than in wage employment. This is commonly referred to as *opportunity-based entrepreneurship*. Other people are pushed into entrepreneurship because all other options for work are either absent or unsatisfactory. Entrepreneurship then is the last resort to work and income. This is for example the case if someone is unemployed and is not able to find a paid job. Since this type of entrepreneurship is necessity driven it is commonly referred to as *necessity-based entrepreneurship*. However, necessity-based entrepreneurship does not mean Dejardin's (2000) rent-seeking behaviour with negative social consequences (corruption, stealing, bribery etc.). There is a clear variation in the distribution of opportunity and necessity entrepreneurship across countries. As a country's level of *per capita* income rises, its percentage of opportunity entrepreneurship also goes up (Acs *et al.*, 2004).

Global Entrepreneurship Monitor (GEM) has demonstrated that entrepreneurial activity is associated with national economic growth (Bosma *et al.*, 2009). Witt (2000) claims that entrepreneurial venture is the backbone of persistent restructuring of modern economies. Chepurenko, Gabelko and Obraztsova (2011) claim that entrepreneurship is understood since Schumpeter as the driving motor of economic progress of nations. It is widely recognized that the supply of entrepreneurship is important for economic growth, innovation and job creation (Audretsch and Keilbach, 2007, Henrekson, 2005, Lee *et al.*, 2013; Verheul *et al.*, 2001, Wong *et al.*, 2005). Cowling and Bygrave (2002) argue that small businesses make an important contribution to the success of a country's economy, because they are creators of jobs, they innovate, and they spot and exploit new opportunities. Further, Rasmussen and Sørheim (2006) claim that entrepreneurship, through the creation of new endeavour, is a major engine of economic growth. Similar, Thurik (2003) argues that there is both conceptual and empirical evidence that entrepreneurship fosters growth. Audretsch and Keilbach (2007) claim that entrepreneurship capital has a three-fold impact on economic growth: it facilitates knowledge spillovers, injects new competition in the input market for ideas, and enhances regional diversity, all of which are hypothesized to contribute to economic growth. Mueller (2006) also found out in his research that regions with a higher level of entrepreneurship experience greater economic performance. In particular, new firm formation in innovative industries is an important mechanism to commercialize knowledge, which is important for economic growth.

Many authors also claim that entrepreneurship reduces unemployment. Faria, Cuestas and Gil-Alana (2009) argue that when unemployment is high, more people create new businesses and successful new firm startups create new job which leads in reducing unemployment. Moreover, unemployment rate can stimulate

start-up activity of self-employment on the one hand, and on the other hand a higher rate of self-employment may indicate increased entrepreneurial activity reducing unemployment in subsequent period of time. These two effects have resulted in considerable ambiguities about the interrelationship between unemployment and entrepreneurial activity (Thurik *et al.*, 2008). The response to unemployment or lack of outside alternatives in the labour market can be the individual's decision to start a new business (Cowling and Bygrave, 2002). Van der Sluis *et al.* (2005) claim that entrepreneurs generate a substantial part of national income and employment in most countries. Small enterprises form a large, flexible buffer between salaries employment and incorporated business. Entrepreneurship may also generate benefit for society through the development and maintenance of human and social capital that occur when entrepreneurial activity takes place.

Yu (1998) argues that the economic success is largely attributable to the dynamics of adaptive entrepreneurs who are alert to opportunities and exploit them, maintain a high degree of flexibility in their production and respond rapidly to change. He highlighted the important role of adaptive entrepreneurship for a country and the importance of the entrepreneurial approach to economic problems. He also argues that any policy recommendation on economic development should be based on analysis that incorporates entrepreneurship, the engine of economic growth. There are some important issues as policy implications and the entrepreneurial platform in order to accelerate entrepreneurship in each country. For example, a country with a high tax burden and a strong welfare state is likely to be a country with a weak entrepreneurial culture (Henrekson, 2005).

Adelman and Yeldan (2000) argue that the economic development of a country has to combine five elements: self-sustaining growth, structural change in patterns of production, technological upgrading, social, political and institutional modernization and widespread improvement in the human condition. Even though this aspect of economic development has seen a lot of conflicting views in the past, the real GDP *per capita* (corrected for inflation) is generally used as the core indicator in judging the position of the economy of a country over time or relative to that of other countries (Van den Bergh, 2009).

As evident above, entrepreneurship seems to be positively affecting economic growth. Specifically, Acs and Varga (2005) discovered that necessity entrepreneurship has no effect on economic development while opportunity entrepreneurship has a positive and significant effect. The causal relationship is, however, according to Bosma and Schutjens (2007) still a complex one since the reversed relationship is also well-documented: well-developing regions or nations attract more entrepreneurs (Reynolds *et al.*, 1994). Economic growth can either have a positive (Storey, 1999; Carree *et al.*, 2002) or a negative (Kuznetz, 1966; Schultz, 1990; Bregger, 1996; Carree *et al.*, 2002) impact on the level of entrepreneur-

ship, depending on the stage of economic development and on the intermediate factors through which economic growth exerts influence on entrepreneurship (Verheul *et al.*, 2001).

# 3 Methodology

## 3.1 Hypotheses

We are going to test the following three hypotheses which are based on the literature review above:
H1: Where there is a high country's development, there will be a higher early-stage entrepreneurial activity.
H2: Where there is a high country's development, there will be a lower necessity-driven entrepreneurial activity.
H3: Where there is a high country's development, there will be a higher improvement-driven opportunistic entrepreneurial activity.

## 3.2 Variables

The variables used in our research are the following:
A  *"GDP p.c. (PPP in $)"* is the GDP on a purchasing power parity basis divided by population as of 1 July for the same year (CIA - The World Factbook).
B  *"GDP real growth rate"* gives us GDP growth on an annual basis adjusted for inflation and expressed as a percent (CIA - The World Factbook).
C  *"Unemployment rate"* is the percent of the labour force that is without jobs. Unemployment and unemployment rate were already defined in the theoretical platform (CIA - The World Factbook).
D  *"Inflation rate (consumer prices)"* furnishes the annual percent change in consumer prices compared with the previous year's consumer prices (CIA - The World Factbook).
E  *"Investment (gross fixed)"* records total business spending on fixed assets, such as factories, machinery, equipment, dwellings, and inventories of raw materials, which provide the basis for future production. It is measured gross of the depreciation of the assets, i.e., it includes investment that merely replaces worn-out or scrapped capital (CIA - The World Factbook). It is expressed as a percentage of the GDP of a certain country.
F  *"Public debt"* records the cumulative total of all government borrowings less repayments that are denominated in a country's home currency. Public debt should not be confused with external debt, which reflects the foreign currency liabilities of both the private and public sector and must be financed out of foreign exchange earnings (CIA - The World Factbook). It is expressed as a percentage of the GDP of a certain country.
G  *"Early-stage entrepreneurial activity"* is the percentage of 18-64 population who are either a nas-

cent entrepreneur (actively involved in setting up a business they will own or co-own; this business has not paid salaries, wages, or any other payments to the owners for more than three months) or owner-manager of a new business (owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than three months, but not more than 42 months) (Bosma and Levie, 2010).

H *"Necessity-driven entrepreneurial activity (relative prevalence)"* is the percentage of those involved in early-stage entrepreneurial activity (as defined above) who are involved in entrepreneurship because they had no other option for work (Bosma and Levie, 2010).

I *"Improvement-driven opportunistic entrepreneurial activity (relative prevalence)"* is the percentage of those involved in early-stage entrepreneurial activity (as defined above) who (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) who indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income (Bosma and Levie, 2010).

## 3.3 Data Collection

Countries in this research are from the GEM yearly report in which they explain and measure different aspects and levels of entrepreneurship for various selected countries. Based on the selected development indicators, we have selected 52 out of 54 countries from the report to conduct our study (n=52). All of the data are for the year 2009. Table 1 presents the countries' development indicators that we have selected for this study. We can see that the GDPs *per capita* (PPP in $) were between $2,500 and $59,300 (average $20,425), the GDP real growth rates were between -17.8% and 8.7% (average -1.944%),the unemployment rates in these countries were between 2.4% and 40.0% (average 10.877%), the inflation rates (consumer prices) were between -1.3% and 27.3% (average 3.723%), the investments (gross fixed) were between 12.5% and 42.6% (average 22.022%) and that the public debt was between 6.9% and 192.1% (average 53.738%).

*Table 1: GDP per capita PPP, GDP real growth rates, unemployment rates, inflation rates, investments and public debt by country for the year 2009 (n=52)*

| Country | GDP p.c. (PPP in $) | GDP real growth rate | Unemployment rate | Inflation rate (consumer prices) | Investment (gross fixed) (% of GDP) | Public debt (% of GDP) |
|---|---|---|---|---|---|---|
| Algeria | 7,100 | 3.4 | 12.4 | 4.1 | 26.8 | 10.7 |
| Argentina | 13,800 | -2.5 | 9.6 | 7.7 | 21.0 | 49.1 |
| Belgium | 36,600 | -3.4 | 8.3 | .0 | 24.2 | 99.0 |
| Bosnia and Herzegovina | 6,300 | -2.9 | 40 | .6 | n.a. | 43.0 |
| Brazil | 10,200 | .1 | 7.4 | 4.2 | 17.0 | 46.8 |
| Chile | 14,700 | -1.5 | 10 | 1.7 | 20.5 | 9.0 |
| China | 6,500 | 8.7 | 4.3 | -.8 | 42.6 | 18.2 |
| Colombia | 9,200 | -.1 | 12 | 3.0 | 23.2 | 46.1 |
| Croatia | 17,600 | -5.2 | 16.1 | 2.4 | 22.8 | 61.0 |
| Denmark | 36,200 | -4.3 | 4.3 | 1.3 | 20.0 | 38.5 |
| Dominican Republic | 8,200 | -.3 | 15.1 | 1.4 | 16.6 | 41.5 |
| Ecuador | 7,300 | -2.0 | 9.8 | 4.3 | 27.5 | 20.2 |
| Finland | 34,900 | -7.6 | 8.5 | .0 | 19.0 | 41.4 |
| France | 32,800 | -2.1 | 9.7 | .1 | 20.8 | 79.7 |
| Germany | 34,200 | -5.0 | 8.2 | .0 | 18.9 | 77.2 |
| Greece | 32,100 | -2.5 | 8.9 | 1.0 | 15.6 | 108.1 |
| Guatemala | 5,200 | -.5 | 3.2 | 2.2 | 16.9 | 32.7 |
| Hong Kong | 42,700 | -3.1 | 5.9 | -.3 | 17.6 | 18.1 |

| Country | GDP p.c. (PPP in $) | GDP real growth rate | Unemployment rate | Inflation rate (consumer prices) | Investment (gross fixed) (% of GDP) | Public debt (% of GDP) |
|---|---|---|---|---|---|---|
| Hungary | 18,800 | -6.4 | 11 | 2.0 | 19.0 | 78.0 |
| Iceland | 39,800 | -6.3 | 8.2 | 12.0 | 18.6 | 95.1 |
| Iran | 12,900 | 2.6 | 11.8 | 16.8 | 27.7 | 19.4 |
| Israel | 28,400 | -.3 | 8 | 3.9 | 16.0 | 78.0 |
| Italy | 30,200 | -5.0 | 7.5 | .6 | 19.2 | 115.2 |
| Jamaica | 8,300 | -4.0 | 14.5 | 8.6 | 22.2 | 131.7 |
| Japan | 32,600 | -5.7 | 5.6 | -1.3 | 20.2 | 192.1 |
| Jordan | 5,300 | 3.1 | 13.5 | 1.7 | 31.2 | 69.9 |
| Latvia | 14,500 | -17.8 | 16.6 | 3.3 | 26.2 | 32.5 |
| Lebanon | 11,500 | 7.0 | 9.2 | 3.4 | 21.5 | 156.0 |
| Malaysia | 14,700 | -2.8 | 5 | .4 | 18.2 | 47.8 |
| Netherlands | 39,000 | -4.3 | 5 | 1.2 | 19.4 | 62.2 |
| Norway | 59,300 | -1.1 | 3.2 | 2.3 | 20.5 | 60.2 |
| Panama | 11,900 | 2.4 | 7.1 | 2.3 | 26.7 | 49.5 |
| Peru | 8,600 | 1.0 | 9 | 1.2 | 20.8 | 26.1 |
| Republic of Korea | 27,700 | -.8 | 4.1 | 2.8 | 28.2 | 28.0 |
| Kingdom of Tonga | 4,600 | -.5 | 13 | 5.9 | | |
| Romania | 11,500 | -6.9 | 7.6 | 5.0 | 25.5 | 20.0 |
| Russia | 15,200 | -7.9 | 8.9 | 11.9 | 20.0 | 6.9 |
| Saudi Arabia | 20,300 | -.6 | 11.6 | 5.0 | 24.2 | 20.3 |
| Serbia | 10,400 | -4.6 | 18.8 | 6.6 | 33.1 | 31.3 |
| Slovenia | 28,200 | -6.2 | 9.4 | .8 | 23.7 | 31.4 |
| South Africa | 10,000 | -1.9 | 24 | 7.2 | 20.6 | 35.7 |
| Spain | 33,700 | -3.6 | 18.1 | -.8 | 26.6 | 50.0 |
| Switzerland | 41,600 | -1.8 | 3.7 | -.6 | 21.1 | 43.5 |
| Syria | 4,700 | 2.2 | 9.2 | 3.8 | 21.7 | 32.3 |
| Tunisia | 8,000 | .7 | 15.7 | 3.7 | 25.9 | 47.2 |
| United Arab Emirates | 41,800 | -4.0 | 2.4 | 1.5 | 28.9 | 47.2 |
| United Kingdom | 35,400 | -4.3 | 8 | 2.1 | 15.0 | 68.5 |
| United States | 46,400 | -2.4 | 9.4 | -.7 | 12.5 | 52.9 |
| Uruguay | 12,600 | .6 | 7.9 | 7.3 | 15.5 | 58.7 |
| Venezuela | 13,200 | -1.5 | 10.9 | 27.3 | 18.3 | 19.4 |
| West Bank and Gaza Strip | 2,900 | 7.0 | 19 | 9.9 | n.a. | n.a. |
| Yemen | 2,500 | 3.8 | 35 | 3.6 | 19.9 | 39.6 |

*Sources: CIA - The World Factbook*

Table 2 presents us the entrepreneurial activity in the selected countries. We can see from it that the early-stage entrepreneurial activity was between 3.3 and 26.84 (average 10.308), the necessity-driven entrepreneurial activity was between 7 and 48 (average 25.71) and that the improvement-driven opportunistic entrepreneurial activity was between 16 and 79 (average 47.25) for the selected countries.

*Table 2: Early-stage entrepreneurial activity and its division to necessity-driven and improvement-driven entrepreneurial activity by country for the year 2009 (n=52)*

| Country | Early-stage entrepreneurial activity | Necessity-driven entrepreneurial activity | Improvement-driven opportunistic entrepreneurial activity |
|---|---|---|---|
| Algeria | 16.7 | 47 | 37 |
| Argentina | 14.7 | 9 | 55 |
| Belgium | 3.5 | 39 | 20 |
| Bosnia and Herzegovina | 4.4 | 39 | 48 |
| Brazil | 15.3 | 25 | 42 |
| Chile | 14.9 | 48 | 29 |
| China | 18.8 | 34 | 45 |
| Colombia | 22.4 | 37 | 39 |
| Croatia | 5.6 | 7 | 56 |
| Denmark | 3.6 | 34 | 26 |
| Dominican Republic | 17.5 | 32 | 43 |
| Ecuador | 15.8 | 19 | 62 |
| Finland | 5.2 | 14 | 67 |
| France | 4.3 | 31 | 43 |
| Germany | 4.1 | 26 | 47 |
| Greece | 8.8 | 23 | 30 |
| Guatemala | 26.8 | 19 | 49 |
| Hong Kong | 3.6 | 24 | 45 |
| Hungary | 9.1 | 10 | 58 |
| Iceland | 11.4 | 35 | 35 |
| Iran | 12 | 25 | 48 |
| Israel | 6.1 | 14 | 57 |
| Italy | 3.7 | 33 | 45 |
| Jamaica | 22.7 | 30 | 62 |
| Japan | 3.3 | 28 | 35 |
| Jordan | 10.2 | 32 | 54 |
| Latvia | 10.5 | 18 | 60 |
| Lebanon | 15 | 25 | 44 |
| Malaysia | 4.4 | 10 | 57 |
| Netherlands | 7.2 | 9 | 74 |

| Country | Early-stage entrepreneurial activity | Necessity-driven entrepreneurial activity | Improvement-driven oppor-tunistic entrepreneurial activity |
|---|---|---|---|
| Norway | 8.5 | 24 | 59 |
| Panama | 9.6 | 28 | 42 |
| Peru | 20.9 | 45 | 37 |
| Republic of Korea | 7 | 33 | 39 |
| Republic of Tonga | 17.4 | 34 | 31 |
| Romania | 5 | 29 | 37 |
| Russia | 3.9 | 12 | 63 |
| Saudi Arabia | 4.7 | 41 | 46 |
| Serbia | 4.9 | 10 | 69 |
| Slovenia | 5.4 | 33 | 38 |
| South Africa | 5.9 | 16 | 41 |
| Spain | 5.1 | 7 | 67 |
| Switzerland | 7.7 | 37 | 43 |
| Syria | 8.5 | 20 | 57 |
| Tunisia | 9.4 | 9 | 79 |
| United Arab Emirates | 13.3 | 16 | 43 |
| United Kingdom | 5.7 | 23 | 55 |
| United States | 8 | 22 | 57 |
| Uruguay | 12.2 | 32 | 42 |
| Venezuela | 18.7 | 37 | 33 |
| West Bank and Gaza Strip | 8.6 | 35 | 16 |
| Yemen | 24 | 47 | 37 |

*Source: Global Entrepreneurship Monitor, Global Report 2009 (Bosma and Levie, 2010)*

# 4    Results and discussion

## 4.1   Results

We begin by constructing the frequency tables (Table 3) and the correlation matrix (Table 4) for the variables that we have used in our research.

In the following three tables we will use multiple regressions to analyse the relationships between a set of independent variables representing "Country's development" and each of the dependent variables. The regression analysis for the dependent variable "early-stage entrepreneurial activity" is portrayed in Table 5, for "necessity-driven entrepreneurial activity" in Table 6 and for "improvement-driven opportunistic entrepreneurial activity" in Table 7.

With the predictors that we have used to describe "Country's development" 32.7% variance of "Early-stage entrepreneurial activity" is explained. "GDP *p.c.* (PPP in \$)" ($\beta=-0.470$) has the most influence. The second most influential predictor is "GDP real growth rate" ($\beta=0.303$) which has a positive effect and is also statistically significant.

With the predictors that we have used to describe "Country's development" 34.7% variance of "Necessity-driven entrepreneurial activity" is explained. "GDP *p.c.* (PPP in \$)" ($\beta=-0.603$) has the most influence and is also the only statistically significant predictor.

With the predictors that we have used to describe "Country's development" 39.2% variance of "Improvement-driven opportunistic entrepreneurial activity" is explained. "GDP *p.c.* (PPP in \$)" ($\beta=0.505$)

*Table 3: Frequency tables for the variables (n=52)*

| | | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|---|
| **n** | **Valid** | 52 | 52 | 52 | 52 | 49 | 50 | 52 | 52 | 52 |
| | **Missing** | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 |
| Mean | | 20,425.000 | -1.944 | 10.877 | 3.723 | 22.022 | 53.738 | 10.308 | 25.71 | 47.25 |
| Median | | 14,600.000 | -2.050 | 9.200 | 2.300 | 20.800 | 46.450 | 8.550 | 25.50 | 45.00 |
| Std. Deviation | | 14,192.761 | 4.3049 | 7.0516 | 4.9631 | 5.3504 | 37.500 | 6.2615 | 11.046 | 13.316 |
| Minimum | | 2,500.000 | -17.8 | 2.4 | -1.3 | 12.5 | 6.9 | 3.3 | 7 | 16 |
| Maximum | | 59,300.000 | 8.7 | 40.0 | 27.3 | 42.6 | 192.1 | 26.8 | 48 | 79 |

*Table 4: Pearson r Correlation Coefficients (n=52)*

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| **B** | -.393** | | | | | | | |
| **C** | -.466** | .061 | | | | | | |
| **D** | -.320* | .078 | .125 | | | | | |
| **E** | -.311* | .239 | .084 | -.023 | | | | |
| **F** | .269 | -.061 | -.103 | -.205 | -.256 | | | |
| **G** | -.527** | .415** | .082 | .261 | .078 | -.137 | | |
| **H** | -.663** | .208 | .369** | .260 | .285* | -.198 | .308* | |
| **I** | .648** | -.256 | -.536** | -.203 | -.096 | .305* | -.332* | -.733** |

*\*. Correlation is significant at the 0.05 level (2-tailed).*
*\*\*. Correlation is significant at the 0.01 level (2-tailed).*

*Table 5: Regression Analysis for the Dependent Variable "Early-stage entrepreneurial activity" (n=52)*
*R=0.641; R²=0.411; Adj. R²=0.327*

| Predicators | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | **B** | **Std. Error** | **Beta** | | |
| (Constant) | 19.408 | 4.986 | | 3.893 | .000 |
| GDP p.c. (PPP in $) | .000 | .000 | -.470 | -2.984 | .005 |
| GDP real growth rate | .451 | .195 | .303 | 2.315 | .026 |
| Unemployment rate | -.030 | .148 | -.028 | -.205 | .839 |
| Inflation rate (consumer prices) | .131 | .161 | .104 | .813 | .421 |
| Investment (gross fixed) | -.165 | .153 | -.140 | -1.075 | .288 |
| Public debt | -.003 | .021 | -.016 | -.129 | .898 |

*Dependent Variable: Early-stage entrepreneurial activity*

*Table 6: Regression Analysis for the Dependent Variable "Necessity-driven entrepreneurial activity" (n=52)*
*R=0.655; R²=0.429; Adj. R²=0.347*

| Predicators | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 28.442 | 8.585 | | 3.313 | .002 |
| GDP p.c. (PPP in $) | .000 | .000 | -.603 | -3.889 | .000 |
| GDP real growth rate | -.190 | .336 | -.073 | -.565 | .575 |
| Unemployment rate | .034 | .255 | .017 | .132 | .896 |
| Inflation rate (consumer prices) | .159 | .278 | .072 | .573 | .570 |
| Investment (gross fixed) | .241 | .264 | .117 | .913 | .366 |
| Public debt | .002 | .036 | .008 | .067 | .947 |

*Dependent Variable: Necessity-driven entrepreneurial activity*

*Table 7: Regression Analysis for the Dependent Variable "Improvement-driven opportunistic entrepreneurial activity" (n=52)*
*R=0.684; R²=0.468; Adj. R²=0.392*

| Predicators | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 31.276 | 9.678 | | 3.232 | .002 |
| GDP p.c. (PPP in $) | .000 | .000 | .505 | 3.378 | .002 |
| GDP real growth rate | -.212 | .378 | -.069 | -.559 | .579 |
| Unemployment rate | -.487 | .287 | -.217 | -1.693 | .098 |
| Inflation rate (consumer prices) | .075 | .313 | .029 | .240 | .811 |
| Investment (gross fixed) | .352 | .297 | .146 | 1.182 | .244 |
| Public debt | .065 | .041 | .190 | 1.576 | .123 |

*Dependent Variable: Improvement-driven opportunistic entrepreneurial activity*

has the most influence and is also the only statistically significant predictor.

## 4.2 Discussion

Our research shows us that based on the data of the variables that we choose to represent country's economic development and the variables representing early-stage entrepreneurial activity we can conclude that country's development does affect early-stage entrepreneurial activity but not entirely as we have imagined.

Based on our research on the H1 hypothesis which states that where there is a high country's development, there will be a higher early-stage entrepreneurial activ-

ity we can conclude that countries that have high GDP *p.c.* (PPP in $) have a negative correlation to early-stage entrepreneurial activity, whereas the high GDP real growth rates have a positive correlation to early-stage entrepreneurial activity which can be seen from Table 4 and Table 5. For future research we suggest to divide the countries which are highly developed from those that are developing fast.

Our research confirms the H2 hypothesis which states that where there is a high country's development, there will be a lower necessity driven entrepreneurial activity. We can confirm this hypothesis because we can see from Table 4 that GDP *p.c.* (PPP in $) is negatively correlated to necessity driven entrepreneurial activity whereas the unemployment rate is positively correlated

to it. That means that countries with high GDP *p.c.* (PPP in $) have low necessity driven entrepreneurial activity and high unemployment rates.

Our research confirms the H3 hypothesis which states that where there is a high country's development, there will be a higher improvement-driven opportunistic entrepreneurial activity. We can confirm this hypothesis because we can see from Table 4 that GDP *p.c.* (PPP in $) is positively correlated to improvement-driven opportunistic entrepreneurial activity whereas the unemployment rate is negatively correlated to it. That means that countries with high GDP *p.c.* (PPP in $) have high improvement-driven opportunistic entrepreneurial activity and low unemployment rates.

We suppose that the basic limitation to our work is in the part that we suggest for further research and that is the division between the countries' development. Otherwise we got the results that we have anticipated already from the literature review and personal logical reasoning which we stated in our hypotheses and later on confirmed.

Recently, a paper by Sohn and Lee (2013) has been published that proposed an early-stage entrepreneurial activity index that can predict the percentage of both nascent entrepreneur and new business owner using the variables related to entrepreneurial attitudes of the previous year. This index is also one of the possibilities for future research on and prediction of early-stage entrepreneurship, as it can be used to predict various aspects of entrepreneurial aspiration of the following year. Their proposed index is believed to have a very high prediction accuracy and is expected to provide effective policies to boost future entrepreneurial activity and aspiration.

Also, contrary to our macro view of the problem, Pete, Nagy, Györfy, Benyovszki and Petru (2010) have tackled the issue of early-stage entrepreneurial activity from a more micro-based perspective, analyzing the following influencing factors of the probability of becoming an early-stage entrepreneur in Romania: gender, age, education, household income, work status, network, opportunity perception, perception regarding the trust in own entrepreneurial skills, perception on the society's appreciation regarding the principle of equality in life standard, perception on the society's appreciation regarding the entrepreneurial career, and perception on the proper promotion of entrepreneurial successes by mass media. It is our recommendation for future work in this field to perform a study of early-stage entrepreneurial activity in relation to both micro and macro factors.

## 5   Conclusion

Entrepreneurial activity is an important part of country's development. Economic development is the goal that every country wants to achieve on a yearly basis on which it is measured. In our research we have used six indicators of economic development for the countries selected: the GDP *per capita* (PPP), GDP real growth

rate, the unemployment rate, the inflation rate, investment and public debt. We confirmed our hypotheses almost completely with one small exception that we suggest to be careful of in further research, which is the division between highly developed and highly developing countries.

We believe that economic development plays an important role in early-stage entrepreneurial activity especially in the long term and also but not just as much in the short term. As we have concluded from our research, GDP *p.c.* and the unemployment rate have the highest and not always positive correlations.

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