THE INFLUENCE OF ENTREPRENUERSHIP ON ECONOMIC GROWTH IN TRANSITION COUNTRIES AND MENA REGION: WITH REFERENCE TO NORTH MACEDONIA

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Abstract

Many scientists have connected entrepreneurship with creation of new jobs, innovation and economic growth. In North Macedonia, the main driver of the economy is private enterprises. 99% of Macedonian companies classify as small and medium enterprises, and the number of SMEs is increasing year by year. According to the Agency for Promotion of Entrepreneurship of the Republic of North Macedonia, SMEs are great contributors to the country's economy and an important factor for creating new jobs, innovative products and services, increase of exports and a greater promotion of domestic products on foreign markets.

The aim of this paper is to investigate the influence of entrepreneurship on economic growth in transition countries and MENA region, with special reference to North Macedonia. Firstly, through an observational and descriptive analysis the development of entrepreneurship in North Macedonia was explained, for the period 1990 to 2017. After that, an econometric analysis of panel data was established in Stata 12 for 33 countries, to examine if entrepreneurship has a positive influence in the growth of the economy. There is no universal method to measure entrepreneurship, so data collected from different countries can bring incorrect and misleading results. In order to avoid misleading results, we use TEA (total-early stage entrepreneurial activity) and EBO (established business ownerships) for measuring entrepreneurship, from GEM (Global Entrepreneurship Monitor), since GEM uses the same methodology in every country. The main conclusion from the analysis is that TEA has no statistical significance on GDP, while EBO has a positive influence on economic growth.

Key words: entrepreneurship; economic growth; North Macedonia; transition countries; MENA region

JEL Classification: L26; O10

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1. Introduction

In the last several decades entrepreneurship has gained a lot of attention from both scientists and government, and it has been linked with economic growth and labor market. Even though the first economist to recognize the crucial role of the entrepreneur was Richard Cantillon, the Austrian economist Joseph Schumpeter was the one who made the entrepreneur the center which all events turn around. He connected the entrepreneur with innovation and established the theory named Creative Destructive, which means that innovation progress revolutionizes the economic structure from within, demising whatever existed before (Stel et al., 2005). Fiti et al. (2007), states that entrepreneurship enters in the domain of the most exciting spheres of the business and economy, which is reasonable, because entrepreneurs with their innovation, creativity and promptness to enter in risky business ventures are changing the world. Entrepreneurs are the owners of enterprises that innovate and thus differentiate their business from their competitors, take the risk, combine, recombine and substitute the more costly production factors with cheaper ones and direct resources to the sectors of their most productive use.

2. Entrepreneurship and Economic Growth

Entrepreneurship is usually positively connected with economic growth, since it generates jobs, improves innovation and brings a healthy competition in the market. Usually, scientists agree that entrepreneurship cannot show the same outcomes in every country even if the same strategy for its development is used. On the contrary, as a result of the macroeconomic environment and cultural background and beliefs it shows different results in developing countries in transition and developed countries.

According to Amoros et al. (2016), because the study has considered only low and middle income countries, the rates of entrepreneurship are not related to the GDP per capita, however opportunity-based entrepreneurship is positively related to the GDP growth rate. Even though, scientists claim that entrepreneurship had a positive effect on economic growth, Sipos-Gug et al. (2015) claimed that in European Union the relation of entrepreneurship with GDP is not linear,

because countries with lower GDP per capita tend to have lower entrepreneurial density, and that a richer economy provides stimulating effect and encourages more individual to take on the role of an entrepreneur. Countries with lower GDP per capita, provide fewer opportunities, and make the people to focus more on industry. Stel et al. (2005) argues that comparing countries in different stages of economic development should be carefully done, because the importance and role of entrepreneurial firms may differ from one economic stage to another. That is, a smaller percentage of start-up businesses may develop to high-growth companies in developing countries when compared to rich countries, which shows that high start-up rates in developing countries could show a weak sign of economic strength when compared to such rates in highly developed countries.

3. Entrepreneurship and Transition Countries

According to GEM model, most of transition countries have efficiency-driven economy. With the fall of communism in 1989, the development of small businesses became one of the main reform goals of the post-communist governments. The new governments reacted by quickly removing the main barriers to entry, and privatizing the small business sector and by taking over the basic reforms in the financial sector. As a result of these new opportunities, almost everywhere in Central and Eastern Europe a race for registration of new small businesses appeared (Fiti et al., 2007). According to Estrin and Mickiewicz (2010), the rate of entrepreneurship in transition economies is lower than in developed and developing market economies, and this low rate is more expressed in the countries of former Soviet Union than those of Central and Eastern Europe. The low rate of entrepreneurship is presumed to be a result of slow adaptation of informal institutions, social norms and attitudes. In transition economies such as Ukraine, Moldova and Belarus entrepreneurs have a variety of reasons for starting a business, some of which are according to transition conditions, but one of the reasons is undoubtedly an economic necessity. However, evidence show that in these countries there is a dichotomy of necessity and opportunity driven entrepreneurship (Welter, 2003).

3.1. Entrepreneurship in Western Balkans and MENA region

Western Balkan region is consisted of transition countries that are recovering from the Balkan wars in the 1990s, are rich in contrast, however they all have a common goal and that is to have a better future (Culkin et al., 2018). The per capita income of the Western Balkan countries is only 27 percent of the EU15 average (CSF Policy Brief, 2018). Since the beginning of transition, the Western Balkan region has been fighting high unemployment rate, however they have not been so successful, since even today they still have high rates of unemployment when compared to other EU countries. The macroeconomic instability, the fast political changes, and the informal sector have made the business environment challenging, which on the other hand has resulted in low number of new start-ups, and low level of development of entrepreneurship (CSF Policy Brief, 2018).

One of the obstacles that many potential businessmen face in Western Balkan is the long bureaucratic procedures. In Bosnia and Herzegovina, according to young people, it can take up to 6 months to complete the registration process and it is very costly. In North Macedonia, Albania and Kosovo the registration process is fastest, and when comparing to costs for starting a business, North Macedonia, Montenegro and Kosovo have the lowest costs (Rovcanin, 2019). Studies show that most entrepreneurs in this region see themselves as self-employed rather than as entrepreneurs and they are most concerned about putting bread on the table (Culkin et al., 2018). Meaning most entrepreneurs start their business out of necessity rather than opportunity. This concludes that most young individuals in Western Balkan choose to be employed (preferably in public sector) than start their own business (Rovcanin, 2019). People are reluctant to start a business because of lack of entrepreneurship culture and motivation, low self-esteem and confidence, fear of risk and uncertainty, and fear of lack of entrepreneurial thinking and knowledge (CSF Policy Brief, 2018). On the other hand, Qorraj and Jusufi (2019), state that 83% of necessity-driven entrepreneurs are oriented toward local market, while 63% of opportunity-driven entrepreneurs are oriented toward the EU market.

The economy in MENA region is a heterogeneous macroeconomic context dependent on the oil industry. Most of the GDP is based on oil and government activities related to the oil industry (Tagliapietra, 2017). This region has the highest rates of youth population in the world, but also the highest rates of youth unemployment (Kabbani, 2019). Almost every second young educated

person in this region is unemployed (OECD, 2016). The top priority of this region has been job generation, since it suffers from long-term unemployment (O'Sullivan, n/a). One of the tools to tackle the unemployment has been entrepreneurship, because data show that entrepreneurship in this region has a large opportunity for development, since it is one of the most digitalized regions in the world, with 88% of the population being online daily (Alkasmi et al., 2018). On the other hand, data show that entrepreneurship is highly present in MENA region, even higher than USA and Germany, but most of the entrepreneurships are necessity-based such as shop owners or cart sellers, and farmers who try to satisfy their basic needs (World Economic Forum, 2011).

4. Entrepreneurship and Grey Economy

The informal economy who has a strong influence in every macroeconomic sector, plays an important role in entrepreneurship too. Studies show that academics have started to become interested in this field in the last several years. The informal entrepreneurship is defined as a legitimate business or company with legitimate goods and services but operating their business activities through unregistered means. Entrepreneurial businesses can easily become part of the grey economy by not conducting their businesses affairs wholly by the rulebook (William et al., 2010). Especially in the process of transition to a market economy, where companies tend to rely on old routines of doing their business activities, which makes the transition a non-linear process (Dembinski et al., n/a). Anyway, the informal entrepreneurship has a negative influence on the development of entrepreneurship in a country since data show that with the growth of informal entrepreneurship, the entry of new formal entrepreneurial companies in the market decreases, because they perceive more competition at the time of entry (Estrin, 2010). On the other hand, William et al. (2010), declares that formal entrepreneurs are only the tip of the iceberg and that beneath the surface there is a huge hidden culture of entrepreneurs who do not always follow the rules. However, this does not mean that all entrepreneurs engage in informal business activities, there are entrepreneurs who follow the rules. The reasons why they act like this is not universal, there is always a different perspective towards the informal entrepreneurship, but usually it is mostly the culture of the entrepreneur. One of the main appearances of hidden economy, or grey

economy is unregistered work, which is a huge problem for many countries that are focused on reshaping their economic and social policies (Centre for Research and Policy Making, 2014).

There are different factors that contribute to the growth of the grey economy such as the increased regulation in the official economy, the rise of the burden of taxes of social security contributions and increased regulations in the labour market (Chavdar et al, 2012). On the other hand, Nenovski (2012) declares that even though the damage of grey economy is bigger than the benefit there are still some positive elements such as creating employment in the country and compensating goods and services which the formal economy is not able to offer on the market because of the high cost.

5. Research Methodology

The methodological concept is twofold. The first part provides an observational and descriptive analysis of the development of entrepreneurship through decades in the Republic of North Macedonia since its independence. The second part provides a statistical econometric analysis for the relation of entrepreneurship and economic growth in transition countries and MENA region in the period 2008-2016.

For the measurement of entrepreneurship two independent variables were used, one of them being Total early-stage Entrepreneurial Activities (TEA) and the other is Established Business Ownerships (EBO).

Total early-stage entrepreneurial activity represents the percentage of the population aged 18-64, that is either starting a new business or owning a business that has been functioning for less than 42 months, and established business ownerships represents the percentage of population aged 18-64 who are current owners of an established business that has been functioning for more than 42 months.

Other variables used in this analysis are Gross Domestic Product, Gross National Income, Growth Competitiveness Index and Unemployment.

The Gross Domestic Product (GDP) is the measure for economic growth worldwide. The GDP measures the value of money-based economic activities, and through its methodological

structure it is easily comparable both over countries and over time. The main advantage of GDP is that it is measured consistently, often and worldwide (Lundin, 2015).

Gross National Income (GNI) is the amount of money earned by a nation's people and businesses. GNI is a total of the nation's gross domestic product including the income it receives from overseas sources. The main difference of GNI from GDP is that GNI measures income and GDP measures production.

Growth Competitiveness index (GCI) is a framework used by the World Economic Forum's Global Competitiveness Report (GCR), whose main objective is to review the capacity of the world's economies to achieve sustained economic growth. Through the measuring of GCI the GCR represents the national competitiveness to which individual national economies have the structures, institutions, policies and factors that determine the level of productivity.

Unemployment rate represents the percentage of currently unemployed people from the total labor force. The unemployed people are those individuals that are without work but seeking to be employed in a recent past of present, and those who have currently lost their jobs or who have voluntarily left work.

For the econometric analysis of this research, we used Stata for Windows, version 12.0. For the statistical analysis a linear regression with fixed effect is used. The data for total entrepreneurial activity (TEA), and for established business ownerships (EBO) were collected from the Global Entrepreneurship Monitor (GEM) report. The data for annual growth rate of gross domestic product (GDP), gross national income per capita (GNIC), global competitiveness index (GCI) and unemployment, were collected from the World Development Indicators of the World Bank.

The analysis is based on 33 countries which included the transition countries such as Republic of North Macedonia, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Kazakhstan, Kosovo, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia, and the Middle East and North Africa region (MENA) such as Algeria, Egypt, Iran, Israel, Jordan, Lebanon, Libya, Morocco, Saudi Arabia, Syria, Qatar, Tunisia, Turkey, United Arab Emirates and Yemen.

5.1. Limitations

There were two limitations for the econometrical research. The first one was the short time series. After the research of data for North Macedonia it was concluded that there are no data before 2008 and after 2016, which makes the time series very short. In order to increase the number of data, by avoiding short time series and misleading results, panel data is used for this research. The second limitation for this research was the missing data in the panel. Many countries do not have regular yearly data on entrepreneurship in the Global Entrepreneurship Monitor, so to solve this issue the panel data was widened by using 33 countries which includes transition countries and MENA (Middle East and North Africa).

5.2. Correlation Testing

Before the hypotheses were established for this research a correlation test was implemented for two dependent variables that measure entrepreneurship, i.e. for TEA and EBO. Person's correlation coefficient testing was used, to examine the correlation of the two variables and the statistical significance (Almahdi, 2014).

Figure 1. Correlation Testing of Independent Variables

	TEA	EBO
TEA	1.0000	
EBO	0.5679	1.0000
	0.0000	

Source: STATA 12, author's calculations

The results of the Pearson's test show that correlation is 0.568 and p-value <0.001, which means that there is a positive relationship of the two variables. Since Pearson's test shows us a positive correlation of two independent variables that represent entrepreneurship in this research, i.e. TEA and EBO, the variables will be used in separate regressions, therefore separate hypothesis will be established for them. The hypotheses for this research are:

H1. The higher the rate of TEA higher economic growth

H2. The higher the rate of EBO higher economic growth

6. Descriptive Analysis of Entrepreneurship in North Macedonia

After the independence and all economic shocks that Macedonian citizens faced, they had to find a solution for one important factor in their live, and that was their economic survival (Fiti et al., 2007). With the privatization and the closing of many companies, many people were left without jobs, so some had the opportunity to use their entrepreneurial spirit or idea, so that they can start their own company, and others were forced to start their company, seeing the only solutions for their jobless state. In North Macedonia entrepreneurs are usually defined as people that are self-employed or those that own their own company.

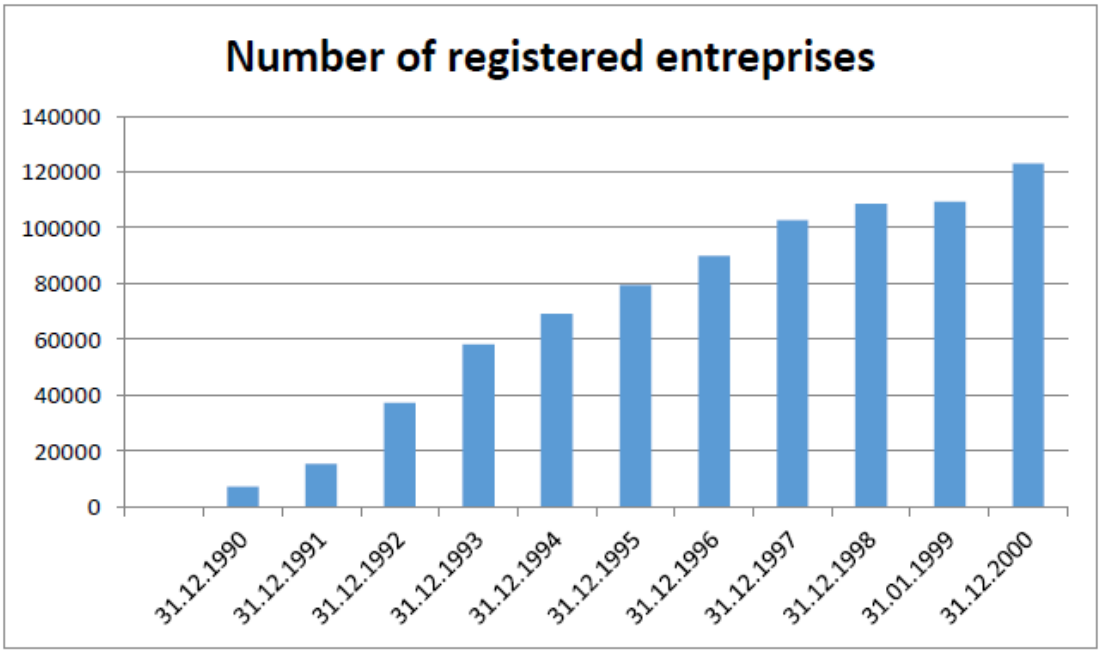
The decision to open their own business according to Markoski and Gosevska (2012) usually comes from the desire to have permanent jobs, free financial resources and possession of entrepreneurial spirit. Ramadani (2013) supports this view, stating that people are motivated to start their own business in order to earn more money, to be independent, to use a profitable opportunity in the market, the desire to be entrepreneur, and the impossibility to find a better job with higher salary.

6.1 Entrepreneurship and SMEs in North Macedonia in the period 1991-2000

Small and medium sized enterprises were not clearly defined in the early years of transition. The Law on Accounting (1993) classified the companies only as small and large companies and they were classified according to only one criterion, and that is the number of employees. All enterprises that had less than 250 employees were defined as small companies and those that had more than 250 employees were defined as large companies. However, in 1994, the Law on the Transformation of Socially-Owned Enterprises classified the companies as small, medium and large, on the basis of several criteria such as: the number of employees, the total value of the business assets and the annual total income (Fiti et al., 2007). This way of

classification was accepted until 2004. After 2004, the Law for Trade Companies was changed by adding the EU criteria for classification of enterprises by their size: number of employees, value of business assets and annual turnover. But, even though the criterion number of employees is applied in the same way as in the EU, the two other criteria are adopted according to the conditions in the Macedonian economy (APPRM, 2003).

Table 1.1. New Registered Companies in North Macedonia in the period 1990-2000



Source: Fiti T., MarkovskaHadzi – Vasileva V., and Bateman M. (2007). 'Entrepreneurship'. University St. Cyril and Methodius in Skopje pg. 225

In North Macedonia, the same as in other transition countries the so-called 'spontaneous entrepreneurship' came to light, which means that entrepreneurship was evolving without any kind of planning or governmental measures (Fiti et al., 2007). For less than 5 years after the independence of North Macedonia, the number of registered new SMEs increased for approximately 80,000 and until the end of the last century it reached almost 110,000. By entering in the new millennium, the number of new SMEs in North Macedonia reached 123,072.

Table 1.2. Number of People Employed in Companies in the Period 1991-1999

Year	1991		1994		1997		1998		1999	
	n°	%	n°	%	n°	%	n°	%	n°	%
Small	80320	20%	80620	23%	95985	34%	93588	34%	105776	36%
Medium/Large	342180	80%	265576	77%	187157	66%	188493	67%	188000	64%
Total	422500	100%	346196	100%	283142	100%	283081	100%	293776	100%

Source: SME Observation for Republic of North Macedonia 2002, Agency for Promotion of Entrepreneurship of Republic of North Macedonia

Table 1.2 shows the number of people employed in companies in the period 1991-1999, but there are no data for 1992, 1993, 1995 and 1996. From this table we can see the increase of small companies and their slow effect on employment and on the other hand the decrease of people employed in medium and large companies. In the period of 9 years the employment in small companies increased for 16 percentage points but on the other hand the employment in medium and large companies decreased for 16 percentage points.

Table 1.3. Total share of SMEs in Gross Product in North Macedonia in the period 1997-2000

Million in MKD	**1997**	**1998**	**1999**	**2000**
Small	141116	146824	152114	169518
Medium	176232	201666	53522	62775
Large			161198	188899
Total	317348	348490	366834	421192
(%)				
Small	44.5	42.1	41.5	40.3
Medium	55.5	57.9	14.5	14.8
Large			44.0	44.9
Total share of SME in GP			56.1	55.2

Source: SME Observation for Republic of North Macedonia 2002, Agency for Promotion of Entrepreneurship of the Republic of North Macedonia

Table 1.3 presents the growth rate of Gross Product (GP) by the size of enterprises. The total added value. In the period 1997-1998, medium and large companies were classified in one group so the total share of medium enterprises cannot be defined. In the period 1999-2000 we can conclude that the total shares of small companies in GP it is still higher than that of medium companies, even though it has been decreasing through the years.

6.2. Entrepreneurship and SMEs in North Macedonia in the period 2001-2010

In the period 2001-2010 the economy of North Macedonia faced an economic shock from the conflict in 2001, which decreased the investments and took the economy into recession with real GDP -3.1. However, the year after the conflict the economy of North Macedonia was recovered and continued to grow steadily until 2009 when it was affected by the world financial crises, but because of the underdeveloped financial market in North Macedonia, the economy did not face big loses (Nenovski, 2011).

Table 2.1 Number of Registered Companies in North Macedonia in the period 2000-2004

Year	2000	2001	2002	2003	2004
Number of registered companies	123072	123096	149386	158091	172297
Annual growth rate (%)	10.88%	0.50%	17.20%	5.51%	4.99%

Source: *SME Observation for Republic of North Macedonia 2004, Agency for Promotion of Entrepreneurship of the Republic of North Macedonia*

In 2001 as a result of the conflict, the percentage of newly opened companies was 0.65% which is extremely low compared with other years. With the start of 2002 and stabilization of the political situation, the new investments in North Macedonia boomed, and the percentage of new companies increased for 17.2%. However, in 2003-2004, the registration of new companies slowed down.

Table 2.2 Number of Active Enterprises by Years in North Macedonia in the period 2003-2009

Year	Small	Medium	Large	Total
2003	38581	618		39199
2004	49123	429	135	49687
2005	43887	462	84	44433
2006	47740	440	88	48268
2007	50541	424	95	51060
2008	62624	496	117	63237
2009	60746	516	192	61454

Source: *SME Observation for Republic of North Macedonia 2003, 2004, 2009. Agency for Promotion of Entrepreneurship of the Republic of North Macedonia*

Table 2.1 shows how many new companies were opened through the years, however not all of those companies are active. Therefore, table 2.2 presents the number of active enterprises for the period 2003-2009. In 2003 approximately 75% of the companies were inactive, i.e. they were registered as a company but they do not function, and in 2004 there is a decrease of inactive companies for 4%, only 71% of companies were inactive.

In 2009, as a result from the world economic crises, the total number of active enterprises decreased for approximately 2.8%. The economic crises affected more the small enterprises since the number of medium and large enterprises continued to grow. However, we can conclude that the number of active companies has increased through the years, with a total increase of 56.77% in the period 2003-2009.

Table 2.3. Number of People Employed in SMEs in North Macedonia in the period 2001-2009

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009
Small	41%	43.28%	47.52%	56.11%	54.40%	58.83%	61.16%	60.5%	62%
Medium	59%	56.72%	52.48%	24.45%	21.3%	18.93%	17.93%	17.7%	17%

Large				19.44%	24.3%	22.24%	20.72%	21.6%	21%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: SME Observation for Republic of North Macedonia. Agency for Promotion of Entrepreneurship of the Republic of North Macedonia

Table 2.3 presents the percentage of employment in private companies in the period 2001-2009. In the first three years the main employers have been the medium and large companies (the data for medium and large companies were merged into one because of the old way of classification of companies). Through the years the number of people employed in small companies increased for 21 percentage points, on the other hand the number of people employed in medium companies decreased for 7.5 percentage points from 2004 to 2009. However, it should be taken into consideration that the reality is different than the shown data, since many companies in order to reduce costs do not register their employees.

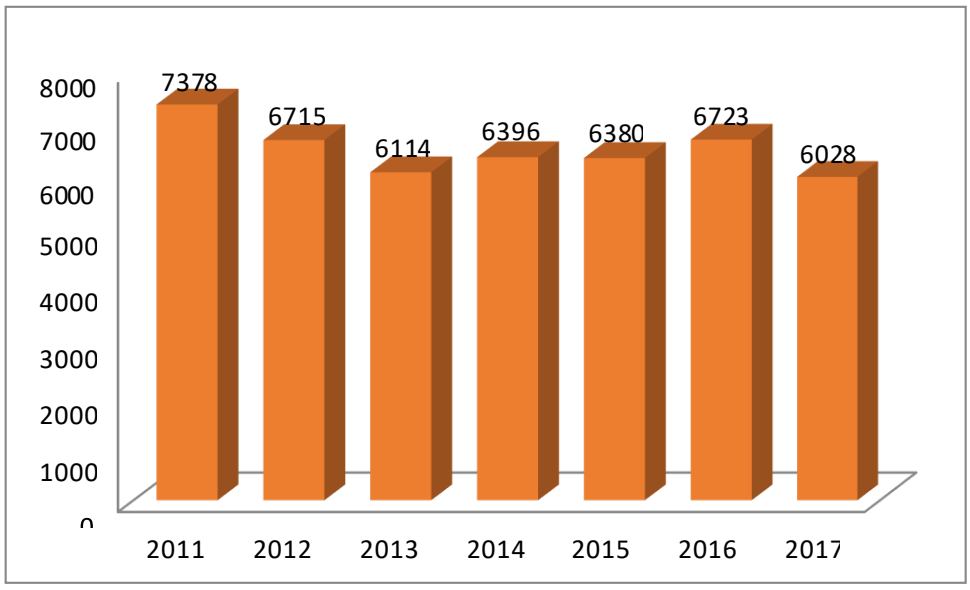
6.3 Entrepreneurship and SMEs in North Macedonia in the period 2011-2017

In 2010, North Macedonia was officially out of recession. According to Doing Business of World Bank, North Macedonia in 2011 was rated 38 out of 183 economies for ease of doing business, and in 2017 it was rated 10, better than Croatia, Bulgaria, Montenegro, the Czech Republic and Greece.

The Ministry of Labor and Social Policy, the Employment Agency of Republic of North Macedonia and the Agency for Promotion of Entrepreneurship Development Program of the United Nations established a self-employment program with a grant offering as a tool to increase entrepreneurship and to decrease unemployment. The grants were offered for direct support for procurement equipment and materials and basic entrepreneurship training. Also, a part of the self- employment program was provided specifically for persons with disabilities. Within this program 1050 unemployed people were covered, and they were employed in 1000 newly-created micro enterprises. Besides the self-employment program, there is a start-up business program designed for young people up to the age of 29, as well as subsidies for SMEs. The start-up business program is focused predominantly in communication technologies, production, tourism

and organic agriculture. The program has covered 196 unemployed young people that were employed in 140 newly opened micro enterprises. And the project for subsidizing of new jobs in SMEs as a part of the Operational Plan for Active Programs and Measures was created, with the purpose to create new jobs for active unemployed people. This program covered 250 unemployed young people up to 29 years old and people with disabilities. The program included exemption from the payment of contributions from compulsory social insurance and/or personal income tax for employers who will employ registered unemployed persons in accordance with the provisions (APPRM, 2017).

Table 3.1 New Registered Companies in North Macedonia in the period 2011-2017



Source: SME Observation for Republic of North Macedonia 2017. Agency for Promotion of Entrepreneurship of the Republic of North Macedonia

The number of new registered companies has fluctuated throughout the years. However, from 2011 to 2017 the number of new registered companies has decreased for approximately 18%. In 2017, the number of new registered companies was 6028, and the number of registered SMEs in 2017 according to the annual account data is 492, according to data obtained from Central Registry of Macedonia (CRM) (APPRM, 2017).

Table 3.2 Number of Enterprises in North Macedonia in the Period 2011-2015

Size of company	2011		2012		2013		2014		2015	
	Number	Share	Number	Share	Number	Share	Number	Share	Number	Share
Micro	71797	95.4%	48580	91.1%	48394	90.9%	47761	90.6%	48981	90.4%
Small	2850	3.8%	3937	7.4%	4041	7.6%	4112	7.8%	4306	7.9%
Medium	493	0.7%	707	1.3%	702	1.3%	693	1.3%	739	1.4%
SMEs	**75140**	**99.9%**	**53224**	**99.8%**	**53137**	**99.8%**	**52566**	**99.7%**	**54026**	**99.7%**
Large	88	0.1%	129	0.2%	123	0.2%	143	0.3%	157	0.3%
Total	**75228**	**100%**	**53353**	**100%**	**53260**	**100%**	**52709**	**100%**	**54183**	**100%**

Source: EU Commission –SBA Fact Sheet of FYROM 2013-2017. The data cover the non- financial business economy such as construction, industry, trade and services, except agriculture and other non-market service sectors such as health and education.

Although the number of new registered companies has been increasing since 2012, the overall number of enterprises in North Macedonia has been decreasing in the period 2011-2015, going from 75,228 to 54,183. Along with this decrease the number of SMEs has been decreasing too for 28.1%, but on the other hand the number of large companies has grown in these 5 years for 78%, going from 88 to 157. But, although the number of large companies has increased in this period, still its share from the total amount of companies is very low with only 0.3% in 2015. On the other hand, SMEs represent 99.7% of total companies in 2015, which proves to be the driven factor in the business entities in North Macedonia. Most of the SMEs companies are micro companies with an average of 92% of the total companies of North Macedonia. According to the State Statistical Office of North Macedonia, most of the SMEs are in the sectors of wholesale and retail trade, unlike large companies who are mostly in the sector of manufacturing.

Table 3.3 Value Added in Millions of Euros in North Macedonia in the period 2011-2015

Size of company	2011		2012		2013		2014		2015	
	Number	Share	Number	Share	Number	Share	Number	Share	Number	Share
Micro	602	26.8%	790	24.8%	/	23.8%	783	23.1%	818	21.88%
Small	578	25.7%	690	21.7%	/	23.0%	770	22.7%	836	22.36%
Medium	350	15.6%	610	19.2%	/	19.7%	660	19.4%	758	20.27%

SMEs	**1530**	**68.1%**	**2090**	**65.7%**	/	**66.6%**	**2213**	**65.2%**	**2412**	**64.51%**
Large	716	31.9%	1090	34.3%	/	33.4%	1181	34.8%	1327	35.49%
Total	**2246**	**100%**	**3180**	**100%**	/	**100%**	**3394**	**100%**	**3739**	**100%**

Source: EU Commission –SBA Fact Sheet of FYRM 2013-2017. The data cover the non-financial business economy such as construction, industry, trade and services, except agriculture and other non-market service sectors such as health and education.

Beside the decrease of total companies, the total added value has increased. However, the added value of SMEs has been decreasing in the period 2011-2015, going from 68.1% to 64.51%. Even though we have a decrease of total companies, SMEs have a higher percentage of added value than large companies, which proves that they are an important factor for the economic growth. Table 3.3 shows that in 2011 from all SMEs, micro companies had the highest added value, but in 2015 this situation changed with small companies having the highest added value. On the other hand, even though the number of large companies is very low, less than 1%, the added value of large companies in 2015 was 35.49%.

Table 3.4 Entrepreneurial Behaviour and Attitude in North Macedonia in the Period 2008-2016

Entrepreneurial Behaviour and Attitude	**2008**	**2010**	**2012**	**2013**	**2015**	**2016**
Perceived Opportunities Rate	46.74	34.26	30.79	37.15	37.77	38.36
Perceived Capabilities Rate	62.2	59.72	55.11	49.69	54.44	54.5
Fear of Failure Rate	33.32	30.91	39.43	35.57	34.33	34.44
Entrepreneurial Intentions Rate	39.04	26.69	27.74	29.11	23.32	24.85
Total early-stage Entrepreneurial Activity (TEA)	14.47	7.88	6.97	6.63	6.11	6.53
Established Business Ownership Rate	11.03	7.58	6.73	7.29	5.91	7.2
Innovation	n/a	n/a	20.52	13.82	17.03	15.5
High Job Creation Expectation Rate	26.44	30.15	27.73	25.54	22.2	19
High Status to Successful Entrepreneurs	71.97	66.23	66.73	67.89	57.07	58.5
Entrepreneurship as a Good Career Choice Rate	79.76	71.27	69.59	69.49	67.1	64.8

Source: Global Entrepreneurship Monitor Data

The decision to become an entrepreneur is influenced by many factors that are sometimes difficult to define. Some people opt for starting their own business, while others are afraid of failure (GEM, 2013). The rate of entrepreneurs that see opportunities to start a new business decreased from 2008 to 2012 for 15.95%, but increased again by 7.57% from 2012 to 2016. However, even though the rate of people who believe they have the required skills and knowledge for starting a business decreased in 2013 to 49.69%, it increased again to 54.5% in 2016. On the other hand, the fear of failure determines whether a person will start a new business or not. In 2008, 33.32% of the respondents stated that the fear of failure would stop them from starting a new business, even though in 2012 the fear for failure had increased, it again started to decrease and has reached 34.44% in 2016. Data show that throughout the years less people are interested in opening their own company in the next 3 years; from 2008 to 2016 this percentage has dropped for 14.19%.

TEA which is one of the most famous indicators of GEM presents the percentage of people who are either nascent entrepreneurs or owner-manager of a new business. The TEA index was characterized by a downward trend until 2015. In 2008 it was 14.47%, in 2015 it declined to 6.11%, however in 2016 we can notice a small increase reaching to 6.53%. Also, the percentage of entrepreneurs in TEA that expected to create 6 or more jobs in the next 5 years has fallen, going from 30.15% in 2010 to 19% in 2016. The motivations for starting a business vary considerably between countries. Individual incentives for starting a business, which are included in the GEM environmental factors framework, are classified into two groups: necessity-motivated entrepreneurship and opportunity-motivated entrepreneurship. Necessary motivated entrepreneurs are all those from the adult population of GEM who started their own business because they had no other better job opportunity or livelihood. The second group of opportunity-motivated entrepreneurs are those who have decided to undertake business ventures in order to take advantage of the perceived market opportunities. They are motivated by the need to be independent in their operations, to maintain or increase the level of income they generate. Countries whose development is based on factors of production often have a larger number of need-driven entrepreneurs. Data show that with the growth of the country's economy the number of need-driven entrepreneurs decreases, and the number of opportunity-motivated entrepreneurs increases.

Environmental factors significantly influence the motives for starting your own business. If the number of jobs available in the economy is low and social security is not provided, more and more people are being pushed into entrepreneurship in order to provide a source of living. With economic growth, more and more jobs are being created and the pressure to take on an independent business venture is lower. In developing countries, in 2013, it can be observed that in many of them the rate of early-stage motivated entrepreneurs is over 40%. Such is the case in Bosnia and Herzegovina, Poland and Slovakia, while in the Scandinavian countries, such as Norway and Sweden, the rate of necessity-motivated entrepreneurs accounts for less than 10%. In Macedonia, in 2013, 60.98% of entrepreneurs stated that they were motivated by necessity. Compared to the previous year (51.95%), this rate increased. Given the factors of the economic environment, such as low economic growth and high unemployment, starting a business is still often motivated by necessity. Although North Macedonia in 2013 compared to previous years had a growth of GDP, it is still not enough to change the motives for starting a business. An important indicator is the rate of opportunity-motivated entrepreneurs which is 22.95% and is lower than the previous year, when it was 28.73%. Compared with the countries of the region and the average for the countries of the European Union, Macedonia has a higher number of necessity-motivated entrepreneurs and lower rate of opportunities-driven entrepreneurs. Data from Table 3.4 show that innovation is in a very poor condition among entrepreneurs. In North Macedonia 71.97% of the respondents in 2008 believed that successful entrepreneurs enjoy high status in the society, however this indicator has declined to 58.5% in 2016. Also, in 2008, 79.76 % of the respondents stated that entrepreneurship is a good career choice, and even though in 2016 this number fell to 64.8%, it is still relatively high.

Table 3.5 Entrepreneurial Framework Conditions in North Macedonia in the period 2008-2016

Entreprenurial Framework Conditions	2008	2010	2012	2013	2015	2016
Financing for entrepreneurs	2.41	1.92	2.12	2.33	2.39	2.21
Governmental support	2.49	2.23	2.48	2.65	2.46	2.1
Taxes and bureaucracy	2.47	2.81	3.01	2.86	2.79	2.68

Governmental programs	2.43	2.4	2.55	2.54	2.71	2.37
Basic school entrepreneurial education and training	2.2	2.19	2.3	2.27	2.19	2.32
Post school entrepreneurial education and training	2.76	3.04	2.86	3.05	2.92	2.66
R&D Transfer	2.01	2.19	2.38	2.37	2.44	2.11
Commerical and professional infrastructure	2.94	3.34	3.52	3.02	3.1	3.1
Internal market dynamics	3.21	3.01	3.13	3	3.44	3.37
Internal market openness	2.31	2.33	2.29	2.36	2.24	2.14
Physical and services infrastructure	3.41	3.61	3.57	3.54	3.83	3.68
Cultural and social norms	2.78	2.49	2.84	2.83	2.5	2.26
Basic school entrepreneurial education and training	2.2	2.19	2.3	2.27	2.19	2.32
Post school entrepreneurial education and training	2.76	3.04	2.86	3.05	2.92	2.66
R&D Transfer	2.01	2.19	2.38	2.37	2.44	2.11
Commercial and professional infrastructure	2.94	3.34	3.52	3.02	3.1	3.1
Internal market dynamics	3.21	3.01	3.13	3	3.44	3.37
Internal market openness	2.31	2.33	2.29	2.36	2.24	2.14
Physical and services infrastructure	3.41	3.61	3.57	3.54	3.83	3.68
Cultural and social norms	2.78	2.49	2.84	2.83	2.5	2.26

Source: Global Entrepreneurship Monitor Data

The physical infrastructure in Macedonia in 2015, as well as in 2016, is the highest rated area of the entrepreneurial framework. Domestic experts assess the state of physical infrastructure in the country as stimulating the development of entrepreneurship in the country. In 2016 the average rating at the level of "Physical Infrastructure" is 3.68, which is a slight decrease compared to the previous year. By 2013, the average rating of the category "Physical Infrastructure" declined slightly but steadily, however it started to increase again in 2015. Internal market dynamics was rated as neutral in 2013, but in 2016 has become more stimulating, and was the second highest rating. The lowest rating has the governmental support with the least stimulating points of 2.1 out of 5. Until 2013 there was an upward trend however it started to decrease again. The R&D Transfer is the second lowest rated, with only 2.11 points. Even though it had an upward trend until 2015, in 2016 it dropped again. Domestic experts in 2016 rate the funding for start-ups and growing enterprises in Macedonia as unfavorable with 2.21 points out of 5. This component in the entrepreneurial framework is among the lowest rated, it is non-stimulating for entrepreneurship in the country (GEM 2013, 2016).

6. Econometric Results

At the beginning of the econometric research, a summary statistic is presented in Figure 2 for all the variables involved in this research.

Figure 2. Summary statistics

Variable	Obs	Mean	Std. Dev.	Min.	Max
TEA	145	9.494276	3.934393	3.46	30.15
EBO	145	6.341103	3.046903	1.9	20.1
GDP	288	2.437528	9.313232	-62.076	123.14
GCI	255	4.237137	0.414132	2.74	5.38
Unemployment	288	11.43469	6.370981	0.14	33.76
LOG. GNIC	267	9.823026	0.619517	8.188535	11.64583

Source: STATA 12, author's calculations

Before we turn to results, we need a model specification in order to have accurate data from the research. The Hausman test for random or fixed effect model was implied, to examine which model is appropriate for this research.

Figure 3. Hausman testing

Hausman Test		
Regression	Ch2 (4)	Prob> ch2
H1	10.27	0.0361
H2	15.62	0.0036

Source: Authors' calculations

According to the results from the Hausman test for both established linear regressions p-value < 0.05, therefore the null hypothesis is rejected, and a fixed effect method is preferred for both hypotheses.

After establishing the model, the unit root test of Levin, Lin & Chu was employed. This testing is necessary in order to avoid the problem of spurious regression. In case the variables are non-stationery, that is they contain unit root, then the regression can give misleading results (Dvoulety, 2017).

Figure 4. Unit Root testing of the dependent variables

Unit Root Testing - Levin - Lin – Chu			
Variable	Unadjusted t	Adjusted t*	P-Value
GDP	-35.9451	-34.4864	0.0000

Source: Authors' calculations

The unit root test proved to be statistically significant, meaning we reject the null hypothesis which states that panel contains unit root, and we accept the alternative hypothesis that states that panels are stationary.

The last test for these regressions was the heteroscedasticity test. A modified Wald test was performed to define the homoscedasticity of the hypotheses.

Figure 5. Heteroscedasticity test

Heteroscedasticity test		
Regression	Chi (27)	Prob> ch2
H1	6237.58	0.0000
H2	84129.61	0.0000

Source: Authors' calculations

The results of the established hypothesis show that Prob>chi2 = 0.0000, meaning that we reject the null hypothesis for homoscedasticity, and accept the alternative hypothesis for

heteroscedasticity. In order to remove heteroscedasticity from the regression, robust standard error was employed in the regression.

H1. TEA has a positive effect on economic growth

To achieve the outcomes of the hypothesis the following equation was used:

$$GDP_t = \beta_0 + \beta_1 TEA_{i,t-1} + \beta_2 GCI_{i,t-1} + \beta_3 \log(GNIC_{i,t-1}) + \beta_1 GDP_{i,t-1} + \varepsilon_{it}$$

GDP stands for economic growth and it is the dependent variable, TEA is the independent variable that stands for total early-stage entrepreneurships, *t* represents the year, *i* is the country index and β is the coefficient of the independent variables. *GDPt-1* is the lagged dependent variable, i.e. the GDP from the previous year in order to avoid serial correlation in the equation. GNIC is the gross national income per capita and for this research we use the log of GNIC, GCI represents the growth competitiveness index. *GDPt-1* is the lagged dependent variable, i.e. the ratio of GDP from the previous year. This variable exists in order to remove the serial correlation, and $\mathcal{E}$ is the standard error term.

Figure 6. The Effect of Total Early-Stage Entrepreneurial Activity (TEA) on Economic Growth

The effect of TEA on GDP	
L. TEA	0.3351*
	-0.1692
L.LOG (GNIC)	-14.7023
	-10.3
L. GCI	2.4716
	-4.385
L. GDP	0.0849
	-0.1236
Constant	132.9214
	-93.5471

Observations	110
Number of id	27
R-squared	0.0882

*Source: Authors' calculations *, **, *** denote statistical significance at the 10, 5, and 1% level, respectively. The number in the brackets represents the standard error of the representative coefficient.*

The panel data uses lagged data as control variables, since the agents in the economy may have a delayed response in economic growth (Stel et al. 2005; Koellingerand Thurik, 2012; Doulety, 2017). The model shows TEA has a positive effect on the economic growth and it is statistically significant at 10%. However according to the estimated results, R-squared is very weak with 0.088, and test (F) is 0.1168, therefore the estimated results cannot be taken into an account.

H2. EBO has a positive effect on economic growth

While H1 investigated the influence of new entrepreneurial companies on economic growth, through this test hypothesis we investigate the long-term influence of entrepreneurial companies, more precisely the influence of entrepreneurial companies that have been functioning for more than 42 months on economic growth. For this hypothesis the following equation is established:

$$GDP_t = \beta_0 + \beta_1 EBO_{i,t-1} + \beta_2 GCI_{i,t-1} + \beta_3 \log(GNIC_{i,t-1}) + \beta_1 GDP_{i,t-1} + \varepsilon_{it}$$

As previously explained, GDP stands for economic growth and it is the dependent variable. EBO is the independent variable that stands for established business ownerships, i.e. entrepreneurial companies that has been functioning for more than 42 months, *t* represents the year, *i* stand for the country index and β is the coefficient of the independent variables. GNIC is the gross national income per capita and for this research we use the log of GNIC, GCI represents the growth competitiveness index. *GDPt-1* is the lagged dependent variable i.e. the

ratio of GDP from the previous year. This variable exists in order to remove the serial correlation, and $\mathcal{E}$ is the standard error term.

Figure 7. The Effect of Established Business Ownerships (EBO) on Economic Growth

The effect of EBO on GDP	
L.EBO	0.2580**
	-0.1237
L.LOG (GNIC)	-0.8988
	-1.2537
L.GCI	3.2982**
	-1.6826
L.GDP	0.2239**
	-0.0941
Constant	-5.426
	-8.4992
Observations	110
Number of id	27
R-squared	0.0623

*Source: Authors' calculations *, **, *** denote statistical significance at the 10, 5, and 1% level, respectively. The number in the brackets represents the standard error of the representative coefficient.*

From the established results, we notice that EBO is statistically significant at 5%. This panel data suggests that for 5% increase of established business ownerships, the economic growth increases for 0.258. From this module we can declare that entrepreneurial companies that

have been functioning for more than 42 months have a positive influence of economic growth. The coefficient of GNIC is negative, however it is statistically insignificant.

7.1 Robustness Check

Robustness check was applied to resolve the instability of the regression from the hypotheses. One additional model was presented for both hypotheses that measure influence of entrepreneurship on economic growth, by adding total unemployment rate as one additional variable.

Figure 8. The Effect of Total Early-Stage Entrepreneurial Activity (TEA) on Economic Growth – Robustness Check

The effect of TEA on GDP – Robustness Check	
L. TEA	0.2565
	-0.1749
L. LOG (GNIC)	-4.006
	-10.5334
L. GCI	4.1695
	-4.2691
L. UNEMPLOYMENT	0.5877**
	-0.2799
L. GDP	0.0766
	-0.1244
Constant	13.8296
	-106.4823

Observations	110
Number of id	27
R-squared	0.1658

*Source: Authors' calculations *, **, *** denote statistical significance at the 10, 5, and 1% level, respectively. The number in the brackets represents the standard error of the representative coefficient.*

By doing the robustness check on the influence of TEA on GDP, we see that TEA loses the statistical significance, and the other variables remain the same as in the original model; they remain statistically insignificant, only unemployment is statistically significant at 5%. From the results we can furthermore see that R-square increases to 0.1658 and test (F) = 0.0132. After the addition of the variable a robust standard error is estimated, to deal with heteroscedasticity, however the results remain the same, meaning TEA remains to be statistically insignificant. The estimated results are empirically supported with the research of Stel et al. (2005), which declared that total early-stage entrepreneurial activities do not show a significant effect on economic growth in transition and developing countries. The insignificance of TEA may be an indication of the high presence of the informal economy, which according to Nenovski (2012) its estimation is 40% of the GDP. Many individuals do not perform their payments officially, they do not register their employees, or they even avoid official company register for their business just to cut costs. But unfortunately, this informal business brings unfair competition on the market.

Figure 9. The effect of established business ownerships (EBO) on economic growth – Robustness check

The effect of EBO on GDP – Robustness Check	
L. EBO	0.6985***
	-0.2346
L. LOG (GNIC)	-1.2201
	-10.983
L. GCI	5.3991

	-4.0249
L. UNEMPLOYMENT	0.6785**
	-0.2667
L. GDP	0.0821
	-0.1388
Constant	-22.0051
	-109.2517
Observations	110
Number of id	27
R-squared	0.2563

*Source: Authors' calculations *, **, *** denote statistical significance at the 10, 5, and 1% level, respectively. The number in the brackets represents the standard error of the representative coefficient.*

The results from the robustness check on the second hypothesis, i.e. on the hypothesis that measures the influence of EBO on economic growth, we see that the results are stable, however there are some changes. EBO goes from 5% to 1% significance, and also R- squared is increased to 0.2563. After that a robust standard error is estimated to deal with heteroscedasticity, but again, the results remain the same. Therefore, we can conclude that the test hypothesis (H2) cannot be rejected since it is supported empirically. The estimated results prove that established business ownerships have positive influence in the growth of the economy. With the growth of the businesses, they create job and bring innovations in products or processes, which creates a healthy competition on the market as mentioned before. All together they have a positive influence on the economic growth. Therefore, with the support of the entrepreneurship, the growth of the economy is also supported.

7. Conclusion

The main purpose of this research was to analyze the development of entrepreneurship in North Macedonia, and to investigate its influence on the economic growth. While most scientific papers have analyzed the influence of entrepreneurship on economic growth only at an early

stage. This paper is based both on entrepreneurship at an early stage and as a well-established business. Meaning it investigates entrepreneurship both at a short and long term.

Science proves that entrepreneurship has a positive effect on economic growth through job generation, innovation and by bringing a healthy competition in the market. However, scholars prove that the relation of entrepreneurship with GDP is not linear, since countries with lower GDP per capita have lower entrepreneurial density, and on the other hand richer countries provide stimulating effect and encourage more individuals to take the risk of an entrepreneur. In transition countries the rate of entrepreneurship is lower than in developed and developing countries. This is presumed to be a result of slow adaptation of informal business. In North Macedonia entrepreneurs are usually defined as people that are self-employed and those that own their own company. Since the independence of North Macedonia, entrepreneurship has been evolving spontaneous without any kind of planning on governmental measures, mostly as a result of high unemployment rate. Nowadays most private domestic companies belong to the SME category, and they have the highest share in value added. However, data prove that in North Macedonia most entrepreneurs have been motivated by necessity, and that the overall interested in people for becoming entrepreneurs has decreased.

From this research we can conclude that entrepreneurship is an important factor to the growth of the economy. Even though early-stage entrepreneurial activities do not show significance in the growth of the economy, it does not mean that new start-ups should not be supported. On the contrary, they should be supported through different means and programs to become official and registered companies, so that they can be pulled out from the grey economy, and support them to grow further, since the second hypothesis proved that when entrepreneurial companies are well established, they have a solid positive effect on the economy. Nevertheless, in order to have a stronger positive effect on the economic growth, countries should focus more on opportunity-driven entrepreneurships, since previous studies show that necessity-driven entrepreneurships do not have a significant effect on the growth of the economy. Until today the government of North Macedonia has used different policies and support programs for development of SMEs. Nonetheless, the Government should also engage in decreasing the grey economy, such as judiciary reforms, reforms in public institutions, lowering or relief of taxes for new entrepreneurial companies in the first several years, and lowering or subsidizing the costs for

registered employees. They should also pursue entrepreneurial education in both secondary and tertiary schools. However, the education should not be only theory, it should involve also practice.

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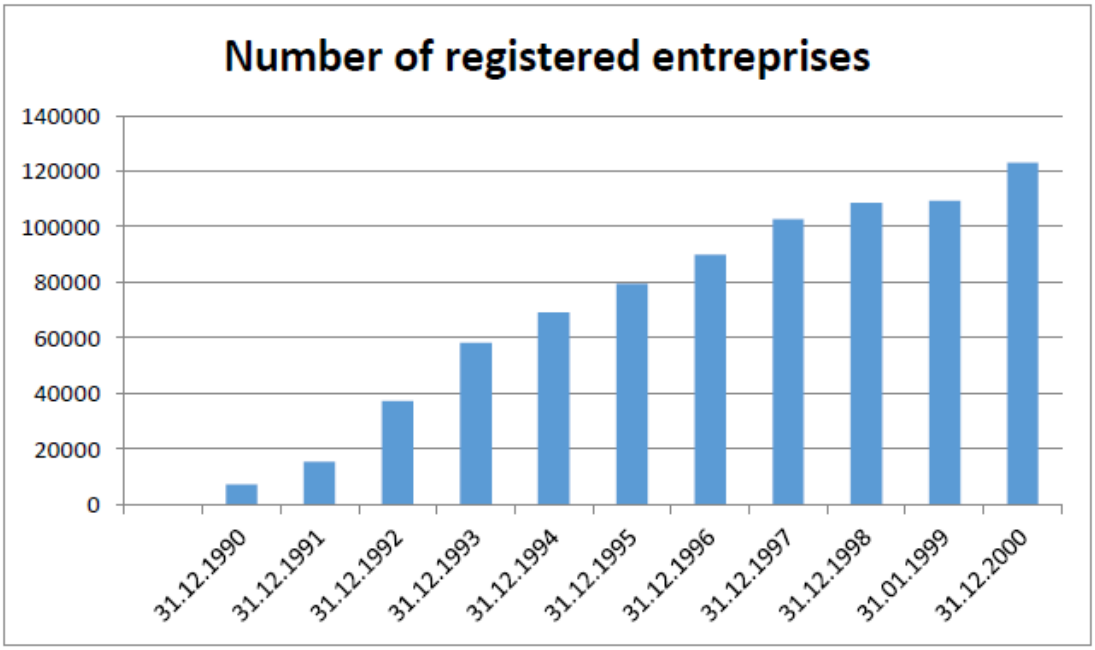
Appendix 1

Table 1.1. New Registered Companies in North Macedonia in the period 1990-2000



Source: Fiti T., MarkovskaHadzi – Vasileva V., and Bateman M. (2007). 'Entrepreneurship'. University St. Cyril and Methodius in Skopje pg. 225

Table 1.2. Number of People Employed in Companies in the Period 1991-1999

Year	1991		1994		1997		1998		1999	
	n°	%	n°	%	n°	%	n°	%	n°	%
Small	80320	20%	80620	23%	95985	34%	93588	34%	105776	36%
Medium/Large	342180	80%	265576	77%	187157	66%	188493	67%	188000	64%
Total	422500	100%	346196	100%	283142	100%	283081	100%	293776	100%

Source: SME Observation for Republic of North Macedonia 2002, Agency for Promotion of Entrepreneurship of Republic of North Macedonia

Table 1.3. Total share of SMEs in Gross Product in North Macedonia in the period 1997-2000

Million in MKD	1997	1998	1999	2000
Small	141116	146824	152114	169518
Medium	176232	201666	53522	62775
Large			161198	188899
Total	317348	348490	366834	421192
(%)				
Small	44.5	42.1	41.5	40.3
Medium	55.5	57.9	14.5	14.8
Large			44.0	44.9
Total share of SME in GP			56.1	55.2

Source: SME Observation for Republic of North Macedonia 2002, Agency for Promotion of Entrepreneurship of the Republic of North Macedonia

Table 2.1. Number of Registered Companies in North Macedonia in the period 2000-2004

Year	2000	2001	2002	2003	2004
Number of registered companies	123072	123096	149386	158091	172297
Annual growth rate (%)	10.88%	0.50%	17.20%	5.51%	4.99%

Source: *SME Observation for Republic of North Macedonia 2004, Agency for Promotion of Entrepreneurship of the Republic of North Macedonia*

Table 2.2. Number of Active Enterprises by Years in North Macedonia in the period 2003-2009

Year	Small	Medium	Large	Total
2003	38581	618		39199
2004	49123	429	135	49687
2005	43887	462	84	44433
2006	47740	440	88	48268
2007	50541	424	95	51060

2008	62624	496	117	63237
2009	60746	516	192	61454

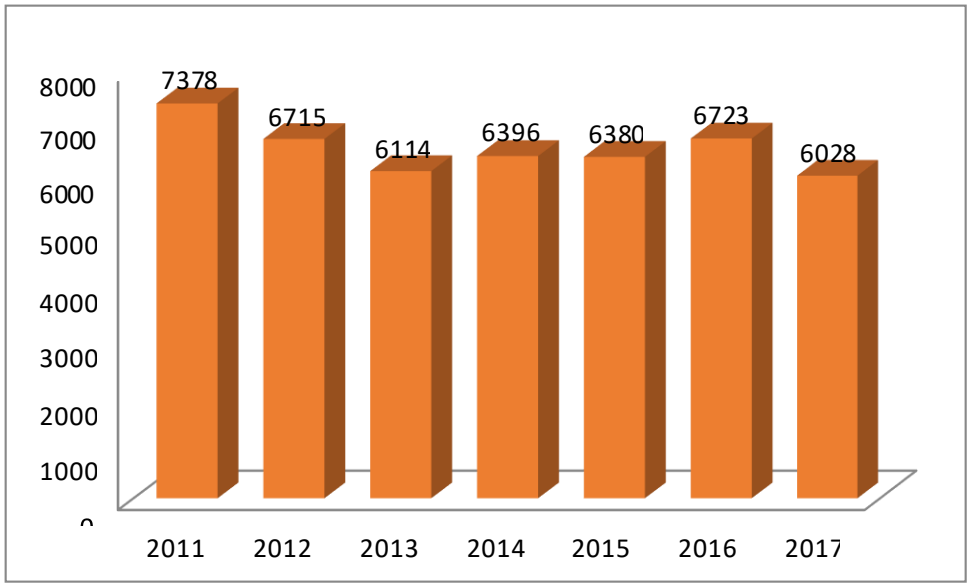
Source: *SME Observation for Republic of North Macedonia 2003, 2004, 2009. Agency for Promotion of Entrepreneurship of the Republic of North Macedonia*

Table 2.3. Number of People Employed in SMEs in North Macedonia in the period 2001-2009

Year	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Small	41%	43.28%	47.52%	56.11%	54.40%	58.83%	61.16%	60.5%	62%
Medium	59%	56.72%	52.48%	24.45%	21.3%	18.93%	17.93%	17.7%	17%
Large				19.44%	24.3%	22.24%	20.72%	21.6%	21%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: SME Observation for Republic of North Macedonia. Agency for Promotion of Entrepreneurship of the Republic of North Macedonia

Table 3.1 New Registered Companies in North Macedonia in the period 2011-2017



Source: SME Observation for Republic of North Macedonia 2017. Agency for Promotion of Entrepreneurship of the Republic of North Macedonia

Table 3.2 Number of Enterprises in North Macedonia in the Period 2011-2015

Size of company	2011		2012		2013		2014		2015	
	Number	Share	Number	Share	Number	Share	Number	Share	Number	Share
Micro	71797	95.4%	48580	91.1%	48394	90.9%	47761	90.6%	48981	90.4%
Small	2850	3.8%	3937	7.4%	4041	7.6%	4112	7.8%	4306	7.9%
Medium	493	0.7%	707	1.3%	702	1.3%	693	1.3%	739	1.4%
SMEs	**75140**	**99.9%**	**53224**	**99.8%**	**53137**	**99.8%**	**52566**	**99.7%**	**54026**	**99.7%**
Large	88	0.1%	129	0.2%	123	0.2%	143	0.3%	157	0.3%
Total	**75228**	**100%**	**53353**	**100%**	**53260**	**100%**	**52709**	**100%**	**54183**	**100%**

Source: EU Commission –SBA Fact Sheet of FYROM 2013-2017. The data cover the non- financial business economy such as construction, industry, trade and services, except agriculture and other non-market service sectors such as health and education.

Table 3.3 Value Added in Millions of Euros in North Macedonia in the period 2011-2015

Size of company	2011		2012		2013		2014		2015	
	Number	Share	Number	Share	Number	Share	Number	Share	Number	Share
Micro	602	26.8%	790	24.8%	/	23.8%	783	23.1%	818	21.88%
Small	578	25.7%	690	21.7%	/	23.0%	770	22.7%	836	22.36%
Medium	350	15.6%	610	19.2%	/	19.7%	660	19.4%	758	20.27%
SMEs	**1530**	**68.1%**	**2090**	**65.7%**	**/**	**66.6%**	**2213**	**65.2%**	**2412**	**64.51%**
Large	716	31.9%	1090	34.3%	/	33.4%	1181	34.8%	1327	35.49%
Total	**2246**	**100%**	**3180**	**100%**	/	**100%**	**3394**	**100%**	**3739**	**100%**

Source: EU Commission –SBA Fact Sheet of FYRM 2013-2017. The data cover the non-financial business economy such as construction, industry, trade and services, except agriculture and other non-market service sectors such as health and education.

Table 3.4 Entrepreneurial Behaviour and Attitude in North Macedonia in the Period 2008-2016

Entrepreneurial Behaviour and Attitude	2008	2010	2012	2013	2015	2016
Perceived Opportunities Rate	46.74	34.26	30.79	37.15	37.77	38.36
Perceived Capabilities Rate	62.2	59.72	55.11	49.69	54.44	54.5

Fear of Failure Rate	33.32	30.91	39.43	35.57	34.33	34.44
Entrepreneurial Intentions Rate	39.04	26.69	27.74	29.11	23.32	24.85
Total early-stage Entrepreneurial Activity (TEA)	14.47	7.88	6.97	6.63	6.11	6.53
Established Business Ownership Rate	11.03	7.58	6.73	7.29	5.91	7.2
Innovation	n/a	n/a	20.52	13.82	17.03	15.5
High Job Creation Expectation Rate	26.44	30.15	27.73	25.54	22.2	19
High Status to Successful Entrepreneurs	71.97	66.23	66.73	67.89	57.07	58.5
Entrepreneurship as a Good Career Choice Rate	79.76	71.27	69.59	69.49	67.1	64.8

Source: Global Entrepreneurship Monitor Data

Table 3.5 Entrepreneurial Framework Conditions in North Macedonia in the period 2008 - 2016

Entreprenurial Framework Conditions	**2008**	**2010**	**2012**	**2013**	**2015**	**2016**
Financing for entrepreneurs	2.41	1.92	2.12	2.33	2.39	2.21
Governmental support	2.49	2.23	2.48	2.65	2.46	2.1
Taxes and bureaucracy	2.47	2.81	3.01	2.86	2.79	2.68
Governmental programs	2.43	2.4	2.55	2.54	2.71	2.37
Basic school entrepreneurial education and training	2.2	2.19	2.3	2.27	2.19	2.32
Post school entrepreneurial education and training	2.76	3.04	2.86	3.05	2.92	2.66
R&D Transfer	2.01	2.19	2.38	2.37	2.44	2.11
Commerical and professional infrastructure	2.94	3.34	3.52	3.02	3.1	3.1
Internal market dynamics	3.21	3.01	3.13	3	3.44	3.37
Internal market openness	2.31	2.33	2.29	2.36	2.24	2.14
Physical and services infrastructure	3.41	3.61	3.57	3.54	3.83	3.68
Cultural and social norms	2.78	2.49	2.84	2.83	2.5	2.26
Basic school entrepreneurial education and training	2.2	2.19	2.3	2.27	2.19	2.32
Post school entrepreneurial education and training	2.76	3.04	2.86	3.05	2.92	2.66
R&D Transfer	2.01	2.19	2.38	2.37	2.44	2.11
Commercial and professional infrastructure	2.94	3.34	3.52	3.02	3.1	3.1
Internal market dynamics	3.21	3.01	3.13	3	3.44	3.37
Internal market openness	2.31	2.33	2.29	2.36	2.24	2.14
Physical and services infrastructure	3.41	3.61	3.57	3.54	3.83	3.68
Cultural and social norms	2.78	2.49	2.84	2.83	2.5	2.26

Source: Global Entrepreneurship Monitor Data

Appendix 2

Figure 1. Correlation Testing of Independent Variables

	TEA	EBO
TEA	1.0000	
EBO	0.5679	1.0000
	0.0000	

Source: STATA 12, author's calculations

Figure 2. Summary statistics

Variable	Obs	Mean	Std. Dev.	Min.	Max
TEA	145	9.494276	3.934393	3.46	30.15
EBO	145	6.341103	3.046903	1.9	20.1
GDP	288	2.437528	9.313232	-62.076	123.14
GCI	255	4.237137	0.414132	2.74	5.38
Unemployment	288	11.43469	6.370981	0.14	33.76
LOG. GNIC	267	9.823026	0.619517	8.188535	11.64583

Source: STATA 12, author's calculations

Figure 3. Hausman testing

Hausman Test		
Regression	Ch2 (4)	Prob> ch2
H1	10.27	0.0361
H2	15.62	0.0036

Source: Authors' calculations

Figure 4. Unit Root testing of the dependent variables

Unit Root Testing - Levin - Lin – Chu			
Variable	Unadjusted t	Adjusted t*	P-value
GDP	-35.9451	-34.4864	0.0000

Source: Authors' calculations

Figure 5. Heteroscedasticity test

Heteroscedasticity test		
Regression	Chi (27)	Prob> ch2
H1	6237.58	0.0000
H2	84129.61	0.0000

Source: Authors' calculations

Figure 6. The Effect of Total Early-Stage Entrepreneurial Activity (TEA) on Economic Growth

The effect of TEA on GDP	
L. TEA	0.3351*
	-0.1692
L.LOG (GNIC)	-14.7023
	-10.3
L. GCI	2.4716
	-4.385
L. GDP	0.0849
	-0.1236
Constant	132.9214
	-93.5471

Observations	110
Number of id	27
R-squared	0.0882

*Source: Authors' calculations *, **, *** denote statistical significance at the 10, 5, and 1% level, respectively. The number in the brackets represents the standard error of the representative coefficient.*

Figure 7. The Effect of Established Business Ownerships (EBO) on Economic Growth

The effect of EBO on GDP	
L.EBO	0.2580**
	-0.1237
L.LOG (GNIC)	-0.8988
	-1.2537
L.GCI	3.2982**
	-1.6826
L.GDP	0.2239**
	-0.0941
Constant	-5.426
	-8.4992
Observations	110
Number of id	27
R-squared	0.0623

*Source: Authors' calculations *, **, *** denote statistical significance at the 10, 5, and 1% level, respectively. The number in the brackets represents the standard error of the representative coefficient.*

Figure 8. The Effect of Total Early-Stage Entrepreneurial Activity (TEA) on Economic Growth – Robustness Check

The effect of TEA on GDP – Robustness Check	
L. TEA	0.2565
	-0.1749
L. LOG (GNIC)	-4.006
	-10.5334
L. GCI	4.1695
	-4.2691
L. UNEMPLOYMENT	0.5877**
	-0.2799
L. GDP	0.0766
	-0.1244
Constant	13.8296
	-106.4823
Observations	110
Number of id	27
R-squared	0.1658

*Source: Authors' calculations *, **, *** denote statistical significance at the 10, 5, and 1% level, respectively. The number in the brackets represents the standard error of the representative coefficient.*

Figure 9. The effect of established business ownerships (EBO) on economic growth – Robustness check

The effect of EBO on GDP – Robustness Check	
L. EBO	0.6985***
	-0.2346
L. LOG (GNIC)	-1.2201
	-10.983
L. GCI	5.3991
	-4.0249
L. UNEMPLOYMENT	0.6785**
	-0.2667
L. GDP	0.0821
	-0.1388
Constant	-22.0051
	-109.2517
Observations	110
Number of id	27
R-squared	0.2563

*Source: Authors' calculations *, **, *** denote statistical significance at the 10, 5, and 1% level, respectively. The number in the brackets represents the standard error of the representative coefficient.*