Study on the Importance of Knowledge, Innovation and Entrepreneurship on the Country's Progress

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Abstract – Entrepreneurship as a term has become a well-known term around the world, where the society sees the entrepreneurs connected with the well-being and economic development of any country. In the same time, the importance of innovation has been highlighted many times but little has been said about the major source of entrepreneurial opportunities that potentially can arise from that innovation idea. This research focuses on the role of knowledge in creating opportunities that can be exploited through innovation and possibly with some future entrepreneurial step. We would analyse the theoretical models of growth vis-à-vis the link between the knowledge, innovation and entrepreneurship. Also we will try to comprehend the forces of knowledge and how innovation and entrepreneurs make it marketable and help the growth process.

Index terms – Knowledge, Entrepreneurship, Innovation, Idea, Growth, Developing, Progress,

1. INTRODUCTION

The last decade brought a lot of studies on the relationship between knowledge, growth and entrepreneurship in order to understand the importance of their relationship and how they are interconnected. They have been analysed both theoretically [21] as well as empirically [12]. But so far there is still lack of knowledge for the interconnection of knowledge, innovation, entrepreneurship and growth. Their connection is so complex and sometimes forces can affect all the variables at the same time and sometimes we have the opposite, where they are only partially affected. There are even some extreme cases where it can be expected to have indirect impact or affect only a few of these variables.

Having full employment with efficient allocation, growth is driven by knowledge growth and innovation, where innovation is seen as access to existing knowledge and more importantly economically useful knowledge. Or as Braunerhjelm [4] says, "*innovation is one vehicle that diffuses and upgrades already existing knowledge, thereby serving as a conduit for realizing knowledge spillovers*". The innovation process is seen as the critical concern in the understanding of the growth, but the influence of the innovator or entrepreneur on the growth is not carefully analysed. At the same time the effects of activities by entrepreneurs are taken for granted that they bring societal benefits, knowing that sometimes just the opposite happens.

The lack of insight into issues related to innovation, entrepreneurship and growth implies that our knowledge of growth is incomplete and inconsistent. Also there isn't a well-known recipe of growth that can be used over a decent period of time and stage of country's economic development. Republic of Macedonia, and even other developing countries, may learn from policies previously tracked by other developed countries, but developed countries themselves have a more difficult task in tracking out the new growth policies for the future.

2. CONNECTING THE THREE PARTS

Schumpeter [19] very early recognised the ''*entrepreneur as an innovator*'' as a key figure in driving economic development, where with their activity they bring constant to the economical equilibrium and as Schumpeter's theory [19] predicts, an increase in the number of entrepreneurs leads to an increase in economic growth. His theory, though important, is mainly descriptive without econometrical foundation, led to dismissing the idea of entrepreneur/innovator as a country's source of growth. In the recent years there have been many empirical evidence measuring entrepreneurial activities from different countries (as in [24]: Lichtenberg, 1993; Coe and Helpman, 1995; Engelbrecht, 1997; Pottelsberghe de la Potterie, 2001) supporting his recognition. Those researchers have used measures such as: research and development expenditures [11] or innovation outcomes such as patents [9] and their results have recognised the importance of innovation in company and industry growth. The growth in most of those studies is seen in enhancement of capital and labour in terms of quantity/quality/productivity as defined by Solow [21] that is externally determined and it is without clear recognition of the role of the entrepreneur.

Successively comes the question about the ways for measurement of innovation, where Schumpeter [19] was very clear and defines three stages. He says that the first stage is the real new discovery or new way of doing things, which can be named as an invention. Following is the commercialization of that invention (new product or service) and the third step is imitation, which is the more wide-ranging adaptation of the new product/process to the same market.

There have been researches examining the growth that is determined internally by the need of profit maximization (as in [24]: Verspagen, 1992; Ruttan, 1997; Grossman and Helpman, 1991) and [17]. Those models "emphasise the importance of knowledge, knowledge spillovers and technological substitution in the process of economic growth" as said in [24]. Here Romer [17] was the first to recognise clearly some of the important aspects of entrepreneurship.

Davidsson [7] clearly linked the economic activity at a market place with entrepreneurship, where he supports Kirzner's statement: ''*entrepreneurship consists of the*

competitive behaviours that drive the market process'' [24]. From his statement we can see that what drives the market place can be connected to entrepreneurship, but not only for new companies on the market, but also for existing ones that bring new and innovative approach to the market and make that new movement that drives that market. Starting from their perspective view to the topic, with our analytical approach we can say that innovational approach to the market is a form of entrepreneurship.

There is a diverse literature supporting the entrepreneurship inputs to the economy with its innovations, new changes to the external and internal factors and increasing of rivalry among the competitors on the markets. Starting with Cipolla's and Lazonick researches [24], where they see entrepreneur as a person that introduces new technologies with allocation of new or better resources and with this he brings the competition on the same market or when penetrating new markets. Later the IT revolution brought real examples with linkages between growth and entrepreneurship [2]. The most significant contribution came from Wennekers and Thurik [23] where they build operational framework that links entrepreneurship and growth, where they see entrepreneur as more than just an innovator, or someone that implements innovations, but also as one that brings new start-ups to new markets. Even though those star-ups have modest research and development spendings, they contribute significantly to the innovations [2]. They have different production activities, many times across different functional areas and separately from the formal R&D, and they use different sources of knowledge for their innovations [20]. From all mentioned researches it is clear that entrepreneurial activities have crucial impact on economic growth and innovation.

3. PRAGMATIC APPROACH TO THE ENTREPRENEURSHIP AND GROWTH

In the empirical literature it is often suggested that entrepreneurial start-ups have an important link between knowledge creation and finding way to bring that knowledge to the market, in a form to commercialize [10]. Many studies show that start-ups and growth have a positive and strong correlation among each other. Knowledge on the other side is seen as a not a sufficient necessity for growth.

There aren't many empirical studies devoted to the economic growth and entrepreneurship, mostly because of the problem of measurement of output of new start-ups and their correlation to the economy growth for that country. Because of this, researchers have found ways to connect entrepreneurship with new jobs creation. New companies create a considerable number of new jobs, where start-ups are seen as the one that brings majority of the jobs created. Researches in different countries have proved this, Brich [3] did a research in USA and Davidsson [6] in Sweden where he found that new independent companies are important for development of regions and it can be measured by income growth and net marginal surplus. Though there is clear difference with what we have previously said, new jobs creation is seen as a factor that brings wealth to the people and growth to the economy. Start-ups effect might be seen as a positive (push effect theory of income) or negative (pull effect theories on entrepreneurial capability and risk), but their input is limited because of the low survival rate and growth. There have been researches supporting both of the effects. Picot et al. [14] clearly connects new start-ups with employability increasing and economic effects, and it is most likely presented in more developed countries with firmly supported entrepreneurship activities. Opposite to this, Reynolds [16] says that unemployment stimulates entrepreneurial activities and this is seen in less developed countries, where emolument is guaranteed for the entrepreneur, but no growth guaranties. Knowing that almost every second Macedonian (47%) [8] looks for good opportunities for starting business in the next 6 months, and on the other hand knowing that the unemployment rate is >50% [22] at the youngest population, shows us that the entrepreneurial climate in Macedonia is driven by the unemployment, rather than the support by the economy. Entrepreneurial start-ups will bring growth but they have to be nourished in environment with innovation and entrepreneurial support.

Recent studies give more precise results because they started to take in considetation information for per capita output (GDP) in their research. Carree [5] introduced a model for determination of equilibrium rate of entrepreneurship as a function of the analysed economy and its level of development. In his research he used data from different countries and the results were equilibrium rates of entrepreneurship that proved that any deviancies from those rates influenced economy's GDP growth. Another research done by Nikolova, Ricka, Simroth [13] proves the importance of income in the economy with the success rate of new start-ups (Fig. 1.).

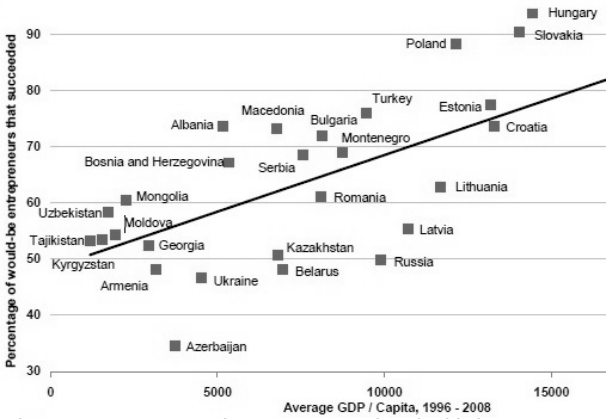


Fig. 1. Success rate of start-ups correlated with income per capita. Source: LiTS.

One question arises, especially in the eastern European countries, and that is the entrepreneurial effect on growth in correlation to the economic development of the countries. Porter et al [15] used three stages growth cycle: factor, efficiency and innovation driven stage where it is expected to have separate product structure

and even different structure when it comes to entrepreneurs and start-ups. In Table 1 we can see the EU situarion regarding this Porters classification. Acemouglu [1] says that innovative entrepreneurship is a specific mechanism for productivity growth in advanced economies, where less developed economies are faced with the opposite. Technology is independent between countries and those that are leaders in the technology field disperse it to those that fall behind in development. Here the difference in between economies is most noticeable (Gries and Naude 2008, 2010 as in [17]). That is why in developing countries like Macedonia, entrepreneurship is mostly based on imitation in an economy with inflows of foreign companies with large investments. Oposite in developed economies innovation and change most likely comes from the cooperation between small entrepreneurial start-ups and companies with developed R&D departments (Baumol as in [17]). Stam and van Stel (2009) as in [17] go even further in the analysis of the microeconomics data, where they find that entrepreneurship has very low effect in low income economies, where the opposite prevails in developed economies. This is especially noticeable in the entrepreneurship opportunities in those high income countries, where qualified and educated entrepreneurs have a great help and are well connected to the local network.

TABLE 1.

ECONOMIES BY GEOGRAPHIC REGION AND ECONOMIC

Region	Factor-Driven Economies	Efficiency-Driven Economies	Innovation-driven Economies
Europe (EU28)		Croatia[1], Estonia, Hungary[1], Latvia[1], Lithuania[1], Poland[1], Romania, Slovak Republic[1]	Belgium, Czech Republic, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Slovenia, Spain, Sweden, United Kingdom
Europe (Non - EU28)		Bosnia and Herzegovina, Macedonia, Russian Federation[1], Turkey[1]	Norway, Switzerland

DEVELOPMENT LEVEL

[1] In transition phase between Efficiency-Driven and Innovation-Driven

Source: Global entrepreneurship monitor 2013 global report

The Global Competitiveness Report 2013-2014 (Fig. 2) shows that Europe's competitiveness is far from even, where highly competitive Northern Europe is sharply divided from Southern and Central-Eastern Europe trails behind. This gap is particularly strong in innovation performance that is one of the key drivers of competitiveness that is seen as a key factor for advanced economic development, focus on high value added and innovation products and services [26].

We will mention Global Entrepreneurship Monitor (GEM), a project that assist annually the entrepreneurial activities, aspirations and attitudes of individuals across a wide range of countries. It was initiated in 1999 as a partnership between London Business School and Babson College and in their 2013 survey they covered over 75% of world population and 89% of world GDP.

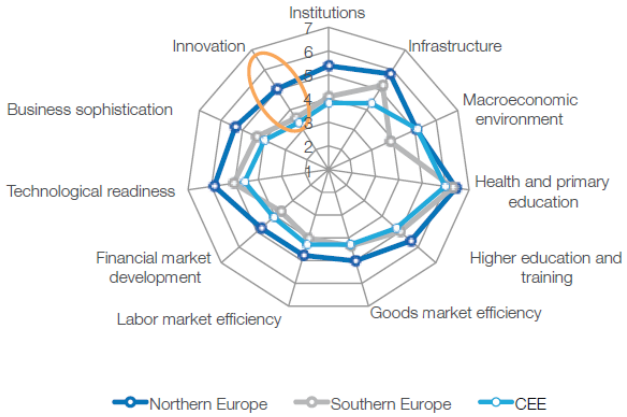
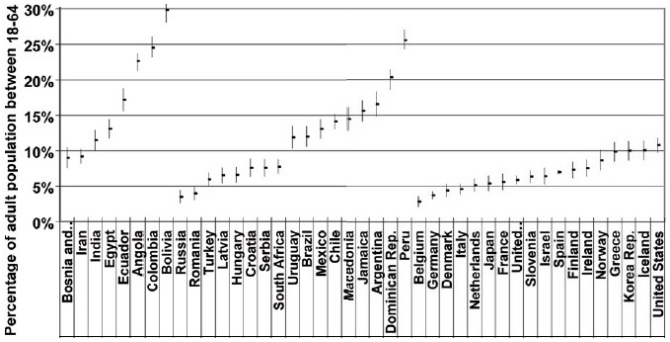


Fig. 2. Comparison of European Regions in competitiveness. Innovation in highlights. Source: The Global Competitiveness Report 2013-2014. [26]

Though Macedonia is a developing country, it has key index in GEM – TEA Index at 14.5 % (index of early-stage entrepreneurial activity). The TEA Index is one of the most commonly used indicators for entrepreneurial activity and compared with the rest of the world it's in line with the efficiency driven economies (Fig. 2). Higher GEM is common for lower GDP per capita countries, so for Macedonia it is a positive signal, particularly because it is accompanied with relative political stability and



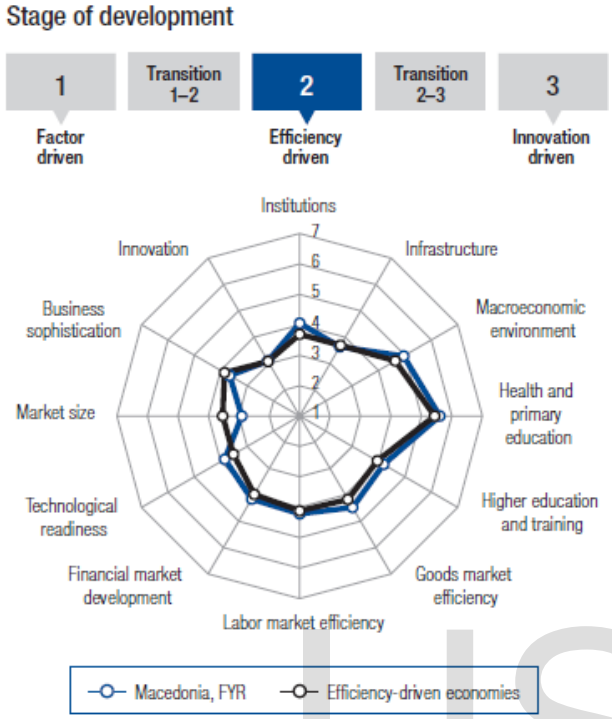
relatively good business environment.

Fig. 3. TEA Indexes. Source: Global Entrepreneurship Monitor.

Basing on the information from the same report, countries are gruped regarding their GDP pre capita and countries are devided into factor, efficiency and innovation driven economies, where Macedonia is in the group of efficiency driven economies [Fig.4]. This is important because efficiency driven economies have efficency enchance conditions that even though not directly related to entrepreneurship, they are indirectly contributing to the development of markets and

entrepreneurship, leading the country in a group of innovation driven economies.

In the same time the government has produced a number of activities in support of the innovation and entrepreneurship, although country performance in relation to innovation policy and support of the technological upgrading of SMEs has been relatively



mixed over the last period. Several initiatives have been launched and are helping a lot to the situation, but an innovation strategy is much needed as well the new launched initiatives need serious approach so that the encountered problems can be addressed.

Fig. 4. Global Competitiveness Index for Macedonia, [27]
Source: The Global Competitiveness Report 2013–2014

In support to the previously said the human factor is also important and while efforts are being made to promote training for growth of the enterprises and innovation stimulation, more definite human resource development is needed for the interested companies. Here a "*better engagement particularly by the public education and training organs, including universities, will be necessary to ensure synergy, co-ordination and co-operation in development of a lifelong entrepreneurial learning system and innovation stimulation*" [25].

4. Conclusion

Any society's ability to increase its wealth bases on its potential to develop and uses knowledge and with that influence growth. It is believed that micro level processes in the country play an important role of dissemination of the knowledge, but there aren't many researches supporting this. But knowledge, entrepreneurship and innovation are collated in a complex manner, where in many cases knowledge and innovation are not dispersed through entrepreneurship. This material has tried to present the relationship in-between innovation, entrepreneurship and growth, based on survey of recent theoretical and some empirical researchers. From those, we can conclude that higher degree of entrepreneurship or new start-ups does not guaranty improvement of the economy in the country and economic growth. In our research this has been presented from other analysis and also by the TEA rate of Macedonia. This leads to recommendation that only certain activities of entrepreneurs might stimulate growth. Carree's [5] analysis clearly defines that deviation from the equilibrium rate has to be followed in order to support economic growth and not just to support entrepreneurship activates, like in some cases in Macedonia. Innovation, though very important for entrepreneurship, is not always followed by new start-up. This tells us that they are not substantial and that very small part of entrepreneurial activities are engaged to an invention. This is especially presented in developing countries, like Macedonia, where imitation is more present that innovation. Support is much needed in human resources development with engagement from the existing education system, and clear innovation strategy is a milestone for further development.

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