

COMPETITIVENESS, INNOVATION AND GROWTH: THE CASE OF MACEDONIA

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SUMMARY

The purpose of this paper is to examine the close links among competitiveness, innovation and growth. The paper theoretically reviews the concept of economic growth based on technology and innovation that does not have diminishing returns, as well as examines how these concepts could work in a country like Macedonia. The paper concludes that Macedonia is still behind the technology frontier and it could benefit to a great deal from improved policy coordination and implementation of reform agenda aimed at increased competitiveness and innovation based growth.

Key words: Competitiveness, innovation, growth.

INTRODUCTION

A review of innovation literature suggests that due to the market failures, private investment in innovation is limited, making public intervention necessary and justified. For example, in the US, federal government is continuously providing support to three main pillars: basic research; top notch system of higher education; and infrastructure, including railways, highway system, broadband internet networks etc, areas for which private sector would not have invested adequately.

The process of innovation and knowledge absorption is not automatic; it requires a good investment climate, excellent education and R&D systems. In that sense, properly designed economic and innovation policies could have a major impact on the degree to which a country will rely its growth on innovation and the decisions of the firms to make necessary investments to innovate or absorb new technologies. Governments have an important role to play in promoting technology and innovation through direct support of

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innovators and specific industries, and by creating such investment climate that is most conducive to innovation creation.

THEORY

Competitiveness, innovation and growth are closely related and intertwining concepts that have intrigued a number of economists for a long time. Competitiveness, which is a very complex and multi faceted concept, has been traditionally defined through the foreign trade indicators; nevertheless, the modern definitions of competitiveness at macro level are linked to the capacities of a state to achieve high level and sustainable GDP growth rates per capita. According to the World Economic Forum (WEF), competitiveness is defined as “a set of institutions, policies and factors that determine the level of productivity of a country.”¹ Competitiveness is determined by numerous and complex factors and the WEF Global Competitiveness Index is one of the most reliable sources of international competitiveness analysis. Measuring productivity is not an easy task, particularly aggregate productivity, productivity of an economy or an industry. Productivity of labor is the most commonly used measure which shows how efficient is the labor combined with other factors of production. More sophisticated methods are used to measure aggregate productivity such as total factor productivity growth, multi factor productivity growth, and others.

Innovation is a key factor that determines improvements in productivity, competitiveness, and long term economic growth. A number of empirical studies in the last sixty years concluded that substantial share of growth in the income per capita is related to the growth of total factor productivity (TFP). This started with Robert Solow and his empirical study measuring drivers of increases of U.S. output per person, concluding that a big part of this growth cannot be explained by increase in labor or capital inputs. This, so called Solow’s residual is closely linked to improvements in technology and technological change². It is well known that expansion based on the same production process and same products cannot result in long term growth, since marginal productivity of capital diminishes and eventually stops the growth. Economic growth based on technology and innovation does not have diminishing returns. This is confirmed by economic history, having in mind that modern economic growth starts around 1800 with the industrial revolution and steam engine, prior to that, technology is stagnant and growth is very slow. In a similar way, innovation and technology could provide explanation of the big differences in economic growth and wealth of the nations.

There is no single definition of innovation, but according to OECD Oslo Manual, innovation is defined as “implementation of a new or significantly improved product (goods or services), or process, new marketing method, or new organizational method in business practices, organization of work place or external relations.”³ Every innovation has to include some level of novelty; it could be new to the world, new to the market, or new to the firm. This is a broader definition of innovation compared to the one used in the innovation literature in the nineties which viewed innovation as a radical innovation or new to the world only. Innovation can be made in every sector including traditional industries as textiles, or government services such as health, education etc. Still, science and research and development (R&D) are at the core of innovation since modern innovation is a result of scientific knowledge.

Innovation is frequently related to entrepreneurship, as entrepreneurs are typically people who could do new things, do more with less, or people who could get more by doing things in a new or different manner. (Jean Baptist Say⁴) In a similar way, Schumpeter defines entrepreneur as a hero, someone who creates new industries and triggers key structural changes in the economy. In this sense, Schumpeter defines innovation as “industrial mutation” that is revolutionizing economic structure from within, constantly destroying the old and creating new structure⁵. Schumpeter is the author who managed to put innovation at the center of economic growth theory.

ANALYSIS

In spite of the macroeconomic stability and low inflation rates from mid nineties until present, growth rates that Macedonia achieved since its independence have been disappointingly low, much lower relative to the other countries in transition. In addition, most of the growth achieved is based on low value added and labor intensive industries competing in the global economy on the basis of cheap labor and low taxes. Although improved recently, still weak competitiveness position of Macedonia (60) as indicated in the Global Competitiveness Index 2015 and other relevant analysis is a reflection of low level of productivity that has negative impact on the lower rates of return on investment and consequently lower growth rates.

Macedonia is behind the technology frontier, which means that there is a big potential for economic growth based on transfer of existing technologies, while encouraging innovation and creating new knowledge. Main channels for knowledge absorption are typically defined through trade, FDI and knowledge flows that allow diffusion of innovation and best practices to

other countries and private sector. Analysis of statistical information shows that R&D does not have a significant role in the economic growth model of Macedonia. Investment in R&D is very low and also has a downward trend. Total R&D expenditure in 2010 was only 0.14 percent of GDP, compared to 0.32 percent of GDP in 2001. On top of it, most of the R&D investment is done by public sector, without clear definition of priorities and goals of research and without criteria for financing and evaluating investments. FDI inflow, which has been at disappointingly low level throughout the twenty four years of independence, does not provide significant source of knowledge and technology. Raw materials and low value added goods dominate both the export and import side in the foreign trade model of Macedonia, making trade insignificant contributor to creating and diffusing of new knowledge. Moreover, Macedonian companies that decide to invest in production expansion and purchase new technology typically purchase very old equipment making products that do not satisfy quality standards required in the global market, resulting in non competitive companies that could only compete on the basis of low wages and low taxes. On the side of scientific output, situation is similar, with only 34 patent applications submitted to European Patent Office (0.1 patent per million population) and only 58 articles published in scientific and technical publications in 2009.⁶ Macedonia has not yet created a national innovation system according to UNCTAD definition⁷, in terms of coherent set of policies that provides leadership, priorities, and framework for financing, monitoring and evaluation of research and innovation that stimulate and reward innovation. Elements of this system exist; however, they still do not function as a coherent system. In 2012 Macedonian government adopted Innovation Strategy Paper aimed at supporting innovation and growth for the period 2012-2020.

Different countries in the world have designed different approaches and methods to support innovators. This includes provision of various business services; incentives for entrepreneurs and new technology based firms; access to finance for innovation and its commercialization, particularly in the first stage of development; supporting networks and clusters, etc.

CONCLUSIONS

Macedonia ranks very high in the recent World Bank Doing Business Reports⁸ (30 position in 2015) which indicates that regulatory and business environment reforms resulted in good investment climate. However, low growth rates, high unemployment, as well as low competitiveness show that these reforms are not sufficient or deep enough to increase Macedonia

productivity and living standard. To that end, Macedonian government should conduct an in-depth analysis of the reasons behind these failures and introduce a set of comprehensive reforms leading to increased productivity and competitiveness. More specifically, policies aimed at good governance, rule of law, strong competition regime, and prudent fiscal and monetary policies and institutions could be instrumental in these efforts. In addition, improved infrastructure could be used as one of the key elements for increased productivity of the companies and the nation; as well as measures to deepen the financial sector, which will allow increasing the level of intermediation and influence of the financial sector on the productivity of firms. Intellectual property rights protection system is very important element of business environment conducive to innovation creation, therefore, more emphasis should be put on the best ways of moving this agenda in terms of legislation and actual enforcement measures. Supporting basic research is very important having in mind all spillover effects on innovation and competitiveness of the national economy. Macedonia invests very small amounts in basic research, and given its resources it should narrow down the basic research areas. Well trained and educated labor has a key role in adopting of new technologies and adapting it with new knowledge, increasing productivity, and achieving strong competitiveness position of a national economy in the global markets, therefore this is another important area where urgent improvements are needed. Finally, better coordination of the numerous policy papers and strategies and actual and timely implementation of these strategies is of utmost importance.

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