

Impact of public goods on economic competitiveness

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Introduction

In the present study we sought to examine the impact of investment in public goods on the level of economic competitiveness. In our analysis we were interested in effects at the firm, region or country level, although most often, when we talk about economic competitiveness, we refer to the nation and the competition between them. In our approach we encountered a number of difficulties, which start right from the conceptual level because both terms are vague and difficult to define. The border between public and private goods is one which can be easily changed, depending on the classification applied. Until this day scientists have not yet reached a clear agreement regarding the significance of the concept of economic competitiveness. Inconsistencies in definition have amplified the difficulties when we tried to analyze the impact of changes in stocks of public goods on the factors used to estimate economic competitiveness.

1. Public goods: conceptual delimitations

In the first chapter we analyzed the concepts of public and private goods, how they are viewed by different economic schools and their evolution over time. In this part of the paper were highlighted various issues and the difficulty of defining the concept of public and private goods.

1.1 What is a public good (service)?

Even in the first subchapter of this part of the paper we tried to prepare the ground for the next ones and we tried to give the answer for the question which is essential to thesis: What is a public good or service?

1.2 The evolution of the concept of public good

In this subchapter we looked to see how the concept of public good has evolved over time in the literature. We started with Thomas Hobbes who, in the early seventeenth century, has addressed the appropriateness of joint contributions to national defense and concluded that this must be done not so much in terms of number of members from a family, but by the taxpayers wealth. Then, after consulting the literature, we found that first widely accepted demarcation between public and private goods was the one of Paul Samuelson that, in two articles published in 1954 and 1955, he successfully established three criteria for dividing goods in the two categories. Thus, he noted that public goods produce positive or negative externalities and that they are non-exclusive and non-rival. Next we sought to examine how are public goods perceived in other schools of economic thought, like Public Choice or the Austrian School, the latter considering that the private sector could always provide the goods in better conditions.

1.3 Delimitation of public and private goods

Regarding the distinction between types of public and private goods, we could not help but wonder whether the demarcation criteria established by Paul Samuelson are not enough. Pure public goods that fulfil all three criteria are so rare in real life that we tried to find a more practical demarcation. Most commonly, these goods are the ones offered by the State free of charge.

1.4 Production of public goods

The problem of public goods is not limited to the distinction between them and private one, of maximum interest being the making of the decision of public goods production. While their production is not dictated by the market the reasoning behind their creation is very important. It would be ideal to create an algorithm to answer questions such as: Why should this public good be produced? Who should produce it? How should it be produced? What opportunity costs does it involve? Who should fund it? How much can be allocated for its creation?

1.5 „Tragedy of the commons”

An interesting example is related to the problems of the common public goods. Hardin was the one who noted that common use of goods leads to "real tragedy" because all their users want to increase the maximum consumption at the expense of others. The problem is, according to Hardin, that users will expand and reach the full potential of the property, leading thus to decreases of profitability for the other consumers.

2. Economic competitiveness: significance and determinants

In the second chapter we analyzed the concept of economic competitiveness and its two main measurement instruments: World Competitiveness Index (World Economic Forum) and IMD Index (International Institute for Management Development). The two indicators of economic competitiveness, although theoretically reflect the same, are calculated by using different criteria sets.

2.1 Characterization and definition of economic competitiveness

According to the World Economic Forum competitiveness is the set of institutions, policies and factors that determine the level of productivity of a country's economic competitiveness reflecting the extent to which a country is able to provide an increase in prosperity of its citizens (The Global Competitiveness Report, 2010 -2011, p 3).

2.2 Global competitiveness of nations

The approach of competitiveness has evolved over time. The concept was imposed mainly by Michael Porter, which by competitive advantages and its national diamond managed to change the way competition between nations was perceived. Later were developed instruments for measuring economic competitiveness of nations, the most representative indicators being the ones developed by the World Economic Forum and the Institute of Management at Lausanne.

2.3 Global competitiveness through knowledge

Initially, the concept of competitiveness was related to a set of criteria and characteristics that determine the attractiveness of nations, but in time, he specialized, an indicator that derived being the global competitiveness through knowledge. Basically, the latter captures the role of knowledge in determining the competitiveness of nations.

2.4 Stimulating economic competitiveness

Studies over economic competitiveness are aimed not only to provide a static picture of the nations of the world, but can be extremely useful in developing country policies. Basically, the states of the world can use these very detailed rankings to develop specific strategies to boost economic competitiveness.

3 Effects of investments in public goods on economic competitiveness

In this section of the paper we attempted to identify and quantify the effects of certain categories of public goods on economic competitiveness. The analysis was conducted to verify the hypothesis that investment in public goods can affect the level of economic competitiveness of nations. Our analysis makes us believe that they influence the level of economic competitiveness.

3.1 The role of public goods in creating competitive advantages

Public goods have a major role in creating competitive advantages. For example, areas with relatively similar natural resources can differentiate through public goods such as infrastructure, which can facilitate investors' access to the area and may increase the mobility of human capital.

3.2 The relationship public goods- economic competitiveness, in terms of indicators measuring the level of economic competitiveness

The sets of criteria used in estimating economic competitiveness are extremely complex, both in the classification drawn by the World Economic Forum and the one developed by the Institute in Lausanne. Most of these criteria consisting of tangible or intangible goods refer to various public goods that have a real influence on competitiveness indicators.

3.3 Investments in public goods and measuring their effects

Any investment in public good impacts in a certain degree the economy and its level of competitiveness. The problem is not confined to the fact that investments in public goods affect economic competitiveness, but why, what, how and to what extent this occurs. Concerns regarding, in particular, the question marks which are raised by the demarcation drawn between the visible and less visible effects of investments.

4 The role of education in human capital formation

In this chapter we analyzed the role of education in human capital formation. To see who should provide education, we tried to analyze and define the features and characteristics of public service opposite to the private one, highlighting what is important in this public investment.

4.1 Characterization of the service of education

Education is any act or experience that has a formative effect on the mind, character or physical ability of an individual. This is the process by which society transmits knowledge, skills and values accumulated to the new generations. It is an unusual service, which comes on the characteristics of individual knowledge and skills that take place over long periods of time.

4.2 Education and human capital formation

Education is an investment in people, the effects of which are forms of human capital. Thus, when education becomes part of its receptor, it changes in human capital. Defining this concept has always raised, real problems, from considering it a form of capital and up to the fragile boundary between human resources and human capital.

4.3 Investments in education

In 1960, there was a major shift in economic thinking in terms of individual investment issues. At that time, due to the gauge research such as that of Schultz (1961) and Becker ([1964] 1997), spending on education has ceased to be seen as a simple and cost came to be treated as investment flows, contributing to the establishment and strengthening of human capital (Psacharopoulos, 1995, p.2).

4.4 Effects of education

The premise from which we start most frequently when public or private funds are invested in education is that, over time, over a working life, the costs will be covered and there will be other satisfactory benefits. It is considered that the economic and social benefits throughout a career in areas with high added value are satisfactory both for individuals and for society. This is true for Romania, where it seems that education and investment in it led to an improvement in social indicators.

5 The relationship between education, human capital and economic competitiveness

Education, human capital formation and his accumulation influence the level of economic competitiveness. This is because the expansion of economic activities is impossible without human capital.

5.1 The need of human capital

Even if we accept that, in an economy, human capital can lead to growth without being strictly dependent on certain types of technical capital, we have to emphasize that, in a country, there is always a level of demand for certain goods and services whose production employs

specific types of human capital. Thus, we could say that, to a point on the opposite forecasts economic developments, population size and, to a lesser extent, technical production processes, relatively accurate predictions can be made regarding future capital needs human.

5.2 Human Capital accumulation

Human capital accumulation is essential for the economic development of countries. This and the availability of physical and financial, capital are among the main determinants of economic growth. In a globalized world, where factors of production are increasingly mobile, the domestic accumulation of human capital may be affected in several ways. Availability of foreign capital in the form of Foreign Direct Investment (FDI) and an elastic supply of workers with higher skills could increase growth prospects and may strengthen each other through possible "complementary effects".

5.3 Impact of education and human capital on economic competitiveness

Anyone who has been trained at a very elementary level, turns, thus in a form of human capital. So the direct effects of education are reflected in human capital units that are used in economic activities. Use of productive human capital unit is capable of and responsible to change the way the economy works and its performance. Both education and human capital are critical in estimating economic competitiveness indicators and are found in a number of criteria used to estimate them.

Economic competitiveness is indirectly influenced by the role of education and human capital in different economic activities. Basically, many industries are dependent on both the stock of human capital and the existence of continuous streams of specialists, allowing expansion and business development. Other impacts on economic competitiveness are those of improving social indicators, which provide the basis for sustained economic activity, like a higher life expectancy, a greater number of healthy years.

6 Education, human capital and economic competitiveness in the European Union

In this chapter of the paper we tried to capture the impact of investment in education as a public good. For this we conducted a statistical analysis in which we looked to see if there is a definite connection between certain indicators of public and economic competitiveness of a nation. It is important to note that in our study, we took into account that the effects can not be quantified by value or volume but, at most, can be estimated. In our analysis, we tried to identify what affects and how it could be improved their level of economic competitiveness among EU Member States.

For the study we analyzed several factors that correspond to a total population consisting of the EU countries. In our attempt we had, from the outset, significant problems because we realized that no matter how much we want to evaluate and compare levels of competitiveness of countries, it will be difficult to do. The problem is that economic competitiveness scores are based on subjective estimates and as we dissect this, we fail to find a total solution, the differentiation of countries on the basis of competitiveness rankings offering only partial solutions for the strategies of governments and entrepreneurs.

Upon completion of the statistical model and analysis we have encountered a number of difficulties, which are limits of the analysis. One of them is the existence, in reality, of a number of variables too large to be overcome by a statistical model. To improve the model we came with recommendations regarding the fight against these limits and possible ways of using these results in real life.

Conclusions

Investments in public goods affect economic competitiveness. Thus, in areas where investments were made in public goods, we have seen an increase in private investment, in terms of volume and value, although we are unable to say to what extent public goods were responsible for this. However, it is clear that:

- 1. Investments in public goods influence the economic competitiveness.** Infrastructure and human capital endowment are advantages that make a country more competitive.
- 2. The total effects of investment in public goods on economic competitiveness can not be quantified.** Nobody knows exactly how they influence and engage public good production and the existence of economic competitiveness.

3. There are no guarantees that the productivity growth brought by creating public goods is large enough to justify the investment. The criteria on which these decisions are taken appear to be rational, but there is not guarantee that it's the best choice.

4. Major investments in public goods generate changes in macroeconomic indicators. Indicators such as unemployment rates or GDP value, record changes, especially on the short term, when additional charge effects on businesses are not seen.

5. Investments in public goods are often used to promote political platforms. There is a danger that some investments in public goods are made to convince the electorate to vote for certain candidates.

Regarding public investment in education services, we remark that:

1. Investment in education positively affects long-term economic competitiveness. This increases the value of resources used in each and every human activity, human capital being crucial in ensuring technological and informational.

2. Education affects most of the criteria that are used to estimate economic competitiveness of nations. All these criteria are determined or influenced by human capital, so it's normal that its improvements influence economic competitiveness.

3. Education is an atypical public service. Differences in quality, in the offer of education, generate rivalry and exclusion.

4. The high level of public investment in education relative to GDP of each country, it is not a guarantee of success, because a high level of investment in education do not necessarily, reflect an efficient spending of these financial resources.

5. Increased investment in higher education has resulted in increased competition in other areas, particularly those where specialization is obtained through employment.

6. There is no recipe for success. Countries that have copied strategies of other countries have different results because they do not take into account the fact that the economy is a model with a single variable, but one that involves many factors and elements.

7. Education is a worthwhile investment for the private sector and society. This brings important benefits to both the private sector and society as quality of life, increase productivity, increase budget revenues, etc.

8. There is a general trend of increase in the percentage of GDP allocated for education. The average percentage of GDP allocated to education has doubled in the second half of XX century reaching approx. 5%.

9. Education facilitates individuals' access to the labour market because they can carry out a wider range of activities.

10. Investment in education increase financial returns. Qualified individuals receive higher wages, leading to increased wage rates and increased financial returns.

11. Investment in education allow for significant budgetary savings. On the long term, health expenses for educated individuals are lower because they are healthier.

12. The extension of studies has beneficial effects on crime rates. Crime rates are higher among individuals with less education.

13. The extension of studies duration has beneficial effects on health. Various studies show that educating people in a country has a mortality reduction effect.

14. Countries with investment in human capital strategies are more competitive than others because stocks make them attractive to investors.

15. Countries where human capital is developed have higher levels of GDP per capita. A high level of human development, means individuals with more skills and capabilities that allow obtaining higher revenues.

16. The human capital accumulation is an important competitive advantage. Countries that have significant human capital stocks are more attractive to foreign investors.

17. "Stocks" of human capital leads to the formation of clusters of competitiveness. This happens especially in university, where human capital is abundant.

18. The relativity of economic competitiveness does not allow a precise measurement of its level. Comparing the economic competitiveness of nations can be more than the estimate.

19. EU countries must address different policies to improve the economic competitiveness because they are very different.

Relative to investment in education made in Romania we remark that:

1. Investment in education in Romania has increased rates of enrolment in various educational courses. This fact allowed a diversification of economic sectors.

2. **Increasing the number of graduates of secondary and tertiary caused an increase in real earnings index.** This is not the only factor to influence real wage levels and, although important, can not explain alone their growth.

3. **Increasing investment in education determined an improvement of quality of life indicators.** In the 13 years analyzed, there was a significant increase in life expectancy.

4. **The increase of the enrolment rate in secondary and tertiary education has led to a decrease in crime rate and the number of convicted criminals forever.**