

IMPACT OF INSTITUTIONAL QUALITY AND TECHNOLOGICAL PROGRESS ON COUNTRIES ECONOMIC DEVELOPMENT

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Abstract

During the last year economics literature has increasingly referred to institutions as the answers to the longstanding questions concerning how economic growth arises, what policies can be used to promote the best results in terms of economic performance and what accounts for differences in GDP levels among countries so that the analysis of the institutional framework under which any economy operates has now become an indispensable object of research. In a globalizing world economy, the cause of differences in economic growth and income inequality is explained on the basis of technological differences. The use of new technologies paves the way for the production of new cheaper goods, capital accumulation, and, in this case, increased international competitiveness of individual countries. On the one hand, this improves the quality of research institutions and, on the other, contributes to the cultural and political development of societies. Therefore, the quality of growth rates is as important as their size. This study aims to demonstrate that businesses and individuals need to use technology more efficiently, leading to cost savings and productivity gains. The main research methods used in this study are content analysis, analysis and synthesis method, intuitive and systematic approach.

Keywords: Institutional quality; Technological progress; Economic development

JEL Codes: O10, O14

1. Introduction

A report by the National Centre for Territorial Development, co-financed by the European Regional Development Fund, states that public spending on health is increasing annually without any tangible effect and/or improvement in the system. (Socio-economic analysis of the regions in the Republic of Bulgaria, 2019). Bulgaria's economic development shapes the overall shape of national prosperity and well-being. Institutional quality and financial growth are the two key factors influencing economic development. Add to this the technological advances in a highly globalized society, and a triad of institution-economy-technology takes shape that is central to the development of the social payment system in health care. Both physical and human capital, accumulation and technological change cannot simply explain economic

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growth. Quality institutions and financial development, a healthy and dynamic economy is only possible when the institutional and financial sectors grow and move significantly. Mention may also be made of the difference in nature and effectiveness of legal and political institutions that give diversity in development. They depend on the degree of persistence and affect the accumulation of the factor of production and marginal efficiency, respectively - on the national product. In other words, these intuitions can act as a stimulus to economic development by forming a motivational structure and providing suitable alternatives for productive activities on the one hand, and as a disincentive by diverting production and increasing transaction costs and investment risk on the other (Kacho & Dahmardeh, 2017).

Although economic growth has been widely studied, traditional economic theories lack a framework explaining differences in economic systems across countries beyond human capital, physical capital, technology and natural resources. (Giordano & Giugliano, 2015).

2. Literary review

In a European Employment Policy Observatory (EEPO) workshop held in 2014, interest focused on impact of technology on job creation and/or retrenchment in the near future, and which economic sectors would deliver a 'job-rich recovery' (European Employment Policy Observatory, 2014). It also discussed the polarization of jobs and how to improve skills provision to make technology an engine for growth.

A number of studies have addressed the impact of technological progress on society (workers; firm sectors and regional agglomeration of sectoral activities; consumer attitudes to new technologies; the urgent challenges for governments with recent and future technological progress) and in particular how technology can change the quality of jobs, impact on growth of sectors and regions and what can be done, to build trust in society to use technological advances and what government can do to help adapt technology in society. Job growth, like economic growth since the industrial revolution and the more recent computer revolution, requires innovative optimism, not pessimism, about the future of work and welfare.

In 1956 Robert Solow made a significant contribution, explaining that long-run economic growth is limited to the rate of technical progress, which at the time he took to be exogenous. His essential revelation is that, given constant returns to large-scale production technologies, all countries can converge to the income levels of the most productive countries and henceforth grow at the exogenous rate of technical progress (Solow, 1956). In 1992 Gregory Mankiw, David Romer and David Weil conclude that this conclusion extends to an extended model that includes human capital in addition to physical capital. However, to reap the benefits of recent and future digital technologies, policymakers face a number of important decisions. (Mankiw, Romer & Weil, 1992). For example, while new technologies abound, an important barrier to innovation leading to more and better jobs and economic growth is whether workers can provide the skills needed to work with these new technologies. Another example

is that while the industrial revolution improved the quality of jobs and led to less inequality, the evidence of the computer revolution points in the other direction - namely that technology is now undoubtedly increasing the quality of jobs due to polarization and rising inequality (European Employment Policy Observatory, 2014).

Much of the pioneering work in institutional quality was done by the scholar Douglas North, who defined institutions as constraints on human behavior that shape the interactions between people. According to him, the quality of institutions improves with the restrictions imposed on the executive. Such restrictions may be either formal or informal and their strength is determined by the characteristics of their application. The idea is that limitations on executive power diminish the legal standing of a state's executives to place themselves above the law. This ensures that people, entrepreneurs, challengers of the current economic system, are protected by law in their ventures and their investments in human and physical capital, as well as the development of innovative technologies (North, 1990).

3. Analysis and discussion

To ensure sustainability of economic reforms a study of the impact of institutional and technological progress on economic growth is needed. After the appearance of weaknesses and criticality built into strategies and actions of international bodies and financial systems, the criticality is even more evident as a result of the recent financial crisis. As a result, the World Bank was forced to reconsider its own efficiency in developing countries and countries with economies in transition; this critical pattern of revision is well represented by the works of J. Nellis, who, even defended the positive achievements of some programs, does not deny the existence of failures and the resulting need for rethinking the theoretical model: in this sense, according to the author, the most serious flaw in the strategies of the World Bank was to be found in the scant attention given by international organizations to support economic reforms through political and institutional mechanisms such as the neglected creation of a strong administrative system or a legal apparatus capable of support the economic transition (Nellis, 1999). This new orientation pinpointing the causal relationship between the institutional framework and economic growth is highlighted in the World Development Report 2002 Building Institutions for Markets, focusing attention on which institutions are essential to increase market development. As the "institutional question" has taken a backseat in the run-up to the new millennium playing a leading role in achieving economic growth and development, a methodological problem regarding the term "institutional" is actually meant to emerge soon. Havrylyshyn and McGettigan articulates this sense of loss and confusion about a definition of 'institutional framework' (Havrylyshyn & McGettigan, 1999).

Technological progress impacts human capital through:

- emerging fears of new technologies automating many jobs. As an example, a study suggests that 47% of all jobs could be automated by 2035;

- polar view of the above, namely the creation of new jobs due to the entry of new technologies;

- conducting the so-called smart policies that aim to create workforce talent. These types of policies are not limited to more and better education, but take into account the polarization of jobs in the labour market due to recent technological progress.

In a speech by Lorenzo Bini Smaghi, Member of the Executive Board of the European Central Bank (ECB), the main factors that characterise economic growth in advanced economies in a society characterised by limited demographic growth are pointed out, technological progress is the main driver of economic progress:

- the main instrument for technology development is human capital;

- the supply of skilled labour, which makes intensive use of human capital, has not kept pace with the increase in demand in either the US or Europe;

- there is a strong correlation between the level of education and the likelihood of getting a well-paid job. Those who do not have access to education risk being marginalised and having relatively low incomes;

- in advanced societies, new generations are not prepared for the new competitive environment. Such preparation occurs in the early years of an individual's life (some say the first seven years) when personality and cognitive abilities are formed;

- educational methods are largely responsible for this lag. The natural tendency to apply the methods inherited from the previous generation is insufficient in the context of excessive demand for high-quality education;

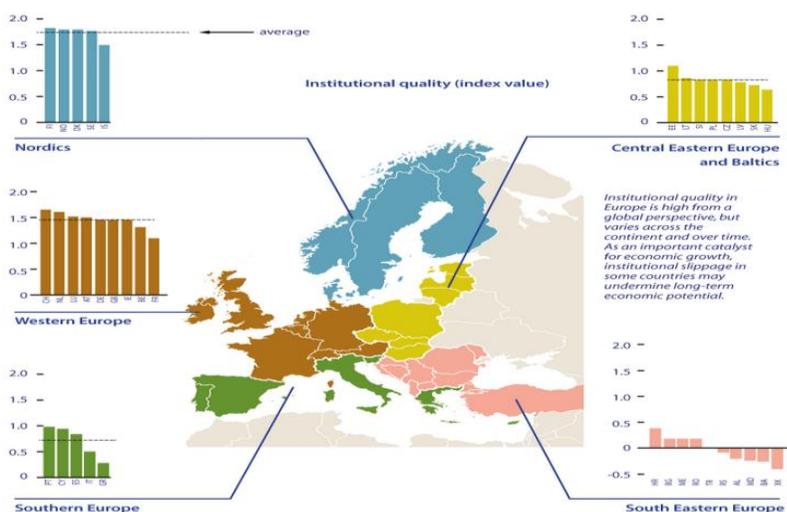
- the process of changing educational methods and adapting them to the needs of a global society is labour-intensive (Smaghi, 2010).

Smaghi also foreshadows the trends of recent policies towards technological progress and its impact on economic growth. Considers that European regions differ in their high-tech employment intensity with high-tech centres featuring strong local employment multipliers. This includes adding that there are regions that are catching up due to limited high-tech employment. It believes that policies should stimulate high-tech employment in less innovative regions and/or allow wage growth in more innovative regions to create competitiveness. In 1986, Paul Romer put forward the idea that knowledge could be a productive resource that could drive the technological process (Romer, 1986).

Years later, Robert Lucas extended this view with learning by doing to operationalize the properties of knowledge associated with increasing returns. This has given rise to extensive research on the production of knowledge, on the difference between codified and tacit knowledge, on publicly accessible 'knowledge pools' from which whole societies can benefit (Lucas, 1993). Along with process technology, institutional quality is also a factor influencing production. It is therefore logical that institutional quality generates differences in economic growth across countries.

Glaeser and Schleifer relate long-run growth (real GDP per capita growth) to a set of variables that also contain indicators of institutional quality. Although they dispute the importance of most of the indicators used, they generally acknowledge the positive impact of institutional quality on growth outcomes over the decades covered by their analysis. Their view is that institutional quality contributes to the factors that generate economic growth, and should therefore be seen as a factor of production (Glaeser, La Porta, Lopez-de-Silanes & Schleifer, 2004). In a more recent contribution, Góes makes this relationship clearer by linking institutional quality to a country's level of real per capita income (Góes, 2015). It incorporates the feedback between institutions and growth in line with Johnson and Robinson's framework by empirically applying structural vector autoregression (SVAR). In addition to Graeser, Góes also explicitly translates the "treatment" of institutional quality into an "effect" in terms of per capita income levels. Hence, according to Góes, institutional quality is a factor of production with diminishing returns. Hence, according to Góes, institutional quality is a factor of production with diminishing returns. Thus, institutional quality is more productive at lower levels and may "run out" when it reaches high levels (Góes, 2015).

Figure 1. Institutional quality in European countries



Source: European Central Bank, Rabobank, 2016

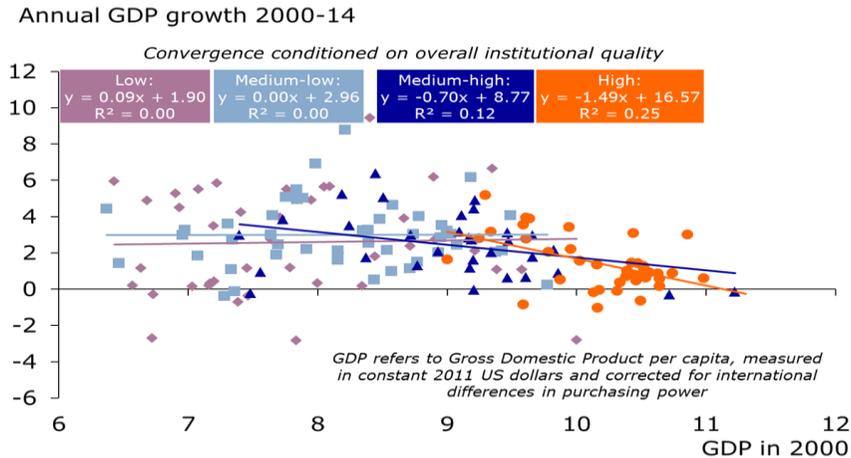
The question of the index of institutional quality continues to be of interest among academic circles. The most active participants in this debate are Acemoglu, Johnson, and Robinson - supporting the direction of causality between institutions - driving force and progress - and Glaeser, Lopez-de-Silanes, and Shleifer - who strongly supports reverse causation (Acemoglu, Johnson & Robinson, 2002). Interestingly, both sides of the debate use the historical example of Korea to build their case. Acemoglu et al. refer to the Korean indication that the two Koreas at the

end of World War II differed little in terms of economic endowments or structure (Acemoglu, Johnson & Robinson, 2005). The main difference is in terms of subsequent choices regarding institutional organization. South Korea maintained a system of private ownership and an economic model based on private incentives and market forces. Thus, South Korea followed the path of inclusive institutions and prospered, becoming one of the "Asian economic miracles" of the 1960s. In contrast, North Korea follows the communist model in abolishing private property and installing a centrally planned economy. The North Korean regime chose extractive institutions and has since seen its economy lag behind that of its southern neighbor, even falling behind in terms of absolute economic well-being since 1990. Acemoglu et al. view the Korean "natural experiment" as a clear case in support of their view that institutional quality is an essential element in the enabling environment that drives long-term economic progress (Acemoglu, Johnson & Robinson, 2002). According to Glaeser et al. (2004), referring to the same experiment, indicating that the difference in institutional quality between the two Koreas is insignificant when they are divided into two separate countries. According to Glaeser et al. (2004), subsequent economic development has allowed South Korea to adopt a more inclusive institutional arrangement. Thus, in essence, they see the contemporary difference in institutional quality between South and North Korea as a result of the economic progress seen in the South, rather than the other way around. Incidentally, but importantly, they implicitly view institutional inclusion as a kind of luxury good that societies can only afford to invest in once they have achieved a minimum level of economic prosperity. However, they do not explain what generated the South Korean launch and why it never reached North Korea. Acemoglu, Johnson and Robinson (2005) acknowledge the interplay between economic performance and institutional quality, but maintain that institutional quality leads this dance.

From the data in the figure illustrating Rabobank's study on the institutional quality of countries in Eastern, Western, Northern, Southern, Central and South-Eastern Europe, it is clear that the continent has ranked among the world leaders in terms of well-developed institutional frameworks for many decades. In line with the postulated link between institutions and economic development, GDP per capita in huge parts of the continent also ranks among the highest in the world. The spread of institutional quality across the continent is consistent with the level of economic prosperity. It is evident, however, that the countries with the lowest index scores are from South-Eastern Europe, which means that the quality of institutions is deteriorating, with the study mentioning that Italy and Greece suffer from a combination of poor scores in terms of corruption, rule of law and government effectiveness, combined with low scores for political stability, especially in Greece. The detrimental combination of poor performance in terms of legal protection and rule of law, control of corruption, government effectiveness and prolonged political instability represent major institutional challenges, all of which exceed the global

average in the south-eastern region of Europe, which brings out the low levels of institutional quality.

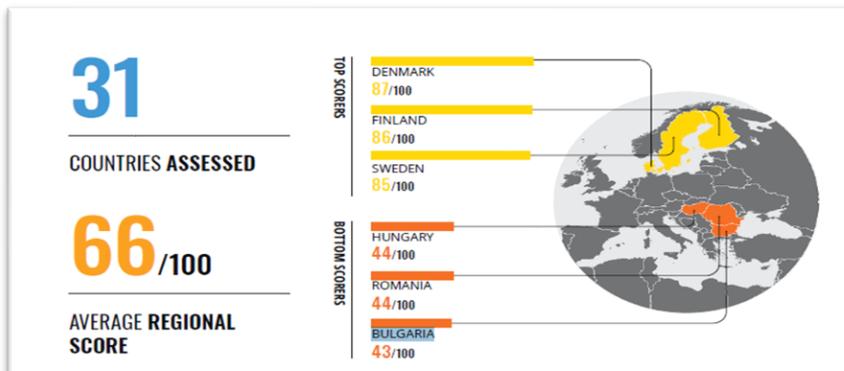
Figure 2. Convergence conditional on institutional quality



Source: Annual Report, European Central Bank, Rabobank, 2011

Based on the analysis of these results, it is clear that institutional quality provides an environment conducive to innovation and technology adoption, and more generally an environment that provides people with incentives to invest in innovative ideas as well as human and physical capital to build a better economic future for themselves. However, these results are not conclusive at this stage and should be interpreted as preliminary, which also raises some questions that are not the subject of our investigation.

Figure 3. Transparency International Corruption Survey



Source: Corruption Perceptions Index, 2019

As can be seen from the data in the figure, Bulgaria is not mentioned in the representative survey, but in the reports of the international NGO Transparency International, which measures the levels of perception of corruption, our country ranks last in the European Union.

4. Conclusion

Based on the analysis, the following conclusions can be made:

First, high institutional quality is highlighted as an impetus to economic growth by stimulating economic activities such as consumption and investment, improving efficiency, allocating resources more efficiently, protecting property rights and supporting freedom of choice.

Second, in the global economy, the cause of the differences in economic growth and income inequality is explained on the basis of differences in technology, and the main instrument for developing technology is human capital, despite a highly globalized society.

Third, Bulgaria ranks last in the European Union in terms of corruption perception. This is due to the lack of free speech, the distrust in the electoral process, the way political parties are financed, the appointment procedures in state institutions, and the application of the rule of law.

Fourth, institutional quality and financial growth are the two key factors that influence economic development. Add to this the technological advances in a highly globalized society, and a triad of institution-economy-technology takes shape that is central to the development of the social payment system in health care.

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