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FACTORS AFFECTING THE INNOVATION ECONOMICS AND POSITION OF GEORGIA IN THE GLOBAL INNOVATION INDEX

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Abstract. The article, based on the development of Georgia's innovation economics strategy, examines the factors that have a positive and negative impact on the development of the innovation economics. **Aim and objectives of the research:** This article aims to identify the determinants affecting the development of an innovation economics as well as on the basis of the improvement of the legislative framework to create a favorable environment for the introduction of innovations, accelerate innovation processes, improve the institutional base and achieve rapid growth in the export production of high-tech products. The article based on the analysis of innovation policies defines the role of government in improving innovation processes. **The objective of the research** is a comparative analysis of Georgia and post-soviet countries according to the Global Innovation Index. In addition, the role of government in improving innovation processes in the country is defined based on the analysis of innovation policies. The impact of micro and macro factors on the innovation development of the country is highlighted. Besides, the recommendations have also been developed for creating a favorable environment for the introduction of innovations, diversifying the export production of high-tech products, as well as promoting both fundamental and technological research and improving the innovation ecosystem.

KEYWORDS: INNOVATION ECONOMICS, GLOBAL INNOVATION INDEX, INTELLECTUAL PROPERTY, RESEARCH AND DEVELOPMENT.

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INTRODUCTION

The most important factors in shaping the Georgia's innovation economics strategy are the institutional changes promoting the creation of innovation, legislative initiatives and the improvement of regional innovation policies. When revealing the peculiarities of an innovation economics, it is essential to identify the determinants influencing the development of an innovation economics. Consequently, the innovation economics is usually influenced by micro, macro, regional and global factors. Moreover, it is worthy note that the factors affecting the innovation economics at the micro level are determined by the scale and capabilities of companies' use of innovation. It is also obvious that companies are creating innovative products or services through highly qualified and professional staff. In the view of foregoing, the professionalism of the staff employed in the company is considered to be a powerful tool for introducing innovations in

the field of production and services. Therefore, specialization and high level of qualification of employees are considered as one of the strengths of creating innovations in companies.

It should also be noted that at the macro level the attention is focused on factors such as the legislative, fiscal and institutional framework developed in the country. The state, by making optimal use of the three main tools mentioned above, creates a favorable environment for the introduction of innovations, which accelerates the development of innovation processes and the rapid growth of export production of high-tech products. This will ultimately ensure the formation of an innovation economics in the country and its effective development.

It should be underlined that in parallel with the above significant attention is given to the improvement of the legal framework of intellectual property. As the latter is the main legislative lever for the development of innovation economics and as a macro factor, it also incorporates institutional

problems related to the creation of an optimal organizational structure. The aim of the last-mentioned is to promote both fundamental and technological research and to create an innovation ecosystem.

The fiscal policy implemented in the country also has a significant impact on the formation of an innovation economics. For its part, Georgia's relations with the Eastern Partnership and EU member states are seeing as a regional factor of innovation policy, because regional and neighborhood policies create fertile ground for the development of an innovation economics. In view of the above, Eastern Partnership and EU policy aim at knowledge and technology transfer. This, in turn, is an important contributing factor to the accelerated development of scientific potential.

Generally, the global factor of innovation policy refers to those international organizations that create favorable environmental conditions for the development of an innovation economics, as well as assess the current situation and develop recommendations in this area. The recommendations of the International Monetary Fund (IMF) are noteworthy in this regard.

It is worth noted that the International Monetary Fund, in turn, has developed a strategy for the formation of innovation systems within which it may be appropriate to make a comparative analysis of innovation processes by EU countries taking into account the specifics and innovation potential of EU Member States.

The International Monetary Fund's Innovation Lab is also of great value, in which, in parallel with the implementation of the latest research, the current global economic trends are covered and evaluated. In addition, various digital platforms are available for higher education institutions in the above-mentioned laboratory.

The Organization for Economic Co-operation and Development (OECD) offers some interesting assessments and recommendations in the above-mentioned area.

As is known, the Organization for Economic Co-operation and Development (OECD) based on the analysis of innovation policies of EU member states defines the role of government in improving the innovation processes.

It should also be pointed out that in general, The World Trade Organization (WTO) supports the economic development through measures promoting the innovations. In particular, the organization sets tariff preferences for telecommunications infrastructure for member countries, as well as supports the promotion of e-commerce and the liberalization of Internet services, etc.

Thus, the determinants affecting the development of innovation economics in Georgia are closely related to each other and, as a whole, creates greenhouse conditions for the development of an innovation economics. However, it is important to note that the factors influencing the development of the innovation economics at the macro and micro levels are crucial in determining the development prospects in the country.

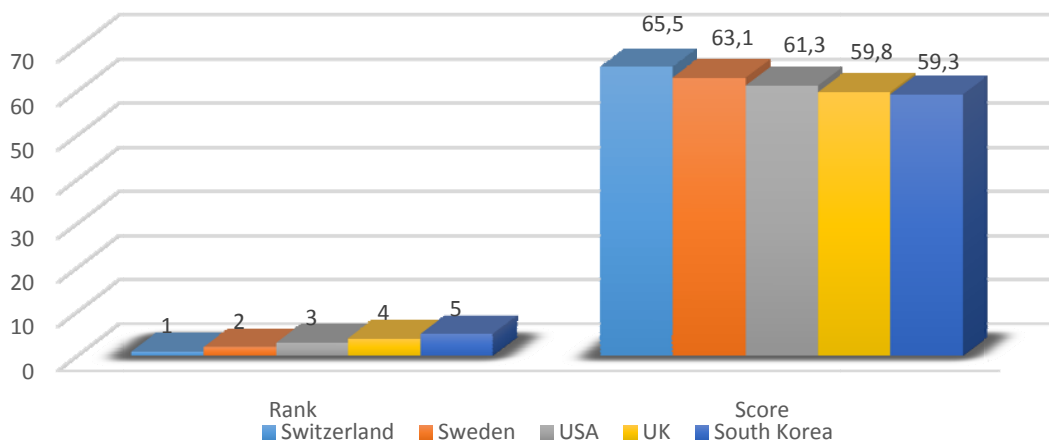
It should also be emphasized that positions in international rankings are considered as an important indicator for assessing the current processes in the economic, social and political environment of the country. However, the country's innovation performance is measured by the Global Innovation Index (GII), which identifies innovation opportunities in 132 countries and responds to the world trends in the field of innovation.

Moreover, the data of the Global Innovation Index, in turn, assists countries in creating favorable conditions for innovation development as well as offers flexible mechanisms to increase productivity and job growth in the country in the long run (Bakhtadze & Danelia, 2020). It is also worth mentioning that The World Intellectual Property Organization (WIPO) and Cornell University annually analyze the Global Innovation Index data.

The Global Innovation Index consists of 80 indicators which are grouped into seven categories and each country is evaluated in all seven categories. In addition, the assessment covers the following main categories:

- Institutions (political environment and legislative framework);
- Human capital and research (education, research and development);

Figure 1. Top five performer countries in GII



Source: Compiled by the authors based on the 2021 report of Global Innovation Index <https://www.globalinnovationindex.org> (29.12.2021)

- Infrastructure (information and communication technologies, infrastructure and ecological sustainability);
- Market sophistication (investments, trade, competition and market scale);
- Business sophistication (employee knowledge level, degree of application of innovation in production);
- Knowledge and technologies outputs (creating new knowledge, assessing the impact of knowledge on innovation, and dissemination of knowledge);
- Creativity outputs (intangible assets, innovative services, e-innovation).

According to the above indexes, Switzerland with a score of 65.5, Sweden (63.1), the United States (61.3), the United Kingdom (59.8) and South Korea with a score of 59.3 have all ranked among the top five in 2021 (See Figure 1).

Thus, according to the Global Innovation Index based on the data of 2021 Georgia ranked 63rd out of 132 countries. This is due to the categories included in the various indexes, such as: creativity, knowledge and technology, business environment, market and infrastructure development, institutions, human capital and research, which are assessed by the scores shown in Figure 2 below.

According to the Global Innovation Index, the results for each category in 2021 show that the best achievements in Georgia are evident in terms of institution development. The above is conditioned by the state policy implemented in the country, which serves to promote the development of an innovation economics.

Furthermore, several institutional units established in Georgia promote the development of innovative products or services for private business. In recent times, the state-sponsored activities to support small entrepreneurs and develop innovation have also increased significantly. In this regard, the Georgia's Innovation and Technology Agency and the state program "Produce in Georgia" make a significant contribution to the development of the country.

It should also be emphasized that the activities carried out by the agency "Produce in Georgia", which aims to im-

prove the entrepreneurial environment, have had a positive impact on the development of the private sector, export promotion and investment attraction.

In addition, the goal of the "Enterprise in Georgia" program is to develop entrepreneurship, support entrepreneurs, as well as promote the creation of new enterprises and the expansion or improvement of existing ones, the purpose of which will be reflected in increased profits and enhanced global competitiveness.

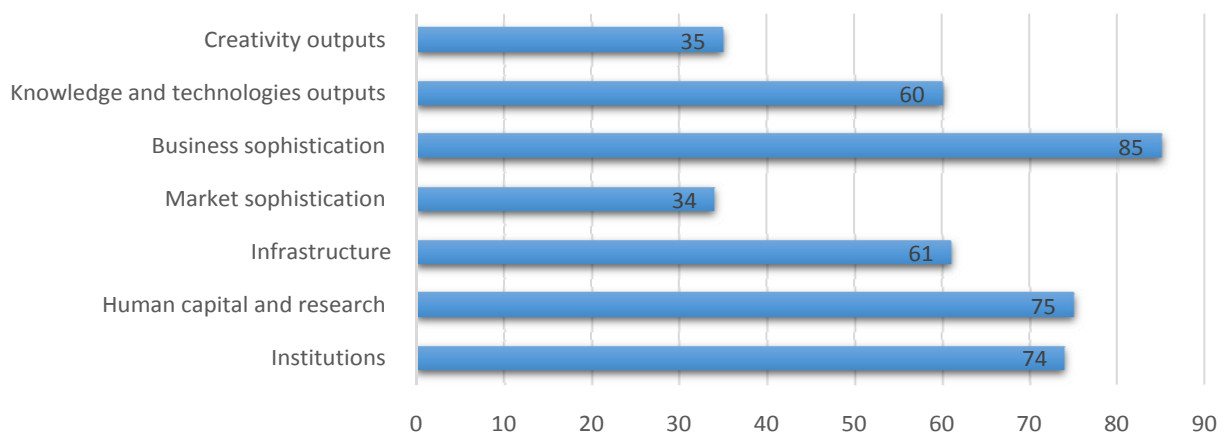
Moreover, the market development is distinguished with the high results achieved in the country (34th place), which depicts investment, trade, competition and market scale. However, despite some progress, infrastructure development, which includes the arrangement of general infrastructure, development of high information and communication technologies and ecological sustainability, remains a weakness (85th place).

On the other hand, unfavorable results are evident in the field of research and development (R&D), which reveals an insufficient level of innovation knowledge, and in turn hinders the development of innovative production and services as well as it is reflected in the scarcity of research and development costs.

In 2020 and 2021, Georgia's ranking significantly deteriorated in five out of the seven categories of the Global Innovation Index, dropping the country from 62nd to 75th place in the category of knowledge and technology production, from 81st to 85th place in the category of infrastructure, from 68th to 74th place in the category of creativity. On the other hand, the country's ranking has improved in the business environment category and moved from 79th to 61st place. As well, slightly changed the position compared to 2020 and from 67th place moved to 75th. Technology development rates have also deteriorated. While the category of institutions did not change compared to the previous year.

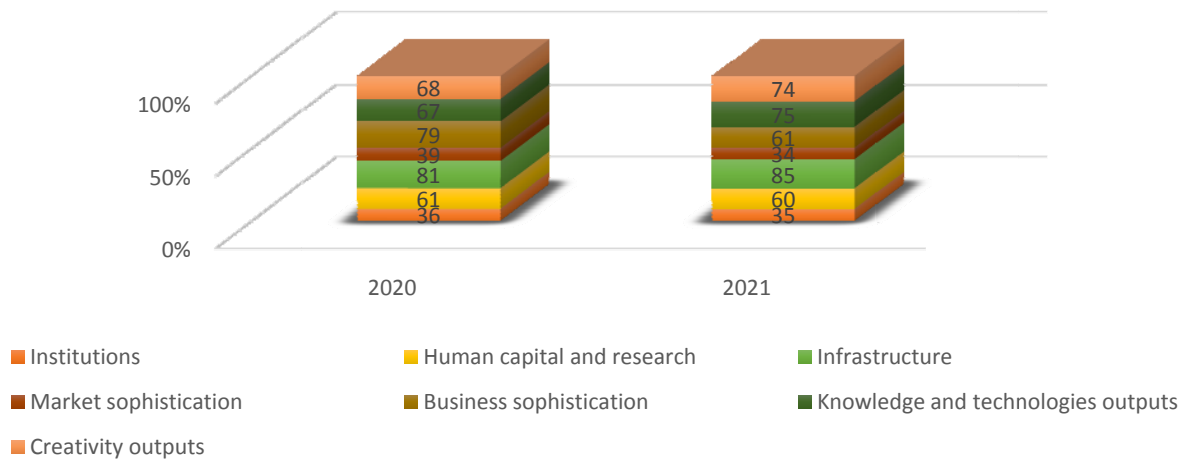
Thus, the data from the last two years illustrate that business environment in the country reveals a tendency for improvement. The ranking of several post-soviet countries in the Global Innovation Index, namely the Eastern Partnership

Figure 2: The result of Georgia according to the Global Innovation Index 2021



Source: Compiled by the authors based on the 2021 report of Global Innovation Index <https://www.globalinnovationindex.org> (29.12.2021)

Figure 3: Georgia's ranking in the Global Innovation Index by Individual Categories, in 2020-2021



Source: Compiled based on the report of the Global Innovation Index 2021 <https://www.globalinnovationindex.org/aalysis-indicator> (30.12.2021)

(Belarus, Ukraine, Moldova, Armenia, Georgia and Azerbaijan), are also interesting.

However, as the diagram of the post-soviet countries illustrates (see the figure 4), Ukraine was the leader among the post-soviet countries with the score of 35.6 (49th place), while Azerbaijan was in the last 80th place with the score of 28.4.

Furthermore, when reviewing the rankings of some post-soviet countries in the Global Innovation Index, it is important to analyze the Global Innovation Index by all seven categories (see Figure 5).

Among some of the post-soviet countries we have reviewed, Georgia leads in terms of institutional category and is ranked 36th. In terms of human capital and research as well as market development, Azerbaijan holds a leading position (36th) in the ranking, followed by Georgia ranked 39th.

An important role in creating a favorable business environment is given to human capital as well as the introduction of knowledge and innovation in the field of production and services. It should be noted that in this category, Ukraine

ranks 53rd, and Georgia - 61st. As regards the introduction of knowledge and technology in production, which considers the impact of knowledge on the creation of innovation and its dissemination, Ukraine leads in 33rd place.

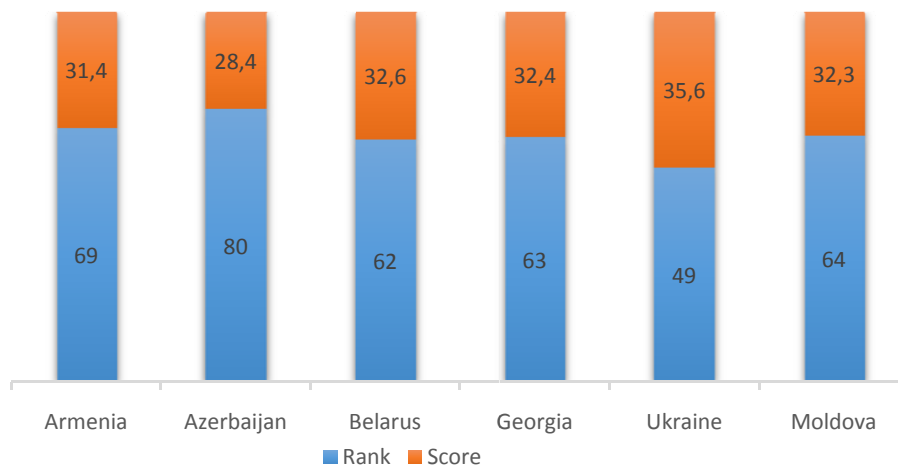
Moreover, in the seventh category, which includes creativity, intangible assets innovative services as well as electronic innovations Ukraine leads in 48th place among the post-soviet countries.

As mentioned above, the Global Innovation Index (GII) includes 80 indicators and combines seven categories.

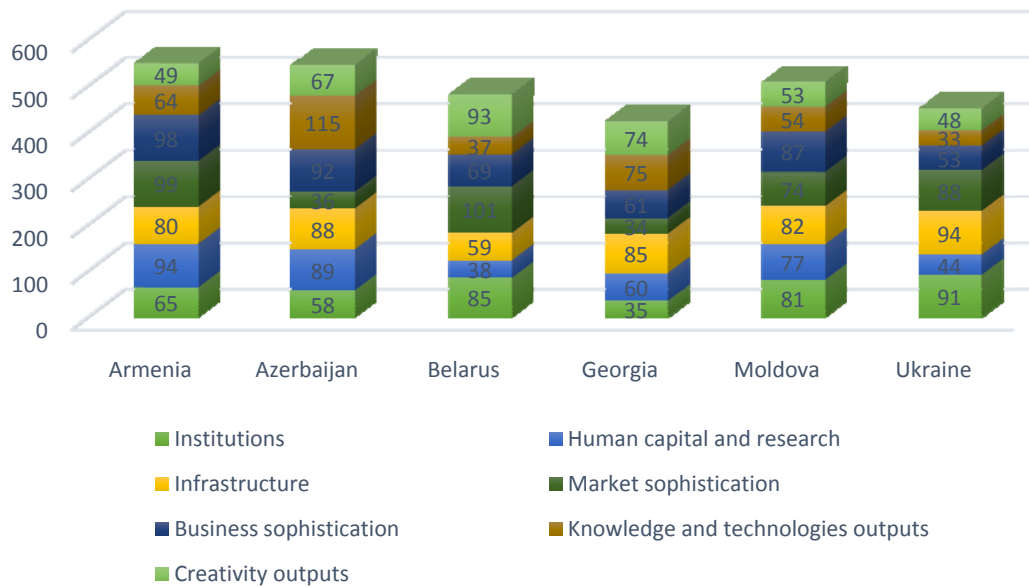
Consequently, based on our analysis of key indicators of the Global Innovation Index, the strengths and weaknesses of Georgia in terms of innovation development have been identified.

In our point of view, simplicity of starting a business, the flexibility of market institutions and the institutional arrangement are considered to be the strength of Georgia. Furthermore, as a result of the Global Innovation Index analysis, human capital and research category are also positively evaluated.

Figure 4. The ranking of some post-soviet countries in the Global Innovation Index 2021



Source: Compiled by the author based on the report of the Global Innovation Index 2021 <https://www.globalinnovationindex.org> (30.12.2021)

Figure 5: Ranking of some post-soviet countries in the Global Innovation Index 2021 by categories

Source: Compiled by the author based on the report of the Global Innovation Index 2021 <https://www.globalinnovationindex.org> (30.12.2021).

In respect to weaknesses, a low rate was revealed according to the logistics indicator in which Georgia had a lowest evaluation. Weak connection between universities and the private sector in terms of collaboration in the field of research should also be considered a weakness. And in terms of business development, the quality of the cluster merger is low, as well as the costs of research and development.

CONCLUSION

The determinants affecting the development of Georgia's innovation economics are closely related to each other and as a whole, create greenhouse conditions for the development of an innovation economics. However, it is important to note that in defining the development prospects of the country a crucial role is given to the development factors of the innovation economics at the macro and micro levels.

According to the Global Innovation Index 2021, the result of each category illustrates that the best achievements in Georgia are evident in terms of institution development that is conditioned by the state policy implemented in the country and serves as a promoter to the development of an innovation economics.

It is also noteworthy that several institutional units established in Georgia promote the development of innovative products or services for private business. Besides, in recent times, the state-sponsored activities to support small entrepreneurs and develop innovation have increased significantly. In this regard, the Georgia's Innovation and Technology Agency and the state program "Produce in Georgia" make a significant contribution to the development of the country.

It should also be noted that the activities carried out by the agency "Produce in Georgia", which aims to improve the entrepreneurial environment, have had a positive impact on the development of the private sector, export promotion and investment attraction.

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