Development of the country's innovative potential as a factor in attracting foreign investment

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Abstract. The purpose of the paper is to study and analyze the role of developing the country's innovative potential to attract foreign investments. The main results of the study are to obtain information that in addition to the innovative environment, ideology, politics, economy and culture of the country, foreign investors often pay attention to intellectual, scientific, technical and technological, financial, legal and entrepreneurial resources, which generally includes into the components of the concept of “innovation potential”. Countries that have been investing heavily in research and development on an ongoing basis for a long time are leaders in the ranking of countries in terms of foreign direct investment. Based on the data presented in the study it can be concluded that the development of the country’s innovative potential is an important factor for foreign investors. The novelty of the scientific work is justified by the current of globalization, since it is the global economy that makes innovation even more important since companies and investors are looking for prospects for growth and competitive advantages. There are many related studies, but there are no studies on innovation potential in the context of attracting foreign investment.

1 Introduction

The modern world is characterized by dynamic changes in all spheres of human activity. Starting from structural changes in the economic sphere and ending with technical progress in the technological sphere. In this context, innovation plays a key role in ensuring sustainable economic growth and competitiveness of countries and regions [1].

There are different approaches of authors to the definition of innovation. According to I.I. Ignatov, “...innovation is not “innovation in general,” but a purely productive, useful innovation that leads to increased labor productivity” [2]. It is difficult to disagree with this position, but the author did not fully reveal the essence of innovation, limiting himself only to labor productivity. Innovation is primarily the driving force behind new technological revolutions and has a significant impact on attracting foreign investment.

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Many researchers from different countries have addressed the study of issues related to the development of innovative potential as a factor in attracting foreign investment [3-5]. In the work of U.F. Gafurova, concerning the role of investment and innovation potential of enterprises in attracting foreign investment into the country’s economy, it is clearly defined that investors, when choosing to invest in a particular country, first of all pay attention to the innovative environment, as well as ideology, politics, economy and culture of the country in which he intends to invest his capital [6].

In these studies, as in many others on research issues, there is no clear answer to the question of whether innovative potential is one of the key factors in attracting investment from abroad. This leads to a research question if only the innovative environment, politics, economy, ideology and culture of a country are the determining factors for foreign investors when choosing to invest. It is also a question whether it is possible to include innovative potential in this list.

2 Materials and methods

The purpose of this study is to explore the impact of the development of a country's innovative potential on attracting foreign investment using the example of some countries, including the Russian Federation.

To achieve the goal set in the work, it is necessary to analyze existing research and scientific literature on innovation and attracting investment; to identify key factors influencing the attraction of foreign investment; and to explore mechanisms for developing innovative potential.

The study is based on a combination of quantitative and qualitative research methods. The authors included statistical analysis of data to study the relationships between indicators of innovation development and the volume of investment as quantitative methods; analysis of economic indicators and data on external investments.

The category of qualitative methods includes reports on the development of innovations and investment strategies.

Data were collected based on official statistics and rankings for countries around the world.

Quantitative and qualitative data obtained from the analysis were subjected to thematic analysis to identify common themes and patterns.

One of the potential restrictions should include limited access to confidential data and information from enterprises and organizations. Also, the results of the study may be influenced by factors such as political instability and economic crises. When studying innovation potential, it is important to consider all sorts of factors.

All research methods were applied considering the above objectives and goals, and based on the elimination and minimization of potential methodological limitations.

3 Results

The concept of “innovation potential” was first proposed by the English economist Christopher Freeman in the mid-1970s. He noted that innovation is a system of measures for the development, development, operation and exhaustion of the production, economic and social-organizational potential that underlies innovations [7].

More than 50 years have passed since the first interpretation of the concept of “innovation potential”. Today in the economic literature it is possible to find many interpretations of this definition. The authors of the paper highlight according to the interpretation of A. Mazin. In
his opinion, “innovation potential is one of the key indicators that reflect the ability of an economic system to carry out innovative activities” [8].

The implementation of innovative activities implies a whole range of scientific, financial and technical activities. Only by competently organizing this set of designated parameters it is possible to interest potential investors. In this case, let us pay attention to the complementarity of innovation and export.

As S. I. Fayazova emphasizes in her study “... many empirical studies have proven a positive relationship between innovation and exports.” The author drew attention to two main hypotheses considered in the literature on this issue: the self-selection hypothesis and the hypothesis of the learning effect of exports, which made it possible to assert the complementarity of innovation and exports [9].

The topic of complementarity between innovation and exports was not touched upon in this study. Complementarity refers to the phenomenon in which two or more elements complement each other and form a whole that is more valuable than its parts.

An important indicator of a country’s competitiveness and access to international partnerships and contacts is exports. In addition to innovation, export is one of the additional components of innovation potential.

The main components of innovation potential are intellectual, scientific, technical and technological, financial, legal and entrepreneurial resources. These components are included in the concept of research and development (R&D), which is one of the indicators reflecting the ability of an economic system to carry out innovative activities.

Thus, the higher the level of R&D expenditures a country has (especially if these expenditures are justified by the emergence and entry into the market of innovations), the more likely the country is to attract foreign investors who will invest in the most innovative ideas.

Let us compare data from different countries on the level of spending on research and development. The list is compiled based on the list of sovereign states by research and development expenditures.

<table>
<thead>
<tr>
<th>Country</th>
<th>R&amp;D expenses, billions of US dollars</th>
<th>% of GDP (real)</th>
<th>R&amp;D expenditure per capita, US dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>660</td>
<td>2.6</td>
<td>1965</td>
</tr>
<tr>
<td>China</td>
<td>556</td>
<td>3.1</td>
<td>384</td>
</tr>
<tr>
<td>Japan</td>
<td>194</td>
<td>3.4</td>
<td>1540</td>
</tr>
<tr>
<td>Germany</td>
<td>148</td>
<td>3.3</td>
<td>1760</td>
</tr>
<tr>
<td>South Korea</td>
<td>105</td>
<td>5</td>
<td>2050</td>
</tr>
<tr>
<td>France</td>
<td>68.3</td>
<td>2</td>
<td>1040</td>
</tr>
<tr>
<td>India</td>
<td>65</td>
<td>0.7</td>
<td>40</td>
</tr>
<tr>
<td>Great Britain</td>
<td>54.2</td>
<td>2.2</td>
<td>810</td>
</tr>
<tr>
<td>Taiwan</td>
<td>46.1</td>
<td>3.8</td>
<td>1956</td>
</tr>
<tr>
<td>Brazil</td>
<td>43.6</td>
<td>2.3</td>
<td>210</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>37.6</td>
<td>2.2</td>
<td>260</td>
</tr>
</tbody>
</table>


For clarity, we will present the country data in Figure 1.
Fig. 1. Comparative analysis of sovereign states on research and development expenditures, 2022. Source: compiled by the authors.

The United States is the absolute leader in spending on research and development, spending about $660 billion a year. Following behind the US is China, with R&D spending of $556 billion. The Russian Federation ranks only 11th with R&D expenditures of $37.6 billion.

However, the question of developing innovative potential as a factor in attracting foreign investment remains open. It is a question if it is true that since R&D costs are high, foreign investors are willing to invest.

To answer this question, it is necessary to turn to the concept of “foreign direct investment”. Foreign direct investment involves the investment of investor funds in the form of a controlling interest in an enterprise in one country by an enterprise based in another country.

Let us look at the above-mentioned leading countries in the global ranking in terms of foreign direct investment. The countries are arranged in the same order.

<table>
<thead>
<tr>
<th>Place in the global ranking</th>
<th>Country</th>
<th>Foreign direct investment, billion US dollars, 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USA</td>
<td>351.56</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>180.17</td>
</tr>
<tr>
<td>11</td>
<td>Japan</td>
<td>47.52</td>
</tr>
<tr>
<td>12</td>
<td>Germany</td>
<td>47.37</td>
</tr>
<tr>
<td>23</td>
<td>South Korea</td>
<td>18</td>
</tr>
<tr>
<td>5</td>
<td>France</td>
<td>96.24</td>
</tr>
<tr>
<td>9</td>
<td>India</td>
<td>49.92</td>
</tr>
<tr>
<td>13</td>
<td>Great Britain</td>
<td>44.13</td>
</tr>
<tr>
<td>28</td>
<td>Taiwan</td>
<td>13.3</td>
</tr>
<tr>
<td>6</td>
<td>Brazil</td>
<td>91.5</td>
</tr>
<tr>
<td>104</td>
<td>Russian Federation</td>
<td>-43.13</td>
</tr>
</tbody>
</table>

Source: compiled by the authors.

It should be noted that not all leading countries in terms of R&D expenditures are leaders in terms of attracting foreign direct investment.

The leadership of the United States in this list is not surprising. States provide greater support to manufacturing and innovation clusters. One of the examples of the successful development of the cluster approach in the United States should be considered the famous Silicon Valley in California, which serves as a global center of high technology and innovation.
The Russian Federation’s place in the ranking is also justified by the events that began in February 2022, which caused a large outflow of foreign investment. Russia in 2021, before the start of 2022, ranked 14th with foreign direct investment attracted in the amount of $40.45 billion.

Of course, there are many factors to attract foreign investment. These include events within the country, the investment environment, cooperation between states, and access to markets for innovative products. Innovation potential is also one of the factors, since all of the above countries (with the exception of the Russian Federation) are among the TOP 30 countries in terms of foreign direct investment from a total list of 230 countries. This fact gives reason to believe that foreign investors are more often willing to invest in countries with high R&D expenditures, except for countries with an unstable political and economic situation, as is the case with Russia.

To consolidate this position, we will consider the world's largest companies by market capitalization, divided by sector.

If most companies on the list of the largest are in the technology sector and include the leading positions of countries in terms of R&D expenditures and the ranking of countries in terms of foreign direct investment, it should be judged that innovation potential is one of the factors in attracting foreign investment and its development is a priori important for improving the investment level in the country.

### Table 3. Largest global companies by market capitalization.

<table>
<thead>
<tr>
<th>Company</th>
<th>Country</th>
<th>Capitalization, trillion US dollars</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>USA</td>
<td>2.688</td>
<td>Electronic technology</td>
</tr>
<tr>
<td>Microsoft Corporation</td>
<td>USA</td>
<td>2.319</td>
<td>Technologies</td>
</tr>
<tr>
<td>SAUDI ARABIAN OIL CO.</td>
<td>Saudi Arabia</td>
<td>2.206</td>
<td>Energy and mineral resources</td>
</tr>
<tr>
<td>Alphabet Inc.</td>
<td>USA</td>
<td>1.626</td>
<td>Technologies</td>
</tr>
<tr>
<td>Amazon</td>
<td>USA</td>
<td>1.293</td>
<td>Retail</td>
</tr>
<tr>
<td>NVDIA Corporation</td>
<td>USA</td>
<td>1.035</td>
<td>Electronic technology</td>
</tr>
<tr>
<td>Berkshire Hathaway Inc.</td>
<td>USA</td>
<td>0.784</td>
<td>Finance</td>
</tr>
<tr>
<td>Berkshire Hathaway Inc. B</td>
<td>USA</td>
<td>0.784</td>
<td>Finance</td>
</tr>
<tr>
<td>Tesla</td>
<td>USA</td>
<td>0.774</td>
<td>Consumer durables</td>
</tr>
<tr>
<td>Meta Platforms</td>
<td>USA</td>
<td>0.769</td>
<td>Technologies</td>
</tr>
<tr>
<td>Eli Lilly and Company</td>
<td>USA</td>
<td>0.522</td>
<td>Medical technology</td>
</tr>
<tr>
<td>United Health Group Incorporated</td>
<td>USA</td>
<td>0.468</td>
<td>Healthcare</td>
</tr>
<tr>
<td>Visa Inc.</td>
<td>USA</td>
<td>0.467</td>
<td>Commercial services</td>
</tr>
<tr>
<td>Exxon Mobil Corporation</td>
<td>USA</td>
<td>0.466</td>
<td>Energy and mineral resources</td>
</tr>
<tr>
<td>Walmart Inc.</td>
<td>USA</td>
<td>0.437</td>
<td>Retail</td>
</tr>
<tr>
<td>JP Morgan Chase &amp; Co</td>
<td>USA</td>
<td>0.421</td>
<td>Finance</td>
</tr>
<tr>
<td>TAIWAN SEMICONDUCTOR MANUFACTURING</td>
<td>Taiwan</td>
<td>0.417</td>
<td>Electronic technology</td>
</tr>
<tr>
<td>Johnson &amp; Johnson</td>
<td>USA</td>
<td>0.382</td>
<td>Medical technology</td>
</tr>
<tr>
<td>Mastercard Incorporated</td>
<td>France</td>
<td>0.372</td>
<td>Commercial services</td>
</tr>
</tbody>
</table>

*Source: compiled by the authors.*
For clarity, let us show the sectors in Figure 2.

![Sectors Diagram](image)

**Fig. 2.** The world's largest companies by sector. Source: compiled by the authors.

### 4 Discussion

Based on the data presented, it was revealed that the development of innovative potential is one of the key factors in attracting foreign investment. Thus, at the beginning of the study, a list of ten countries was compiled by R&D expenditures in 2022. Next, countries were ranked by level of foreign direct investment in 2022 to compare whether the leading countries in R&D spending received correspondingly high levels of foreign investment. The ranking of the world's largest companies by market capitalization was also reviewed, indicating the country, capitalization, and, most importantly, the sector in which the companies are based.

The study revealed that most of the leading companies in terms of R&D expenditures are leaders in the ranking in terms of foreign direct investment. The United States of America holds the lead in both ratings. The ranking of the world's largest companies by market capitalization only proved the superiority of the United States in innovation potential, since 16 out of 19 world companies belong to them, and 8 out of 19 companies are included in the technology sector.

Let us return to the topic of complementarity between exports and innovations in the context of developing the country's innovative potential. As previously identified, exports are an important component of a country’s innovative potential, as it can stimulate the growth and development of companies, increase competition and provide access to global resources and knowledge.

Thanks to the econometric analysis carried out, S.I. Fayazova, whose research was discussed earlier, came to the same conclusion. The author concluded that the export indicator depends quite strongly on the internal development of scientific developments, the level of costs for the implementation of high-tech innovations and the number of registered patents [5].

Thus, with a high development of scientific developments and the level of costs for innovation within the country, the export indicator also increases complementarily, without which it is impossible to develop innovative potential. Foreign investors make their choice
based on these factors, which only strengthens the assertion that the development of the country's innovative potential is a factor in attracting foreign investment.

5 Conclusion

The purpose of this study was to study the impact of the development of a country's innovative potential on attracting foreign investment using the example of some countries, including the Russian Federation. To complete it, a number of tasks were set, consisting of analyzing existing research, identifying key factors and studying the mechanisms for developing innovative potential.

Having completed the assigned tasks, it was possible to fulfill the purpose of the study. Having analyzed existing studies, identified key factors and examined the mechanisms for developing innovative potential, it was revealed that attracting foreign investment is impossible without developing innovative potential. Investors continue to pay attention to both the economic and political situation in countries and the level of country spending on research and development work. Countries that spend the largest amount of funds on these activities increase their innovative potential and have the opportunity to attract as much foreign investment as possible to their enterprises, and, as a result, increase economic growth and investment levels.

In the period of digitalization, this topic has great practical significance. The development of innovative potential helps to increase competitiveness in the global market, and this, in turn, allows the country to better adapt to changes in the market and economic crises that are increasingly occurring in the world.

Therefore, the issue of developing the country’s innovative potential in the context of attracting foreign investment in the future can be disclosed even more fully, taking into account the changing economic situation in countries.

References

8. A. Mazin, Alma mater 5(11), 57-60 (2015)