Developed of strategic alliances between Russia and Hungary in the field of pharmaceuticals

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Abstract. The development of strategic alliances between Russian and foreign pharmaceutical companies allows not only to introduce biotechnologies in the domestic market, but also to strengthen the policy of import substitution and increase export volumes. That is why it is important to support the creation and functioning of strategic alliances at the state level. The purpose of this article is to study the creation and development of strategic alliances between Russia and Hungary, paying attention to the formation of alliances in the field of pharmaceuticals. In order to achieve this goal, the indicators of export-import operations between Russia and Hungary in the field of “pharmaceutical products”, as well as the main strategic alliances operating between the two countries were considered. It is assumed that the development of Russian-Hungarian strategic alliances in the field of pharmaceuticals with localization of production will help to achieve the goals of the import substitution policy in the field of drug production, as well as to intensify export operations. To test this hypothesis, documents published in the public domain were analyzed, including statistical data on export-import operations in the pharmaceutical market between Russia and Hungary. In general, it was proved that at the present stage of development of the pharmaceutical market of the Russian Federation, it is important to support the creation and functioning of strategic alliances, which will strengthen Russian positions not only in the domestic market, but also in the international market. Thus, the Russian Federation should actively develop and support the development of localized strategic alliances using various methods, which will increase the share of domestic biotechnologies and ensure their export.

Keywords: pharmaceutical market, strategic alliances, biotechnologies, localization of production.

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Развитие стратегических альянсов между Россией и Венгрией в области фармацевтики

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Аннотация. Развитие стратегических альянсов между российскими и зарубежными фармацевтическими компаниями позволяет не только внедрять биотехнологии на отечественном рынке, но и укреплять политику импортозамещения, а также увеличивать объемы экспорта. Именно поэтому важно поддерживать создание и функционирование стратегических альянсов на уровне государства. Целью настоящей статьи стало исследование, создание и развитие стратегических альянсов между Россией и Венгрией, уделяя внимание формированию альянсов в области фармацевтики. Для достижения поставленной цели были рассмотрены показатели экспортно-импортных операций между Россией и Венгрией в области «фармацевтической продукции», а также основные стратегические альянсы, действующие между двумя странами. Предполагается, что развитие российско-венгерских стратегических альянсов в области фармацевтики с локализацией производства позволит достичь целей политики импортозамещения в области производства лекарственных препаратов, а также активизировать экспортные операции. Для проверки данной гипотезы анализировались документы, размещенные в открытом доступе, в том числе статистические данные по экспортно-импортным операциям на фармацевтическом рынке между Россией и Венгрией. В целом было доказано, что на современном этапе развития фармацевтического рынка Российской Федерации важно поддерживать создание и функционирование стратегических альянсов, что позволит укрепить российские позиции не только на отечественном рынке, но и на международном рынке. Таким образом, Российская Федерация должна активно развивать и поддерживать с помощью различных методов развитие локализованных стратегических альянсов, что позволит увеличить удельный вес отечественных биотехнологий и обеспечить их экспорт.

Ключевые слова: фармацевтический рынок, стратегические альянсы, биотехнологии, локализация производства

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Introduction

The volume of trade relations between Russia and Hungary has significantly decreased under the influence of the COVID-19 pandemic, however trade volumes are expected to recover by mid 2022 due to large intergovernmental plans. For example, it is planned to implement a Russian-Hungarian project for the supply of railway cars (1.3 thousand units worth more than 1 billion euros), the implementation of investment projects in the field of food of the Hungarian commercial bank Eximbank. The governments of Russia and Hungary are actively cooperating in the field of gas supplies, including diversifying supplies through Turkey, Bulgaria and Serbia, as well as the construction of the PAKS Nuclear Power Plant by Rosatom in Hungary.

Joint business involves strengthening competitive positions in the market of partner companies. The number of strategic alliances is growing from year to year in different areas of business activity.

Strategic alliances between Russia and Hungary are developed at a rather low level, especially in the field of pharmaceuticals. Nevertheless, this is the first EU country with which an agreement was reached not only on the supply of the Russian coronavirus vaccine, but also on the organization of production in Hungary, which is actively opposed by the rest of the EU countries. However, Hungary is one of the few EU countries that pursue a fairly independent policy regarding bilateral relations with Russia. For example, at one time an agreement was signed for the construction of two power units of the Paks NPP, which produces about 40% of the country’s electricity, while Hungary carried out 40% of the work, and Russia carried out 60%.

Literature overview

When writing a scientific article, the publications of foreign and foreign authors published in open access in specialized journals and on specialized portals of pharmaceutical and international topics, as well as statistical data published in open sources were analyzed.

The authors’ scientific works analyze the current problems and issues of import substitution in the field of pharmaceuticals, the prospects for its development, including through the development of bilateral and multilateral cooperation between Russia and the EU countries, as well as the reasons and prospects for the development of cooperation between the Russian Federation and Hungary, including in the field of pharmaceuticals, the changing position of the Russian Federation in the field of pharmaceuticals and its impact on world positions in this industry, etc.

Issues of the implementation the import substitution policy are covered in the studies of Zobov A. M., Chernysheva A. M., Degtereva E. A., Trofimova A. A. (Zobov, Chernysheva, Degtereva, Trofimova, 2018). In spite of the fact that there are a lot of different and complicated studies dedicated to the global pharmaceutical market, there is a lack of studies covered the issues of the

The study of subjects of innovative development of the pharmaceutical industry can be found in the works of scientists Balakin K. V., Aiginin A. A., Ivashchenko A. A. (Balakin, Aiginin, Ivashchenko, 2021), Bykova E. A. (Bykova, 2020), Chaplenko A. A., Vlasov V. V., Gildeeva G. N. (Chaplenko, Vlasov, Gildeeva, 2020).

Research methods

The development of strategic alliances is of great strategic importance not only for the Russian Federation, but also for its partner countries. In order to actively implement the import substitution strategy in the field of pharmaceuticals, the Russian Federation should analyze not only the volumes and positions of manufactured medicines, but also the construction of possible strategic alliances with EU countries, including Hungary. Based on this analysis, it is possible to develop a plan of sequential steps that ensure the active development of economic cooperation between the Russian Federation and its strategic partners, including Hungary.

During the research, such methods as a systematic approach, comparative and statistical methods of studying the environment and factors influencing the development of strategic alliances of Russia and its partners were used. The main research methods were such as search, systematization, evaluation and analysis of the data obtained on export-import operations between the Russian Federation and Hungary in the field of pharmaceuticals.

Results

Russia and Hungary already have the experience of effectively building strategic alliances between in the field of pharmaceuticals. At the end of 2015, a strategic alliance was formed between the Russian pharmaceutical company Nanolek, the Hungarian pharmaceutical company Egis and the South Korean company Celltrion. This alliance provided for the localization of a full production cycle in the Kirov region of the infliximab Flammegis biosimilar for the treatment of rheumatic arthritis. The strategic alliance involving the South Korean pharmaceutical company was conditioned by the Hungarian company Egis agreement, under which it received exclusive rights to marketing and distribution of eight medicines to the Russian Federation. The Hungarian pharmaceutical company Egis is primarily engaged in the production of high-quality generics, which are in high demand on the Russian market.
The countdown to the development of strategic alliances between Russia and Hungary can begin in 2005, when an agreement on economic cooperation was signed, and in 2010 a Business Council for Cooperation with Hungary was established. Table 1 shows data on export-import operations in the direction of “pharmaceutical products” from 2011 to 2020.

**Table 1**

**Export-import operations of Russia and Hungary in the field of “pharmaceutical products”**

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports, USD</th>
<th>Share in total export, %</th>
<th>Changes to the previous year as a percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>2,504,005</td>
<td>0,09</td>
<td>-17,66</td>
</tr>
<tr>
<td>2019</td>
<td>3,041,197</td>
<td>0,07</td>
<td>7,92</td>
</tr>
<tr>
<td>2018</td>
<td>2,817,901</td>
<td>0,06</td>
<td>129,7</td>
</tr>
<tr>
<td>2017</td>
<td>1,226,789</td>
<td>0,04</td>
<td>73,25</td>
</tr>
<tr>
<td>2016</td>
<td>708,094</td>
<td>0,03</td>
<td>10,05</td>
</tr>
<tr>
<td>2015</td>
<td>643,401</td>
<td>0,02</td>
<td>-64,13</td>
</tr>
<tr>
<td>2014</td>
<td>1,793,749</td>
<td>0,03</td>
<td>68,63</td>
</tr>
<tr>
<td>2013</td>
<td>1,063,750</td>
<td>0,02</td>
<td>-4,34</td>
</tr>
<tr>
<td>2012</td>
<td>1,112,061</td>
<td>0,02</td>
<td>160,61</td>
</tr>
<tr>
<td>2011</td>
<td>426,716</td>
<td>0,01</td>
<td>122,21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports, USD</th>
<th>Share in total import, %</th>
<th>Changes to the previous year as a percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>296,797,176</td>
<td>14,08</td>
<td>-27,33</td>
</tr>
<tr>
<td>2019</td>
<td>408,397,053</td>
<td>17,96</td>
<td>14,81</td>
</tr>
<tr>
<td>2018</td>
<td>355,710,161</td>
<td>16,44</td>
<td>-17,33</td>
</tr>
<tr>
<td>2017</td>
<td>430,281,285</td>
<td>20,61</td>
<td>14,09</td>
</tr>
<tr>
<td>2016</td>
<td>377,135,342</td>
<td>22,76</td>
<td>-5,19</td>
</tr>
<tr>
<td>2015</td>
<td>397,775,905</td>
<td>23,2</td>
<td>-25,13</td>
</tr>
<tr>
<td>2014</td>
<td>531,257,039</td>
<td>19,4</td>
<td>-19,5</td>
</tr>
<tr>
<td>2013</td>
<td>659,940,606</td>
<td>21,95</td>
<td>5,75</td>
</tr>
<tr>
<td>2012</td>
<td>624,068,919</td>
<td>20,11</td>
<td>-2,35</td>
</tr>
<tr>
<td>2011</td>
<td>639,064,267</td>
<td>19,17</td>
<td>18,17</td>
</tr>
</tbody>
</table>

Source: compiled by the authors according to the data of Foreign Trade of Russia. Retrieved October 28, 2021, from https://russian-trade.com/
Using the linear trend formula, it is possible to identify the trend for subsequent years:

\[ Y_t = a_0 + a_1 t. \]

Accordingly, the linear trend parameters can be calculated as follows:

\[ a_0 = \bar{y} = \frac{\sum y}{n}, \]

\[ a_1 = \frac{\sum yt}{\sum t^2}. \]

Based on the above formulas, it is possible to calculate the parameters of the linear trend and build a trend for 2021–2024 for export-import operations of pharmaceutical products between Russia and Hungary in Table 2.

### Table 2

**Indicators of the trend in export-import operations of pharmaceutical products between Russia and Hungary (the trend is based on data from 2012–2020)**

<table>
<thead>
<tr>
<th>Countries</th>
<th>Total</th>
<th>(a0)</th>
<th>(a1)</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Export of pharmaceutical products to Hungary from Russia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Exports, USD</td>
<td>14910947</td>
<td>1656771,89</td>
<td>235530,15</td>
<td>2834422,64</td>
<td>3069952,79</td>
<td>3305482,94</td>
<td>3541013,09</td>
</tr>
<tr>
<td>2 Share in total export, %</td>
<td>0,38</td>
<td>0,01</td>
<td>0,08</td>
<td>0,09</td>
<td>0,10</td>
<td>0,11</td>
<td></td>
</tr>
<tr>
<td><strong>Import of pharmaceutical products from Hungary to Russia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Imports, USD</td>
<td>4081363486</td>
<td>453484831,78</td>
<td>-39705100,12</td>
<td>254959331,19</td>
<td>215254231,08</td>
<td>175549130,96</td>
<td>135844030,84</td>
</tr>
<tr>
<td>2 Share in total import, %</td>
<td>176,51</td>
<td>19,61</td>
<td>-0,74</td>
<td>15,90</td>
<td>15,15</td>
<td>14,41</td>
<td>13,67</td>
</tr>
</tbody>
</table>

*Source: developed by the author on the basis of the above statistical data. Retrieved October 28, 2021, from https://russian-trade.com*
The calculation details are as follows:

\[ 4081363486 = 624068919 + 659940606 + 531257039 + 397775905 + \\
+ 377135342 + 430281285 + 355710161 + 408397053 + 296797176; \]

\[ a_0 = 453484831,78 = 4081363486:9; \]

\[ a_1 = \frac{\sum y_t}{\sum t^2} = ((624068919*–4) + (659940606*–3)+(531257039*–2)+ \\
+ (397775905*–1)+(377135342*0)+(430281285*1)+(355710161*2)+ \\
+ (408397053*3)+(296797176*4)): 60 = –39705100,12; \]

2021 = \( Y_t = a_0 + a_1 t = 453484831,78 + (–39705100,12\times5) = 254959331,19; \)

2022 = \( Y_t = a_0 + a_1 t = 453484831,78 + (–39705100,12\times6) = 215254231,08; \)

2023 = \( Y_t = a_0 + a_1 t = 453484831,78 + (–39705100,12\times7) = 175549130,96; \)

2024 = \( Y_t = a_0 + a_1 t = 453484831,78 + (–39705100,12\times8) = 135844030,84; \)

\[ 176,51 = 20,11+21,95+19,4+23,2+22,76+20,61+16,44+17,96+14,08; \]

\[ –0,74 = ((20,11*-4) + (21,95*-3)+(19,4*-2)+(23,2*-1)+(22,76*0)+ \\
+ (20,61*1)+(16,44*2)+(17,96*3)+(14,08*4 )) = –44,6:60. \]

Analyzing the data of the tables and the data obtained during the construction of the trend, we can conclude about the trends in the development of export-import operations of pharmaceutical products between Russia and Hungary. Thus, the share of pharmaceutical exports in total exports is projected to grow from 0.9% to 0.11%, which in absolute terms reflects an increase from 2504005 USD to 3541013.09 USD. The forecast for imports gives an idea of the downward trend from 14.08% to 13.67%, which in absolute figures is from 296797176 USD up to 135844030.84 USD. Despite the positive dynamics for Russia, in terms of shares and absolute figures, imports significantly (118 times) exceed exports and a significant gap will remain until 2024, which indicates the need to take measures both to create strategic alliances and to activate the policy of import substitution in the field of pharmaceuticals.

It should be noted that the difficulties of interaction between the Hungarian and Russian sides have developed, first of all, due to the introduction of mutual sanctions by Western countries and Russia, and not only in the field of pharmaceuticals. The way
out of this situation is precisely strategic alliances that help overcome the sanctions regime. For example, a joint Russian-Hungarian enterprise in Tatarstan, which imports seedlings from Hungary, and grows fruits and vegetables already on the territory of the Russian Federation. In turn, in Hungary, the Russian side is expanding the Paks nuclear power plant and the car-building plant in Dunakesi. Such interaction makes it possible to form a stable and balanced cooperation. Moreover, Hungary supports the localization of production on its territory at the state level by co-financing up to 30% of the budgets of investment projects, primarily in technological areas, and the income tax has been reduced to 9% (according to the European Investment Bank, 36% of Hungarian companies are engaged in the development and implementation of new products).

The development of strategic alliances between Russia and Hungary is quite active. Rusatom Service (Russia) and MVM Group (Hungary) have registered a strategic alliance — a joint venture European Power Services Ltd (Hungary). This company provides services in the field of energy, combining scientific and production resources of the Russian side and engineering and applied resources of the Hungarian side to gain competitive advantages in the European market. Russia and Hungary also plan to conduct joint experiments on the ISS, including the training and flight of a Hungarian cosmonaut.

Hungarian companies such as OTP Bank, MOL Concern and pharmaceutical company Gedeon Richter are active in the Russian Federation market. Thus, we can expect the development of Russian-Hungarian strategic alliances in the field of pharmaceuticals and healthcare, the food industry and the agricultural sector.

The MOL Concern is a company operating in the oil and gas sector. The company is involved in oil production in Russia, including in the Tomsk, Orenburg and Samara regions. Companies in the banking sector also work closely together, as the leading OTP bank localizes its activities in Russia, and the Russian bank Beber acquired the assets of the Austrian Volksbank, including its Hungarian assets. JSC “Metrovagon-mash” signed a contract with the Budapest City Hall on the modernization of cars of the third line of the metropolitan metro.

Hungarian pharmaceutical company Gedeon Richter is one of the leaders of pharmaceutical manufacturing companies, which has localized production in the Yegoryevsky district of the Moscow region, thereby ensuring the development of pharmaceuticals in the Russian Federation. Hungary has been actively developing its pharmaceutical industry since the times of the USSR, when the latter donated technical documents for the production of penicillin, and the Soviet Union built two oil refineries and chemical plants.

Gedeon Richter is not only strengthening its position in the markets of the East, including Russia, but is also actively developing in Western markets, forming strategic alliances with companies from the United States in the process of developing and manufacturing innovative technologies. For example, the drug karipazine, aimed at the treatment of schizophrenia and bipolar disorder, was introduced to the international market by joint efforts of Hungarian-American companies. The Hungarian side developed the molecule and filed a patent, and the American side invested more than
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250 million USD for the full development and production of the drug, including for clinical trials.

The Hungarian pharmaceutical company has formed a strategic alliance with the Russian Protek Group (Gedeon Richter owns 5% of the shares), which allows not only to actively develop Hungarian pharmaceuticals, but also Russian pharmaceuticals, including in the direction of import substitution. The Protek Group is one of the three leading pharmaceutical distributors in Russia, with a market share of 11.7%. However, in 2020, news was announced on the pharmaceutical market about the possible sale of the Hungarian company’s share to the Russian group, which means the liquidation of the alliance. Localization of production allowed Gedeon Richter to build a pharmaceutical plant that meets international GMP standards, in which $ 100 million was invested, while medicines produced in Russia are also exported to Hungary, the Czech Republic and Slovakia.

It is worth noting that the company welcomes inspections by Russian inspectors on compliance with GMP standards at the company’s enterprises in Hungary, which are similar to the requirements of inspectors from the FDA. About 1,000 people of the company, out of 5,000 working in Hungary, work in the field of R&D. Nevertheless, Gedeon Richter needs strategic alliances, since it has certain difficulties with independent clinical trials of the second and third phases of the latest drugs. Using the example of kariprazine, Gedeon Richter’s strategic partnership with companies from the USA and Canada was carried out by transferring license rights, and in Russia, CIS countries, Central and Eastern Europe, the sale was carried out directly by the company.

By the end of 2019, Gedeon Richter had already adapted production lines in Hungary, Romania, Poland, Germany and Russia to the labeling of medicines for the Russian market (in the Data Matrix format), which made it possible to strengthen its competitive position. At the same time, the company, within the framework of the Pharma 2020 Strategy, supports the transfer of its innovative technologies to Russia to ensure the production of a full cycle of in-demand medicines in Russia.

The sales volume of Gedeon Richter in Russia in 2019 amounted to 17% (267.1 million euros) of total sales in the countries of presence. The company is among the TOP 10 foreign companies operating in the Russian Federation from year to year (according to IQVIA, IMS Health), moreover, actively participating in the sustainable development of the country.

Thus, the company, unlike others, sees its responsible production to Russia, providing full production of medicines, and not just packaging and packaging on the territory of the Russian Federation to fulfill the objectives of the Pharma 2020 Strategy. The complexity of the organization of full production is that the technologies are fully implemented on the territory of another country, without additional guarantees from the state.

Another difficulty in forming strategic alliances in the pharmaceutical market of Russia is the actual absence of pharmaceutical substances of domestic production. Pharmaceutical substances are the main component from which the drug is made. At the same time, during the Soviet era, these substances were produced and exported, which were displaced, first of all, by Chinese and Indian analogues. That is why the pharmaceutical market is quite difficult to integrate into the policy of import substitution.
Nevertheless, strategic alliances are being formed in the pharmaceutical market, so the Russian pharmaceutical company “Pharmasynthesis” has concluded an agreement with a large Indian company “Emcure” on the transfer of biotechnologies for the production of innovative pharmaceuticals. And the created SEZ “Lotos” expects Hungarian producers-investors, which was announced at a meeting of the Russian-Hungarian intergovernmental commission on economic cooperation. At the moment, one of the residents of this economic zone is the Medintech company, which produces innovative self-destructing syringes of the third generation. By 2027, at least forty companies with a planned investment volume of more than 17 billion rubles are expected to participate.

The Russian pharmaceutical company “Selvim” (Belgorod) carries out the production of medicines in accordance with GMP standards has sold the rights to medicines under the Oralsept brand to the Hungarian pharmaceutical company Gedeon Richter. The Hungarian company acquired intellectual property rights to all forms of the drug, including distribution and marketing.

The development of Russian-Hungarian relations in the field of pharmaceuticals is also taking place at the regional level. Thus, representatives of the Hungarian company INNOMED MEDICAL and representatives of the Russian companies Vector-MS LLC, Sensor CJSC, Triton-Electronics LLC, European Medical Center UMMC-Health LLC and TRONITEK LLC met in the Sverdlovsk region. At the same time, an agreement was signed with the latter company on the supply of 10 thousand boards for medical equipment.

**Conclusion**

Strategic alliances are one of the effective instruments of penetration into the national market, which are welcomed by the authorities of the country and carried out in the form of direct investments. Strategic alliances in the field of pharmaceuticals are characterized by rather complex cooperative ties and the formation of joint companies. The development of strategic alliances in the field of pharmaceuticals is due to high costs in the field of R&D and uncertainty in their results, the need to quickly enter the market due to high competition in the market. Strategic alliances formed between Russia and Hungary in the field of pharmaceuticals make it possible to optimize R&D costs and minimize various types of risks, which makes it possible to ensure the stable position of the alliance not only in the Russian, but also in international markets, including through the introduction of biotechnologies. Strategic alliances in the field of pharmaceuticals allow us to develop the most promising innovative medicines that have shown high performance in preclinical trials and/or are in the second or third phase of clinical trials. The complexity of the functioning of strategic alliances is most often caused by the uncertainty of the business environment, which can neutralize the activities of states, including Russia and Hungary. Thus, it can be noted that the Russian-Hungarian strategic alliances in the field of pharmaceuticals will allow Russia, using the localization of production, to actively develop domestic biotechnologies, thereby developing import substitution and increasing exports of domestic medicines.
References


Bio notes / Сведения об авторах

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