Анотація. У статті аналізується загальна ситуація транснаціоналізації за кілька років, висвітлюються зміни під час початку пандемії, спричинені поширенням Covid-19. Визначено, що період з 1990 по 2020 роки характеризується коливальною динамікою інвестиційних потоків на глобальному рівні. Зазначено про вплив глобальних проблем на діяльність корпорацій у 2020 році. Основними зовнішніми факторами впливу на діяльність інвестиційного характеру корпорацій даного періоду є наслідки коронавірусної інфекції. За статистичними даними було представлено значне падіння інвестиційних потоків у 2020 році, однак завдяки діяльності транснаціональних корпорацій в боротьбі проти глобальної пандемії, було прогнозовано покращення ситуації в наступні роки. Провідними гравцями в боротьбі з пандемією серед ТНК було визначено корпорації фармацевтичного сегмента, внаслідок значного рівня залучення та співпраці з урядами, суспільством та бізнесом, як на національному, так і на міжнародному рівнях. Фармацевтичні транснаціональні корпорації відновили свою присутність у рейтингу найінноваційніших компаній у 2021 році за вкладеннями в НДДРК, значно покращивши позиції порівнюючи з минулими роками. За допомогою регресійної моделі, на прикладі фармацевтичної компанії, було продемонстровано залежність доходу корпорації від інвестицій у дослідження та розробки. Водночас у статті було використано статистичний, графічний та порівняльний аналізи. Зараз у статті аналізуються структурні зміни в компаніях щодо інвестування в дослідження та розробки заліз розуміння перерозподілу діяльності. Перерозподіл діяльності у міжнародних компаніях дозволила стверджувати про пандемію як стратегічну можливість для розробки нових продуктів фармацевтичних компаній, безпосередньо пов’язаних із боротьбою з коронавірусною інфекцією, створенням співпраці між компаніями різних рівнів та зміною сегментації в продуктовій лінійці. Своєчасне реагування на викиди пандемії та зміна тактики

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ІНВЕСТИЦІЙНА КОМПОНОНТА ТРАНСНАЦІОНАЛІЗАЦІЇ ПІД ЧАС ПАНДЕМІЇ COVID-19 НА ПРИКЛАДІ МІЖНАРОДНИХ КОРПОРАЦІЙ

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Анотація. У статті аналізується загальна ситуація транснаціоналізації за кілька років, висвітлюються зміни під час початку пандемії, спричинені поширенням Covid-19. Визначено, що період з 1990 по 2020 роки характеризується коливальною динамікою інвестиційних потоків на глобальному рівні. Зазначено про вплив глобальних проблем на діяльність корпорацій у 2020 році. Основними зовнішніми факторами впливу на діяльність інвестиційного характеру корпорацій даного періоду є наслідки коронавірусної інфекції. За статистичними даними було представлено значне падіння інвестиційних потоків у 2020 році, однак завдяки діяльності транснаціональних корпорацій в боротьбі проти глобальної пандемії, було прогнозовано покращення ситуації в наступні роки. Провідними гравцями в боротьбі з пандемією серед ТНК було визначено корпорації фармацевтичного сегмента, внаслідок значного рівня залучення та співпраці з урядами, суспільством та бізнесом, як на національному, так і на міжнародному рівнях. Фармацевтичні транснаціональні корпорації відновили свою присутність у рейтингу найінноваційніших компаній у 2021 році за вкладеннями в НДДРК, значно покращивши позиції порівнюючи з минулими роками. За допомогою регресійної моделі, на прикладі фармацевтичної компанії, було продемонстровано залежність доходу корпорації від інвестицій у дослідження та розробки. Водночас у статті було використано статистичний, графічний та порівняльний аналізи. Зараз у статті аналізуються структурні зміни в компаніях щодо інвестування в дослідження та розробки заліз розуміння перерозподілу діяльності. Перерозподіл діяльності у міжнародних компаніях дозволила стверджувати про пандемію як стратегічну можливість для розробки нових продуктів фармацевтичних компаній, безпосередньо пов’язаних із боротьбою з коронавірусною інфекцією, створенням співпраці між компаніями різних рівнів та зміною сегментації в продуктовій лінійці. Своєчасне реагування на викиди пандемії та зміна тактики

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INVESTMENT COMPONENT OF TRANSNATIONALIZATION DURING COVID-19 PANDEMIC ON THE EXAMPLE OF INTERNATIONAL CORPORATIONS

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Abstract. The article analyzes the general situation of transnationalization over several years highlights the changes at the beginning of the pandemic caused by the spread of Covid-19. It has been established that oscillatory investment dynamics characterize the period from 1990 to 2020 at the global level. The impact of global problems on the activities of corporations in 2020 is noted. The main external factors influencing the activities of the investment nature of corporations in this period are the consequences of the coronavirus infection. According to statistics, a significant drop in investment flows in 2020 was presented, but thanks to the activities of transnational corporations in the fight against the global pandemic, an improvement in the situation were predicted in subsequent years. Pharmaceutical corporations have been identified as the leading players in the fight against the pandemic among TNCs due to significant involvement and cooperation with governments, society, and businesses, both at the national and international levels. As a result, pharmaceutical multinationals resumed their presence in the ranking of innovative companies in 2021 in terms of investment in R&D, significantly improving their positions compared to previous years. With the help of a regression model, using the example of a pharmaceutical company, the dependence of a corporation's income on investment in research and development was demonstrated. At the same time, statistical, graphical and comparative analyzes were used in the article.

The article analyzes structural changes in R&D investment companies to understand the reorientation of activities. The reorientation in international companies has made it possible to assert the pandemic as a strategic opportunity to develop new products by pharmaceutical companies directly related to the fight against coronavirus infection, the creation of cooperation between companies of different levels, and a change in segmentation in the product line. Furthermore, a timely response to the challenges of the pandemic and a change in tactics allowed pharmaceutical companies to stay afloat and improve their financial performance, and the situation with investment flows in general.

Keywords: pharmaceutical corporations, investment, R&D, pandemic impact

Introduction. The present, as never before, reflects the importance of international economic relations in solving the global problems that the world faces in the twenty-first century. Transnational corporations are among the most important actors in solving global problems. A significant contribution to this statement is the pharmaceutical corporations fighting the pandemic and reducing the spread of coronavirus infection in the world. Research carried out after 2010 suggests the importance of the corporation’s investments in research
and development. Researchers Anion Higon and Manjon Antolin prove that multinational corporations have a higher return on investment in R&D than domestic ones [1; 2]. Peter J. Buckley and Gege Xiong have argued the importance of investment in R&D for the development of corporations. Interesting work and with a mathematical foundation is the researcher Geoffrey A. VanderPal [3]. The work substantiated a positive correlation between research and development costs and the company’s financial results [1; 4; 5].

The pandemic in 2020 led to changes in the strategies of companies and adaptation to new conditions of existence. The decline in investment flows on a global scale directly indicates a worsening situation with transnational corporations. However, it is impossible not to say about the corporations of the pharmaceutical segment, which are taking the leading positions from the beginning of 2020. Johnson & Johnson, Pfizer Inc., Bayer AG, Phillips N.V. show an increase in research and development spending in 2020. It allows to counteract the crisis within corporations and reorient its activities to segments with significant demand.

**Problem statement.** The purpose of the article is to consider the strategies of the activities of transnational companies during a pandemic. The following tasks were compiled from the goal: analysis of investment flows in the world over several years, and consideration of investment flows during the COVID-19 pandemic, analysis of the strategy of pharmaceutical companies, as well as the use of research and development costs of international companies as an integral part of improving their financial results. Various methods were used to achieve tasks: statistical, comparative, graphic. In addition, an analysis of a corporation's revenue dependence on these expenditures was used for a more accurate analysis of the relationship between the company's financial indicators and R&D costs. The model is based on annual data from the corporation:

\[
R = \alpha + \beta_1 \times RD, \quad \text{(1)}
\]

- \( R \) – the corporation’s revenue (in millions of US Dollars);
- \( RD \) – research and development expenditures (in millions of US Dollars);
- \( \beta \) – the coefficient to be estimated;
- \( \alpha \) – a constant term or parameter.

This model allows determining the degree of influence of regressor like R&D expenses on the dependent variable like revenue and analyzing the direction of its impact (direct or reverse).

**Results.** The basis of transnationalization is considered to be the flows of foreign direct investment at the global level. Figure 1 shows the overall trend in FDI flows from 1990 to 2020 inclusive. The trend line reflects the main phases of both significant growth and decline in the 2000s, 2007-2008, 2016-2018, and during the pandemic in 2020 [6; 7]. In the last phase, due to external factors, in 2020, there is a rather sharp decline in FDI. The main influencing factor is the COVID-19 pandemic.
Considering the regional division of investment flows, it is worth noting the relative stability over the years up to and including 2019. The leading group in terms of FDI volumes were developed countries, followed by developing countries, and transition countries occupied the last line. From 2010 to 2014, investment from developing countries approached developed countries due to the following factors: decreased flows to leading countries and increased investment in China, Thailand, Malaysia, and Indonesia. In 2015, the gap between these groups increased significantly due to the growth of investments in the European territory, where there was an increase compared to 2014 by 117%. Subsequently, this indicator began to decline and reached a stagnant level. The study of these indicators is essential in 2020 when the situation in the regions has changed. As a result of the fall in investment in Europe by 80%, the region’s share of developed countries decreased from 49% in 2019 to 31% in 2020.

On the other hand, the percentage of developing countries increased from 47% to 66%, with the absolute value of FDI being almost the same. This gap since 1990 is significant, since the previous (and only) one was in 2014, when the excess of FDI from developing countries led to the distribution of shares between developed and developing countries, 47.6% and 48.4%, respectively. It reflects the problem of the investment climate in Europe as a result of the pandemic. The most significant territories that have lost investment flows are the Netherlands, Cyprus, Italy, and Austria.

As indicated earlier, in 2020, the global economy faced a pandemic caused by the spread of the Covid-19 virus. The World Trade Organization predicted a decrease in world trade volumes by 9% in 2020 compared to 2019. Nevertheless, this reduction rate was reflected at the level of 5%, which indicates a more positive trend, which, in general, took place due to the confidence of enterprises in the improvement of the economic situation in the world through the release of more vaccines against coronavirus and the development of new ones at the end of 2020. However, the forecast for 2021 indicates a possible decline indicator trade by 8%, and in 2022, the slowdown may amount to 4% compared to 2021. Therefore, it is already a more favorable prognosis (compared to 2019); nevertheless, the consequences of the pandemic will still accompany the coming years [8].

The transition to the analysis of corporations occurs on the research of the first 50 companies in the 2021 ranking of the most significant contributions to R&D [9]. The first 10 of the rating mainly reflects representatives related to technology (6 out of 10). The expenses of these corporations are mandatory for their activities and are part of the competition on the market. Next are consumer goods corporations, which compete against a backdrop of
interfaces and innovation in the ease of using applications for customers. Further worth noting, despite the somewhat disappointing situation with the innovation component of corporations related to pharmaceuticals in the 2020 ranking, when Johnson & Johnson took 26th place, the situation changed in the 2021 ranking. Johnson & Johnson climbed six steps to rank 20th, while Pfizer Inc., after an absence in the ranking of 2020, returned to 10th place. In addition to Johnson & Johnson and Pfizer Inc. The 50 most significant contributors to R&D include the following pharmaceutical corporations Abbott Laboratories, Merck & Co, Novartis, Moderna Inc, Phillips N.V., Roche, AstraZeneca, Bayer AG. Ten pharmaceutical companies were included in the 2021 rating, six more than the 2020 rating. The companies AstraZeneca, Moderna Inc, Abbott Laboratories first time, appeared in the rating. Two of the three representatives who first entered this rating are known for their fight against coronavirus infection. These companies are engaged in the development and production of a vaccine against Covid-19. Pfizer Inc., Roche, Merck & Co returned to the rankings after the break.

In times of crisis and the spread of a pandemic, the pharmaceutical industry requires an incredible level of engagement and collaboration with government, society, and business, both nationally and transnationally. For example, Novartis Corporation has chosen the path of an intermediary by creating a global fund to support communities that have been negatively affected by the COVID-19 pandemic. The fund provided 20 million of US Dollars to support initiatives to tackle the pandemic. In addition, an accelerated process of considering possible initiatives was created by providing the 1 million of US Dollars investments worldwide based on the fund. At the same time, the Novartis Corporation, like its accomplice Johnson & Johnson, decided to join key cross-sectoral research and development initiatives to counter the pandemic [10].

Hence, Johnson & Johnson is the first company analyzed in this study. The main thing at the beginning of the study of companies is understanding the importance of R&D investments. R&D expenses are not only like an element necessary in the fight against coronavirus infection, the necessity of the existence of medical companies but and direct-action element on the corporation’s revenue. The relationship between a corporation’s revenue and R&D expenditure was identified by a regression model using the least-squares method (LSM). The regression model includes a regressor in the form of R&D expenditures and a dependent variable – revenue.

**Table 1**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>35.61905</td>
<td>3.613352</td>
<td>9.857620</td>
</tr>
<tr>
<td>RD</td>
<td>4.034796</td>
<td>0.392067</td>
<td>10.29108</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.913724</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R=35.61905+4.034796*RD

Source: author’s calculations, data from reports by Johnson & Johnson [11]

The constructed regression model allows us to understand the importance of corporate expenses for revenue. With an increase in R&D costs per unit, the corporation’s revenue will increase by 4.034796.

In addition, the evaluation of the regression model after the Granger test was carried out did not confirm the mutual causality of the elements in this corporation – therefore, the final version remains the regression by the method of the least-squares. However, the impact of R&D on the company’s revenue has been proven.
Over the years, the trend of growth in R&D expenditures of a pharmaceutical corporation has been reflected. Also, the average R&D expenditures from revenue from 2010 to 2020 amounted to 12.56%. In 2020, there was an increase in both the actual value of expenses and the revenue share compared to 2019. Despite this, this growth is not significant enough.

Nevertheless, the growth is due to several factors: firstly, the corporation was engaged in the development and introduction of a single-component vaccine against coronavirus infection, and secondly, it is the cost of the drugs based on the active substance – paracetamol. Hence, a new redistribution of the company’s sales by segments appears, confirming consumers’ reorientation. Sales in the skin and body care category declined by 3%, while sales of products for women’s health declined by 9%. At the same time, sales of over-the-counter drugs increased by 8.5% due to increased demand for drugs with the active ingredient paracetamol. The increased demand for the latter demonstrates a certain reorientation of the client segment and the company due to the pandemic.

The following pharmaceutical representative is Bayer AG, whose research is conducted mainly in Germany, the USA, Japan, China, Finland, and Norway.

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**Table 2**

<table>
<thead>
<tr>
<th>Time/Type</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D, million euros</td>
<td>4,274</td>
<td>4,405</td>
<td>4,504</td>
<td>5,105</td>
<td>5,301</td>
<td>7,126</td>
</tr>
<tr>
<td>Crop Science (ratio to revenue, %)</td>
<td>10.7</td>
<td>11.7</td>
<td>11.7</td>
<td>13.0</td>
<td>11.3</td>
<td>10.4</td>
</tr>
<tr>
<td>Pharmaceuticals (ratio to revenue, %)</td>
<td>16.0</td>
<td>16.7</td>
<td>16.2</td>
<td>15.5</td>
<td>15.6</td>
<td>15.5</td>
</tr>
<tr>
<td>Consumer health (ratio to revenue, %)</td>
<td>3.8</td>
<td>3.9</td>
<td>3.9</td>
<td>4.1</td>
<td>3.9</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Source: data from reports by Bayer AG [12]

Bayer AG increased its R&D spending annually from 4,274 million euros in 2015 to 7,126 million euros in 2020. Investments in pharmaceuticals account for the largest share of R&D expenditures from revenue, followed by crop science (as a resource) and consumer health last. The ratio to revenue of R&D expenditures in crop production has a repeating characteristic, except for 2018, when there was an increase of up to 13%. Pharmaceutical
costs have slightly decreased in relative terms, with stable absolute investments. At the same time, expenditures in the consumer health category had a reasonably stable indicator from 2015 to 2020. However, the growth in R&D expenditures is mainly reflected by revaluation and costs associated with the depreciation of assets in crop production. In addition, it is worth noting a decrease in the company’s total revenues in 2020 to 41,400 million against 43,545 million euros in 2019. The main problem of the decrease in the company’s sales is the consequences of the pandemic and the adjustment of transfer prices.

Nevertheless, the corporation is trying to get out of this situation by reorienting the product line. Significant losses are reflected in the MirenaTM product (since a significant part of private practices has been shortened due to the reorientation of doctors to urgent care). At the same time, sales of XareltoTM products and Cardio aspirin increased, preventing the negative consequences of Covid-19 disease. The most extensive ups in sales of these drugs are reflected in Europe and Russia. The decline in sales could also characterize low results in China as the leading market, where XareltoTM sales had not achieved relative to the forecast figures.

The corporation continues to cooperate with other companies due to oncological, cardiovascular, and gynecological, despite the demand decrease in 2020 (long-term prospects). For example, this is the partnership between Bayer AG and Arvinas to create Oerth Bio. In addition, collaboration with Dewpoint Therapeutics in biomolecular condensates and the acquisition of BlueRock Therapeutics, which is active in cell therapy [12; 13], have significant influence.

The company spent about 29 million euros in more than 60 countries to combat the pandemic. In addition, the company’s premises in Europe were provided as laboratories for research, and donations have been made to health funds. In addition, the company began investing in developing a vaccine against coronavirus infection in cooperation with the German company CureVac N.V. The company’s management approved the possibility of creating 160 million doses of the vaccine by 2022. However, by mid-summer 2021, the vaccine was not approved due to an efficacy of 47%, which is a low value [14].

Another corporation is Phillips N.V. demonstrates an increase in R&D expenditures. In 2019, expenses amounted to 1,884 million euros and in 2020 increased to 1,915 million euros [15]. This amount is 9.8% of revenue. The main components of the corporation’s expenses R&D can be distributed as follows:
1) Connected Care – 550 million euros;
2) Diagnostics and treatment – 891 million euros;
3) Personal health – 293 million euros;
4) Other – 181 million euros.

Investments directed to diagnostics and treatment make up a significant share. However, it should be noted that R&D spending increased in connected care in 2020. It can be attributed to increased demand and a rise in government-level orders for ventilators used to treat Covid-19. In April 2020, the US government paid the company 646.7 million of US Dollars (approximately 543.71 million euros) for 2,500 ventilators (started to use by the end of May and 43,000 by the end of 2020). It is important to note that there has been a significant increase in revenue from related segment operations: an increase in revenue from 267 million in 2019 to 708 million euros in 2020. It demonstrates the company’s reorientation in the 2020 pandemic year from diagnostics and treatment to connected care. At the same time, to counter coronavirus infections, the company has also begun investing in ultrasound systems to treat lung and heart complications associated with COVID-19. In addition, approval has been obtained to use the biosensor for wearing, helping to treat confirmed and suspected COVID-19 patients in the hospital and other programs.
It is, of course, impossible to circumvent the activities of one of the leading players against the pandemic. This representative is the pharmaceutical company Pfizer Inc., which for 2021 is the manufacturer of one of the most demanded vaccines, BNT162b2. The corporation’s investment in R&D has been growing since 2015, when the investment amounted to 7,690 million of US Dollars. In 2020, the amount was 9,405 million of US Dollars, which is 12 percentage points more than in 2019. The share of investments in research and development is more than 22% of the company’s revenue, which is two percentage points more than in 2019. At the same time, the company’s revenue grew to 41,908 million in 2020, up from 41,172 million of US Dollars in 2019. According to the territorial section, the leading position is occupied by the receipts of the revenue part from the United States; in 2020, it amounted to 51.8%. There was an increase of 1.79 percentage points from 2019. The second and third positions are occupied by developing countries and European countries, respectively. Nevertheless, in 2020, there is a decrease in revenue in these territories due to growth in the United States; there is a change in revenue concentration [16].

At first glance, it may seem that the revenue side of the corporation has grown due to the introduction of a vaccine against coronavirus infection at the stage of distribution. However, it is worth noting that this is not the case. Vaccine revenues are indeed reported by the corporation but were only 154 million of US Dollars, which is only 0.36% of the company’s total revenue. At the same time, the most significant part of the revenue comes from the introduction of drugs in the oncology section. Growth occurs in this category annually, and in 2018 the amount of revenues was 7,471 million, and in 2020 – 10,867 million of US Dollars (25.9% of the corporation’s revenue in 2020). In general, this corporation is an exciting representative for consideration because it seemed that its capabilities would grow only by investing in the fight against the pandemic, but the situation is somewhat different. Pfizer Inc. achieved a positive result and stayed thanks to another sector of its activity afloat. In this case, investment in R&D at earlier stages also played a role. In 2018, the company received a multi-year cooperation agreement with BioNTech SE and invested in the company in about 50 million of US Dollars. This amount is reflected in the 2018 report as the R&D expenses of the company. Investments were also associated with the purchase of shares in BioNTech SE, and, in general, cooperation was aimed at activities in the field of vaccination, namely, influenza. Thus, it simplified signing an agreement in 2020 with a German-born company to develop a vaccine against coronavirus infection. In 2020, the disbursed amount for R&D was 72 million of US Dollars.

At the same time, the German company BioNTech SE [17] had a significant increase in R&D spending in 2020 compared to 2019 due to the investment in the joint vaccine BNT162b2. As a result, the company’s R&D expenses increased by 185%, which is quite significant. In general, thanks to cooperation with the pharmaceutical giant, the company received another branch in the United States in 2020. In addition, cooperation with an American corporation and a representative of the cooperation regarding coronavirus infection in China (Fosun Pharmaceutica) has increased the company’s revenue by more than 300%. Nevertheless, the main direction of the company’s activity in 2020 should be considered the development of a vaccine, which led to an increase in the commercial part of the profit (sales) and revenue from research and development. The most significant impact on revenue is still the partnership with Pfizer Inc. The company’s revenue grew from 108.5 million in 2019 to 482.3 million euros in 2020. Revenue from the sale of covid-related vaccines amounted to 270.49 million euros. BioNTech SE data for the first half of 2021 shows an increase in R&D investment compared to the corresponding period in 2020, which is associated with the continued research and development of the BNT162b2 vaccine in collaboration with Pfizer Inc. At the same time, wages and social insurance expenditures were increased, which was a
significant part of expenses. Also, worth noting, we can expect an increase in revenue from the sale of the vaccine in 2021 due to its approval by more countries than it was in 2020 and an increase in demand for it as a result of trust in Pfizer Inc. brand.

Returning directly to Pfizer Inc, it is worth noting that in addition to cooperation in the fight against the pandemic, the company continues to expand cooperation with other companies to increase its efficiency in other segments. Thus, it allows the company to remain without significant losses during a pandemic. For example, it was agreed in 2020 to cooperate with Myovant on a cancer drug and CStone to address cancer needs in China with an investment of 200 million of US Dollars in the company’s capital [16]. These are just two agreements held in the second half of 2020, and there were more of them. In general, the rational distribution of the company’s resources allows it to be the leader in its field and be involved in several segments at the proper level at the same time.

Conclusions. Transnational corporations are an integral part of the 21st-century investment space. The period from 1990 to 2020 reflects the oscillatory dynamic trend of investment flows at the global level. In 2020, there was a decrease in investment flows by about 35%, a direct consequence of the pandemic. Heavy losses were suffered by the countries of Europe (especially such as the Netherlands, Cyprus, Italy, and Austria). However, at the end of 2020, analysts were talking about a more optimistic scenario than at the beginning of 2020; this was due to the intervention of pharmaceutical corporations in the course of events. The increase in companies that have embarked on developing and researching coronavirus vaccines has improved the optimistic expectations of entrepreneurs of all sizes. Hence, the importance of researching pharmaceutical companies in 2020. The most innovative company 2021 rating included six more corporations in the segment than was presented in 2019. The leading companies returned to the rating, and new ones were included (especially those involved in developing and supplying vaccines).

The importance of R&D spending for pharmaceutical companies was noted, so a regression analysis was carried out on the example of Johnson & Johnson. The obtained result made it possible to assert within the framework of this study the direct impact of R&D expenses on the company’s revenue.

Johnson & Johnson, Pfizer Inc., Bayer AG, Phillips N.V. increase their R&D expenditures from year to year. In general, it can be argued that each company has its way of overcoming crisis 2020. Johnson & Johnson and Bayer AG have made a certain reorientation of their grocery chain, relying on drugs necessary to treat and prevent coronavirus infection (drugs with the active substance paracetamol, prevention of heart problems). At the beginning of the pandemic, Bayer AG was more distant from vaccine production (as opposed to Johnson & Johnson, introduced a single-component vaccine); however, there is now an inevitable chain reaction, and therefore the company has also increased R&D spending, investing in collaboration to create its vaccine. Phillips N.V. focused its investments on the development and improved ventilators, for which there is significant demand at the state level, which can be traced in significant payments by states and orders on an ongoing basis. An Important actor of 2020 is Pfizer Inc. The corporation has begun to invest heavily in vaccine development by reporting this as R&D expenditure, yet this is not the primary revenue category for the company in 2020. Thanks to significant investments in oncology research, the company stayed afloat; here, it is worth talking about the rationality of the corporation’s investments and the reflection of these funds. Also, it is worth talking about the company’s relatively well-built strategic component in this case since the agreements concluded before 2020 now provide certain advantages. All companies that were investigated are all TNC, except BioNTech SE.

Nevertheless, BioNTech SE has undergone the most favorable results in 2020 and continues to do so. The company’s reorientation is that at the beginning, the company was
based on the treatment and research of drugs, influenza vaccines, but thanks to the successful cooperation with Pfizer Inc. in 2018, it reacted quickly to the challenge of a global problem. As a result, not only are the company’s research and development expenditures growing, but corporate revenues have grown quite significantly thanks to vaccine sales for Covid-19.

So, in this way, both the general situation with investment flows during the pandemic and the situation with individual corporations were demonstrated.


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ІННОВАЦІЙНИЙ РОЗВИТОК ЕКСПОРТУ ПОСЛУГ УКРАЇНИ В УМОВАХ МИРНОГО ТА ВОЄННОГО ЧАСУ

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Анотація. Система міжнародної торгівлі є одним із ключових драйверів розвитку світового господарства в умовах глобалізаційних процесів, яка передбачає наявність експорту-імпорту товарів та послуг. Незважаючи на велику кількість праць, присвячених дослідженню різних аспектів функціонування системи експорту, необхідно констатувати, що не достатньо висвітленою і вивченою залишається сфера експорту послуг. Важливість дослідження інноваційного розвитку експорту послуг України поглиблюється тим, що після повномасштабного вторгнення росії на територію України товарний експорт зазнав значного скорочення та потребує тривалого часу на його повне відновлення.

У статті розглянуто сутність експорту послуг крізь призму його чотирьох моделей, а саме: транскордонне надання послуг, споживання за кордоном, комерційна присутність, присутність фізичної особи. Проаналізовано структуру зовнішньої торгівлі послугами України у 2021 року та встановлено, що перспективною сферою експорту України в умовах сучасної