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CURRENT STOCK MARKET INDICATOR TRENDS AGAINST THE BACKGROUND OF COVID-19 AND THE RUSSIAN-UKRAINIAN WAR

Summary. *The scientific work analyzes stock indices and how they react to external changes. Characteristic features of the main world stock indices are highlighted and described, and possible prospects for their development are revealed. The article reveals the meaning of such concepts as stock indices, considers their essence, key indicators, as well as the impact of global problems on market fluctuations. The work is devoted to the study of some of the main problems of humanity during the last decade. The authors consider how Covid-19 and the Russian-Ukrainian war affected the stock markets. The work provides an analysis of the features and development trends of the main stock indices against the background of global events. The impact, economic and political consequences, possible threats caused by the pandemic and war, as well as prospects for the further development of the world economy are revealed. The study identifies the main problems and trends in the development of stock markets at the current stage.*

Covid-19 has shown how sensitive markets can be to global societal issues, including how it can significantly affect the global economy and stock indices. Also, an equally important problem considered in the article is the impact of the Russian-Ukrainian war on the economy and its further consequences are predicted. In general, the beginning of the full-scale armed aggression of the Russian Federation on the territory of Ukraine became a significant shock and challenge after the almost complete overcoming of the global Covid-19 pandemic. This discovery study examines the impact of the Covid-19 pandemic and war on USA, European, and East Asian stock indices. Our results show that changes in the background of Covid-19 and war had a significant impact on the Dow Jones, Nikkei 225, FTSE 100 and NASDAQ 100.

Key words: *international financial markets, stock indices, stock exchanges, the Covid-19 pandemic, Russian-Ukrainian war.*

Formulation of the problem. At the current stage of development of world economies, one of the most important roles is played by the stock market, which reflects the level of development of the country's economy in general. Sharp changes in economic and social life against the background of the unpredictable global pandemic of the coronavirus disease and the beginning of full-scale Russian armed aggression against Ukraine had a significant impact on stock markets around the world. Also, the existing circumstances caused a number of economic shocks, which are fundamentally related to other external factors, political and economic threats, and in fact they have a significant impact on the world economy. In this context, to prevent negative trends in the development of stock markets, empirical studies of the dynamics of world stock market indices are relevant.

Analysis of recent research and publications. Many domestic and foreign scientists were engaged in the study of trends in the development of world stock markets, major stock exchanges, as well as their indicators. Scholars who have studied this issue include Carol Alexander, a leading figure in the field of financial data analysis, brings many new insights to the pricing and hedging of options with her understanding of volatility and correlation, and the uncertainty which surrounds these key determinants of option portfolio risk [1]. We can mention Frank Fabozzi, one of the leading specialists in fixed interest securities and financial derivatives. His book, co-authored with Stephen Mann, outlines the basics of fixed income securities, describes methods of analyzing them, and provides an overview of bonds, promissory notes, mortgage-backed securities, and other financial instruments. In addition, the book describes new facts and formulas for the analysis, evaluation and management of securities [2]. A study by John C. Hull [3] is devoted to the general theory and practices of the functioning of stock markets. The scientific article by the authors Thirunavukarasu Anbalagan and Uma Maheswari examines the application of technical and fundamental methods in relation to index trend changes [4]. The impact of the global Covid-19 pandemic on the financial situation of countries has been studied in detail in the works of the following scientists: Bazhenova O. [5], Burakovsky I. [6], Kalinkova I. Yu. [7], Shepetilo O. [8].

The task of the article is to determine the leading modern trends of stock market indicators and their volatility against the background of global social changes against the background of the coronavirus disease pandemic and the Russian-Ukrainian war.

Research results. With the beginning of the war, various states began to introduce global economic measures to support the economy. These measures had a fundamental impact on the activities of enterprises and the economy in general. There was a decline in the pace of national economies and stock markets. In general, this situation led not only to the closure of some enterprises, but also to the curtailment of the activities of entire stock exchanges in the territory of the aggressor country. Against the background of these events, we decided to investigate the current trends of stock market indicators and outline the key factors that influence their volatility.

Stock market indexes show how investors feel about how the economy is doing. The index collects data from different companies in different industries. Together, this data forms a picture that helps investors compare current price levels with past prices to calculate market performance. Stock price index forecasting is an important part of stock investing. Due to the high volatility of the stock market, it is extremely difficult to predict the trend of the share price, since, as a rule, the numerical values of the indices do not make sense. The most important thing is the changes of these indices in the time dimension, because it allows you to determine the vector of market development. Therefore, depending on a number of values, stock indices may reflect the behavior of some securities or the market as a whole [7].

The Dow Jones Industrial Average is a stock index that tracks the 30 largest companies in the United States. Created on May 26, 1896, it is one of the oldest stock indexes and its performance is considered a useful indicator of the health of the entire US stock market. It was created by the editor of the newspaper The Wall Street Journal and the founder of the company "Dow Jones & Company" Charles Dow to track the development of the American stock markets. The Dow Jones Industrial Average is managed by S&P Dow Jones Indices, a joint venture majority-controlled by S&P Global, a financial information and analysis company.

Initially, the index was calculated as the arithmetic average of the share prices of the 12 largest companies. Currently, the average value or weighted average value of the shares is used for the calculation to maintain the comparability of the index, taking into account changes in the internal structure of the shares included in it. The Dow Jones Industrial Average includes not only industrial stocks, but also stocks in most sectors and industries, with the exception of utilities and transportation, which are measured by other indexes such as the Dow Jones Transportation Average.

According to S&P Global, the Dow Jones Industrial Average is "the world's leading measure of the US equity market." Most companies in the Dow Jones Industrial Average are traded on the New York Stock Exchange. November 26, 2021 [8]. The Dow Jones fell by 2.5% to 34,899.34 amid reports of the spread of a new strain of the omicron coronavirus. This is evidenced by the data of the New York Stock Exchange. This is the largest one-day percentage drop for the index since October 2020. Other major American indices also fell seriously. The S&P 500 fell 2.3% to 4,594.62 points, the Nasdaq fell 2.2% to 15,491.66 points. For all three indexes, this is the biggest drop on "Black Friday" in the history of trading - usually this day has a positive effect on the stock exchanges due to a sharp jump in consumption [9].

As you know, the Dow Jones Industrial Average includes not only industrial stocks, but also stocks in most sectors and industries, with the exception of utilities and transportation, which are measured by other indexes such as the Dow Jones Transportation Average.

Before the start of a full-scale war, this index constantly fluctuated against the background of the threat of armed aggression. Only during the period from February 1 to 24, it fell by 2,400 points. This was also preceded by a constant escalation of the situation from all sides: every day, analysts predicted a new date for the start of the war, and stock indices reacted to it.

After the start of the war, surprisingly, the Dow Jones index gradually began to rise. But over time, the growing awareness among investors of the inevitable, destructive consequences of the war for the world economy accelerated the fall of stock indexes and the simultaneous rapid growth of prices for energy carriers, metals, and agricultural products. Investor sentiment worsens as hostilities in Ukraine persist, civilians and civilian infrastructure continue to suffer, and Western sanctions against the aggressor country tighten. News about the Russian shelling of the Zaporizhzhya NPP, the siege of Mariupol, and the consequences of Russian military operations in the Kyiv region had a significant impact on the markets. It was after the whole world saw photos of the atrocities committed by the Russian military in Buch, Irpen, Borodyanka, Gostomel and other cities of the Kyiv region that the Dow Jones index began to rapidly collapse again. Currently, it undergoes constant fluctuations with an amplitude of about 1000 points per week, which is an abnormal condition for financial markets.

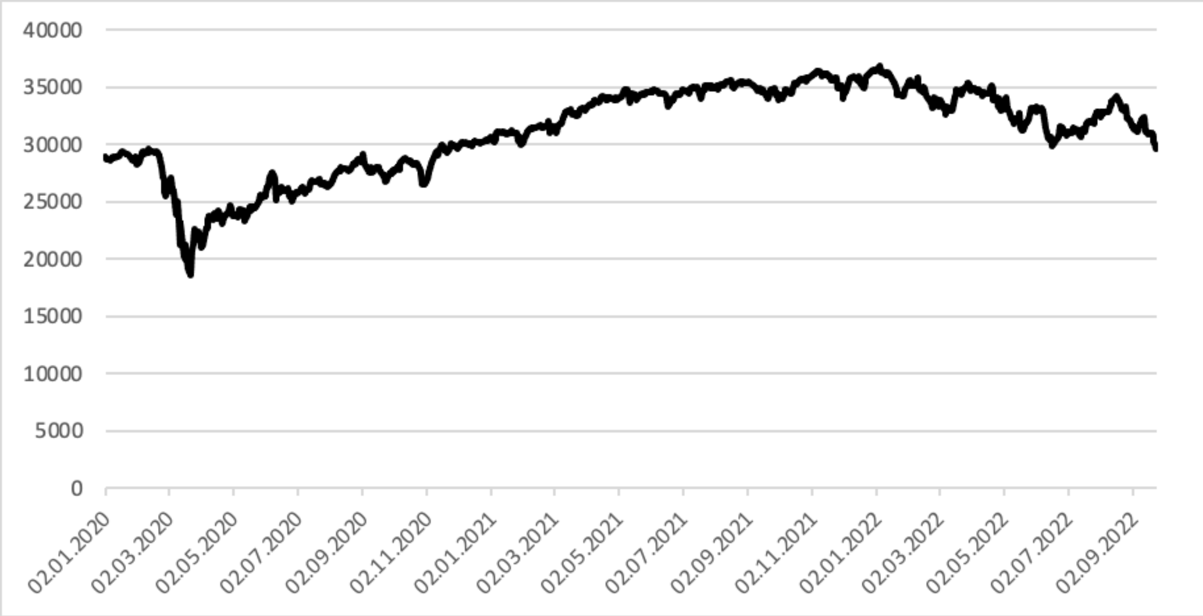

Diagram 1. Dynamics of the Dow Jones index

Source: compiled by the author based on data [10]

The Nikkei 225 index is one of the most important stock indices in Japan. The index is calculated as a simple arithmetic average of the share prices of 225 companies that are most actively traded in the first section of the Tokyo Stock Exchange. The index was first published by the Tokyo Stock Exchange on September 7, 1950. Since 1970, the index has been calculated by the Japanese newspaper Nihon Keizai Shimbun (Japanese Economic News). The name of the index comes from the abbreviated name of the newspaper - Nikkei. Thus, on January 19, 2022, the key index of the Tokyo Stock Exchange Nikkei fell by 2.8% following the results of trading environment against the background of information about the rapid spread of the new coronavirus in Japan [11].

Thus, compared to the level of January 18, 2022, the Nikkei index decreased to 27,467.23. The broader TOPIX index, reflecting the share prices of all companies of the elite first section of the stock exchange, decreased by 2.97%, to 1919.72 points. Meanwhile, the dollar exchange rate against the yen strengthened by 0.54% and reached the mark of 114.23-114.25 yen per dollar, which was beneficial to large Japanese corporations that focus on foreign markets [12].

We can note that this index reacted more sharply to the threat and the beginning of full-scale aggression. In February alone, it fell by almost 3,000 points, experiencing serious fluctuations, in March this indicator rose sharply, but this trend was short-lived, together with the new horrors of the war, its volatility reached its maximum and now it continues to collapse, then rise, conveying not only the mood of the market, but also of society.

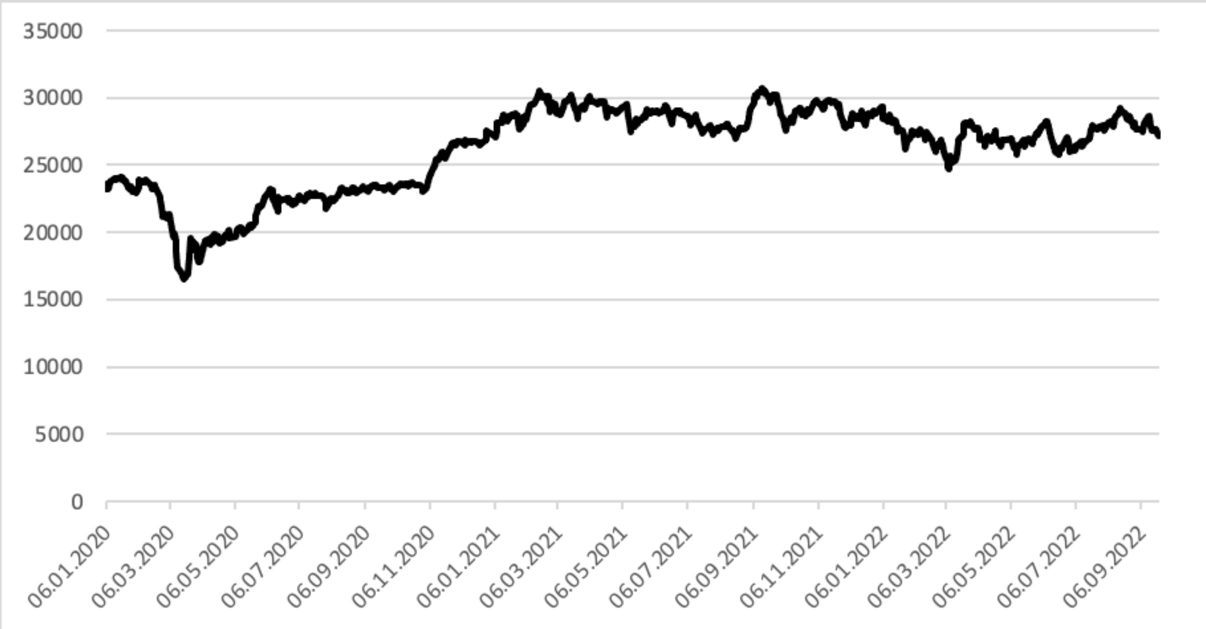

Diagram 2. Dynamics of the Nikkei 225 index

Source: compiled by the author based on data [13]

The FTSE 100 index (Financial Times Stock Exchange Index) is a stock index calculated by the Financial Times agency. It is considered one of the most influential stock market indicators in Europe. Started calculating on January 3, 1984 from the level of 1000 points. The index is based on the share prices of 100 companies with the largest capitalization listed on the London Stock Exchange.

November 26, 2021 The index of the London Stock Exchange fell to a maximum of 3.64% for the year after the end of trading on Friday amid fears that the new strain of the coronavirus discovered in southern Africa may be more contagious than previously known variants. As a result, the FTSE 100 fell 266 points to 7,044, its lowest level since 6 October 2021.

The broader FTSE 250 index fell 3.19% to 22,537 points. In particular, the value of shares of companies from those industries that may be most affected after the introduction of additional coronavirus restrictions due to the discovery of the strain in southern Africa significantly decreased. Thus, quotations of the German tour operator TUI ("Tui") fell by 9.8% on the London Stock Exchange, and the shares of the airlines EasyJet, IAG and Wizz Air - by 12.1%, 14.6% and 15.2%, respectively.

In addition, the discovery of a new type of coronavirus in South Africa led to a fall in the shares of the largest British banks Lloyds Banking Group, HSBC and Barclays - by 4.4%, 6.7% and 7%, respectively. As analysts emphasized, the decline in bank quotations occurred due to the fact that against the background of the pandemic situation, the Bank of England, which performs the role of the central bank in the United Kingdom, is unlikely to raise the base interest rate, which is currently at the level of 0.1% [14].

Regarding the changes on the eve of the war, the changes of this index were not as sharp as those of the indices we talked about earlier. Over the entire period under review, it fell by less than 70 points. At the same time, the biggest drop did not occur on February 24, as it was expected, on March 5, when the consequences of this war became clear to everyone. In the future, it began to gradually grow, but it is still characterized by high volatility.

The London Stock Exchange also experienced significant fluctuations after the death of Queen Elizabeth II. This news came as a surprise not only to millions of people, but also to the economic world. The FTSE 100 index fell sharply on Thursday afternoon following the Queen's deteriorating health. After the official announcement of the Queen's death, the stock exchange closed.

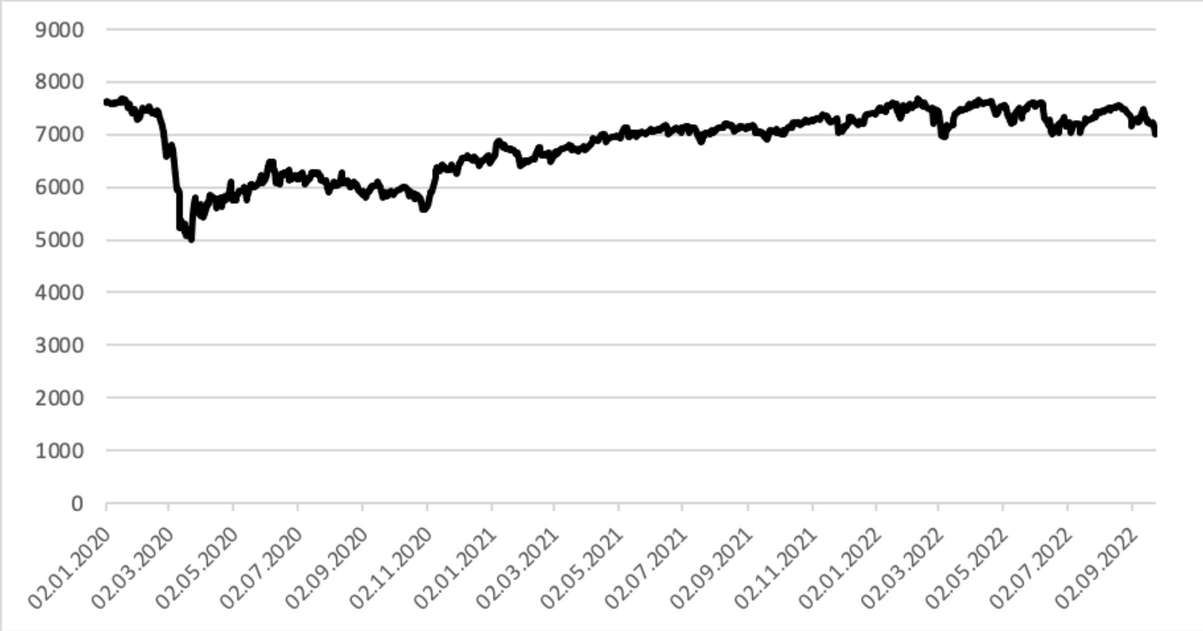

Diagram 3. Dynamics of the FTSE 100 index

Source: compiled by the author based on data [15]

Although the global coronavirus (COVID-19) pandemic caused all major stock market indexes to fall sharply in March 2020, both the extent of the fall at that time and the shape of the subsequent recovery varied widely. For example, on March 15, 2020, major European markets and traditional stocks in the United States fell by about 40 percent of their value compared to January 5, 2020. However, Asian markets and the NASDAQ Composite Index fell by only 20 to 25 percent of their value. A similar story can be seen with recovery after the coronavirus. As of November 14, 2021, the NASDAQ Composite Index was about 65 percent higher than in January 2020, while most other markets were only 20 to 40 percent higher. According to analysts, NASDAQ recovered faster than other indicators. In our opinion, this is due to its main characteristics. As you know, based in New York, NASDAQ is considered a proxy for the technology industry, as many of the world's largest technology industries are located there. In the era of the pandemic, the technology industry in many countries around the world was the sector that showed the best profitability results.

Accordingly, many of the biggest companies that have benefited the most from the pandemic, such as Amazon, PayPal and Netflix, are listed on NADSAQ, helping it recover faster than other stock exchanges in the world [16].

On diagram 4 It is shown that the NADSAQ index also experienced a sharp decline around the same time as the Dow Jones index (the period of the first global wave of Covid-19). Thus, the lowest value during the pandemic was recorded on 20.03.2020 in the amount of 6994.29 points. The rate of recovery has the best trend.

Diagram 4. Dynamics of the NADSAQ index

Source: compiled by the author based on data [17]

We cannot say that the dynamics of changes in this index are somehow significantly different from the previous ones. The NADSAQ also experienced a sharp decline around the same time as the Dow Jones. It reached its lowest point in mid-July, then began to recover gradually and fell sharply again. This trend continues to grow.

Also, back in March, NASDAQ, the New York and Frankfurt stock exchanges suspended trading in shares of Russian companies due to the invasion of the Russian army into the territory of Ukraine. At the same time, American stock exchanges announced the suspension of stock trading on March 1, and Qontigo, owned by Deutsche Borse, will exclude 61 Russian companies from the Stoxx indices on March 18. The NASDAQ exchange excluded shares of HeadHunter Group PLC, Ozon Holdings PLC, Qiwi PLC, Yandex and Nexters Inc.

We can also note that although the global coronavirus pandemic (COVID-19) caused a sharp drop in all major stock market indices, both the extent of the drop at that time and the shape of the subsequent recovery varied greatly. Therefore, it is difficult to predict how they will recover after Ukraine's victory in the Russian-Ukrainian war. It is clear that many companies were affected, because they left the Russian market and lost a share of consumers. In addition, many economic measures will be directed to the post-war recovery of Ukraine and its economy.

Equally important is maintaining the credit rating of our country. In May, the international agency Moody's Investors Service reduced the long-term ratings of the government of Ukraine from Caa2 to Caa3. Moody's also changed the negative forecast of ratings that are under review.

The downgrade to Caa3 is due to increased risks to the sustainability of Ukraine's public debt due to the invasion of Russia, which will lead to a longer military conflict than Moody's expected, increasing the likelihood of debt restructuring and losses to private creditors.

At the same time, Moody's notes that Ukraine receives funds from international financial support, which help mitigate immediate liquidity risks. However, this is associated with a significant increase in the state debt.

The negative outlook reflects a high level of uncertainty about how the Russian invasion will develop and what its credit implications will be. A protracted military conflict following the Russian invasion will maintain very high financing needs for a long period of time and lead to further increases in the debt burden. Hence, compensation by investors in case of default.

Conclusions. Thus, such phenomena as a global pandemic or war have a direct impact on the state of the stock market, since the economies of most countries in the world are closely tied to each other and have entered a crisis period. The war in Ukraine caused the decline of the economy and financial condition of a number of countries, the reduction of jobs, the closure of enterprises and firms, and the devaluation of national monetary units. This especially affected the Russian Federation, because almost all the countries of the world have now directed their work and sanction measures to reduce and, as a result, the economic power of Russia. Stock markets are very sensitive to such events, they reflect all economic, political and social moods of society. Because of uncertainty, which is the main problem today, it is too difficult to make predictions about the future development of the stock markets, because it is almost impossible to say when the war will end and what awaits the world after it. However, it is possible to determine the main factors that influence the trends of stock indices, which are the state of the money market, in particular the size of the interest rate of the Federal Reserve System, inflationary expectations and market sentiment regarding employment, information about military events and victims of this war. In our opinion, in order to end the war as soon as possible, the political and financial system should direct its resources to the economic and military support of Ukraine and apply certain measures to suppress the economy and the system of financial markets of the Russian Federation.

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