

Operation and use of exchange-traded investment funds

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Abstract. The application of traditional portfolio theory and classical methods of financial mathematics, which still represent the optimisation of an investment portfolio, is often unattainable for a wide range of investors. Therefore, the goal was to investigate the latest tools and fund approaches to investing. A comparison between the selected financial instruments had been made using systematic analysis. Information platforms (Google finance) have been used to obtain input data. The article examined the functioning and use of exchange-traded investment funds as an integral part of any modern economic system, without which an efficient allocation of resources is impossible. The index approach to investment, its advantages and disadvantages had been proposed and considered. The issues of predicting the movement of prices of financial instruments in the stock markets and forecasting their profitability had been identified. The article analysed the main investment directions, which can be used to form an investment portfolio. The financial instrument proposed and considered is the exchange-traded investment funds, which combine the best features of stocks and mutual funds, namely, equity funds, as an alternative to the traditional approach to the formation of an investment portfolio, and the opportunity to participate in the realisation of a complex investment process through a single transaction. The article considered opportunities for investment in the global financial markets in Ukraine, according to the S&P 500 and Nasdaq indices. The practical value of this study is to facilitate the search for new ideas for investing, suitable for beginners and professional investors and traders

Keywords: investment; stock market; financial instruments; stock indices; types of mutual investment funds

Introduction

The stock market is not only a place where investors can provide themselves with a steady passive income and thus support the economic situation, but also one of the main branches of trade. The development of the stock market is directly linked to the overall position of the national economy, the achievement of economic goals, and the evolution of the domestic financial market and banking system. A wide range of financial instruments and opportunities for earning money in the financial markets does not provide significant guarantees for the safety of savings for investors who do not aim to develop in this area or do not have sufficient knowledge. The stock market offers innovative instruments that can be used to effectively hedge financial investments, i.e. reduce the operational risks of financial assets, namely investing in exchange-traded funds (ETFs).

According to the researchers I. Morhachev *et al.* (2020), who compared investment funds with pyramid schemes,

mutual funds are also a type of pyramid scheme, but they can be created on the basis of sustainability principles that are opposite to the rules of fraudulent pyramid schemes. This contrast allows to develop sustainability principles for real business projects to create investment funds. The scholars S. Esh & A. Honcharenko (2020) in their work came to the conclusion that stock exchange markets play an important role in the modern economy of the country, ensuring the mobilisation of investment resources and their allocation in accordance with the directions of development. Business activity generates liquidity for investors, issuers and financial intermediaries. This helps investors to build an effective investment portfolio of securities. The researchers O. Vinichenko & M. Hrybkova (2021) noted that the impact of hedge funds on the global economic system is threefold. This is due to the influence of hedge funds on the growing global economy, which also effects the

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activities of hedge funds, allowing non-professional traders to take advantage of the opportunities available in the world. The authors N. Krasnikova & O. Benenson (2019) analysed and determined that shares of ETFs have a number of advantages over ordinary shares of corporations and over units of ordinary mutual funds.

J.C. Bogle (2015), an American investor, stated that the winning investment strategy is to buy shares of all national companies listed on the market at the lowest price. In this way, it is guaranteed to receive almost all the income generated by issuers: in the form of dividends and through the growth of the value of shares, and notes that the best way to implement this strategy is to invest in a fund that has such a portfolio of shares and encourages never to leave it. L. Ostapiv (2021) studied the work of the iPlan investment company and its community. The problems and peculiarities of the use were covered by the investment channel UkrInvestClub and Ukrainian speaker O. Tyhomyr (2023). Despite the significant achievements of these scientists, the nature and timing of the application were not sufficiently clarified. The aim was to define the nature of the financial instrument described by the combination of the term ETF and to find out the reasons for its rapid spread in the post-crisis global financial market.

■ Materials and Methods

This study used several approaches to analyse the functioning and performance of ETFs, such as the Vanguard S&P 500 ETF and the Invesco QQQ Trust, which are focused on the key stock indices NASDAQ Composite and S&P 500. The main emphasis was placed on comparing the long-term dynamics of these ETFs and their compliance with the general trends of market indices. Literature sources were analysed, namely, a systematic review of scientific articles, analytical reports and publications on ETFs was conducted to identify the key factors that affect their functioning. Using a systematic approach, the article clarified what an ETF financial instrument is, the history of its emergence, its spread in the post-crisis period, and its relevance. Based on this material, the article identified positive aspects for choosing this instrument and certain limitations of its use. The article compared different types of ETFs by the key indicators (high-risk, low-risk, regional, global ETFs).

Exchange data on the volume of transactions, pricing and liquidity of ETFs were used to assess their performance. The systematic analysis allowed to compare existing indices that are calculated taking into account the overall performance of stocks and other assets that make up their composition and therefore serve as benchmarks for assessing the state of a particular market or sector. The NASDAQ Composite and the S&P 500 are the two flagship indices of the US economy with the highest growth rates. These two indices are targeted at investors with different risk tolerances and long-term financial goals. Quantitative analysis: data on ETF prices, historical returns,

volatility, and their correlation with the NASDAQ Composite and S&P 500 indices were analysed. Using the replication method, two ETFs were selected that fully duplicate the selected indices. These are Vanguard Index Funds – Vanguard S&P 500 ETF and Invesco QQQ Trust on the Nasdaq index. Correlation analysis: the relationship between ETF returns and changes in the NASDAQ Composite and S&P 500 indices was assessed. This allowed to assess how effectively the funds reflect changes in the major market indices. Portfolio simulation: an online service for analysing investment portfolios to simulate what a portfolio would look like in three years based on selected ETFs was used.

The following tools were used for the analysis. Financial platforms: data on historical prices and yields of ETFs and indices were obtained from platforms such as Google finance (2024a; 2024b). Portfolio analysis websites: the Portfolio Visualizer (Tools for better investors, n.d.) portfolio simulation platform was chosen, by collecting statistical data and organising it on an analytical website, the authors were able to summarise and compare what a portfolio would look like if invested in certain assets. The first stage involved collecting data on historical prices, yields and other indicators of ETFs, as well as data on the NASDAQ Composite and S&P 500 indices. At the second stage, the data was analysed to identify trends, patterns and performance of ETFs compared to the indices. At the third stage, a simulation of the investment portfolio was conducted using the Vanguard S&P 500 ETF and the Invesco QQQ Trust to estimate potential returns in three years.

■ Results and Discussion

Stock markets are an integral part of any modern economic system, without which an efficient allocation of resources is impossible. And the issues of anticipating the price movements of financial instruments in the stock markets and forecasting their profitability were of interest to capital market theorists and practitioners. A universal type of financial instrument emerges on the market – exchange-traded funds (ETFs), which are a type of securities traded on an exchange and act as a certificate for a portfolio of shares, bonds, and stock exchange tokens. The history of ETFs dates back to 1989, when the first ETFs began trading on the US market. Initially, ETFs were available only to large institutional investors – investment banks, hedge funds and insurance companies. The ETF boom at the end of the 20th century allowed non-professional market participants to take advantage of them, and the instrument quickly became popular among individual investors. According to Barclays, the main investment group, (What is an ETF?..., n.d.) by 2007, about 60% of ETF trading was carried out by individual investors. The main countries where individual investors include ETFs in their portfolios are the United States, Germany, the United Kingdom, Switzerland and France. In the United States, individual investors account for 50-60% of total assets under management in ETFs, while in Europe this figure is much lower, at 10% to

15%, but institutional and individual investors around the world still use this mechanism.

One of the driving factors behind the popularity of mutual funds is the broadening of the term mutual funds, which provides investors with a wide range of options. The first mutual funds focused primarily on the stock market. Established in 1993, the oldest and largest fund, SPDR S&P 500, is based on an index with assets of, as the name suggests, \$127 billion (Kunin, 2014). It is a modified version of the index contract based on the shares of companies included in the S&P 500 index of the New York Stock Exchange. Between 2000 and 2022, assets under management increased 24-fold (an average annual growth rate of 33%). The total number of ETFs traded in the major markets of the United States, Europe and Asia exceeds 4,700 organisations (Balchunas, 2022). ETFs not only cover almost all types of assets available on the global stock market and represent the interests of investment funds, but also provide individual investors with the opportunity to participate in the implementation of complex financial strategies through a single transaction. Some ETFs provide individual investors with the opportunity to make trades and invest in falling stock indices, while others offer global exposure to specific sectors of the global economy, such as the SPDR Dow Jones Global Real Estate ETF (ETF ticker: RWO).

One of the most important positive aspects of investing in ETFs is the ability to diversify by any asset class, industry, region and currency using ETFs, which helps reduce volatility risk and potentially improve investment performance. ETFs allow investors to invest in the financial markets of specific countries (the United States, Europe, Asia, etc.) or specific market segments (stocks, bonds, commodities) by purchasing only one financial asset rather than buying several individual instruments. Another positive aspect is low management costs. ETFs are based on the principles of index investing, which offer low management fees comparable to those of mutual funds or common funds: from 3% per annum of the net assets of an exchange-traded index fund (ETF). Financial investments are highly liquid. ETFs can be bought and sold throughout the day on the exchange on which the ETF is listed and traded, and ETF quotes may be provided on a regular basis. ETFs are bought and sold through Standard Bank or online banking. The availability of managed ETF assets is important. Unlike mutual funds, the asset structure of ETFs is published daily. Transaction opportunities are also an important positive aspect of investing, as ETFs can be bought and sold like ordinary shares, with available stops and limits, and leveraged buying. Conventional indices and mutual fund shares do not have this option. It is possible to build a variety of investment portfolios, regardless of the initial investment size. Prices for a single ETF share range from USD 300 to USD 800, allowing even individual investors with small amount of capital to build a balanced portfolio without the need to use other complex strategies or instruments (Kunin, 2014).

Some limitations that arise when using ETFs should be considered. For example, transaction costs. Each trade with ETFs is subject to mandatory brokerage and exchange commission. When some ETFs are not liquid, there may be a large spread between the purchase and sale price. When choosing an ETF, it is necessary to take into account its weight. A limitation is the difference in the structure of the ETF and the market index. Funds often include some giant stocks, which can eat up a disproportionate share of the market, and their performance will have a proportionately large impact on the performance of the portfolio. It may also include companies that are not attractive to investors but meet the fund's criteria and are included in the index. As a result, the volatility of the funds remains and diversification is reduced. Before investing in a fund, it is important to carefully study the composition of the index and the corresponding ETF. There are taxation issues, the main reason for which is the payment of dividends. Most of the presented brokers only care about taxation on foreign liabilities.

It is impossible to understand the characteristics and features of an ETF without understanding the characteristics of the offer and the legal basis on which the issuer operates the instrument. ETFs that reproduce a certain index (DAX, S&P 500, MSCI Emerging Markets, DJIA) act as ETF issuers and are freely traded on the stock market, just like ordinary shares and other securities. In the United States, the vast majority of assets in ETFs are held by funds that are regulated by the Securities and Exchange Commission under the Investment Company Act of 1940. However, mutual funds lose many of their inherent functions when they are registered. Investment funds can be organised in the form of an investment trust. In the European stock markets, ETFs are issued in accordance with the UCITS (Commitments for Collective Investment in Transferable Securities) Directive (Chen, 2024). The characteristics of the funds issued under the directive are that they are open to individual and institutional investors, have close supervision of assets, strict risk management rules and standardised behavioural procedures for cooperative management. It is suggested to consider the most popular ETFs on the S&P 500 and Nasdaq indices, namely VOO – Vanguard S&P 500 ETF and QQQ Invesco QQQ Trust ETF. Figure 1 analysed the performance of the S&P 500 index, a stock index comprising 503 shares of 500 selected public companies traded on US stock exchanges with the largest capitalisation. The list is owned and compiled by Standard & Poor's.

The chart showed the growth over the past 5 years, which is $5,477.08 + 2,535.32$ (86.18%). The NASDAQ Composite is a stock index composed of common stocks and similar financial instruments of all companies traded on the NASDAQ Stock Exchange as shown in Figure 2. Often referred to simply as "NASDAQ" or "NASDAQ index". It has been calculated since 1971, with an initial value of 100 points.

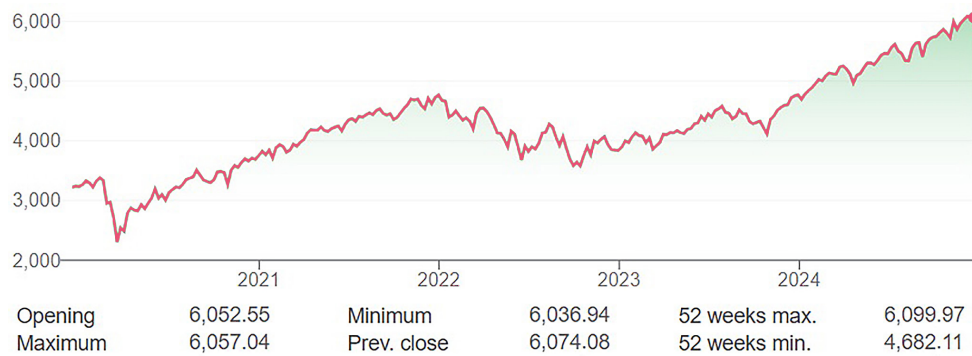


Figure 1. The state of the S&P 500 index

Source: Google finance (2024a)

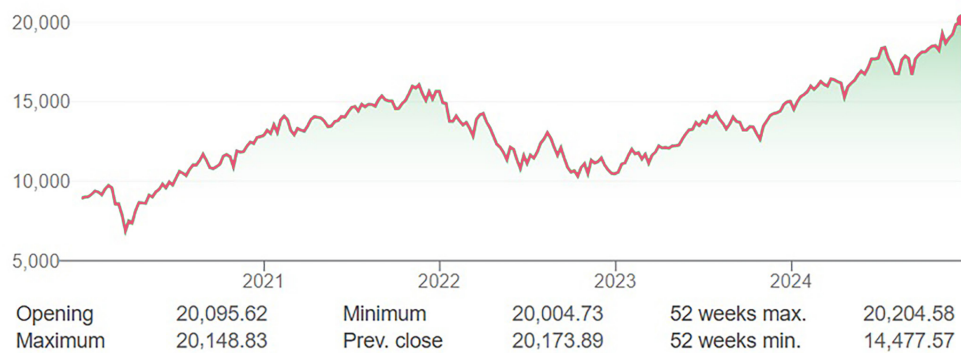


Figure 2. The state of the NASDAQ index

Source: Google finance (2024b)

The chart showed the growth over the past 5 years, which is $17,822.72 + 9,816.48$ (122.61%). The ETF called Vanguard Index Funds, an ETF created and managed by The Vanguard Group, Inc. The fund invests in the public equity markets of the United States. The Fund invests in equity securities of companies operating in a variety of sectors. The Fund invests in equities of large-capitalisation companies. It seeks to track the performance of the S&P 500 Index using a full replication technique. Vanguard Index Funds – Vanguard S&P 500 ETF was established on 31 August 1976 and is based in the United States. This investment aims to track the performance of the Standard & Poor’s 500 index,

which measures the return on equity investments (Seeking Alpha, 2024a). One unit of this ETF costs USD 501.27. Figure 3 showed how much of the money will be invested and in which sector. Table 1 showed how much money was invested in individual companies. When an ETF is purchased, it automatically invests in 6.96% of Microsoft shares, 6.30% of Apple shares, etc. In total, 34.07% is invested in the top 10 companies. In addition to these companies, there are 407 other companies, but only a very small portion of the funds is invested in them. Compared to the index itself, the ETF has returned 85.71% and the index 86.18%, which is roughly the same as the index itself over 5 years.

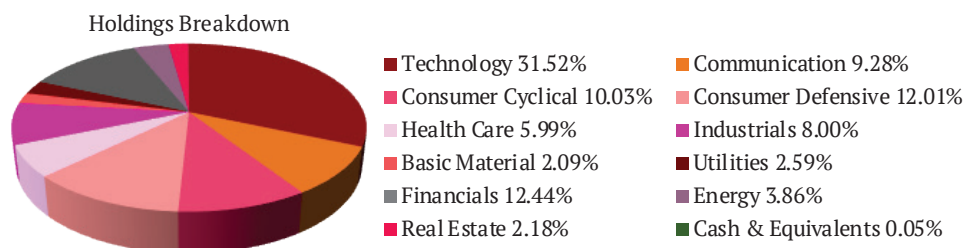


Figure 3. Breakdown of holdings of Vanguard Index Funds ETFs

Source: Seeking Alpha (2024a)

Table 1. Top 10 holdings of Vanguard Index Funds ETFs

Top 10 holdings	
Microsoft Corp	6.96%
Apple Inc	6.30%
NVIDIA Corp	6.11%
Amazon.com Inc	3.64%
Meta Platforms Inc, class A	2.32%
Alphabet Inc, class A	2.29%
Alphabet Inc, class C	1.94%
Berkshire Hathaway Inc, class B	1.70%
Eli Lilly and Co	1.48%
JPMorgan Chase & Co	1.32%
Total of	34.07%
Number of holdings 507	507

Functions as of 31.05.2024

Source: Seeking Alpha (2024a)

This example showed an ETF called Invesco QQQ Trust, Series 1, which is an ETF established by Invesco Ltd. The fund is managed by Invesco Capital Management LLC. The fund invests in public equity markets in the global region, in shares of companies operating in the energy, real estate, materials, industrials, consumer staples, healthcare, information technology, communications, and utilities sectors. It invests in large-cap equities. It aims to track the

performance of the NASDAQ-100 index using a full replication technique. The Invesco QQQ Trust, Series 1 was established on 10 March 1999 and is located in the United States. The investment seeks results that generally correspond to the price and yield performance of the NASDAQ-100 Index (Seeking Alpha, 2024b). One unit of this ETF costs USD 481.00. Figure 4 showed how much of the money will be invested and in which sector.

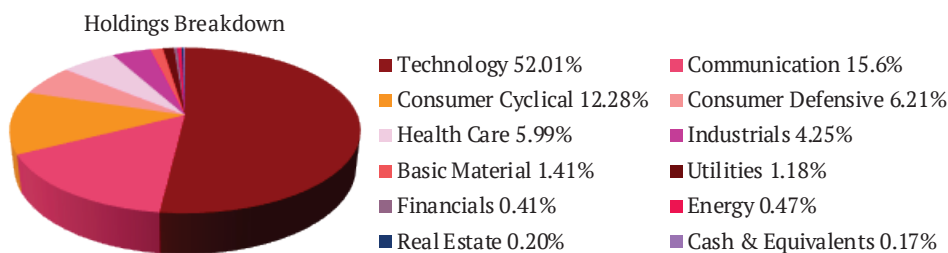


Figure 4. Breakdown of holdings of the Invesco QQQ Trust ETF

Source: Seeking Alpha (2024b)

Table 2 showed how much money is invested in individual companies. One ETF purchase automatically invests 8.70% in Microsoft shares, 8.46% in Apple shares, and so on. In total, 50.48% is invested in the 10

largest companies. Compared to the index itself, the ETF's return is 157% and the index's return is 122.61%, which is better than the return of the index itself over a five-year period.

Table 2. Top 10 holdings of the Invesco QQQ Trust ETF

Top 10 holdings	
Microsoft Corp	8.70%
Apple Inc	8.46%
NVIDIA Corp	8.05%
Amazon.com Inc	5.22%
Broadcom Inc	4.93%
Meta Platforms Inc, class A	4.63%
Alphabet Inc, class A	2.80%
Alphabet Inc, class C	2.70%
Costco Wholesale Corp	2.54%

Table 2. Continued

Top 10 holdings	
Tesla Inc	2.45%
Total of	50.48%
Number of holdings	103

Functions as of 26.06.2024

Source: Seeking Alpha (2024b)

Compared to the Vanguard S&P 500 ETF, the QQQ Invesco QQQ Trust ETF’s share of giant stocks is larger and should proportionally have a greater impact on the portfolio’s performance. The results were summed and compared to find out what a portfolio invested in these assets could

look like over 3 years (2021-2024), assuming that the dividends received are reinvested, the initial investment value is \$600, and \$600 is added to the account quarterly (Table 3). The first example was VOO – Vanguard S&P 500 ETF, and the second was QQQ Invesco QQQ Trust ETF.

Table 3. Results of portfolios invested in Vanguard S&P 500 ETF and QQQ Trust ETF

Metric	Results of portfolios	
	Example portfolio 1	Example portfolio 2
Opening balance	600 USD	600 USD
Ending balance	11,976 USD	12,644 USD
Annualised return (CAGR)	140.18%	144.02%
Time-weighted rate of return (TWRR)	12.08%	11.85%
Weighted average rate of return (MWRR)	14.67%	18.01%
Standard deviation	17.02%	21.57%
The best year	28.78%	54.85%
The worst year	-18.19%	-32.58%
Maximum drawdown	-8.78%	-14.97%
Max. Drawdown (excluding cash flows)	-23.91%	-32.58%
Sharpe ratio	0.61	0.51
Sortino coefficient	0.93	0.76

Source: Tools for better investors (n.d.)

VOO – Vanguard S&P 500 ETF \$600 invested on 1 January 2021 will be worth \$11,976 as of 31 May 2024, representing a total return of 47.66%. Over this period, the portfolio has returned 140.18% per annum, with 26 out of 41 months, or 63.41% of months, being positive. The best year for the portfolio was 2021 with a return of 28.78%, and the worst year for the period was 2022 with a return of -18.19%. The maximum drawdown of the portfolio was 8.78% from 1 April 2022 to 30 April 2022 with a recovery time of 2 months. The risk-adjusted portfolio return, as measured by the Sharpe ratio, was 0.61 (Tools for better investors, n.d.).

QQQ Invesco QQQ Trust ETF \$600 invested on 1 January 2021 will be worth \$12,644 as of 31 May 2024, representing a total return of 46.60%. Over this period, the portfolio has returned 144.02% per annum, with 25 out of 41 months, or 60.98% of months, being positive. The best year for the portfolio was 2023 with a return of 54.85%, and the worst year for the period was 2022 with a return of -32.58%. The maximum drawdown of the portfolio was 14.97% from 1 April 2022 to 31 May 2022 with a recovery time of 2 months. The portfolio’s risk-adjusted return, as measured by the Sharpe ratio, was 0.51 (Tools for better investors, n.d.) All calculations are approximate to illustrate how ETFs function and are used in the global market.

Market research had shown that Kinto was the first investment company to include Ukrainian ETFs in the

Ukrainian Stock Exchange Index in 2011, issuing investment certificates of the fund (Kinto, n.d.). The Ukrainian Exchange Index Fund (ticker: KUBI) is a unique project of the Ukrainian stock market. It is the first fund whose securities are freely traded on the stock market in the form of ordinary shares. The principle of operation of the Ukrainian ETF is similar to that of a classic exchange-traded index fund. The structure of the fund (Fig. 5) almost exactly copies the structure of the index basket of the Ukrainian Stock Exchange, which consists of the following Ukrainian companies. The last corporate reporting activity dated back to 2017, with only one company paying dividends (Corporate reporting..., 2018).

For the further development and emergence of innovative financial instruments that can be used to effectively hedge investments in Ukraine, it is necessary to create a favourable investment environment in the country: acceptable and reliable investment conditions, investor interest, and standardised investment regulation processes. When most beginners enter financial markets, their eyes are immediately focused on specific stocks, such as Microsoft Corp or Apple Inc. Practice often shows that such attempts to choose specific stocks often fail, as there is no complete information on the activities of certain companies. As a result, in the second half of the twentieth century, the index approach to investing became very popular.

The scholars under consideration cover different aspects of this topic, but they note the advantages that can be agreed upon. Financial markets are constantly evolving, and ETFs have become an important tool for investors in the global

context. This article focused on the performance of ETFs, in particular the Vanguard S&P 500 ETF and the Invesco QQQ Trust, and their interaction with key indices, the NASDAQ Composite and the S&P 500.

Ukrainian stock index structure

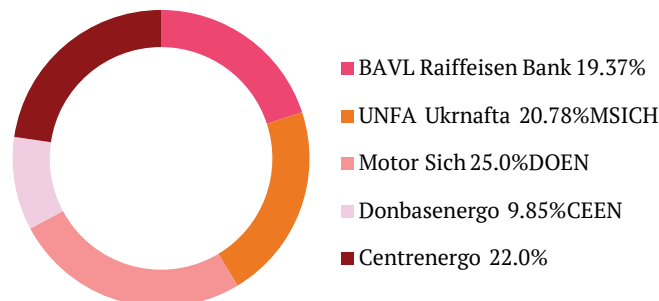


Figure 5. Structure of the Ukrainian equity index

Source: Kinto (n.d.)

As A. Tkachenko *et al.* (2019) stated, there is no full range of financial instruments, no mature regulatory and legal framework, and securities traded on the stock market are not backed by appropriate investor risk hedging mechanisms such as ETFs. The analysis of C. Smith (2023) emphasised that the S&P 500 represents a wide range of sectors, from technology to financials to healthcare, providing better diversification than some highly specialised indices such as the NASDAQ. The research by M.C. Ferrell *et al.* (2020) confirmed that ETFs have become one of the fastest growing segments of the financial market. The growing popularity of ETFs is explained by their simplicity, liquidity, and reduced management costs compared to traditional investment funds. Moreover, K. Thune (2024) provided fundamental information about ETFs and index funds, exploring their evolution and key characteristics. He drew attention to how these instruments have transformed the investment market due to their low costs and transparency. As R. Wild (2021) noted, ETFs provide investors with access to a wide range of assets and new investment ideas. N. Krasnikova & O. Benenson (2019) determined that shares of ETFs have a number of advantages over ordinary shares of corporations and are quite attractive for investment purposes. According to S. Nandal & A. Kumar (2021), this approach to investing is particularly important in comparison to active funds, which are often associated with higher costs and unpredictable returns.

In particular, I. Morhachev *et al.* (2020) highlighted a contrast that allows developing firmness principles for real business projects to create investment funds. S. Esh & A. Honcharenko (2020) noted that stock exchanges play an important role in the modern economy of the country, providing investors with the opportunity to build an effective investment portfolio of securities. One of the key aspects of using ETFs is their ability to adapt to changing market conditions. They allow investors to react quickly to market fluctuations, making them attractive to traders and institutional investors. For example, J. Bowes & M. Ausloos (2021)

emphasised that ETFs show a variety of risks and returns, depending on the investment strategy and market conditions. ETFs continue to evolve and adapt to the needs of investors, offering a wide range of investment opportunities. Modern ETFs allow not only investing in traditional assets such as stocks and bonds, but also in more complex instruments such as commodities and indices based on new technologies. E. Balchunas (2022) noted that such innovations make ETFs more attractive to investors who seek to diversify their portfolios. A study by J. Ferringer (2021) showed that the implementation of technologies such as artificial intelligence into ETF management processes can significantly improve their efficiency. Investors using these technologies can not only analyse data but also adapt their investment strategies in real time, which increases the possibility of achieving financial goals. O. Vinichenko & M. Hrybkova (2021) noted that hedge funds allow non-professional traders to take the opportunities available in the world. While ETFs offer numerous opportunities, there are also risks, in particular market risks, that can significantly affect their performance. Studies by A. Dumitrescu *et al.* (2023) highlighted that while ESG ETFs have the potential for high returns, their performance does not often reach the level of standard indices due to additional ethical and environmental limitations. K. Saha *et al.* (2022) noted that economic conditions, political instability, and regulatory changes can affect the ETF market.

Through innovative portfolio analysis platforms, investors can simulate their investments and assess potential outcomes. Using portfolio simulation sites allows investors to understand how ETFs can impact their overall investment strategy over the long term. In this article, a more applied analysis was conducted, the results of which showed that investing in indices allows you to invest in a fairly wide range of companies. The results of this analysis suggested that ETFs play an important role in the modern investment environment. They not only provide access to a variety of assets, but they can also optimise risks and

portfolio returns by spreading risks and diversifying the investment portfolio. The selected funds have shown positive dynamics over a three-year period and capital growth, which proves the suitability of investing in ETFs.

■ Conclusions

Exchange-traded investment funds are a type of securities that are traded on an exchange and act as a certificate for a portfolio of shares, bonds, and stock exchange tokens. It is concluded that portfolio investing is understood as the investment activity of investors, which involves investing in several investment objects instead of one, thereby generating a certain diversified set of them. It is justified that financial markets, including stock markets, as their segment in modern conditions are characterised by volatile, stochastic, crisis downturns of various nature. The application of traditional portfolio theory and classical financial and mathematical methods, which are portfolio optimisation based on the criterion of a given ratio of expected return to risk, leads to a common and typical failure. ETFs can increase portfolio diversification, simplify the search for new investment ideas, provide easy and inexpensive access to international markets, and enable innovative strategies and portfolio management techniques to protect against market volatility.

Innovative ETF instruments, which marked the beginning of the rapid growth of the ETF industry, gave investors an impetus to expand the possibilities and the very term of

mutual funds. By making a visual analysis of popular ETFs on the S&P 500 and Nasdaq indices, namely VOO – Vanguard S&P 500 ETF and QQQ Invesco QQQ Trust ETF, one can clearly see what an investment fund consists of, which part of the giants' shares is larger and should proportionally have a greater impact on the portfolio's performance. It is made a conclusion that in 2024, ETFs not only cover almost all types of assets available on the global stock market and represent the interests of investment funds, but also provide individual investors with the opportunity to participate in the implementation of complex financial strategies through a single transaction. The research of the Ukrainian stock market shows that there are certain problems in its operation. As a result, the Ukrainian securities market has not fully fulfilled its function of aggregating supply and demand for securities, attracting investment capital and directing it to the most efficient sectors and types of economic activity. The limitations discussed in the article, namely the process of taxation of the result of investing on foreign exchanges in investment funds (ETFs) in Ukraine, are a prospect for further research on the choice of broker.

■ Acknowledgements

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■ Conflict of Interest

None.

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Функціонування та використання біржових інвестиційних фондів

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■ **Анотація.** Застосування традиційної портфельної теорії і класичних методів фінансової математики, ще представляють собою оптимізацію інвестиційного портфеля, виявляється часто недосяжним для широкого кола інвесторів. Тому, метою було дослідити новітні інструменти та фондові підходи до інвестування. За допомогою системного аналізу проведено порівняння між обраними фінансовими інструментами. Для отримання вхідних даних було використано інформаційні платформи (Google finance). У статті досліджено функціонування та використання біржових інвестиційних фондів, як невід'ємну частину будь-якої сучасної економічної системи, без якої неможливий ефективний розподіл ресурсів. Запропоновано та розглянуто індексний підхід до інвестування, його переваги та недоліки. Визначено питання передбачення руху цін фінансових інструментів на фондових ринках і прогнозування їх прибутковості. У статті проаналізовано основні інвестиційні напрями, за якими можливо здійснювати формування інвестиційного портфеля. Запропоновано та розглянуто фінансовий інструмент – це біржові інвестиційні фонди, що поєднують в собі найкращі риси акцій та пайових інвестиційних фондів, а саме взаємних фондів, як альтернативу традиційного підходу до формування інвестиційного портфеля, та можливості брати участь у реалізації складного інвестиційного процесу за допомогою однієї операції. Розглянуто можливості для здійснення інвестицій на світових фінансових ринках в Україні, за індексами S&P 500 та Nasdaq. Практична цінність даного дослідження полягає в полегшенні пошуку нових ідей для інвестування, підходить для початківців та для професійних інвесторів і трейдерів

■ **Ключові слова:** капіталовкладення; фондовий ринок; фінансові інструменти; біржові індекси; типи біржових інвестиційних фондів