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ASSESSMENT OF THE EFFICIENCY AND VOLATILITY OF THE STOCK MARKET OF UZBEKISTAN

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Abstract: The article examines the essence, significance and role of the stock market in the development of the national economy. The current state of the domestic stock market and enterprises - domestic "blue chips" - are analyzed. The need for the development of the stock market, assessment of its efficiency and volatility based on modern techniques adapted to the national stock market are substantiated. For investors, such an assessment of the efficiency of the stock and bond markets creates the basis for optimizing the allocation of assets when building portfolio strategies, and for issuers it serves as the basis for building a strategy for issuing activities.

Keywords: Stock market, securities, share, bond, financial infrastructure, capital, investor, issuer, financial market, risk, stock market volatility, profitability, stock market, stock market capitalization, stock index, technical analysis, fundamental analysis.

Introduction. The stock market, as a key part of the financial infrastructure, plays an important role in the economy by providing access to capital, creating investment opportunities and serving as a mechanism for determining the value of assets. The relevance of the research topic is due to the need to develop the stock market, assess its efficiency and volatility based on modern techniques adapted to the national stock market. The relevance of the results of the presented research is also associated with their demand both from investors and issuers, and from academic researchers.

Methods. The methodological basis is the following general scientific methods: analysis, synthesis, systematization, classification, generalization, induction, deduction, methods of comparative statistical and dynamic analysis, econometric analysis. The work also used: abstract logical method; a systematic approach to identifying problems in assessing the efficiency and volatility of the stock market in modern conditions.

Analysis and Results. The stock market is an important part of the global financial system and plays a key role in maintaining economic growth and stability. It provides a platform for trading securities and helps in resource allocation in the economy. Understanding how the stock market works is an important aspect of financial literacy. Moreover, the stock market provides liquidity, allowing investors to buy and sell securities quickly and easily. This is especially important for investors who may need quick access to their investments.

Researchers M. Kendall, B. Mandelbrot, R. Mantegna, E. Petere, D. Sornet, H. Stanley played an important role in the development of tools for quantitative assessment of market efficiency. Their work laid the methodological foundations for the hypothesis of a random walk of quotes, thereby forming the direction for testing the "weak" form of stock market efficiency.

The stock market can be volatile, meaning stock prices can fluctuate quickly and significantly. This may create opportunities for speculation, but it also increases risk. For

example, during the global financial crisis, many stocks fell significantly in price, resulting in large losses for some investors [1].

The stock market plays a key role in determining the market value of assets. Prices for stocks and other financial instruments are determined based on supply and demand, as well as various fundamental and technical factors. This ensures transparency and efficiency in the pricing process, which in turn facilitates the allocation of resources in the economy and allows investors to make informed investment decisions. The stock market helps increase liquidity for investors. Thanks to the availability of trading mechanisms such as exchanges and electronic trading platforms, investors can easily buy and sell stocks and other financial instruments. This provides the ability to convert investments into cash at current market prices. Increasing liquidity contributes to the efficient functioning of the market and improves access to capital for companies [2].

Statistics play a key role in analyzing and forecasting stock market dynamics. They provide information on stock prices, trading volumes, market volatility, and characteristics and trends that may be important to investors, traders, analysts and regulators. In this article, we will look at various aspects of stock market statistics, their analysis, uses and implications for various market participants.

Stock market statistics cover a wide range of information about market transactions and stock price movements. They include the following main categories:

Price Data: This is information about stock prices on various trading platforms such as opening, closing, high and low prices for a certain period of time.

Trading Volumes: This is data on the number of shares that were bought or sold in the market over a certain period of time, such as daily, weekly or monthly trading volume.

Volatility: This is a measure of the volatility of stock prices in the market. High volatility can indicate market instability and increased risk, while low volatility can indicate a calm market.

Returns: This is the performance data of a stock and can be expressed in absolute or percentage terms. They help investors evaluate the efficiency and effectiveness of their investments.

Analysis of stock market statistics is carried out to identify trends, patterns and regularities that can be useful for making investment decisions and developing trading strategies. It includes the following steps:

Research and Data Collection: This is the initial stage in which the collection, aggregation and processing of stock market statistics from various sources such as exchanges, financial news and analytical platforms occurs.

Data Visualization: At this stage, data is presented in the form of graphs, charts and tables to visually display trends and patterns. Visualization helps to quickly and accurately assess the current state of the market and identify potential opportunities or threats.

Statistical Analysis: This is the stage in which statistical modeling and analysis of data takes place using various methods such as correlation analysis, regression analysis,

time series, etc. The purpose of the analysis is to identify dependencies and predict future market movements.

Stock market statistics are used by various market participants to make investment decisions, manage risks, develop trading strategies and evaluate investment performance. They may be useful:

Investors: To analyze and evaluate stocks and investment portfolios, identify promising investment opportunities and assess risks.

For traders: To identify trading signals, determine entry and exit points from the market and manage positions based on the analysis of technical indicators.

For analysts: To conduct fundamental and technical analysis of the market, forecast its movements and develop recommendations for investors and traders.

Stock market statistics are essential for the efficient functioning of the market and making informed investment decisions. They provide transparency, liquidity and stability in market transactions, and help investors and traders make informed decisions based on objective data and analytics.

According to the IMF, in 2023 the global stock market capitalization amounted to \$326 trillion. Over the past 10 years, the volume of the global stock market has doubled. The structure of the world stock market by region and by asset type can be examined using the following data.

By region: North America: The largest regional market, accounting for approximately 40% of total capitalization.

Europe: The second largest regional market, accounting for approximately 30% of total capitalization.

Asia: The third largest regional market, accounting for approximately 20% of total capitalization.

Emerging markets: which account for about 10% of total capitalization.

By asset type: Stocks: The dominant asset type, accounting for about 70% of total capitalization.

Bonds: The second largest asset type, accounting for about 25% of total capitalization.

Investment funds: which account for about 5% of total capitalization.

At the end of 2022, transactions were made on the Tashkent Stock Exchange for a total amount of 4.81 trillion soums, which is 3.55 trillion soums or 281.72% more than for the same period in 2021. Exchange trading was carried out with 36.15 billion securities of 197 issuers from various sectors of the economy. During this period, 80,723 units were committed. transactions, which is 9234 pcs. or -12.92% more than in 2021. Of the 4.81 trillion soums, about 4.53 billion soums account for large transactions, and this does not show how much the retail part of the market is changing.

To see how much the retail part of the market has grown, we consider it appropriate to consider changes in trading volume and number of transactions by components of the KD index (#UZMK, #HMKB, #URTS, #QZSM, #KVTS, #KSCM, #UIRM, #SQBN, # TRSB, #A029090, #IPTB).

The trading volume of components of the KD Index, highly liquid shares of the Tashkent Stock Exchange, has changed significantly over the past 5 years. In 2022, purchases were carried out by 3,038 brokerage accounts (2,596 in 2021), and sales were carried out by 4,398 brokerage accounts (4,853). At the end of 2022, the Tashkent Stock Exchange carried out 26,050 transactions with issuers in the banking sector for a total amount of 2,308.93 billion soums, thereby leaving this sector ahead of other sectors of the exchange in terms of trading volume and number of transactions.

At the end of 2022, the market capitalization of the Tashkent stock market amounted to 94.38 trillion soums, which is 67.94% or 38.18 trillion soums more than in 2021. At the end of 2022, the central depository registered share issues of 638 joint stock companies (2021 – 607 units) for a total amount of 166.76 trillion soums (153.05 trillion soums in 2021) in the amount of 16.45 trillion units (12.21 trillion units). In addition, at the end of 2022, the central depository keeps records of 0.62 million units. (0.37 million units in 2021) bonds of 28 issuers (11) for a total amount of 874.60 billion soums (783.3 billion soums).

At the end of 2022, the population of Uzbekistan was 35.27 million people, of which 15.14 million people or 42.92% are the economically active population. This is lower than the indicators of its neighbors - Kazakhstan (65.7%) and Russia (57.37%).

Additionally, only 2.01% (0.77 million) of the population have brokerage accounts, which is decreasing year on year. For example, 4.69% in 2011, 3.03% in 2016 and 2.01% today. Most of today's brokerage accounts were opened between 1995 and 2005, and today, according to KAP DEPO, 80% of these accounts are inactive accounts. The main reason why the number of brokerage accounts decreased by 14.76% in 2022 is because during this year, all the brokers were working on activating their clients' data and also closing their clients' accounts with zero account in the last few years.

In comparison, Kazakhstan has 0.90 million brokerage accounts, which is 4.68% of the total population, while in Russia the figure is 19%, but 9% of them do not use brokerage accounts.

We can say that given today's low market capitalization of the stock market and the fact that the population of Uzbekistan is not financially literate and the low level of interest in the stock market, today there is an opportunity to enter the market and make long-term investments [3].

Existing forecasts indicate that over the next 2-3 years after the completion of the planned IPOs, interest in this market will increase and the number of brokerage accounts will increase by 25-30%.

Currently, not only domestic investors are showing interest in the market, but also foreign investors who have seen the economic potential of Uzbekistan. They showed growth in 2022 compared to 2021.

The fastest growing stocks in the stock market in 2021 are #UZM1 (preferred shares of Uzmetkombinat JSC). The growth rate was 220.25%. The number of shares in free float is determined by a special Free Float coefficient; the higher it is, the greater the share of the business that can be purchased directly on the free market. Free Float in translation

means “free floating”; this is conditionally that part of the share that is not controlled by large owners and, as a rule, “floats” in the hands of minority shareholders.

At the present stage, the most liquid shares on the stock market include such securities as #HMKB, #KVTS, #UZMK, #QZSM, #URTS, #UZM1, #SQBN, #A028090. For example, during the year the market traded with 5.17% #UZM1 shares (free float ratio). One of the indicators of liquidity is the average daily trading volume of securities. According to this indicator, the leader in the capital market is #UZMK with an average daily trading volume of 173.49 million soums (#URTS - 104.29 million soums - 2021). The second is #TRSB with 98.14 million soums [4].

"Blue chips" is a term from professional investment slang. This reliable assets in which conservative investors invest their money, seeking to systematically and without risks increase their capital. The principle also applies to investments - in the long term, owning shares of reliable companies is more profitable than a portfolio of many unpredictable assets. "Blue chips" in the investment market are shares of the most reliable, largest and highly liquid companies in the country and in a particular industry. They differ in the payment of average dividends, their price, as usually remains unchanged (but for developing capital markets the price of such companies will grow steadily every year), but investors who own shares of such a company can count on regular, stable income for 10–15 years. Only a severe crisis affecting the industry or the country as a whole can disrupt the state of affairs. In the US, the list of those included in the list of “blue chips” is determined by the Dow Jones index (Coca-Cola; Boeing; Nike; Walmart; Walt Disney, etc.).

The main requirements for enterprises to obtain the status "blue chips", the following: popularity in the market and stable income for several years; high capitalization rates; high liquidity of shares; the company must have been present on the market for a long time; the state is interested in the development of this industry; dividends are paid stably and on time.

In Uzbekistan, the list of those who will be included in the list of “blue chips” is determined by the KD indices [5].

Uzmetkombinat. #UZMK

Dogwood cement. #QZSM

Uzbek Republican Commodity and Raw Materials Exchange. #URTS

Quartz. #KVTS

Kuvasaycement. #KSCM

Uzvtortsvetmet. #UVCM

UzPromStroyBank. #SQBN

Mortgage bank. #IPTB

Hamkorbank. #HMKB

Toshkentvino plant. #A028090

Conclusion. The efficiency of the stock market is influenced by the following factors: transparency, quality of information, presence of insider information and market

manipulation, liquidity and capacity of the stock market. The study of these factors allows us to determine directions for increasing the efficiency of the stock market.

The development of certain methods for assessing the effectiveness of the national stock market, including the adaptation of econometric assessment models, volatility modeling using an autoregressive conditional heteroskedastic model that takes into account the main indices on the market will determine the possibility of assessing the daily volatility of index returns based on their historical data, which in turn will create a basis for optimizing asset allocation when building investment strategies and forecasting prices of financial assets.

The main directions for increasing the efficiency of the national stock market are: strengthening the financial and organizational transparency of companies; countering the dissemination of insider information and market manipulation; reducing ownership concentration in public companies; increasing initial public offerings of shares of domestic companies in order to develop market mechanisms for attracting investment.

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