



## DIGITALIZATION OF FINANCIAL TRANSACTIONS PERFORMED WITH SECURITIES

Karimov Sardor son of Boydulla  
Higher School of Business and Entrepreneurship under  
Cabinet of Ministers of the Republic of Uzbekistan

### Abstract

Financial transactions with securities are an important means of distribution and redistribution of financial resources in the national economy. Also, these operations allow attracting foreign portfolio investments.

The article explains the possibilities of digitalization of financial transactions with securities.

**Keywords:** stock, digitization, digital technology, stock market, share, bond, dividend, market price, interest rate, inflation, devaluation.

### Introduction

In the new development strategy of Uzbekistan for 2022-2026, approved by Decree No. PF-60, of the President of the Republic of Uzbekistan on January 28, 2022 in order to increase financial resources in the economy, increase the turnover of the stock market from 200 million US dollars to 7 billion US dollars in the next 5 years, production in the real sector of the economy and in the financial and banking sectors and increasing the level of digitization of operational processes to 70% by the end of 2026 is recognized as a necessary condition for the sustainable development of the country's economy [1]. This, in turn, creates the need to develop operations with securities on the basis of digitization.

### Review of Literature on the Subject

G. According to Menkiw, "in many cases, such a definition of the stock market is often found, that is, it is a set of financial institutions that allow individuals to save and lend their funds to borrowers in the stock and bond markets" [2].

In this definition, G. Menkyu recognizes the stock market as a set of financial institutions that allow the participants of this market to save, lend their funds to debtors in the stock and bond market.

Foreign economists Nihat Aktas, Kathleen Andries, Ettore Croci, Ali Ozdakak studied the development of the stock market and the issues of financing IPOs [3].





In their scientific work, the main attention is focused on the management of economic and political risks that occur in the placement of securities, ensuring the adequacy of financial resources, ensuring the balance between investments in highly liquid and high-risk securities.

In the studies of Vahbeeah Mohti, Andreia Dionisio, Isabel Vieira, Paulo Ferreira, the issues of regional and global integration of the Asian stock market were studied [4].

In the scientific research of these economists, the factors affecting the market prices of securities, the impact of changes in the economic situation in Asian countries on the market prices of securities issued by the issuers of these countries, the consequences of regional and globalization of securities and the impact on national stock markets were researched and scientific conclusions based on the research results and practical recommendations are formulated.

Byomakesh Debata, Saumya Ranjan Dash, Jitendra Mahakud have conducted scientific research on the factors that make investors quickly search for the stock market, which is expected to have high liquidity and high profitability [5].

Russian economists A.A.Kilyachkov, L.A.Chaldaeva, and V.S.Torkanov studied the issues of improving the stock market and exchange activity, improving the practice of using existing financial instruments in the stock market [6].

### **Analysis and Results**

One of the modern digital technologies used in the stock market is check conversion technology.

In this, checks are converted into electronic transactions.

Check conversion was first implemented in US practice through the Check 21 system developed by the Federal Reserve System in October 2004 [7].

Another digital technology in the stock market is Digital technology.

Digital technologies are used to create remote service platforms for bank customers.

The following are important positive characteristics of digital technologies:

- \* high speed;
- \*transparency of performed operations;
- \* ease of communication between the bank and the client;
- \*reduce bank costs.

The main trends in the use of digital technologies are the transfer of banking services to mobile platforms, i.e. tablets, smartphones, and smart watches.

This technology makes it possible to provide the following types of financial services:

- cash management;
- electronic transmissions;





- clearing operations;
- presentation of invoices for payment;
- issuing a balance inquiry;
- transfer of funds;
- information about transactions
- request information about transactions;
- presentation of invoices for payment;
- sending requests for loans;
- investment activity;
- other types of income-generating services [8]. .

One of the promising areas of digitization of financial transactions with securities is the use of digital and cryptoassets.

Digital asset (digital asset) is an asset that can be traded only in digital form or an electronic form of another asset.

A crypto asset is a digital asset issued using cryptography.

A digital token is a unit of measurement in the software interface.

A distributed registry is a database that is distributed among multiple network links or computing devices.

Each link receives data from other links and keeps a complete copy of the register. Each link makes its own change to the register and then communicates it to the other links.

Voting and reaching agreement on each copy of the registry is called consensus.

The main feature of a distributed registry is the absence of a single control center.

One of the most reliable ways to protect user data is the use of hardware security modules (HSM). The physical and logical architecture of these models ensures protection of the user's data encryption keys from external threats and insider threats. Here, insider risks mean the risks associated with the owners and administrators of these services.

HSM Wallet is designed in such a way that all confidential actions are carried out inside the protected device. In any case, information about the customer's transactions will not be released in an open format. As a result, a high level of protection against all risks, including risks related to the company's employees and administrators, is possible.

If the device is damaged, the backup module will be activated automatically.

SupTech technology is a technology that enables control in financial markets using innovative technologies such as Big Data. This technology automates administrative



processes, increases the transparency of financial reports, and transforms processes in the stock market.

Big Data technology is a technology that enables processing of very large amounts of data at high speed and accuracy.

The three V's:

\* Volume (Volume)

\* Velocity

\* Variety (Variety)

Reg Tech technology is an innovative technology that implements an efficient, reliable, secure economic decision in order to implement the decision of the financial market regulator.

Artificial intelligence technology is the technology of teaching computers to think like humans. Artificial intelligence receives information from various sources (informatics, mathematics, linguistics, psychology, biology, mechanical engineering) and makes decisions based on the processing of large amounts of data.

Development of remote banking services through the introduction of information and communication technologies, including remote customer identification systems, according to the Decree of the President of the Republic of Uzbekistan dated October 5, 2020 No. , creating a business model of financial supermarkets aimed at providing a wide range of banking and non-banking financial services (stock transactions, insurance, etc.) and others), including increasing the scope and quality of service through mobile applications, payment for goods and services by e-commerce entities in modern and convenient remote methods by introducing QR payment technology and NFC technology, including accepting payments through mobile devices the tasks of creating the possibility of reception are defined [9].

Based on the world experience with the law "On Securities Market" in our republic, shares changed from paper form to electronic form, and the function of maintaining the register of shareholders was taken from joint-stock companies and transferred to the Central Depository of Securities, established in 1999 in the form of a state enterprise.

"Tashkent" republican stock exchange together with infrastructures serving the stock market (Central Depository, Account Clearing Chamber, second-level depositories, brokerage offices) provides free access to investment sources for all subjects of the stock market by further improving the trading processes with securities. creator is an organized and continuously operating stock market.



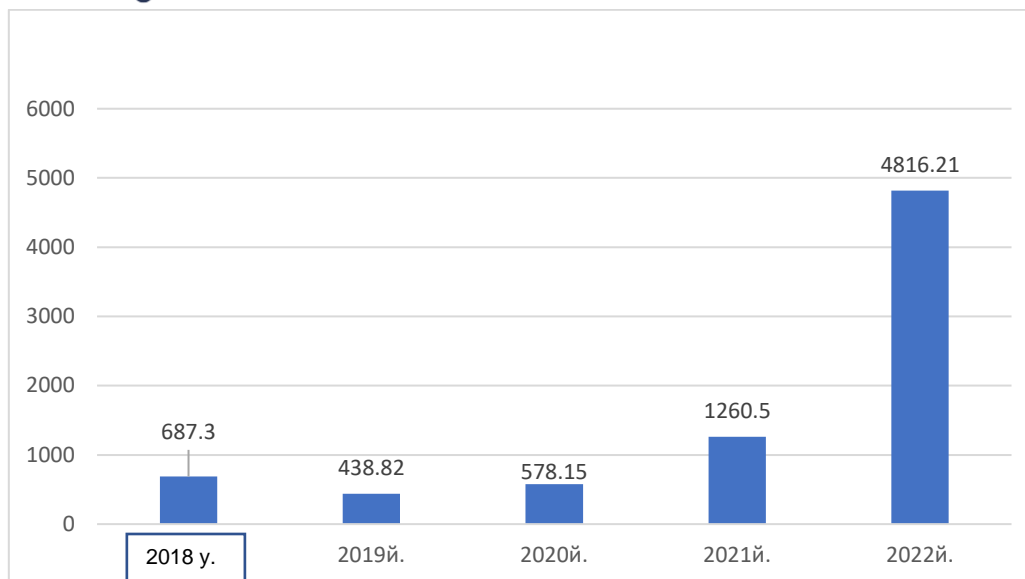


Figure 1. The volume of transactions carried out on the "Tashkent" stock exchange, bln. Soum

From the data presented in Figure 1, it can be seen that the volume of transactions carried out on the "Tashkent" stock exchange had a growing trend in 2020-2022. This is a positive situation from the point of view of the development of the stock market. In order to increase the activity of the corporate structures operating in our country in the stock market, we need to drastically improve the quality of corporate management. In general, it is somewhat difficult to comment on the development of the stock market without introducing a modern corporate management system in joint-stock companies. It is necessary to reduce the participation of the state in the corporate management system to the optimal level, to increase the legal culture of the shareholders.

The number of transactions carried out on the "Tashkent" stock exchange had an increasing trend in 2018-2022. This is a positive situation from the point of view of the development of the stock market.

One of the priorities of the Stock Exchange is to attract more securities of financially stable societies to stock market trading, to direct investment funds to them through convenient and low-cost stock exchange operations. According to the new law "On Stock Exchanges and Stock Exchange Activities" that entered into force on March 13, 2015, it is established that only the securities that have passed the stock exchange listing procedure, can be traded on the stock exchange. In accordance with this law and the trading rules of the "Tashkent" republican stock exchange, securities of listed companies are permanently quoted. This allows to determine the market value of listed securities.

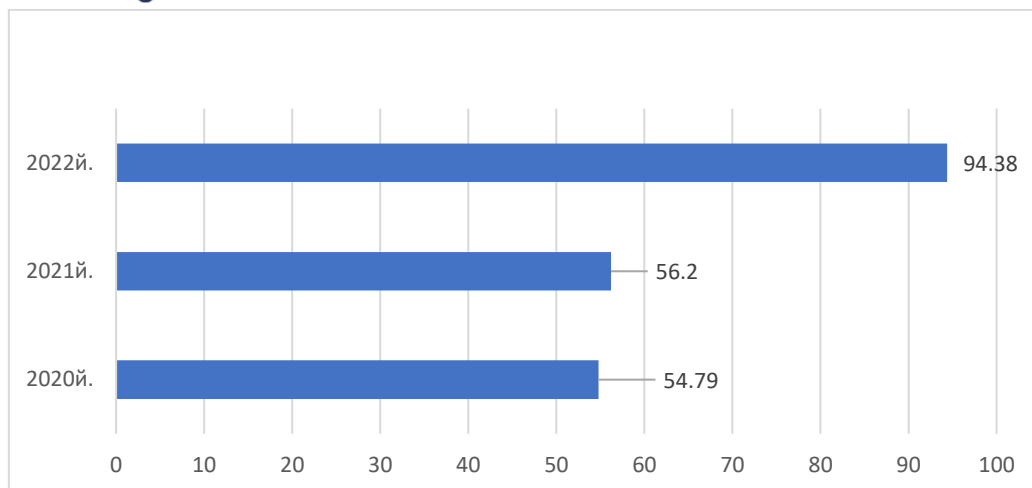


Figure 2. The capitalization value of the stock market in the Republic of Uzbekistan, trillion. Soum

From the data presented in Figure 2, it can be seen that the capitalization value of the stock market in our republic had an increasing trend in 2020-2022. This is a positive situation from the point of view of the development of the stock market.

One of the main goals of the Stock Exchange today is to attract financially stable and liquid joint-stock companies in our republic to the listing. The inclusion of joint-stock companies in the official stock exchange listing indicates a certain level of reliability and financial stability of these companies, and the constant disclosure of information about them increases the confidence of investors in making investments. In addition, to the stock exchange listing of joint stock companies

Uzbekistan composite index (UCI) is a composite index of the "Tashkent" Republican Stock Exchange, which reflects the general situation of share issuers included in the exchange's quotation sheet. The UCI index is calculated based on the prices formed as a result of trades carried out automatically, in real time, through the trading platform of the Unified software and technical complex (hereinafter - UCI). The prices of the shares in the transactions concluded during the trading day of the stock exchange have their influence on the UCI index. The total capitalization of the issuers is calculated by the trading system based on the closing price of the shares, that is, the last transaction performed on the trading day, and accordingly has its weight in the total weight of the UCI index. The change in the issuer's weight in the UCI index directly depends on the issuer's capitalization.

During 2022, the following changes occurred in the UCI index:

\*The UCI index, which showed 1,059.85 points on January 5, 2022, showed an overall increase of 13.18% until February 10. Stock market capitalization also increased from 55.72 trillion soums to 64.57 trillion soums (+15.89%) between these dates. In this



case, the trading price of the stock issuers available on the stock exchange quotation sheet increased by 3.73%.

\* From February 10 to February 16, 2022, the UCI index decreased from 1,199.53 points to 1,065.64 points (-11.16%). The significant decrease of the index was mainly due to the influence of issuers in the banking sector, and during the indicated period, the prices of ordinary shares of "Agrobank" ATB, "Trustbank" JAB and "Turonbank" ATB decreased by 36.63%, 42.40% and 52.00%, respectively. recorded and caused a decrease in the stock market capitalization by 11.10%;

\*On April 18, 2022, the UCI index decreased from 1,211.62 points to 737.56 points on April 22, 2022, that is, by 39.13%. Stock market capitalization also fell from 151.53 trillion soums to 89.95 trillion soums. Changes during this period increased the number of ordinary and preferred shares of "Uzmetkombinat" JSC by issuing 10 additional shares compared to 1 share, and in turn, the amount of the issuer's capitalization, when calculated in relation to the price of these shares in the last trading process, affected the index calculation process by the YDTM system. In this case, on April 14, the capitalization of "Uzmetkombinat" JSC, which was 5.99 trillion, was reflected as 68.19 trillion soums after the addition of the number of additional issued shares to the stock exchange system on April 15. Before the correction of the share price in relation to the number of additional shares issued by the exchange, a significant increase in the index was recorded (1,211.62). On the other hand, after the price of "Ozmetkombinat" JSC shares was corrected in the ratio of 1/11, the capitalization volume and, in parallel, a decrease in the index indicator was observed. After that, the company's capitalization was adjusted to 6.82 trillion according to the stock exchange data. At the same time, during this period, that is, on April 22, 35 issuer securities with a total capitalization of 0.7 trillion soums, which did not meet the conditions of the stock exchange listing (inconsistent with the requirements of the stock exchange listing) and did not agree to be transferred to the "Transit" category by RFB "Tashkent" was removed from the quotation sheet (delisting), and as a result, the index decreased by 737.56 indicators;

\* From May 20 to June 3, 2022, the UCI index fluctuated between 732.57 and 981.84. The main reason for this is the trading of ordinary shares of "KAFOLAT insurance company" JSC /KFLT/. During the above dates, the price of one share of the issuer was sold and bought by investors in the range of 100 - 1,000 soums. But the size of these transactions was small. The results of trading with the issuer's shares are a response to the requirements specified in clauses 136-1 and 137 of the rules "Trading in securities at the Tashkent Republican Stock Exchange" (hereinafter referred to as "quotation requirements") for not giving, no quotation price was set for the shares of





this issuer during the above dates. For this reason, intermediate price limits for the issuer's shares were not set (spread), and as a result, the issuer's capitalization was calculated based on the price determined in the last trading transaction on the specified date (closing price), and the issuer's capitalization on May 24 amounted to 35.3 trillion soums, and the total market capitalization (116.17 trillion soums) increased by 30.38%. This, in turn, had an effect on the UCI index, which is closely related to the total stock market capitalization, and fluctuations were observed (this situation was also reflected in the subsequent major changes in the index) [10].

### **Summary**

The high level of risk of investment operations related to securities, the low level of investment attractiveness of securities, the existence of the problem of lack of resources in banks, the existence of the problem of lack of funds in the "Nostro" representative accounts of commercial banks prevent the development of investment operations of banks with securities.

On the other hand, the problem of lack of resources in commercial banks is deepening due to the fact that they do not return loans on time.

It should be noted that there is no sufficient and reliable statistical database on securities in our republic. This does not allow the use of modern methods that are widely used in the banking practice of developed countries in managing the securities portfolio.

Also, the problem of current monitoring of the securities portfolio in the commercial banks of our republic has not been solved until now.

In our opinion, the commercial banks of our republic have not developed a system of indicators that would allow determining the trends of changes in the market prices of securities.

As a result of high rate of inflation and devaluation of the national currency, the real value of investments made by commercial banks in securities denominated in the national currency is decreasing.

It should be noted that the lack of introduction of modern digital technologies to the activity of the securities market is one of the urgent problems of the development of the country's securities market.

In our opinion, the following measures should be implemented to improve the digitization of financial transactions with securities in our republic:

1. It is necessary to increase the efficiency of the securities market by expanding the scope of use of digital technologies.

Modern financial technologies have the following three important dimensions:







\* the use of appropriate technical means and related software to operate and serve economic entities through various delivery channels and payment systems is a measure of modern financial technologies;

\* modern computer programs are used to categorize users of financial services and analyze the market of financial services and solve problems. This measure allows banks to manage and effectively use the data warehouse;

\* Quantifying, measuring, mitigating and managing all types of risks is the third important dimension of modern financial technology. This measure covers the process of measuring and managing credit risk, market risk and operational risk.

2. It is necessary to expand the scope of use of Internet Banking in securities transactions.

Through Internet Banking technology, the company will be able to access account balance inquiry, make payments, make money transfers, international money payments, standing order and direct debit payments, and check recent transactions via the Internet. the company accesses the website through a PC or laptop and the credentials can be accessed from anywhere in the world. The following services can be used on the Internet;

\* account balance request;

\* money transfer between accounts;

\* create and update standing orders and direct debit payments;

\* money transfers;

\*, account overview, account history, loan repayment, prepaid card refill and password change.

3. It is necessary to introduce the practice of using digital financial assets in the stock market.

In international banking practice, there are the following types of digital financial assets:

\* paid requirements;

\* the possibility of exercising the right on emission securities;

\* the right to participate in the authorized capital of closed joint-stock companies;

\* the right to demand the transfer of emission securities.

Currently, the market of digital financial assets exists in Europe and the United States, as well as in a number of Asian countries.

Currently, only digital securities are traded on these markets. For example, digital bonds in Germany, bonds of state banks in China, digital shares of companies in Russia.





In June 2021, a digital exchange instrument backed by nickel and copper was added to the listing of the London Stock Exchange and the Italian Stock Exchange.

### Used Literature

1. Decree of the President of the Republic of Uzbekistan dated January 28, 2022 PF-60 "On the development strategy of new Uzbekistan for 2022-2026" //www.lex.uz.
2. Menkiw G. The principle is macroeconomic. Per. English - SPb.: Peter, 2009. - 544 p.
3. Nihat Aktas, Kathleen Andries, Ettore Croci, Ali Ozdakak "Stock market development and the financing role of IPOs in acquisitions" Journal of Banking & Finance, Volume 98, January 2019, Pages 25-38. (<https://www.sciencedirect.com/science/article/pii/S0378426618302395>).
4. Wahbeeah Mohti, Andreia Dionísio, Isabel Vieira, Paulo Ferreira "Regional and global integration of Asian stock markets" Research in International Business and Finance, Volume 50, December 2019, Page 357-368. (<https://www.sciencedirect.com/science/article/pii/S0275531918309991>).
5. Byomakesh Debata, Saumya Ranjan Dash, Jitendra Mahakud "Investor sentiment and emerging stock market liquidity" Finance Research Letters, Volume 26, September 2018, Pages 15- 31. (<https://www.sciencedirect.com/science/article/pii/S1544612317304610>).
6. Kilyachkov A.A., Chaldaeveva L.A. Rynok tsennyx bumag i birjevoe delo: Fly. posobie. 2-e izd., s izmen.-M: Ekonomist, 2005. - 687 p.; Torkanov V.S. Rynok tsennyx bumag i ego finansovye instrumenty: Uchebnoe posobie. SPb.: AO "Komplekt", 1994. - 421 p.
7. Bradford T. Payment Types at the Point of Sale. Payments System Research Briefings. - Kansas City, 2006.
8. Yudenkov Yu.N., Tysyachnikova N.A., Sandalov I.V., Ermakov S.L. Internet technology and banking business: perspective and risk. - M.: KNORUS, 2016. - P.55.
9. Decree of the President of the Republic of Uzbekistan No. PF-6079 dated October 5, 2020 "On approval of the Digital Uzbekistan - 2030 strategy and measures for its effective implementation", <https://lex.uz>.
10. Analysis of UZBEKISTAN COMPOSITE INDEX (UCI) //www.uzse.uz.

