

UDC 336.76(477)  
JEL: E40, E42, H81

## MANAGEMENT AND DEVELOPMENT OF DEPOSITORY ACTIVITIES UNDER MARTIAL LAW IN UKRAINE

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Received: 02/02/2023  
Accepted: 15/06/2024

DOI: 10.61954/2616-7107/2024.8.2-x

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**Introduction.** Depository activities are integral to developing a country's financial system and ensure the accounting, preservation, and circulation of securities. The effective management of depository activities is critical for maintaining the stability of the financial market, protecting the rights of investors, and maintaining trust in financial institutions. In Ukraine, the issue of the effective management of depository activities becomes especially important for ensuring the stability of the stock market and maintaining investment attractiveness for international investors, as it requires a comprehensive approach that combines the legal and economic tools necessary to reduce existing risks that require the adaptation of legal regulations and the implementation of new management strategies to ensure the continuity and security of depository operations.

**Aim and tasks.** The aim is to study the features of the expansion of depository operations in Ukraine, considering martial law, economic challenges and threats that have affected the functioning of financial agents and the stock market.

**Results.** An analysis of the factors that influenced the activities of depository institutions during war and economic crises was carried out. The efficiency of accounting and depositors' activities in depository institutions was analysed. The directions for the optimisation of the depository activities of Ukrainian depository institutions are substantiated. During the 3rd quarter of 2023, the volume of depository assets increased by 7.2% compared to the same period of 2021, the volume of accounting operations increased by 41.6%, and the number of depositors' accounts increased by 76.5%, which indicates the positive dynamics of depository activities on the stock market of Ukraine. The correlation coefficient was 0.088, indicating a weak positive relationship between the volume of accounting transactions of depository institutions and the number of accounts of depositors of depository institutions.

**Conclusions.** The study analyses the grouping of negative factors (military action, constant shelling, devaluation of the currency, inflation, decrease in investment attractiveness of institutions, and low level of income of citizens) that influenced the development of depository activities in Ukraine under martial law, as well as the efficiency of depository institutions, through the analysis of individual performance indicators. The results of the study are essential for joint-stock companies that issue securities regularly and depository institutions to identify critical areas for the development of depository activities in the war and post-war periods and to ensure a more transparent and efficient system of attracting investors and households to the investment activities of the stock market.

**Keywords:** depository institution, stock market, issuance activity, legal relations, management.

## **1. Introduction.**

Since 2022, the Ukrainian economy has faced numerous threats that have negatively affected all sectors. Military actions with constant shelling in the territory of Ukraine cyberattacks on state and financial institutions, property misappropriation, and looting have caused significant economic losses. The financial sector of the economy, including the stock market, suspended its active operations, which only partially resumed after 2024.

The volume of securities issued, purchased, and sold in the stock market decreased, affecting the profitability and competitiveness of professional market participants, including depository institutions. During wartime, the issuance policy focused on the state level. It was ensured by the issuance of domestic government bonds to fill the state budget deficit and raise additional funds at the international and national levels.

Turnover and transactions with other securities remain low or stop altogether, which has a negative impact on the profitability of financial market agents and the investment attractiveness of joint stock companies and the stock market as a whole (Bazaluk et al., 2022; Lin, 2020).

Economic and political fears of investing in securities in the stock market reduce issuance potential, directly affecting the development of depository activities that ensure the storage, circulation of numbers, and purchase and sale of securities (Jawad et al., 2023; Rubbaniy et al., 2023).

Depository institutions have reduced the possibility of implementing international standards in the stock market development and, thus, their efficiency.

The problem of protecting depository institutions is relevant since, in addition to ensuring the development of the stock market and public joint stock companies, Ukrainian depository institutions store an extensive database of investors, issuers of securities, and data on placement and issue and ensure transparency and digitalisation of securities purchase and sale transactions at all levels (Onyshchenko et al., 2023; Slyvka et al., 2023).

## **2. Literature Review.**

The peculiarities of the activities of depository institutions and activities in Ukraine are outlined in this research. Clancey-Shang and Fu (2024) claim that the main vectors of the activities of depository institutions are determined precisely through the study of assets and accounting operations, determining the directions of formation of depositors' accounts, and the formation of priority areas of activity of depository institutions in the stock market. Moreover, it is crucial to examine the difference in market quality between companies with high levels of environmental, social, and governance protection and companies with low levels of health. This study considers the existing licences held by depository institutions for carrying out depository activities in the stock market and the ratings of these institutions in the pre-war period. The peculiarities of the most active depository institutions in terms of services were determined.

Cruz-Hernández and Mora-Valencia (2024) argue that performance varies and demonstrates alternating periods of efficiency and inefficiency. For depository institutions, it is crucial to analyse the number of accounts of securities holders and the quality of their services, which directly depends on the state of development of institutions in the market.

Blikhar and Shevchenko (2022) note that depository institutions establish transparency, efficiency, and rationality in issuing or underwriting stock market activities and making domestic securities more attractive for investment. Zatonatska and Suslenko (2022) justified that depository institutions can increase the investment attractiveness of public joint stock companies by providing quality securities services to national and international investors.

These institutions ensure transparency in the issuance, storage, and management of securities traded on the securities market and ensure compliance with legal norms and rules in the national and international markets (Martins et al., 2023; Salman et al., 2023).

Fairchild and Juelfs (2020) examine the activities of depository institutions in terms of risky operations that may affect their bankruptcy using the example of community development banking institutions, minority depositories, and non-mission repository institutions.

The income levels of banks engaged in depository activities are determined by analysing weaknesses and strengths and forecasting indicators of activity in the financial intermediation market.

Activating security mechanisms to protect depository institutions and stock market financial agents during martial law has significantly limited the volume of depositories' issuance, investment, intermediary, and general income operations. Many of them work only with large clients, trusted clients, and others who have restricted access to new clients, including households, and others have suspended their licences to conduct depository activities. There are limited studies on the activities and directions of functioning of depository institutions during wartime, when there is a significant range of restrictions and risks (external and internal) that affect the efficiency of the development of the depository system in Ukraine. Therefore, the study of all aspects of the activities of Ukrainian depository institutions in war and risks is an important and relevant issue for the country's economy.

### 3. Methods.

The study used a methodology that included the study of problematic issues related to the management, development, and legal regulation of depository activities in Ukraine by using empirical methods of research publications, official sources, and sites of depository institutions, as well as a thorough review of the literature and scientific articles related to the research issues.

The next stage of the study included statistical methods for assessing the number of depository institutions, volumes, and results of activities, which made it possible to graphically show the effectiveness of the activities of depository institutions in certain periods (2022-2023 years) to display the volume of cash flows placed on the account.

The use of generalisation methods to draw qualitative conclusions makes it possible to form thorough proposals for the further development of depository institutions, considering crisis factors and expert opinions and determining priorities for the further development of depository activities.

In the future, the study of ways to improve the management of depository activities should be based on the methods of the post-war period, which will allow an increase in the level of competitiveness of depository institutions.

The analysis of the company's activity indicators makes it possible to determine the relationship between the volume of accounting transactions of depository institutions and the number of accounts of depositors of depository institutions. For this purpose, the Pearson correlation coefficient ( $r$ ) was used:

$$r = \frac{n \sum (XY) - \sum X \sum Y}{\sqrt{[n \sum X^2 - (\sum X)^2] * [n \sum Y^2 - (\sum Y)^2]}} \quad (1)$$

where,

- $X, Y$  – values of two variables;
- $n$  – number of value pairs  $X$  &  $Y$ ;
- $\sum(XY)$  – sum of products of pairs of values  $X, Y$ ;
- $\sum X, \sum Y$  – the sum of variable values  $X$  &  $Y$ ;
- $\sum X^2, \sum Y^2$  – the sum of the squares of the values of the variables  $X$  i  $Y$ .

### 4. Aim and tasks.

The aim is to study the features of the expansion of depository operations in Ukraine, considering martial law, economic challenges and threats that have affected the functioning of financial agents and the stock market. The key objectives of the study are to study the problematic issues of managing the depository activities of institutions during the war in Ukraine, factors influencing the development of depository activities in conditions of martial law, to determine the critical directions for the further economic development of depository activities taking into account the prospects for using the experience of European integration and goals posed by the peculiarities of the Ukrainian stock market.

### 5. Results.

Depository activity is the activity of depository organizations in the financial market, which consists of carrying out operations related to the circulation, storage and servicing of issued securities (De Haan et al., 2020).

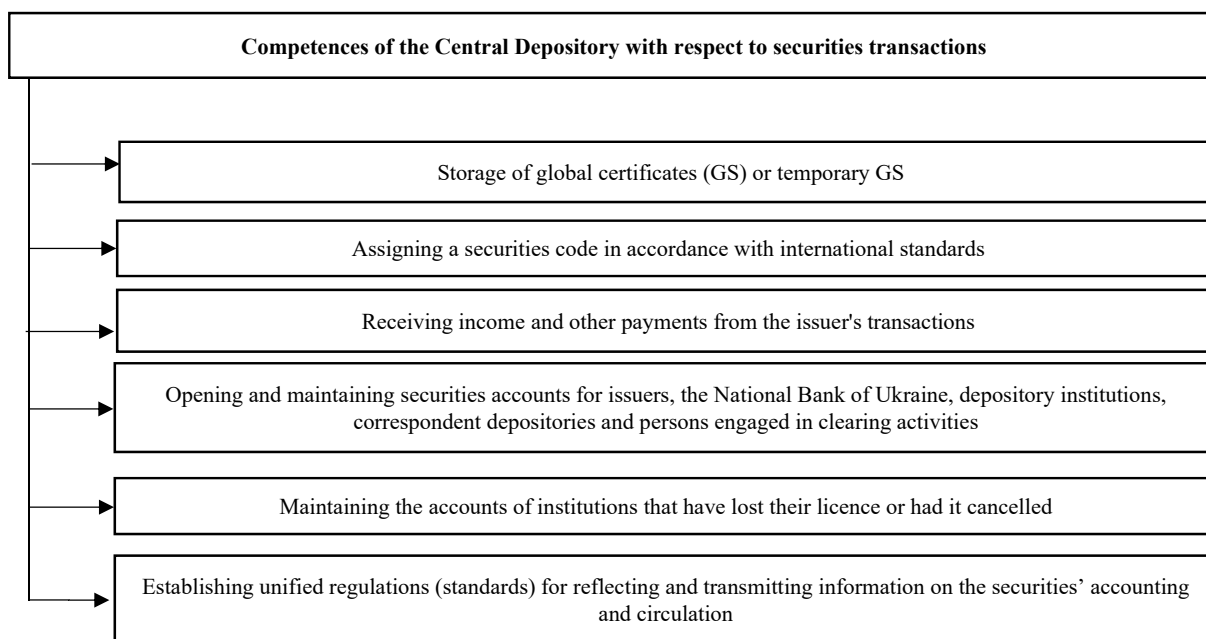
Depository activities ensure the efficiency and transparency of securities transactions and their accounting in documentary and non-documentary forms, considering the regulatory framework the depository system of Ukraine.

Accordingly, the participants in the depository system are the Central Depository of Ukraine, the National Bank of Ukraine, depository and banking institutions, financial agents permitting such activities. Depository institutions provide maintenance and management services exclusively based on a licence to conduct depository activities in Ukraine. The crucial role in the depository system of Ukraine is assigned to the Central Depository (Verkhovna Rada of Ukraine, 2006; 2022), which ensures the formation and functioning of the system of depository accounting of securities and keeps records of all securities. At the same time, the main competencies in securities servicing are those shown in Figure 1.

In the current environment, the Central Depository has faced negative factors, including the introduction of martial law, which restricted the issuance and investment activities of joint stock companies, financial agents, and intermediaries, reducing the volume of depository services and income from their provision.

In addition, the central repository and depository institutions have restricted access to public information, annual reports, and activity volumes to protect the personal data and data of depository institutions' clients and prevent cyber-attacks by the aggressor country.

Restrictions on the information submitted for public consideration limited the objectivity of perception, assessment, comparison, and research of key performance indicators of depository institutions, the identification of critical issues under martial law, and ensuring further development in the context of the crisis and global economic challenges.



**Fig. 1. List of core competencies of the Central Depository.**

*Source: based on the Verkhovna Rada of Ukraine (2012; 2013; 2022).*

Depository institutions play a significant financial and economic role in creating and developing the stock market, investment services, and joint stock companies' issuance and dividend activities.

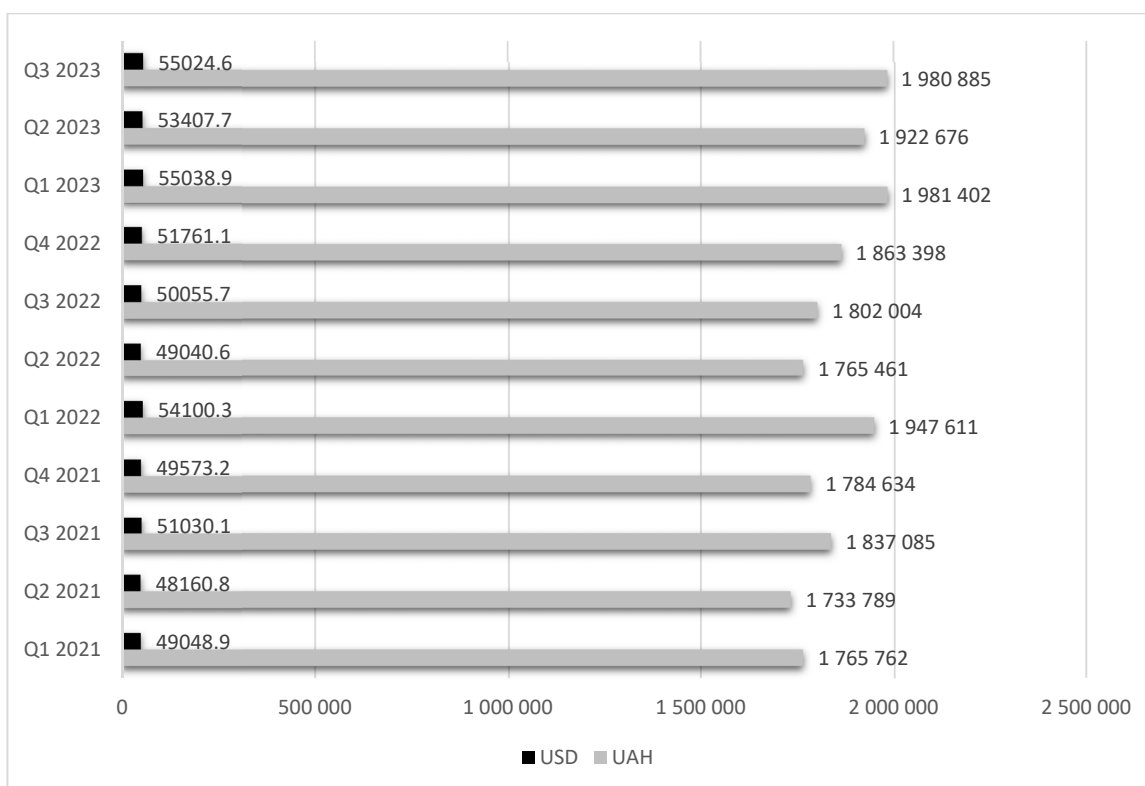
Financial institutions licensed to carry out depository activities in Ukraine provide:

- opening an account for the formation of a reliable portfolio of securities, regardless of the amount of funds;

- accounting and safe storage of clients' securities;
- short-term and long-term management of clients' investment resources;
- are responsible for non-disclosure of commercial secrets and personal data of clients, account information;
- fixed income for clients from holding securities;
- opening accounts, which ensures the development of the stock market;
- the ability to re-register, inherit, buy and sell securities held on the account;
- the possibility of attracting inactive money from citizens “under the pillow” to develop investments in Ukraine.

As of December 1, 2023, the general register of depository institutions totalled 220 institutions, and only 135 have a valid licence to provide depository services in Ukraine. At the end of 2022, their number was 154 institutions.

The total volume of depository assets at nominal value in Q4 2021-2023 (Figure 2) shows an increase in the volume of cash placed on securities accounts with depository institutions. In Q3 2023, the volume amounted to UAH 1,980,885 million, which is UAH 178,881 million more than in the same period in 2022 and UAH 143,800 million more than in 2021 Professional Association of Capital and Derivatives Market Participants (2023).



**Fig. 2. Dynamics of depository assets at nominal value during 2021-2023 (by quarters), hryvnias (UAH), dollars (USD) million.**

*Source: based on Professional Association of Capital and Derivatives Market Participants (2023).*

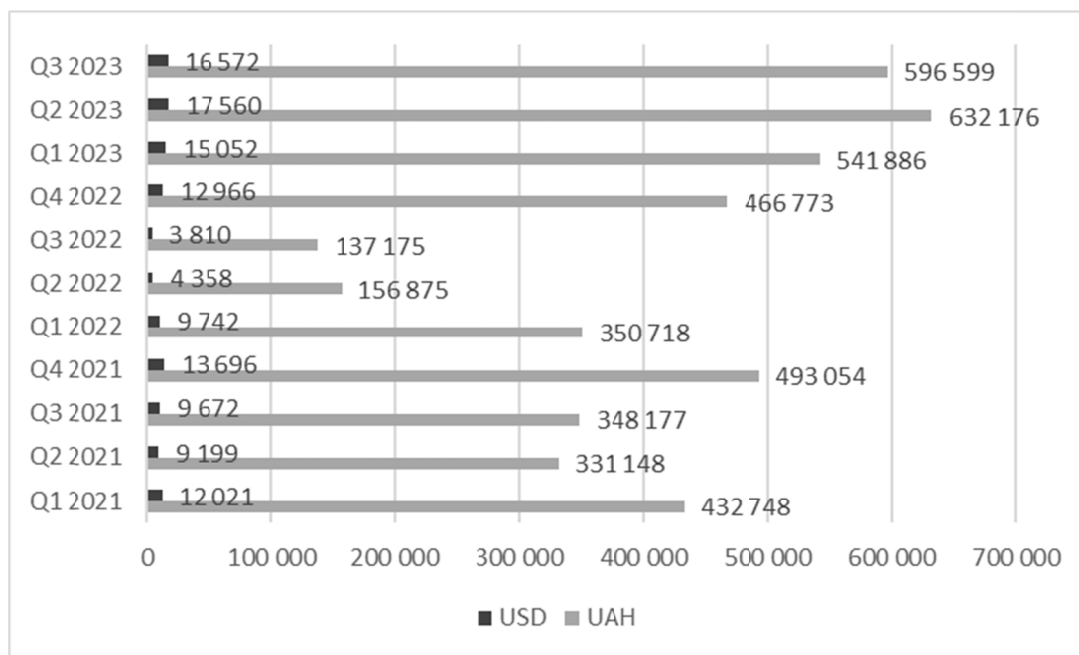
The increase in the volume of depository assets at nominal value indicates an increase in the level of investor confidence in the hryvnias UAH activities of depository institutions. In times of war, depository accounts provide an opportunity to generate additional income.

Secondly, they serve as one of the ways to preserve financial resources from destruction by weapons or shelling. According to the survey, earning income from owning securities makes it possible to receive official income and preserve the primary financial resource in a liquid asset.

Depository institutions in the system of financial agents of the Ukrainian stock market provide storage and accounting of securities, keep owners' records, transfer securities, and provide conversion services and services for

corporate actions (for example, dividend payments).

The volumes of accounting operations performed by depository institutions (Figure 3) show positive trends at the end of 2023.



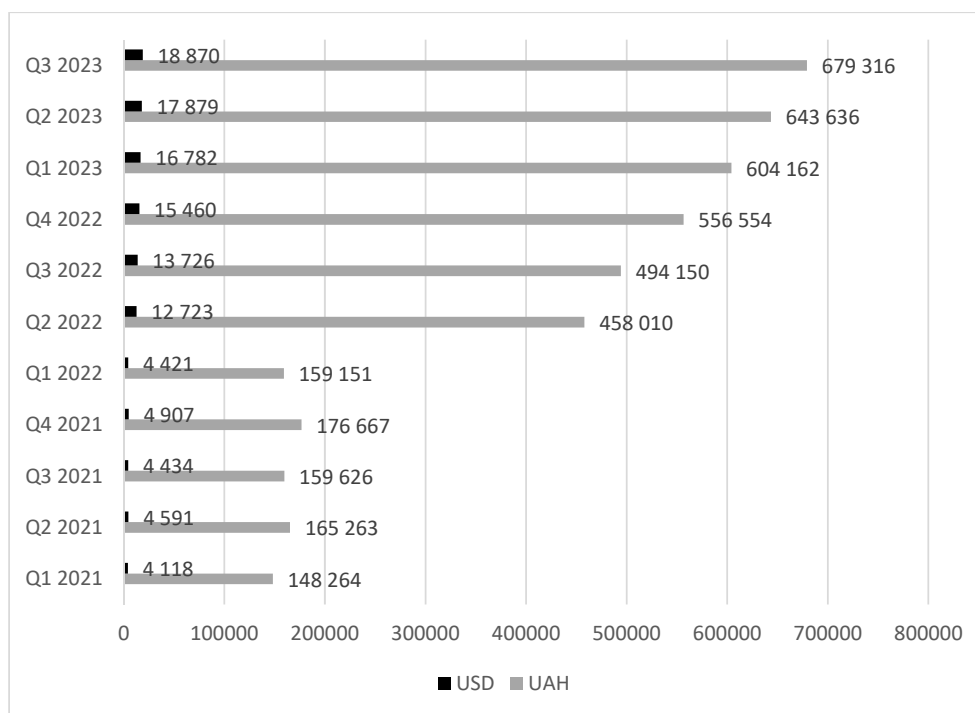
**Fig. 3. Dynamics of the volumes of accounting operations of depository institutions in 2021-2023 (by quarters), hryvnias (UAH), dollars (USD) million.**

*Source: based on Professional Association of Capital and Derivatives Market Participants (2023).*

Accounting operations involve maintaining securities accounts that reflect the amount of securities on the client's account. Thus, at the beginning of the full-scale invasion, the volume of securities in Q2 2022 decreased by UAH 193,848 million compared to Q1 2022 and by UAH 213,543 million in Q3 2022. This is due, firstly, to restrictions on issuance and investment activities in securities in the stock market due to the introduction of martial law, and secondly, to the sale and withdrawal of funds from accounts in depository institutions. Since Q4 2022, the volume of securities accounts has been increasing as a result of the

end of the ban on investment operations, the placement of significant amounts of government debt securities at a high discount, and the provision of more extensive services for clients of depository institutions (including banks).

A positive trend during the war is the increase in the number of depositors' accounts (Figure 4) in domestic depository institutions, which indicates an increase in the confidence level of individuals and legal entities in financial intermediaries and financial instruments as a tool for preserving and increasing personal finances.



**Fig. 4. Dynamics of the number of depositor accounts of depository institutions during 2021-2023 (by quarters), hryvnias (UAH), dollars (USD) million.**

*Source: based on Professional Association of Capital and Derivatives Market Participants (2023).*

In Q3 2023, the volume of depositor accounts amounted to UAH 679,316 million, which is UAH 519,690 million more than in Q3 2021.

Despite the war, the constant threat from the aggressor country, the economic crisis, and the instability of the national currency, entities open securities accounts in depository institutions and replenish their portfolios with equity and debt securities, a positive trend for the Ukrainian stock market.

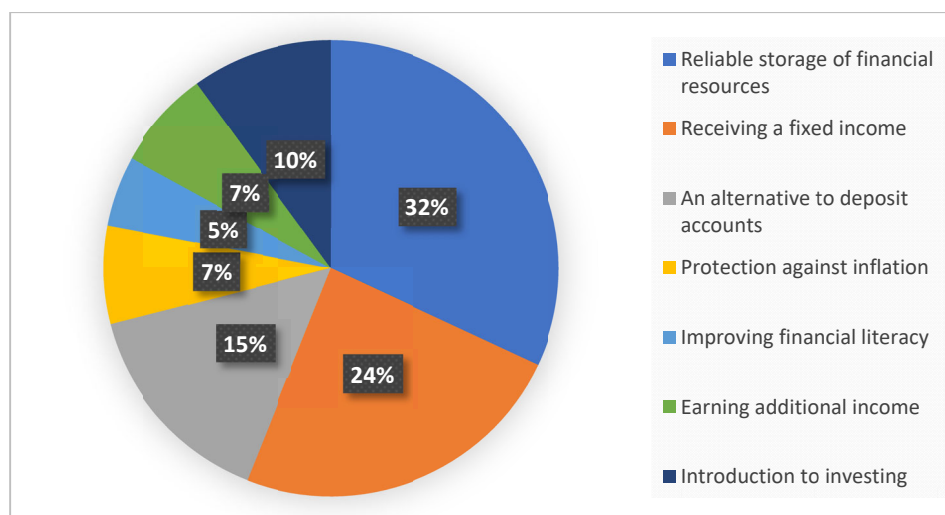
Surveys among depositors who have accounts with depository institutions show (Figure 4) that such accounts provide a more reliable means of preserving and appropriating personal capital (32%) in terms of unstable financial fluctuations, as well as a reliable way to generate additional income (24%).

For the calculation, the indicators in Figures 3 and 4 will be used (however, indicators will be transferred to UAH billion).

Calculation of  $\Sigma X = 4,487$ , calculation of  $\Sigma Y = 4,244$ , calculation of  $\Sigma X_2 = 20,133,169$ , calculation of  $\Sigma Y_2 = 18,011,536$ , total calculation is 1,852,347. The indicators are substituted into the formula, and the value of the coefficient and the value of the correlation coefficient  $r$  are calculated:

$$r = \frac{166199792}{1885669932} \approx 0,088$$

Such a calculation indicates a weak positive relationship between the volume of accounting operations of depository institutions and the number of accounts of depositors of depository institutions. This makes it possible to conclude that the volume of increase in accounting operations of depository institutions depends on many types of activities, cooperation with other financial institutions, and the possibility of providing services for the circulation and preservation of various types of securities (debt, equity, derivatives) (Saunders et al., 2021).



**Fig. 5. Advantages of opening securities accounts through domestic depository institutions in 2023, %.**

Another important indicator is the provision of comprehensive data statistics, in particular by the National Depository of Ukraine (2023) (Table 2), which ensures transparency of

depositories' activities, changes in transaction volumes, volumes of securities registers, and operational activity.

**Table 2. Volumes of indicators of the activities of the Central Depository as of the end of November 2023, pcs, hryvnias (UAH) million.**

Total depository assets (UAH million)	1 955 826 (55 439,6 USD)
Total number of issuers (pcs.)	10 780
Number of depository institutions (pcs.)	135
Registers formed (pcs.)	1 096
Users of 'Client Cabinet' (pcs.)	5 353
Total operational activity (pcs.)	83 477
Number of databases and documents of depository institutions in storage (pcs.)	153
Number of securities storage accounts of authorised depository institutions (pcs.)	591 772

*Source: based on National Depository of Ukraine (2023).*

The activities of the Central Depository of Ukraine(2023) set the standards and rules of the regulator of depository services, which must comply with the following conditions and principles:

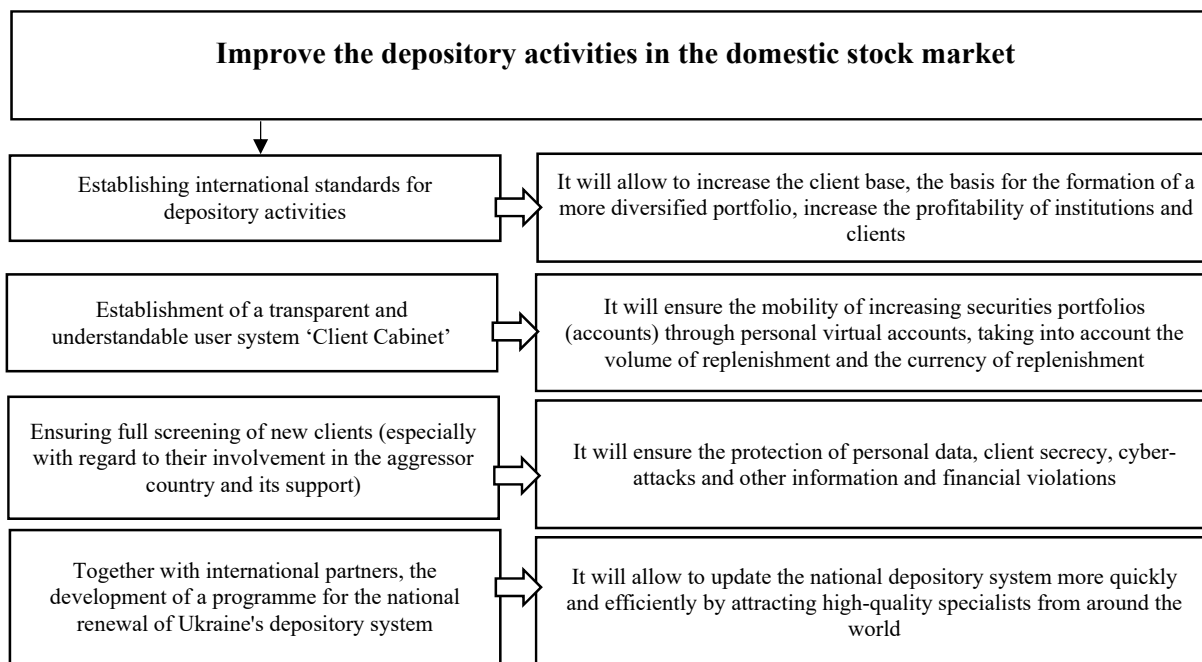
- partnerships with clients, using high-tech solutions, high level of STP and complying with PFMI-IOSCO principles;
- establishment of a unified, state-owned system of depositories (the Central Depository – the first level and licensed depository institutions – the second level) for transparency and equality in the exercise of activities, as well as integration into the international post-trade financial system;

- legality of activities – compliance with the laws of Ukraine and decisions and resolutions of the National Bank of Ukraine and the National Securities and Stock Market Commission (2023);
- providing transparent and high-quality depository services;
- ensuring compliance with all norms, rules and requirements for licensing, financial, tax and accounting activities;
- ensuring maximum protection of information, both personal and client, in electronic and paper forms;
- implementation of settlement procedures for the crediting or transfer of securities;



- providing accurate and timely information on accrued dividends or discounts on securities on the account;
- providing complete and timely information to regulators (reports, regulatory indicators, statistics, compliance with licensing for depository activities).

The following aspects of the depository system development should be ensured to contribute to the further development of the Ukrainian depository system and, consequently, the stock market (Figure 6).



**Fig. 6. Identification of the main directions of optimisation of domestic depository services.**

The following areas of improvement should also be considered:

- development of a state program to optimise the activities of depository institutions based on a marketing policy to improve their business image, which will ensure an increase in the level of investment support for domestic securities (equity and debt). Such a system includes publishing the necessary information on the websites of the National Bank of Ukraine, the National Depository, the National Securities and Stock Market Commission (NSSMC) and the Stock Market Infrastructure Development Agency of Ukraine (SMIDA);
- establishment of bonus programs for clients who open securities accounts to build portfolios of domestic securities in the long term;
- amendments to the development of international programmes for optimising the depository system of Ukraine in the post-war

period, considering the state of the economy, investment attractiveness, and information security of electronic accounting systems;

- development and installation of technical protection of securities accounts with constantly updated security systems and limited access outside the country.

## 6. Conclusions.

Despite the war in Ukraine, constant shelling of the country's financial infrastructure by the aggressor, illegal seizure of territories, and the financial crisis, depository institutions continue to provide high-quality services that increase the volume of securities accounts, number of depositor accounts, and volume of depository assets in nominal value.

Another important aspect is the increase in diversification of securities through the possibility of investing in domestic and international financial instruments.

In addition, the results indicate an increase in the number of accounts, depositors, accounting operations, and depository assets. However, by 2022, the number of depository institutions with official licenses had decreased significantly to 135. According to 32% of those surveyed by the National Depository, the reliability of the storage of financial resources is considered the main advantage of the disclosure of securities accounts.

However, a significant range of internal and external factors impede certain aspects of the high-quality, efficient, and transparent provision of depository services by first- and second-tier institutions. Therefore, further research is recommended to study the national development of Ukraine's depository system in the context of European integration and the involvement of international organisations in depository services.

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