

## Securities Custody Services: International Experience

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**Abstract.** The relevance of the study is explained by the underdevelopment of the securities market in Ukraine, which barely started establishing the institutions and mechanisms of a market economy. Ukraine has a decentralised system of depository services, which hinders the development of the stock market, because the decentralised system of accounting for rights to securities complicates the procedure of transactions and increases risks. The purpose of the study was to investigate the international experience of securities depository in the rapidly expanding securities markets, especially in Eastern Europe and Asia, their technology, identifying their new functionality and dominant models of their architecture in the context of regulation, interaction of market participants and protection of their property rights. The main methods of study of international experience in the provision of securities custody services were empirical, analytical, and inductive methods, which together allowed describing the systems of securities circulation in different countries, analysing them to identify common features that are important for their implementation in Ukraine for integration into the global system of redistribution of financial resources. The study considered various securities storage systems, national depository systems, covered the features of national mechanisms of interconnection of all participants in the securities market, identified conceptual problems of securities market organisation in Ukraine, substantiated the need to adapt international experience for institutional development of the national depository system of Ukraine. The materials of the study have practical value for the development of the depository system in Ukraine as a basis for the functioning of the securities market, compatible with technological international depository systems in full functionality, which guarantees investors' property rights and enables Ukraine to become a full-fledged redistributor of global financial resources and, accordingly, to attract investments for economic development pursuant to international rules and standards of "transparent" functioning of securities markets, thus putting institutional barriers to corruption influences. The comparative analysis of depository systems of different countries allowed covering weaknesses in the existing depository system of Ukraine, outlining the conceptual approaches to legislative and organisational actions on its development

**Keywords:** securities, custodians, depository activities, Central Depository, international experience

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## Introduction

Securities trading on global capital markets dates back more than a century. Along with the evolution of the capital market with constantly growing trading volumes, the securities storage model (holding) is also being transformed from a direct storage system to an indirect one, and securities have become mostly immobilised in the form of an electronic account, instead of a physical (documentary) form. Under the direct storage system, investors own securities and, directly exercise all rights related to the securities that they own, thereby avoiding the risk of storage or loss of securities held by the intermediary. Placement and operations with securities under this system provide for the issuance of physical certificates of ownership of securities to the beneficial owner, that is, the investor, and is registered directly in the share register.

To reduce the risks and costs of storage, beneficial owners have started hiring a custodian of securities who will act on the transaction on their behalf. This was the reason for the development of an indirect storage system, when beneficial owners of securities hold securities with market intermediaries (nominees), which include securities brokers, custodian banks, and, subsequently, central depositories (CD). Securities are held in nominal accounts on behalf of market accounts intermediaries acting on behalf of the beneficial owners. The names of the nominees will appear in the share register instead of the names of the beneficial owners, thereby levelling relations between the issuer and the beneficial owner. Indirect storage systems are additionally classified into single-level and multi-level ones. In a multi-level indirect storage system, the upper level is often central depositories (CD), while the lower levels consist of financial services firms such as brokers and custodians, which act as candidates for investors. The disadvantage of this system is the possible violation of the investor's interests, for example, abuse of account by the nominee and ascertaining the rights of shareholders in the event of default or bankruptcy of the intermediary managing the nominal account.

A new modified indirect securities storage system is currently being implemented, which offers property protection benefits such as a direct storage system, and efficiency and cost savings benefits for investors such as an indirect storage system. In both an indirect storage system and a modified storage system, securities are immobilised or devalued and are held in securities accounts with the Central Securities Depository (CSD). In the modified storage system, investors can open personal accounts with the Central Securities Depository, and changes in ownership are registered in the issuer's share register after settlements with securities transactions are made. In other words, issuers maintain direct relationships with investors in a modified storage system, as in a direct storage system. The movement of securities is often carried out directly through registration forms or through their personal accounts in the CSD, with updates of ownership rights after settlements with securities are made in electronic form. However, the transition to a modified storage system often requires significant expenditures, market development, and a certain level of technological development.

According to the International Organization of Securities Commissions (IOSCO), an indirect storage system is widely accepted as a reference system for the safekeeping of securities worldwide, provided adequate protection against abuse. *The purpose of the study* is to analyse the International Securities Market and related depository activities in Eastern Europe and Asia.

## Theoretical Overview

To improve the process of interaction between all participants in securities and clearing settlements, reduce risks, and improve the management of the depository activity system (official website of the Group of Thirty), a number of organisations have been created in the world that develop international standards for building systems for accounting for property rights, executing securities transactions, and provide appropriate recommendations. These include: the Group of Thirty (Group 30, G-30) [1], the Association of European Central Securities Depositories (ECSDA), the International Organization of Securities Commissions (IOSCO), the International Securities Services Association (ISSA), the Bank for International Settlements (BIS), the Committee of European Securities Regulators (CESR), the European Central Bank (ECB), the Asia-Pacific Central Securities Depository Group (ACG), the Giovannini Group (GG) [2].

The National Central Securities Depositories are the core of the modified indirect securities storage system. Currently, in developed countries of the world, 95% of the stock market is serviced by central depositories. In Europe, there are 41 central depositories that are full members of European Association of Central Securities Depositories, and all over the world in general – more than a hundred [3]. When analysing the composition of owners of CSD in the EU countries, the following groups can be distinguished [3]:

- 15 countries have a single Central Depository for corporate and government securities: Austria, Cyprus, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, Luxembourg, Malta, the Netherlands, Sweden, and the United Kingdom;
- 10 countries have a single Central Depository of corporate securities and one depository in the central bank structure for servicing transactions with government securities: Belgium, Bulgaria, Greece, Ireland, Latvia, Poland, Portugal, Romania, Slovakia and Slovenia;
- there are three depositories in the Czech Republic (two corporate securities depositories and one central bank depository for government securities). Both corporate securities depositories are owned by private sector participants;
- Spain has four depositories (for corporate and government securities). In all four Spanish depositories, control belongs to the private sector (the central bank's share is 5%) [3].

Among the post-Soviet countries (except the Baltic states), only four have a single Central Depository of corporate and government securities, in two of which 100% control belongs to the private sector (Georgia and Moldova), in the Central Depository of Kazakhstan, the private sector is the majority owner (the central bank has a 49% share

in the Central Depository), and Belarus the Central Depository is completely state-owned. In Russia, there are two depositories of corporate and government securities, one under 100% control of private sector participants, and in the other, also private, the central bank has a significant share of equity capital, which does not exceed 50% [3]. The process of creating a Central Depository in Ukraine has been slowed down since 2009, although its creation is extremely necessary for integration into the global economy and access to global financial markets. The study of the experience of other countries in forming a Central Depository and its interaction with other participants in the securities market can become the basis for making management decisions on this issue that are adequate to the conditions of Ukraine.

Securities services, an important and permanent part of the capital industry, have not been fully investigated. The processes of securities circulation, as a rule, were studied by highly specialised specialists, banking and exchange analysts, and almost did not reach the level of theoretical generalisation. The rapid development of the securities market in recent decades has attracted attention to it, but so far information about its processes is mainly at the level of research by banking and specialised organisations.

### Materials and Methods

This paper is largely a theoretical generalisation of the empirical stage of research on the subject matter, which involves collecting information about the state of affairs of the modern securities market, the structure of markets, their features, development trends, primary processing of facts, selection from all facts typical, the most repeated and expressing the main trends in the development of the world securities market. The methodological framework of the study included the scientific papers of foreign researchers in the field of the international securities market, its regulation, and institutional mechanisms of its operation. At the same time, the principle of unity of theory and practice was applied.

To achieve the purpose of this study, the following methods were used: *theoretical generalisation* (to analyse the functions and features of the International Securities Market); *dialectical approach* (to determine the specifics and changes taking place in the International Securities Market); *historical and logical approach* (to analyse the evolution of securities storage systems); *analysis and synthesis* (to identify the components of the institutional environment of the securities market and their interaction with each other in the context of the impact on the market operation); *induction and deduction* (to analyse the elements and structure of modern securities markets, in particular, the storage of securities); *scientific abstraction* in all sections of the study.

The use of the *induction method* is more inherent in the study of the empirical stage, to which this paper belongs. The study also applied *isolation abstraction method*, which allowed identifying a key element of modern securities markets, namely the CSD, as well as identifying from all aspects of the markets an element of mechanisms for interaction between the Central Depository and other market entities,

describing the operation of these mechanisms in different countries of the world, which can later become the basis for comparative analysis. This method was also used to group European member countries of the European Association of Central Securities Depositories (ECSDA) based on the composition of owners of Central Securities Depositories. The use of all these methods in a complex allowed describing the systems of securities circulation in different countries of the world, analysing them in order to identify common characteristics, which is important for their implementation in Ukraine for integration into the global system of redistribution of financial resources.

The study highlighted a new modified indirect securities storage system as the dominant characteristic of the modern world securities market, which provides the advantages of property rights protection and efficiency for investors. The core of this system is the creation of national CSDs, which control the registration procedures for the movement of securities at all stages, ensuring their maximum transparency, which is important for protecting property rights [1; 4-6].

The paper noted that the development of national securities markets within this system is based on two main models – the American (US), where the main custodians of securities are special investment structures outside the traditional banking system, and the European, where traditional banks are assigned the main function of the custodian of securities. The study also noted such trends of modern securities markets as a rapid increase in the number of transactions, the need for the same rapid maintenance in compliance with all the rights of owners, the distribution of costs and profits of all entities in the process of transactions, the expansion of the range of financial services (for example, the development of custodial services) in the conditions of their technologisation [7-9].

As one of the main tasks of regulating the securities market, the study considered the need to maintain a balance between the speed of all registration procedures in the process of transactions with securities and their control over accuracy and timeliness. Excessive regulation of the securities market slows down the speed of capital movement in the world and makes it less attractive compared to other sectors of the economy, insufficient control over the registration procedures for the movement of securities creates excessive risks for their subjects to comply with their property rights [10]. Interrelation mechanisms between national CSDs and other securities market entities, not only in the form of generalised models, but also with the characteristics of each country, are understudied in the Ukrainian economic literature. If the experience of the operation of the US and European Securities Markets was addressed by Ukrainian authors, then the experience of Asian and Australian countries with their new rapidly growing markets has not been sufficiently reflected. These questions became the main subject of this study.

Based on the research paper by the World Bank [2] and F. Brekevelt [11], this study reviewed the mechanisms of interaction between national CSDs and securities market

participants in such countries – Australia, Mainland China, the European Union, the United States, Hong Kong, India, Korea, Singapore, Taiwan. This provides an opportunity to get acquainted with the experience of the securities market operation in different countries of the world on different continents. A comparative analysis was carried out and the key fragments were identified – mechanisms of interaction between national central securities depositories and securities market entities. This approach revealed the difference between the “old” and new securities markets, their features depending on the level of economic development, technology development in the country, and political characteristics (Mainland China, Hong Kong, and Taiwan – differences and interaction with China and other countries of the world) and can be useful, both for other researchers and for making managerial decisions.

## Results and Discussion

Securities markets, an integral important element of which is the storage of securities, are developing quite rapidly in the world – they cover new markets in Eastern Europe, Asia and other continents, the scope of financial instruments offered is expanding, and new technologies are emerging. The urgent needs of the securities market require the specialists involved to respond quickly to provide recommendations on regulation, control, and improvement of accounting systems. Theoretical understanding of these processes is somewhat slower. Thus, Central Securities Depositories in Europe began to be created on the initiative of the G-30 in 1989 and today have become the core element of securities markets in the world [1]. They address various aspects of the establishment of central depositories, compare existing models of securities market regulation, analyse experience already gained, and provide recommendations for new markets in developing countries. According to the classification criteria of existing models of regulation of securities markets, regulatory models are distinguished by the level of role of banks in storing and ensuring the movement of securities, the level of participation of self-governing organisations in the process of creating standards, rules for regulating the securities market and its operation, the level of state participation, and participants in the securities market in the creation of central depositories.

The paper [7] of the chosen topic analyses the common features and differences of the American and European regulatory systems. The author notes that in the American system there is monopolisation of securities markets at the level of participants, commercial banks are prohibited from investment activities, and investment banks – commercial; strict regulation, a high level of control over the behaviour of market participants by the state. The European system with a central depository is defined by complete centralisation of the market at the level of legislation, banks are allowed to combine banking operations with activities on the securities markets, minimal state participation in regulation, and a low level of control and supervision.

R. Franzioni, analysing the evolution of processes on stock exchanges, points to a change in the role of commercial

banks in the American system – a restriction under the Glass-Steagall law and an increase in the Graham-Leach-Bliley law in 2000 [12]. The leading role of self-governing organisations (SGO) in creating standards and rules for the operation of the securities market is also noted (the main international organisations are listed in the introduction). However, self-governing organisations in most countries are participants in the creation of central depositories.

In the world practice, there are different models of regulation of the securities market – those where the main functions are performed by state bodies, only a small part of the powers is transferred to associations of professional participants in the securities market, and those where most of the powers are transferred to self-regulating organisations. However, the process of effective self-regulation should be based on a powerful structure of professionals who aim to maintain the reputation and gain prestige of a certain firm in the market. That is, the sphere of self-regulation can only be based on established business ethics, a system of negotiations and approvals, development of which takes time [10]. In the law of Ukraine “On state regulation of the securities market in Ukraine” [13], there are five such models:

- 1) without SGOs (Australia, Austria, Brazil, Italy, Spain, India, Turkey, France, Czech Republic, Sweden, etc.);
- 2) with a single SGO (on a functional basis) (New Zealand, Poland, Korea);
- 3) rejection of the SGO model (UK);
- 4) multiplicity of SGOs (based on functional characteristics) – Japan, Norway;
- 5) multiplicity of SGOs (on a mixed basis) – Canada, USA.

Making recommendations for countries that are starting to create securities market institutions, experts of the International Monetary Fund (IMF) note that the optimal model for creating a central depository would be a mixed public-private model. However, the Central Depository can only be owned and operated by private individuals if these legal entities are able to solve public interests. Otherwise, it would be better if the central bank owned and operated the Central Depository.

For Australia, according to the author, the creation of a Central Depository (central counterparty) of securities markets user-based ownership is a more expensive but less risky model than models based on other forms of ownership. The creation of a securities market in Kazakhstan, which would allow its participants to enter the international capital markets, is the subject of research by Professor K.J. Lee [5]. His proposals relate to the relationship between the corporate governance structure and privatised state-owned enterprises (SOEs) as a way to reform SOEs in the transition period of the economy, using the experience of Central Asia. Companies around the world are conducting initial public offerings (IPOs) to reform SOEs and increase the liquidity of private companies. However, the issue of securities on the stock exchange is supposed to be carried out with the involvement of the National Welfare Fund. The proposals take into account the popular IPO system introduced in previous years.

In the study by Deloitte [14], the problem of operation



of the securities market was identified, which depends to a large extent on the prompt processing of transactions with securities and simplification of control over them. "Global trade volumes are still high, according to a McKinsey study from the very beginning of 2018. In the financial services industry (FSI), only the securities services industry has shown low single-digit revenue growth in recent years. Therefore, operational efficiency becomes one of the main drivers for reducing costs and increasing margins for custodians and depositories" [14]. The solution to this problem is proposed through the use of new information and financial technologies, such as distributed ledger technology (DLT) and the expansion of custodial services, in particular regarding the circulation of bitcoins. Accelerating the speed of transactions through the development of technology can have a significant economic impact on the global economy. Thus, "according to the data obtained, DLT can reduce the transaction costs of insuring insurance contracts by only USD 2-4 billion and expenses related to clearing and settlements with securities will decrease by USD 11-12 billion. The analysis shows that DLT can reduce the cost of banking infrastructure related to cross-border payments and securities trading by USD 15-20 billion. The World Economic Forum even estimates that by 2027, blockchains will store up to 10% of the value of global GDP" [14].

Issues of development of securities market institutions, its legal and regulatory framework as a key institution are considered in [9]. The scientific literature of Ukraine neglects the issues of building the architecture of national depository systems and mechanisms of interrelation of all participants in the securities market. If the experience of storing securities in the United States and European countries is analysed by Ukrainian scientists, then the experience of Asian and Australian countries is still insufficiently introduced into scientific circulation. In this context, the papers by the World Bank [2] and F. Brekevelt [11] are of particular interest. They include the analysis of securities storage systems in different countries of the world, built taking into account national characteristics, show the mechanisms of interaction between CSDs and other sub-securities market projects, ensuring the transparency of its operation, and mechanisms to protect the ownership of securities. A brief overview of securities storage systems in different countries of the world, such as Australia, Mainland China, the European Union, the United States, Hong Kong, India, Korea, Singapore, Taiwan. The study considers the international experience of these countries in more detail.

**Australia.** In Australia, there are two types of registers for storing securities – the CHES sub-register and the issuer-funded sub-register. Securities are dematerialised, meaning paper certificates are not issued by both sub-registers, although the securities exchange (ASX) can still offer them. The main register for a particular company is compiled using consolidated registers of custodians registered in both the CHES sub-register and the issuer-funded sub-register. CHES stands for Clearing House Electronic Sub-Register System, which is managed by the ASX Settlement Pty Limited Exchange and performs two

main functions – facilitates clearing and ensures trading in shares and providing an electronic sub-register of shares of companies listed on the exchange. Once the agreement is concluded, CHES transfers ownership of the shares electronically, while facilitating the transfer of money for these shares to participants through their respective banks (delivery vs. payment or DVP settlements). CHES participants are brokers, custodians, institutional investors, and settlement agents who perform settlement operations, trading mainly for themselves or in an agency on behalf of their clients.

To own shares in the CHES sub-register, an investor enters into a sponsorship agreement with an authorised CHES participant acting as a "chess sponsor" (usually a stockbroker or settlement agent, such as a custodian) to manage the investor's investment packages in the CHES sub-register on behalf of the investor. The shares are held in the investor's name, and the shares of all securities are consolidated in a single account under a unique securities holder identification number (HIN). Investors can own shares through multiple CHES sponsors, and the investor is given a different HIN for each of the CHES sponsors. The ASX repository provides investors with independent stock movement reports so that they can track their assets in CHES. The investor must notify the CHES sponsor of any changes to their personal information, such as their registration name and address.

Shares held by investors who do not have CHES sponsors or have purchased shares without their identification number will automatically be registered electronically in the issuer-funded sub-register. The sub-register funded by the issuer is maintained by the company that issued the shares. Most companies use the stock register to administer the sub-register on their behalf. For each share sponsored by the issuer, the issuer will assign the investor a unique securities reference number (SRN). That is, the investor will have a separate SRN for each issuer of the securities they own. Investors who want to trade these securities must transfer the securities from an issuer-sponsored account to CHES, giving instructions to the stockbroker to do so. For each security held by the investor, a separate deposit application will be sent to the investor using the register of shares of the relevant issuer. The investor will need to notify the relevant stock registers of any changes in their personal information.

Thus, the Australian market uses both a direct storage system (through a sub-register sponsored by issuers) and a modified system for storing and conducting operations with securities (through a CHES sub-register). The CHES system, which has been operating for 25 years, is going to be replaced by DLT technology, which is usually called "blockchain". It is assumed that the new system will provide timely, secure and simplified access to the register of owners (for issuers), financial assets (for end investors) and related information.

**Mainland China.** Investors must open securities accounts in their real names with the China Securities Depository and Clearing Corporation (CSDC) in order to trade and hold the securities. Securities are held in dematerialised electronic form without physical certificates. Opening an

account is carried out through authorised institutions, usually securities companies. Investors can be individuals, legal entities, partner companies, or investment institutions that work with securities. A securities investor's account consists of a master account and sub-accounts. The master account has a unique identification number that links to the accounts, together providing a comprehensive view of the investor's securities ownership. Information about the investor's identity includes the investor's name, identity document type, and number. The Central Depository (CSDC) [15] is responsible for storing information about the securities account for investors and the register of shares of issuers of securities. The register of shares contains the name of the shareholder, the securities account number, the owner's identification number and address of the owner, and the details of the holding.

Shares held by custodians of securities and agencies for their clients are deposited with the Central Depository, which is a joint-stock company, where the shareholders are the state, state legal entities, non-state legal entities, including individuals, foreign individuals and foreign legal entities. The registration rules of the Central Depository allow registering securities in the names of nominees. The nominee enjoys legal rights to be a shareholder when providing a corresponding order to act on behalf of the beneficial owners. The Central Depository has the right to request the nominee to provide detailed information about the beneficial owners.

**European Union (EU).** The EU includes many developed Western markets that use common practices involving nominees and custodian banks. The latter serve both retail and institutional investors. They act as holders of securities and processors of transactions in financial instruments, in particular clearing and settlement of transactions, on behalf of their clients. Some of them are considered "important custodians" because they play an important role in the above-mentioned responsibilities for major global investors and largely seek to internalise clearing and settlement of transactions of their investor clients, rather than redirecting them to the appropriate CSD. To ensure such generally accepted market practices, the EU authorities imposed strict rules on large custodians and used additional safeguards to eliminate specific clearing and settlement risks in such circumstances.

In the EU, the Committee of European Securities Regulators (CESR) [15] and the European Central Bank (ECB) have established a set of standards for clearing and securities settlements that are compatible with the CPSS-IOSCO recommendations for securities settlements of the system. According to EU standards, securities should be immobilised or dematerialised and transferred as much as possible by depositing books in the Central Depository [16]. To protect the integrity of securities issues and the interests of investors, the Central Depository must ensure that the issue, storage and transfer of securities is carried out properly. The vast majority of European stocks have been dematerialised, and where physical certificates are available, they are replaced by electronic entry of books into security

accounts. As cross-border investments have become popular in Europe, cross-border storage chains involving multiple intermediaries are common, starting with a Central Depository through local custodians, global custodians, and the last intermediary serving the end investor. For the most part, large institutional investors have up to four intermediaries, including the Central Depository. Intermediaries typically use "all-round" or "combined nominee" accounts with a Central Depository or other intermediary level at which they hold securities of more than one investor in the account. In the context of issuer-investor relations represented by "direct" or "indirect" participation, different European markets use different models.

*Direct storage system* with investors and nominees' accounts (for example, Sweden) – an investor (whether Swedish or not) can choose the holder of the securities to hold them in their accounts with the Central Depository (registered to the owner) or to keep them in a cash account with a member of the Central Depository who, for his part, holds the securities in a nominal account with the Central Depository (registered to the nominee). The legal owners of securities are certified in the books of nominees. Swedish nominees are required to report their clients (main owners) to the Central Depository, allowing the issuer to be informed of all their shareholders. In a direct storage system with two-level registers (for example, Spain), the Central Depository maintains a central register with accounts of professional participants, such as banks or other intermediaries. Each participant manages the implementation of a detailed register of securities in the name of their clients. Both registries are updated based on daily trading and settlement data. According to Spanish law, the persons included in any of these registers are shareholders.

*In an indirect storage system* with a single-level register (for example, Germany and France) – the central depository provides accounts only to professional participants or first-level clients, such as custodian banks and other financial institutions, such as central depositories in other countries. Usually, domestic investors are clients of Central Depository participants, while international end investors can use other banks in storage chains. These storage chains typically consist of up to four or more intermediaries between the Central Depository and the end investor. In some countries, depository banks are required to disclose information about the issuer's final investors as of the recording date in the event of shareholder rights being exercised.

*Indirect storage model* without a permanent register (for example, Italy) – members of the Central Depository, usually banks, maintain securities accounts for their clients (end investors or other banks). The register of shares is not a "permanent" register, as it is updated with end-investor data in special cases, such as a general meeting of shareholders, where participants are invited by the Central Depository to transmit end-investor data.

*In a mixed storage model* with a permanent register (for example, in the United Kingdom and Ireland) – investors can hold shares directly in the register in dematerialised or materialised form, or an intermediary can be used to

hold shares on their behalf. The Register of shares includes only persons who are shareholders. Investors who trade securities through an intermediary can arrange to enter their name directly in the register. In the UK, part of the Register of shares is maintained by the Central Depository, and this part is reflected in the company's register, which makes it unnecessary to transfer the data of final investors to exercise the rights of shareholders. The rapid growth of economic activity between citizens and economic entities of different countries, especially in Europe, has put on the agenda the need to resolve the issue of cross-border securities movement. This issue is currently in the focus of attention of the European Parliament, the European Commission, other European organisations and relevant national institutions of European countries [15].

**Hong Kong.** In Hong Kong, securities are often held by investors through intermediaries, including brokers and custodians. The Central Clearing and Settlement System (CCASS) is used by the Central Depository. It accepts deposits of physical securities certificates from participants for placement and secure storage. Investors (individuals, joint ventures, or corporations) can apply to become investor participants (IP) in HKSCC. Each IP is allocated one "universal" promotional account, while each other participant has one checking account for settlement purposes and one account that entitles them to receive benefits. Broker or custodian members can open separate shares (SSA) with a service statement from HKSCC for their investor clients. Shareholders of client investors will be registered by HKSCC in these accounts, separately from those participants who open and manage accounts. For investors-clients, HKSCC provides statements on the movement of shares in accounts and receives corporate communications, in particular annual reports and notifications on corporate activities directly from stock registrars.

The transfer of securities after performing an operation on the HKEX securities market is made "to" and "from" the stock accounts of clearing participants (intermediaries) electronically, by recording in the CCASS book. At the second level – the transfer of securities "to" and "from" IP shares. Accounts can be initiated either by the IRA itself or through its intermediary participants (clearing parties, custodian participants, lender, or mortgagee) in the form of Investor Settlement Instructions (ISI). Shares held in the CCASS depository are registered in the name of the HKSCC limited nominees, a general nominee that exercises the rights of shareholders over their securities and acts on instructions received from members. Participants can opt out of physical share certificates from the CCASS depository. Issuers may require HKSCC to provide them with information about CCASS shareholder security, including names, addresses, and IP shareholder information.

**India.** In India, Securities exist in the form of a physical certificate, but they need to be dematerialised, that is, converted to electronic form, for trading on the stock exchange. Dematerialised securities are held in the accounts (Demat accounts) of beneficiaries in two depositories – the

national securities depository (NSDL) and the centre of depository services (India) (CDSL), which have limited liability. Securities can be "rematerialized" – electronic balances held in a Demat account are converted back into physical certificates. After dematerialisation, the issuer of securities is registered (through its agent) with the depository as the owner of the securities, and the investor as the beneficial owner.

The investor (beneficial owner) opens a beneficiary account with a registered depository participant (DP) NSDL or CDSL and can close the account at its own discretion as a bank account. Accounts can be opened jointly with other individuals. Depository participants can be banks, brokers, custodians or financial institutions approved by the Securities and Exchange Board of India (SEBI), the market regulator. Multiple beneficiary accounts can be opened with the help of one or more depository participants (DP), without any restrictions. The documents required to open an account include proof of identity, which is very often a PAN card, and proof of address. PAN is a permanent account number, which is a unique 10-character alphanumeric identifier issued by the Department of Income Tax of India to each judicial authority defined by the Indian Income Act of 1961. [12]

Communication between depositories and investors is carried out indirectly through the depository participant. An investor with an open Demat account is provided with the client's account number and Client ID, which must be used together with the depository participant ID (DP) to perform operations with securities. Securities transactions are settled via electronic transfers as follows: securities are transferred from the merchant client's account to the clearing participant's account for clearing, for example, the NSE clearing of the National Stock Exchange of India (NSE). The buyer receives securities on his account from the account of the clearing participant after delivery to the settlement house in the specified locality. Deliveries are made according to the delivery instructions (which may be permanent). Clients can also pay through the custodians of their securities. At the clearing member's choice, settlements can also be made directly by delivering securities to the investor's account (such a mechanism is available for clearing operations on both the NSE and the Bombay Stock Exchange (BSE)).

**Korea.** The Korean Securities Depository (KSD) is the Central Securities Depository in Korea, which is responsible for the initial transfer of securities between accounts, delivery of securities, and payment after settlement of securities transactions. Securities that exist in physical (printed) form and securities that can be deposited in KSD are fixed by KSD. An investor can directly open an account with KSD, deposit and hold securities in their own name, or do so through a depositor. The latter who deposits and holds securities in the investor's KSD must maintain an "investor account book" that records the names and addresses of investors, as well as the type and number of securities deposited and the names of issuers. KSD must prepare and maintain a "depositor's account book" and create the difference between the depositor's share and the investor's deposit. Any

person listed in the investor's book of accounts and in the Depositor's book of accounts is considered the owner of the relevant securities (the "beneficial shareholder").

Deposited securities are registered in the name of KSD in the securities register by the issuer, and when the depositor or his investors buy or subscribe to the securities, the issuer of the securities must register such securities in the name of KSD on behalf of the depositor or his investor. KSD can exercise the rights to deposited securities at the request of the depositor or its investors. At the request of the issuer, in accordance with the requirements of Korean economic legislation, KSD must notify the issuer of the beneficial shareholders. The Issuer or transfer agent must prepare and maintain the register of beneficial shareholders, and the total block of shares of the shareholder, together with information from the register of physical certificates on the exercise of the shareholder's rights [16].

To trade on the Korea Exchange (KRX), an investor must first open a trading account in the investor's name through a securities company licensed by the Financial Services Commission (FSC), which is a member of KRX. Therefore, non-resident foreigners must first register their personal information with the Financial Supervisory Service (FSS) and obtain an Investor Registration Certificate (IRC). A KRX member who opens a trading account for an investor must classify an investor as either a "professional investor" or a "regular investor", depending on the investor's level, investment experience with the investor's financial products and assets. Settlements with securities transactions are made at two levels – between KRX and KRX participants, as well as between KRX members and their investors. Delivery of securities and money is carried out by KSD by book-entry between accounts.

**Singapore.** The Central Depository (CDP) in Singapore serves as the Central Depository and is the counterparty (CCP) for all transactions made on the Singapore Exchange (SGX) securities market. Physical certificates are deposited in the CDP before being sold. The Singapore market uses both direct and indirect corporatisation systems. Investors (individuals or corporations) may hold shares directly in a direct securities account or indirectly in a sub-account of a depository agent's securities account opened with CDP. The CDP will treat the holder of a direct securities account as the absolute beneficial owner of the securities held in that account. Each depositor (other than the depository agent) must not have more than one direct securities account maintained on its own behalf with the CDP. The depository agent must open and maintain a separate sub-account for each of its clients and separate its clients' holdings in these sub-accounts from each other and from the inventory in its own account. Each sub-account must contain the account number of the depository agent and the sub-account number.

Depository agents may include trading members of the Singapore Exchange (SGX), clearing members of the Central Depository (CDP), registered trust companies, Singapore-licensed banks, or a trading bank approved by the Monetary Authority of Singapore. A depository agent

can also be a nominated company that holds shares on behalf of its investor clients. Most brokers in Singapore offer nominee or custodian services to investors for lower brokerage fees for trading securities than brokerage services for investors with direct CDP shares. The CDP may assign agents and service providers, including custodians, to store deposited securities. All securities deposited with the Central Depository (CDP) are registered in the name of the Central Depository (CDP) or its designated entities. CDP has a direct relationship with depositors (including end investors who have opened direct securities accounts) only in relation to the details of securities and transactions, and not to actions with securities [17].

**Taiwan.** The Taiwan depository Clearing Corporation (TDCC) is the Central Securities Depository in Taiwan. All types of securities listed are immobilised or dematerialised in the TDCC. TDCC is a registrar and transfer agent for publicly traded companies. Organisations that can become participants by opening an account with TDCC to work with securities, deposits, withdrawals, and non-cash transfers include the Taiwan Stock Exchange (TWSE), securities firms, custodian institutions, securities issuers, foreign depositories or clearing houses, and other institutions. The TDCC participant must provide the appropriate identification of the parts owned by the participant or the participant's clients for depositing securities in documentary or non-cash form. The participant must provide detailed information about each of their clients, including the name, address, national identification number of the client (person or organisation), or a single identification number of the organisation. The use of keepers is common in Taiwan. Each custodian opens a single TDCC account with all custodian customer accounts opened as sub-accounts under this umbrella in officially approved customer names. The securities are held in sub-accounts and re-registered by the TDCC until the date of recording the corporate action. Designated registration in the custodian's name is prohibited when storing physical certificates outside the TDCC. Physical possessions are registered in the name of the beneficial owner.

To calculate net purchases/sales of clients through a securities firm, a non-cash transfer of securities is made between the client's depository account with the firm and the firm's current account, as well as between the firm's current account and the TWSE current account. When a custodian institution that is a member of the TDCC is used, a non-cash transfer of securities for trading settlement is made between the custodian institution's Depository Account and the custodian institution's account opened for the securities firm. Special requirements apply to foreign investors for trading on the Taiwanese stock market. Following the abolition of the Qualified Foreign Institutional Investor system (QFII) in 2003, foreign Chinese and foreign investors must register with TWSE to obtain an "investor ID" before opening a trading account with a local securities firm. Registration can be carried out through an agent bank. Foreign investors are divided into four categories: 1) offshore foreign institutional investors; 2) offshore foreign Chinese and foreign individual investors; 3) onshore foreign institutional investors;



4) individual investors from overseas Chinese and foreign territories.

**United States (United States of America).** The main central depository in the United States is the Depository Trust Company (DTC), which was established in 1973. DTC corporation has now become the largest Central Depository organisation in the world. Almost all municipal securities and the vast majority of U.S. stocks and corporate bonds, use DTC as their Central Securities Depository (CSD). To ensure economies of scale, DTC has launched the Fast Automated Securities Transfer (FAST). FAST minimises the transfer of certificates and streamlines the processing of transfers by recording undocumented securities in the issuer's books of the transfer agent. To create conditions for the dematerialisation of securities, DTC has created a Direct registration system (DRS), which allows investors to choose whether to store securities in non-documentary form by the issuer [18]. However, although there has been a significant drop in the number of physical certificates deposited under the DTC code, direct ownership of physical certificates still prevails in the United States. In order for the US to remain completely paperless, a rule must be submitted for exchanges that would exclude the possibility of issuing physical unit certificates for new companies that are planned to be included in the list. Nowadays investors can hold securities in the United States in three ways:

1. Securities are immobilised by the DTC and registered by the DTC with their issuers or transfer agents, with the investor's name recorded in the book of his brokerage firm as the beneficial owner of the Securities and the name of the brokerage firm recorded in the DTC ownership record. The DTC holds the securities as the holder of an entry in the issuer's securities register. Brokerage firms provide regular account statements to investors who are beneficial owners.

2. Through the Direct registration system (DRS), DTC securities are stored electronically by the investor in the investor's own name directly in the issuer's books or the issuer's transfer agent's books. The investor receives an application from the transfer agent, which provides proof of ownership of the stock certificate, that is, the securities are devalued. There is direct corporate communication between the Issuer or its transfer agent and the investor. To sell securities held through DRS, an investor must transfer the Securities electronically from the investor's account with the Issuer (or its transfer agent) to the broker-dealer's account via DTC. Data transfer agents that use DRS are also registered users of the FAST app. They keep outstanding balances in electronic form for all DTC positions and update information about the relationship with the DTC on a daily basis.

3. With paper certificates – investors can keep paper certificates, but they must deliver the certificates to the broker three days before the stock is sold. The broker will then deposit the certificates to their DTC account. Ownership will be registered in the name of the DTC nominee electronically. When buying shares, the investor can withdraw a physical certificate from the DTC, which will be registered in the investor's name and address [18].

In the United States, it is common to use custodian banks, especially institutional investors. Integration processes in Ukraine are developing very slowly. The main reason for the lack of transnational operations in relation to securities is the lack of correspondent relations between depositories due to the inadequacy of depository entities. In Ukraine, the largest depository system is the National Depository System with limited functionality, while most countries of the world have CSDs that interact with each other, guaranteeing the order and security of transnational operations with securities. Approaches to the development of the securities market and, in particular, depository activities in Ukraine are contradictory. Some fragments of the securities market were created with the help of American specialists, while others were created with the help of French ones. In the United States, the main custodians of securities are investment banks that do not have traditional banking functions to service the economy, investment funds, and holding companies. Banks, on the other hand, have very limited functions regarding the storage and circulation of securities. In Europe, it is banks that play a key role in the storage and circulation of securities. On a technical level, using the experience of both is useful. The lack of a conceptual approach and the use of elements of different systems of storage and circulation of securities, which have fundamental differences, hinders the creation of the holistic system.

## Conclusions

Analysis of securities storage systems and their circulation in different countries of the world allows the study to draw the following conclusions. In all countries of the world where work is carried out with securities, the most common is a modified indirect system for storing securities. With the development of technology, the documentary (physical) form of securities is gradually replacing them with a dematerialised form, that is, an electronic record. In many countries of the world, an indirect system of securities storage co-exists with a direct system (a classic example is the United Kingdom).

The essence of the modification of the indirect securities storage system is the presence of a Central Securities Depository, which controls the registration of securities turnover at all stages. In most countries of the world where work is carried out with securities, national central depositories have already been established, and mechanisms for interaction between the Central Depository and other participants in the securities market are being developed and improved. There is usually a direct relationship between the level of economic development and the availability and operation of the Central Depository.

There is a tendency among global markets to adopt a transparent market surveillance model that requires the identification of intermediary clients, i.e., final investors, for each order and transaction. The transparent approach introduced in each market should be developed in such a way as to correspond to its own structure and market practices. In Ukraine, where there is a decentralised system of depository services, the creation of a Central Securities

Depository is an urgent problem. The process of its creation was slowed down and stopped in 2009-2010. The existing decentralised system of depository services in Ukraine, which has not fundamentally changed since the 1990s, hinders the development of the stock market, because it complicates the procedure for making transactions and increases risks.

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## **Діяльність з надання послуг щодо зберігання цінних паперів: міжнародний досвід**

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**Анотація.** Актуальність дослідження зумовлена наявністю низького рівня розвитку ринку цінних паперів в Україні, яка тільки формує інституції і механізми ринкової економіки. В Україні діє децентралізована система депозитарного обслуговування, що стримує розвиток фондового ринку, адже децентралізована система обліку прав на цінні папери ускладнює процедуру здійснення угод та збільшує ризики. Метою дослідження є вивчення міжнародного досвіду депозитарної діяльності щодо цінних паперів в умовах швидкого розширення ринків цінних паперів, особливо в країнах Східної Європи і Азії, їх технологізації, виявлення їх нових функціональних можливостей та домінуючих моделей їх архітектури в контексті регулювання, взаємодії суб'єктів ринку та захисту їхніх прав власності. Основними методами дослідження міжнародного досвіду діяльності з надання послуг щодо зберігання цінних паперів є емпіричний, аналітичний та індуктивний методи, що у комплексі дозволили описати системи обігу цінних паперів у різних країнах світу, проаналізувати їх з метою виділення спільних характеристик, що важливо для впровадження їх в Україні для інтеграції в світову систему перерозподілу фінансових ресурсів. У статті розглянуті різні системи зберігання цінних паперів, національні депозитарні системи, розкриті особливості національних механізмів взаємозв'язку всіх учасників ринку цінних паперів, виявлені концептуальні проблеми організації ринку цінних паперів в Україні, обґрунтовано необхідність адаптації міжнародного досвіду для інституційного розвитку національної депозитарної системи України. Матеріали статті мають практичну цінність для розвитку депозитарної системи в Україні, як основи функціонування ринку цінних паперів, сумісної з технологізованими міжнародними депозитарними системами у всій повноті функціональних можливостей, що забезпечує гарантії прав власності інвесторів і дає нагоду Україні стати повноцінним суб'єктом перерозподілу світових фінансових ресурсів, відповідно до цього залучати інвестиції для розвитку економіки за міжнародними правилами і стандартами «прозорого» функціонування ринків цінних паперів, цим самим формуючи інституційні бар'єри корупційним впливам. Зроблений порівняльний аналіз депозитарних систем різних країн дозволяє виявити слабкі місця у наявній депозитарній системі України, намітити концептуальні підходи до законодавчих та організаційних дій з її розвитку

**Ключові слова:** цінні папери, зберігачі, депозитарна діяльність, Центральний депозитарій, міжнародний досвід