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HOUSEHOLD DEPOSITS AND DEPOSIT GUARANTEE SCHEMES DURING CRISES IN UKRAINE

Background. Ensuring the stability of the banking system remains a key challenge during periods of economic and geopolitical crises. In Ukraine, the deposit guarantee system consists of both explicit and implicit components. While the explicit mechanism is represented by the Deposit Guarantee Fund (DGF), the implicit component reflects household trust in the state's role in protecting deposits, especially during force majeure events. This study aims to evaluate deposit stability in Ukrainian banks during crises.

Methods. The study applies descriptive statistical analysis of deposit trends disaggregated by bank ownership (state-owned, foreign, private) and deposit currency (national vs. foreign) from 2013 to 2024. The analysis includes chain growth rates and deposit structure indicators (demand vs. time deposits) during key crisis phases: the 2014 military aggression, the COVID-19 pandemic, and the 2022 full-scale invasion.

Results. During the analyzed period, the structure of household deposits underwent significant transformations. First, the ratio between time deposits and demand deposits in the national currency declined from 2.63 to 0.52, while in foreign currency it dropped from 6.77 to 0.56. Second, households increasingly favored government-owned banks, while foreign banks retained a moderate level of trust and private banks showed greater volatility. Both explicit and implicit deposit guarantees played a role in maintaining depositor confidence. However, during major shocks, the implicit guarantee system proved particularly influential.

Conclusions. In Ukraine, deposit analysis must consistently account for the currency structure due to persistent devaluation risks and the varying levels of depositor trust associated with different forms of bank ownership. A comprehensive understanding of deposit behavior under stress requires evaluating both explicit and implicit protection. While the DGF offers a solid foundation, it must be supported by credible implicit guarantees and effective crisis management frameworks.

Keywords: deposit insurance schemes, explicit deposit guarantee, implicit deposit guarantee, financial crisis, banking system resilience, foreign banks, government banks.

Background

Ukraine's history of independence following the dissolution of the Soviet Union spans over three decades. During this period, the country's banking system has accumulated experience in managing crises driven by political, economic, and force majeure factors. This experience includes episodes of bank runs as well as the implementation and testing of both implicit (such as restrictions on cash withdrawals and bank nationalization) and explicit deposit insurance systems (notably, the establishment of the DGF in 1998) to prevent and mitigate such runs.

Each episode of a bank run has had its unique causes. The 2004 panic was triggered by political turmoil during the Orange Revolution, while the 2008 panic emerged in response to the Global Financial Crisis. The bank runs of 2014 and 2022, triggered by the Russian military aggression, led to large-scale bank runs and represent unprecedented events in the recent history of the European banking sector. The magnitude and context of these episodes render the Ukrainian case uniquely significant, requiring thorough

scholarly examination. Despite their different origins, all of these crisis events took place under a dual system of financial safety nets: an implicit form (unwritten government support) and an explicit form (formalized insurance schemes). This dual experience is particularly important for analysis, as it highlights the role of guarantee (insurance) schemes in mitigating the effects of bank runs on the stability of the banking system.

The purpose of the study. To assess the impact of force majeure events, particularly the military aggression of the Russian Federation, on the dynamics of household deposits in Ukraine during 2013–2024, both in general and across different groups of banks (government-owned banks (GBs), banks owned by foreign bank groups (FBs), and private banks (PBs)), within the framework of deposit insurance schemes (DISs).

Literature review. A bank run is dangerous not only because "runs are costly and reduce social welfare by interrupting production (when loans are called)" (Diamond, & Dybvig, 1983, p. 403), but also because such panic can

undermine financial stability at the macro level (Kindleberger, 2000). The detrimental consequences of depositors' panic stem from the fundamental nature of banks as financial intermediaries performing transformation functions. In the context of bank runs, maturity and volume transformations are particularly critical, and in countries with weak currencies, currency transformation becomes an additional vulnerability. In its simplest form, a bank's business model involves attracting short- or medium-term retail deposits, typically in small amounts, and allocating them to medium- and long-term loans and investments. A bank run places banks in a vulnerable position due to this inherent mismatch.

One of the earliest responses to mitigating depositor panic was the implementation of bank holidays (Silber, 2009), whereby banks temporarily ceased operations to curb mass deposit withdrawals. This measure proved relatively effective in the short term. However, the practice did not become widespread: out of 147 banking crises that occurred between 1970 and 2011, bank holidays were implemented in only seven cases (DeSilver, 2015). While such an intervention could indeed halt panic in the short term, it clearly did not contribute to building trust or enhancing long-term financial stability. Moreover, as previously discussed, bank holidays represent a reactive measure rather than a preventive one. Therefore, the use of tools that could proactively prevent depositor panic appears more logical. Deposit insurance has emerged as one such preventive solution.

The phenomenon of bank runs and the preventive role of deposit insurance have been the subject of scholarly inquiry for several decades. Nonetheless, certain landmark studies have profoundly influenced the trajectory of this research agenda. Among them, the model proposed by Diamond and Dybvig (1983) is particularly noteworthy for providing a theoretical foundation for understanding banks as financial intermediaries. It formalized the mechanics of depositor panic and demonstrated that the introduction of explicit deposit insurance schemes (EDISs) can serve as an effective mechanism to prevent bank runs. At the time of their publication, EDISs had been adopted in only 19 countries globally (Demirgüç-Kunt, Karacaovili, & Laeven, 2005). By contrast, as of the end of 2023, more than 100 countries had implemented such schemes, according to the International Association of Deposit Insurers (IADI, 2024). The United States pioneered the introduction of EDISs in 1934 in response to the systemic failures of the banking sector during the Great Depression.

The widespread adoption of EDISs has sparked academic debate regarding their comparative effectiveness vis-à-vis implicit deposit guarantees. Implicit deposit guarantees (*de facto*) refer to the expectation that the government will protect depositors, even beyond the limits or scope of explicit (*de jure*) deposit insurance, especially during systemic financial distress, for instance, through bailouts or the introduction of full (100%) deposit guarantees. On the one hand, empirical evidence suggests that deposit insurance can enhance financial stability and promote the development of financial markets (Virchenko, 2008). On the other hand, experience has shown that the existence of an EDIS is not, in itself, a sufficient *ex ante* solution to the problem of depositor panic. This was clearly demonstrated during the Global Financial Crisis, when bank runs occurred even in countries with well-developed banking systems, established deposit insurance schemes, and relatively high levels of financial literacy among the population. A striking example is the case of Northern

Rock, the United Kingdom's fifth-largest mortgage lender, which in mid-September 2007 "...experienced an old-fashioned bank run, where depositors formed long queues in front of its branches to withdraw their money. This marks the first bank run in the UK since the collapse of City of Glasgow Bank in 1878. Eventually, the run had been contained by the bailout announcement of the government that guaranteed all deposits in Northern Rock" (Yorulmazer, 2009, p. 1). Nevertheless, within three days, approximately £3 billion had been withdrawn (Stringer, 2007). Consequently, academic inquiry has increasingly focused on the causes of EDISs inefficiencies and potential remedies (McCoy, 2008; Demirgüç-Kunt, Kane, & Laeven, 2015; Pernell, & Jung, 2024). These two strands of – research evaluation of EDISs limitations and exploration of design improvements – should be viewed as complementary. Understanding the sources of EDIS shortcomings opens new perspectives for addressing systemic vulnerabilities. It is also important to note that the effectiveness of explicit deposit insurance is closely intertwined with the issues of moral hazard and market discipline.

In deposit insurance, moral hazard arises in two key ways. Firstly, when deposit insurance is explicitly provided, insured banks may be encouraged to engage in riskier activities, as they stand to benefit from potential profits while transferring any financial losses to the government. Secondly, EDISs diminish the motivation of both depositors and shareholders to oversee the financial health of their banks, as their funds are perceived to be safeguarded regardless of the institution's risk exposure (McCoy, 2008; Allen et al., 2015; Pernell, & Jung, 2024). However, the issue of moral hazard can be mitigated when the economy demonstrates stable growth and when the systems of banking supervision and deposit insurance operate effectively. In this context, not only the regulatory environment but also institutional trust in the financial system plays a critical role. In Ukraine, institutional factors – particularly the perceived reliability of financial institutions and the level of public trust in them – have a significant impact on the volume of household bank deposits (Grazhevskaya, & Shemakhina, 2018). This underscores that the effective functioning of a financial safety net is unattainable without a robust institutional framework capable of supporting the sustainable development of the banking sector, even under crisis conditions.

The distinction between market discipline and moral hazard lies in the fact that, even under explicit deposit insurance schemes (EDISs), depositors tend to demand higher interest rates from banks they perceive as engaging in riskier activities (Quintero-V, 2023). As McCoy (2008, p. 430) observes, "In the United States, evidence shows that uninsured depositors do demand higher returns on their accounts".

Therefore, it becomes evident that while EDISs may reduce the likelihood of bank runs, they do not eliminate this risk. The following sections of this paper will explore whether EDISs remain effective under force majeure conditions, drawing on evidence from crisis episodes in Ukraine.

Methods

To achieve the objective of this research, a series of statistical methods was employed.

First, descriptive statistics were applied to analyze the overall trends in household deposit volumes and interest rates in the banking sector in Ukraine over the period 2013–2024, based on official data from the National Bank of Ukraine (NBU).

For a more precise analysis, these changes were examined according to specific characteristics, which

enabled the identification of distinct patterns in the dynamics across different groups.

1. The analysis was conducted separately for deposits in the national currency (hryvnia) and foreign currency. Foreign currency deposits were converted to U.S. dollars using the NBU's official exchange rate for the corresponding date.

2. Through the application of data aggregation and classification methods, two primary categories of household deposits (time deposits [TDs] and demand deposits [DDs]) were identified. This distinction enabled the assessment of depositor trust in the banking sector during various crisis periods. The analysis included the dynamics of deposit volumes, the ratio between deposit types, and chain growth rates to capture behavioral shifts in depositors' preferences.

3. A comparative analysis was conducted across government-owned banks (GBs), foreign-owned banks (FBs), and privately owned banks (PBs) to identify peculiarities in depositors' trust. Given the significant changes in bank ownership structures throughout the study period, the classification of banks by ownership was fixed as of February 1, 2022. This approach was adopted to ensure analytical consistency and avoid distortions arising from transitional forms of ownership, short-term statuses, or institutional reorganizations such as nationalizations and bankruptcies. Fixing the ownership status on a specific date provides a more stable analytical framework and mitigates the risk of drawing erroneous conclusions.

Second, indicators of deposit variation were calculated to evaluate the level of (in)stability of deposits in each group of banks.

Third, a periodization of crisis events was also applied based on historical and political facts that were accompanied by bank runs.

The generalization of results was carried out taking into account the conceptual approach to the interaction between moral hazard and market discipline under EDISs, as well as the historical development of the Deposit Guarantee Fund (DGF) in Ukraine.

Results

Deposit insurance in Ukraine. Deposit insurance is a fundamental component of the financial safety net and is closely related to both market discipline and moral hazard (Quintero-V, 2023). In particular, implicit deposit insurance can exacerbate moral hazard, as banks may engage in excessive risk-taking in anticipation of government bailouts during times of instability. Similarly, depositors may be willing to take higher risks in the expectation of government intervention. Moreover, implicit deposit insurance weakens market discipline, as both investors and depositors know that implicit guarantees reduce their exposure to potential losses.

Explicit deposit insurance can also contribute to moral hazard, as banks may take additional risks on the assumption that insured deposits minimize the potential financial impact. However, unlike its implicit counterpart, EDISs are underpinned by market discipline – if properly designed, they include regulatory oversight and risk-adjusted premiums that help to discourage excessive risk-taking. Well-structured EDISs are crucial in preventing bank runs and reducing systemic panic **thereby** enhancing overall financial stability. However, if they are poorly structured, such as through flat-rate premiums or unlimited coverage, they can still incentivize excessive risk-taking and ultimately undermine their stabilizing role (Fig. 1).

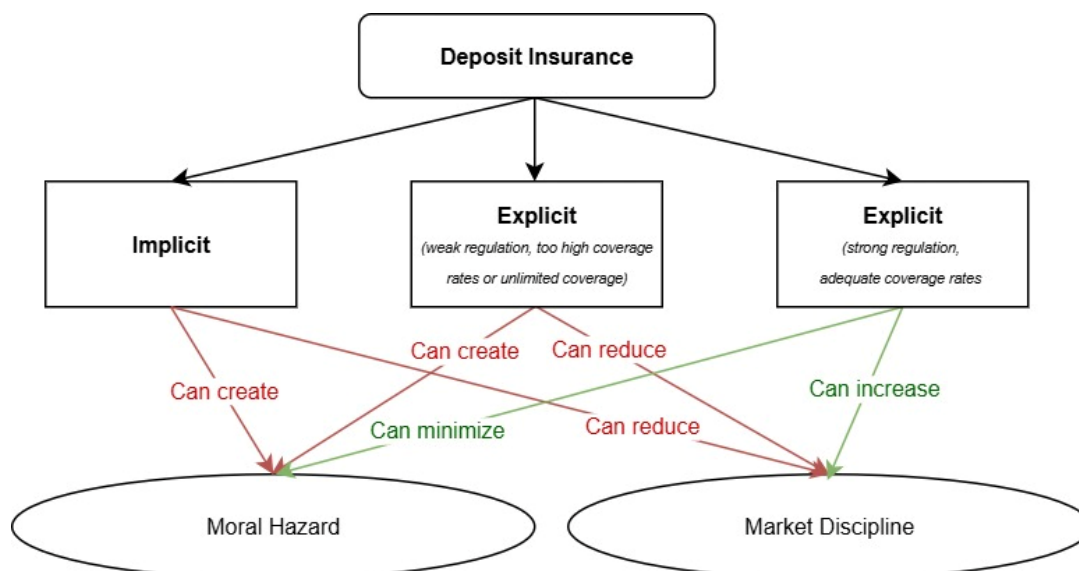


Fig. 1. Conceptual framework of explicit and implicit deposit insurance correspondence with moral hazard & market discipline
Source: authors' development based on (Financial Stability Forum, 2001).

The effectiveness of EDISs in preventing bank runs is contingent upon preserving market discipline – that is, depositors must continue to evaluate banks based on their risk-return tradeoffs rather than relying solely on insurance coverage. Explicit deposit insurance coverage includes types of financial institutions under the "umbrella" deposit types that are insured, and the coverage limit. In other words, the coverage must be optimally designed to balance financial stability and depositor incentives. If the coverage is

insufficient, the positive effects of EDISs in mitigating bank runs during periods of financial instability may be weakened. Conversely, if the coverage is too broad and the coverage limit is excessively high, depositors may lose the incentive to assess bank risk, undermining market discipline. This is why full deposit insurance (100% coverage) should remain an exceptional measure, implemented only under specific circumstances, even in times of crisis. For instance, extraordinary interventions – such as those prompted by the

war in Ukraine – may necessitate temporary full guarantees to maintain public confidence. Similarly, in cases where banks remain fundamentally stable during a financial crisis, but depositor panic threatens systemic stability, full deposit guarantees may serve as a necessary safeguard.

Deposit insurance in Ukraine was introduced in 1998 with the establishment of the DGF (Verkhovna Rada of Ukraine, 1998). The historical context of Ukraine plays a particularly important role in this matter. Ukraine's independence in 1991 was accompanied by unprecedented developments: the freezing of bank deposits, a sharp decline in GDP, hyperinflation, and, as a consequence, skyrocketing financial dollarization (Versal, & Stavtysky, 2016). All deposits placed before January 2, 1992, in branches of the Savings Bank of the USSR operating in Ukraine were frozen. According to the Law of Ukraine "On State Guarantee of Restoring the Savings of Ukrainian Citizens," it was established that "citizens' savings... shall be restored at a rate of 1 karbovanets of savings to 1.05 hryvnia as of October 1, 1996" (Verkhovna Rada of Ukraine, 1996). However, it is important to consider that these funds were severely devalued due to hyperinflation, which peaked in 1993, when the annual chain inflation index for the consumer market reached 10,256% (Yushchenko, 1995, p. 3). Moreover, the return of these funds always depended on the availability of corresponding expenditures in the State Budget of Ukraine, since "savings are repaid gradually, depending on the deposit amount and within the limits of funds allocated for this purpose in the State Budget of Ukraine for the current year" (Verkhovna Rada of Ukraine, 1996). Therefore, in the early years of Ukraine's independence, newly established banks faced significant difficulties in attracting household deposits. A return of deposits to Ukrainian banks began only after the monetary reform of 1996, the establishment of the DGF in 1998, and an increase in income and household welfare.

In this study, the main milestones in the development of the DGF and the episodes of bank runs in Ukraine from 1998 to 2024 are presented. Among the identified episodes of bank runs, only the 2008–2009 Global Financial Crisis was driven exclusively by economic factors. All other bank runs were primarily triggered by political or force majeure events. The first politically induced bank run occurred in 2004 during the Orange Revolution, which began on November 22, 2004, and ended with the inauguration of President Viktor Yushchenko on January 23, 2005. Deposit outflows were observed throughout this period, with household deposit balances declining from UAH 45,080 million in October 2004 to UAH 42,878 million in November, UAH 41,611 million in December, and partially recovering to UAH 44,252 million by January 2005 (National Bank of Ukraine, 2005a, p. 98; National Bank of Ukraine, 2005b, p. 94). A similar dynamic was observed during the 2013–2014 Euromaidan protests (Revolution of Dignity) and the subsequent military aggression by the Russian Federation against Ukraine (Versal, 2019). The most recent and largest-scale depositor panic occurred in response to the full-scale invasion of Ukraine by the Russian Federation on February 24, 2022.

Another force majeure event that warrants attention is the COVID-19 pandemic. This period was marked by its extraordinary nature, which logically led to expectations of at least a moderate outflow of deposits. However, an analysis of official statistical data revealed no evidence of such an outflow, suggesting the absence of depositor panic during this time. On the contrary, in relative terms, the volume of DDs in foreign currency increased by 36% over the first two quarters of 2020 compared to the beginning of

the year, amounting to UAH 24.7 billion in hryvnia equivalent. DDs in national currency rose by UAH 41.6 billion (+28.3%) over the same period.

As for TDs, growth was observed only in national currency, albeit at a more modest rate – an increase of 5%, or UAH 8.4 billion, over the two first quarters of 2020. At the same time, TDs in foreign currency recorded a slight decline of 0.5%, equivalent to UAH 0.9 billion.

This situation may have at least two possible explanations. First, the nature of the crisis may have resembled the effects of a bank holiday, as discussed in the introductory section of the study. Second, if there was a short-term outflow of funds, its duration was so limited that the banking system did not capture it in the quarterly statistics.

Although the causes of bank runs in 2008 and from 2013 onward were fundamentally different, it is important to highlight the effectiveness of government regulatory responses. This experience later proved valuable in 2022. In 2008, the Speaker of the Verkhovna Rada supported the adoption of Resolution No. 319 of the NBU Board, titled "On Additional Measures Regarding the Activities of Banks" (RBC-Ukraine, 2008). This resolution aimed to stabilize the banking system and the foreign exchange rate of the national currency. However, these were temporary regulatory interventions, typical of crisis response frameworks, rather than structural legislative reforms. The key measures implemented to prevent depositor panic included the following:

- "In the event of a decrease in the volume of time deposits in a bank by 2% over five business days, the bank may apply to the National Bank of Ukraine for emergency liquidity support in an amount up to 60% of the bank's statutory capital for a period of up to one year, at a rate of 15%, provided that a duly executed pledge agreement is submitted simultaneously, securing shares/interests in the bank that together represent at least 51% of the statutory capital or voting rights of the acquired shares/interests in the bank, with the National Bank of Ukraine designated as the beneficiary (pledgee)." However, such support was only available to banks "organized in the form of public joint-stock companies with a paid-up statutory capital of at least UAH 500 million" (Verkhovna Rada of Ukraine, 2008).

- "Fulfill obligations under all types of fund-raising agreements in any currency only upon the maturity of such obligations" (Verkhovna Rada of Ukraine, 2008).

Systemic changes occurred with the adoption of the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine Regarding the Conditions for the Return of Term Deposits" (Verkhovna Rada of Ukraine, 2015b), which amended the Civil Code of Ukraine:

- "Under a demand deposit agreement, the bank is obliged to return the deposit or a part thereof upon the depositor's first request. Any clause in a demand deposit agreement that waives the depositor's right to withdraw the deposit upon request is deemed null and void" (Verkhovna Rada of Ukraine, 2015a).

- "Under a fixed-time deposit agreement, the bank is obliged to return the deposit and the interest accrued on it upon the expiration of the term specified in the deposit agreement. Early withdrawal of the fixed-time deposit and the accrued interest at the depositor's request – before the expiration of the term or the occurrence of other conditions specified in the agreement – is allowed only if such an option is explicitly stipulated in the terms of the fixed-time deposit agreement" (Verkhovna Rada of Ukraine, 2015a).

These legislative changes significantly enhanced the legal certainty regarding the fixed-time nature of deposits and limited the possibility of early withdrawal of funds at the depositor's initiative. As a result, a clear distinction between TDs and DDs was established, which contributed to improving the predictability of liquidity within the banking system.

It can be argued that this prior experience formed the basis for an effective response to the full-scale invasion of Ukraine by the Russian Federation on February 24, 2022. On the very first day, the National Bank of Ukraine adopted Resolution No. 18 "On the Operation of the Banking System During the Period of Martial Law" (Verkhovna Rada of Ukraine, 2022b), which included several provisions specifically related to bank deposits in the Ukrainian banking sector:

- A limit on cash withdrawals from client accounts, capped at UAH 100,000 per day. This measure aimed to reduce the risk of panic-driven withdrawals by depositors under crisis conditions and to stabilize the liquidity of the banking system (Verkhovna Rada of Ukraine, 2022b).

- A ban on cash withdrawals in foreign currency from client accounts (with exceptions for operations related to mobilization tasks, government payments, and specific permits issued by the NBU). This restriction was aimed at curbing the outflow of foreign currency deposits (Verkhovna Rada of Ukraine, 2022b).

- Non-cash transactions were allowed without restrictions. This measure supported trust in the banking system and ensured the continued functionality of financial operations under conditions of limited access to cash (Verkhovna Rada of Ukraine, 2022b).

- Cash replenishment of bank branches was carried out without restrictions.

- Bank branches were required to continue operating without interruption, as long as there was no immediate danger to the lives or health of people. This measure was necessary to ensure that people could still access essential banking services (Verkhovna Rada of Ukraine, 2022b).

During the study period, the deposit guarantee system in Ukraine underwent significant transformations, which are illustrated in the timeline (Fig. 2). Initially, until 2012, the DGF operated with a limited mandate and functioned as a pay-box, meaning it solely performed the function of compensating depositors of liquidated banks. The adoption of the Law of Ukraine "On the System of Guaranteeing Natural Person Deposits" on February 23, 2012, granted the Fund expanded powers, elevating its status to that of a loss-minimizer, according to the International Association of Deposit Insurers (IADI) classification (Verkhovna Rada of Ukraine, 2012).

As a loss-minimizer, the DGF actively engages in minimizing losses during bank resolution processes, asset sales, and the satisfaction of depositors' claims. Further milestones included the expansion of the list of eligible depositors through the inclusion of individual entrepreneurs in 2015, as well as systemic changes in 2022: the inclusion of JSC Oschadbank in the guarantee system (i.e., the only major government-owned bank in Ukraine that, until its inclusion in the deposit guarantee system, operated under a special legal regime whereby all household deposits were fully guaranteed by the state, without coverage limits), an increase in the maximum guaranteed compensation to UAH 600 000, and the temporary (for the duration of martial law and three months after its termination) introduction of full reimbursement of deposits regardless of the amount.

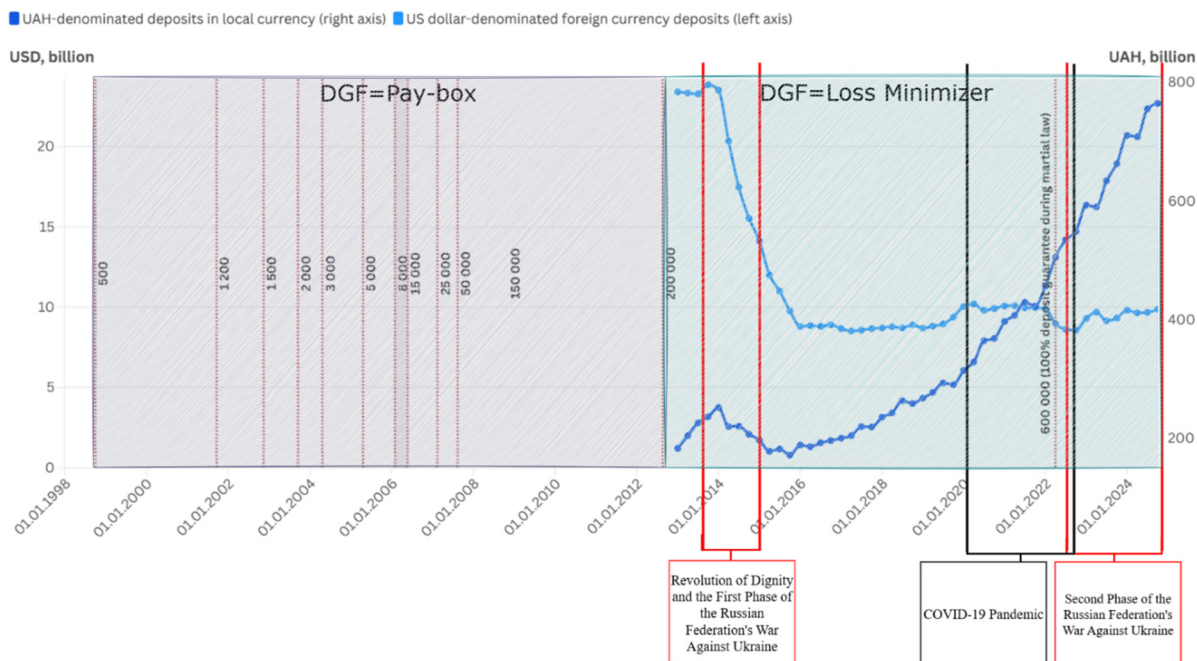


Fig. 2. Transformation of the Deposit Guarantee System and dynamics of household bank deposits in Ukraine during crisis periods (January 1, 1998 – October 1, 2024)

Source: compiled based on (Malafieiev, & Lykhobabina, 2017; National Bank of Ukraine, 2024a; Verkhovna Rada of Ukraine, 2022a; Verkhovna Rada of Ukraine, 2022b).

Banking Specificities in Ukraine, 2012–Q2 2024. Two key transformation functions conducted by banks increase their vulnerability during periods of bank runs. First, maturity transformation: when short-term deposits (mostly under one year) are used to fund medium- and long-term loans.

Second, currency transformation results from persistently high levels of financial dollarization, with foreign currency deposits accounting for 30% to 50% of total deposits over the reviewed period (Fig. 3) (IMF, 2024).

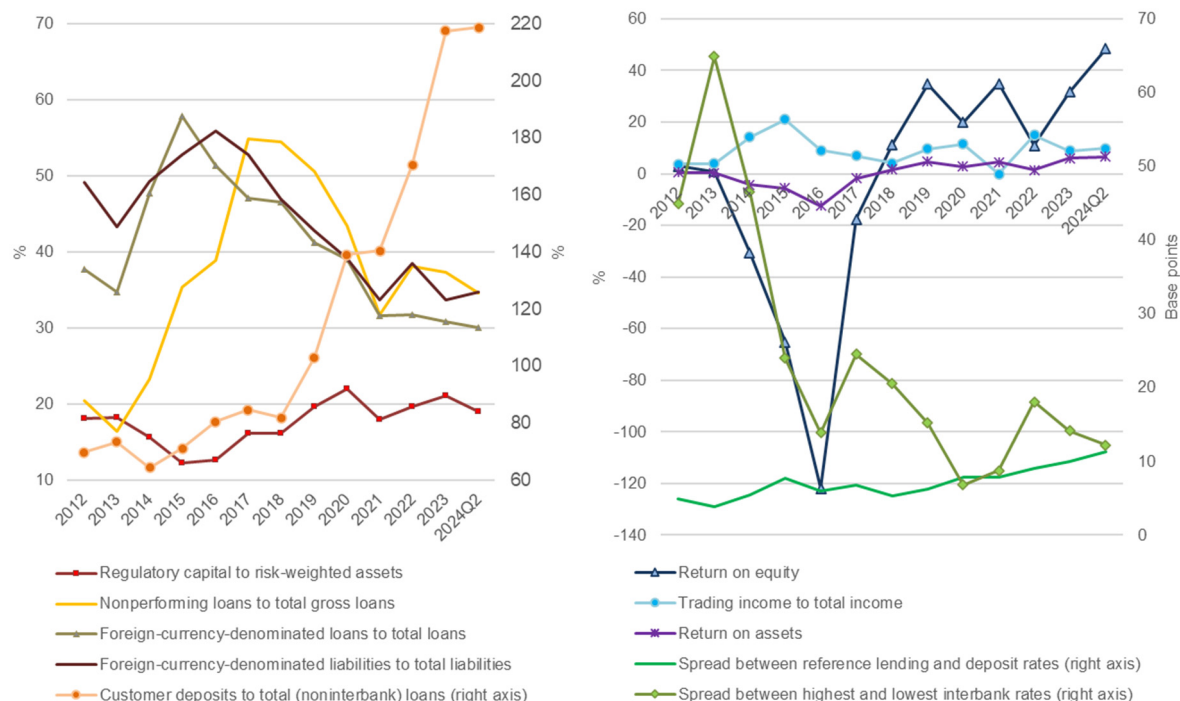


Fig. 3. Trends in selected indicators of the ukrainian banking sector, 2012–Q2 2024

Source: compiled based on (IMF, 2025).

Figure 3 illustrates three key periods for the Ukrainian banking sector: (1) the first phase of the Russian Federation's military aggression against Ukraine, including the annexation of Crimea and the occupation of parts of the Luhansk and Donetsk regions, along with the deep banking crisis of 2014–2017; (2) the COVID-19 pandemic period of 2020–2021; and (3) the ongoing second phase of the full-scale invasion that began on February 24, 2022.

First and foremost, it is important to highlight the generally sufficient capitalization level of Ukrainian banks, which remained above 10% even during the most critical periods. The most challenging phase occurred between 2014 and 2016, when a large number of banks were removed from the market. Specifically, the number of operating banks declined from 180 on January 1, 2014, to 163 in 2015, 117 in 2016, 96 in 2017, and 82 in 2018. As of December 1, 2024, the Ukrainian banking market consisted of only 62 institutions: 7 state-owned banks (accounting for 55.99% of total banking assets), 14 banks affiliated with foreign banking groups (24.70%), and 41 other banks (19.31%) (National Bank of Ukraine, 2024a).

With regard to non-performing loans (NPLs), their peak coincided with the end of the banking crisis in 2017, reaching over 54% of the total loan portfolio. Some of the highest levels of NPLs were recorded in GBs, largely due to the nationalization of Ukraine's largest bank, PrivatBank. Under current conditions, the situation has not undergone fundamental changes. As of early 2023, approximately 75% of the sector's NPLs were concentrated in GBs, with PrivatBank alone accounting for over 40% (National Bank of Ukraine, 2023). This fact is of particular importance, as will be demonstrated later in the study: despite the high level of credit risk in GBs, public trust in these institutions remains strong. This raises questions about the existence of effective market discipline in Ukraine's banking sector, especially in the context of household deposit behavior.

Deposit and loan dollarization in the banking sector has demonstrated a clear downward trend. From peak levels

exceeding 55% during the first phase of the war, dollarization has gradually declined to below 40%. While this trend persisted during the COVID-19 pandemic, both the first and second phases of the military invasion were accompanied by noticeable spikes in financial dollarization. In the first year of each invasion, the increase was nearly identical: +6 percentage points in 2014 and +5 percentage points in 2022.

However, the subsequent behavior of depositors differed significantly. This is an important observation, as Ukrainian households have traditionally shifted their savings into foreign currency during periods of instability. Thus, during the first invasion, the growth of deposit dollarization continued. In contrast, during the second invasion, deposit dollarization began to decline. This divergence can be attributed to at least two factors. First, the decline in the well-being of households led to the consumption of previously accumulated savings. Second, large-scale migration abroad contributed to the physical transfer of foreign currency assets out of the country.

Another indicator of concern is the deposit-to-loan ratio. On the one hand, its growth during crisis periods can be objectively explained by the contraction of business activity. However, as of the second quarter of 2024, the volume of household deposits alone exceeds the total volume of bank loans by 2.2 times. This implies that banks are allocating these deposits to asset classes other than loans. The primary alternative asset has become government securities. In effect, household deposits are, at least partially, being used to finance Ukraine's resistance to Russian aggression through the purchase of government bonds. The yield on these securities has remained attractive: in May 2024, the maximum annual yield on domestic government bonds reached 17.50% (National Bank of Ukraine, 2024b). This contributes to an unusual dynamic in another key indicator – Return on Equity (ROE), which surpassed 40% in 2024. Additionally, the interest rate spread between lending and deposit rates has widened

significantly, reaching 11.3% in Q2 2024 – the highest value observed over the entire reviewed period.

Overall, the Ukrainian banking sector has demonstrated resilience in the face of severe crises. However, the persistent decline in credit activity and increasing reliance on government securities during wartime pose emerging risks to long-term financial stability, particularly from the perspective of depositors.

Trends in Deposit Volumes in the Banking Sector.

The analysis of household bank deposits considers currency denomination, deposit maturity, and the ownership structure

of banks. This section focuses on the dynamics of deposits denominated in the national currency (hryvnia), which are classified into DDs and TDs. In addition, the time-to-demand deposit ratio is calculated as an indicator reflecting the structure of savings and the level of depositors' confidence in the banking system in terms of liquidity and stability.

1. Hryvnia-Denominated Bank Deposits

To assess the overall trends in deposit activity, the dynamics of hryvnia-denominated deposit volumes and the time-to-demand deposit ratio across the Ukrainian banking sector were analyzed (Fig. 4).

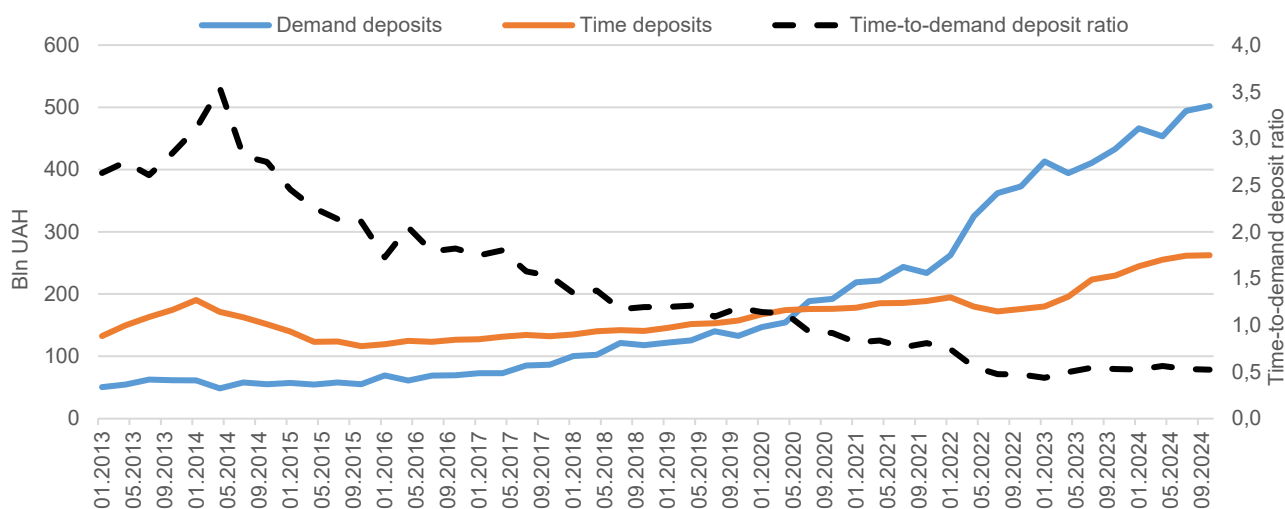


Fig. 4. Trends in UAH-denominated deposits (left axis, UAH million) and the time-to-demand deposit ratio (right axis) in the Ukrainian banking sector from January 2013 to October 2024 (all banks included)

Source: compiled based on (National Bank of Ukraine, 2024a).

As shown in Fig. 4, several trends can be identified that correspond to key historical events:

- Before January 2014, there was a sharp increase in TDs (in January 2014, compared to January 2013, TDs increased by 43.8%), but the volume of DDs increased only by 21.8%. The time-to-demand deposit ratio in January 2014 was 3.1:1 compared to 2.6:1 in January 2013. This indicated growing trust in the banking system and the accumulation of credit potential by banks.

- The annexation of Crimea in 2014 disrupted historical trends. A withdrawal of deposits from banks began, with the pace of outflow being significantly higher for TDs than for DDs. While the decline in DDs was short-term (observed in April 2014 and followed by a recovery), the outflow of TDs did not cease until October 2015. The accumulation of TDs began to slow, while more funds were concentrated in DDs. By January 2020, compared to April 2014, the volume of DDs had increased by 203.5%, whereas TDs had decreased by 2.2%. The time-to-demand deposit ratio fell by 67.8%. These trends reflect uncertainty - there was no panic-driven withdrawal, but trust in long-term deposits remained low.

- The COVID-19 pandemic had an impact on the banking system but did not reverse existing trends; rather, it reinforced them. As of July 2020, the DD increased by 65.7% compared to January 2020, and TDs grew by 10.9%. Although the pandemic did not produce a shock comparable to that of Crimea's annexation in 2014, the trends that emerged during that earlier crisis continued. Trust in long-term deposits did not recover, and most household funds remained in DDs.

- Since the beginning of the full-scale invasion, trends in demand and time deposits have diverged. While DDs continued to grow (indicating no apparent outflow of funds), TDs declined until July 2022 – possibly reflecting a shift from TDs to DDs. However, despite the overall positive dynamics in both categories, it is important to note that the time-to-demand deposit ratio that qualitatively characterizes the structure of deposits continued to deteriorate.

It is important to recall that on 14 May 2015, amendments to the Civil Code of Ukraine were adopted, prohibiting the early withdrawal of TDs (Verkhovna Rada of Ukraine, 2015b). Although it is not possible to definitively isolate the effects of this legislative change – given the presence of numerous other factors negatively affecting deposit volumes in the Ukrainian banking sector – the empirical evidence suggests that it did not produce a significant adverse impact on the dynamics of TDs. Both hryvnia- and foreign currency-denominated TDs demonstrated positive growth rates as early as 2016.

This study pays particular attention to the analysis of deposit interest rate trends, which serve as a critical indicator of the attractiveness of banking deposits under economic instability. The analysis covers the period from January 2013 to October 2024 and disaggregates the data by currency (hryvnia, US dollar) and two deposit tenures: 3 months (representing short-term placements, approximately equivalent to demand deposits) and 12 months (the longest maturity most commonly offered by banks).

The dynamics of interest rates on hryvnia- and US dollar-denominated deposits between 2013 and 2024 exhibit distinct fluctuations corresponding to key crisis periods in

Ukraine. During the banking crisis and the annexation of Crimea (2014–2016), there was a significant increase in hryvnia deposit rates, particularly for 12-month term deposits, which peaked at over 22%. At the same time, US dollar deposit rates also rose but remained within the 8–10% range. This indicates that banks sought to compensate for rising risk levels and retain their funding base.

In March 2020, at the onset of the COVID-19 pandemic, there was no marked increase in deposit rates, which may suggest the absence of a sharp decline in public trust in the banking system – unlike during the previous crisis. Throughout this period, short-term rates consistently remained lower than long-term rates.

Following the full-scale invasion by the Russian Federation in February 2022, interest rates initially declined sharply. However, as during previous crises, a subsequent increase was observed, particularly in hryvnia-denominated 12-month deposits, which exceeded 20% by mid-2023. This surge likely reflects banks' efforts to attract long-term funding. In contrast, interest rates on US dollar deposits remained largely stable throughout the entire period under review, suggesting a lack of interest from banks in foreign currency deposits, mainly due to regulatory restrictions on open foreign exchange positions (Fig. 5).

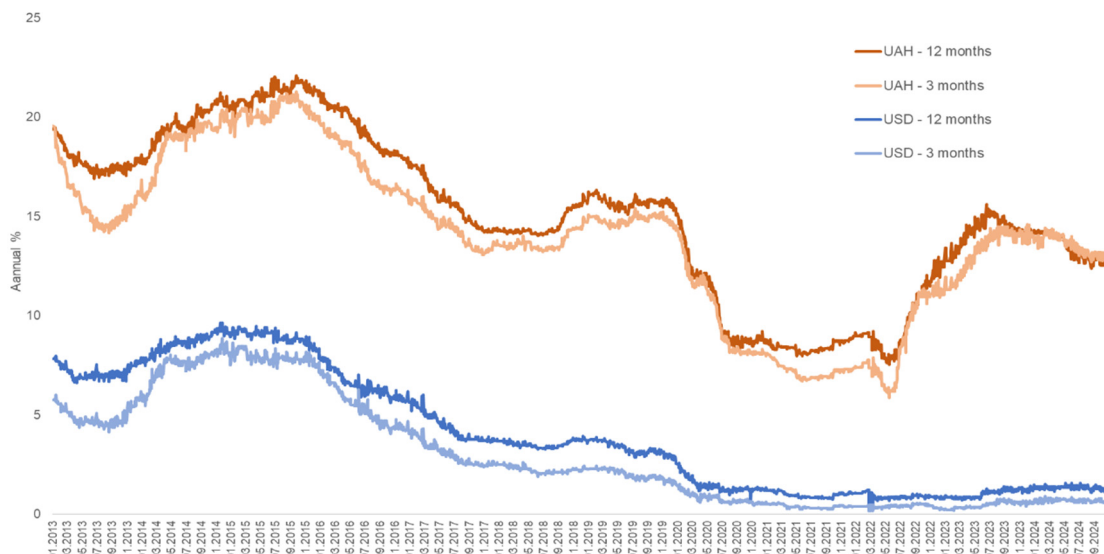


Fig. 5. Trends in interest rates on 3-month and 12-month UAH and USD deposits, January 2013–October 2024

Source: compiled based on (National Bank of Ukraine, 2025a).

The dynamics of the interest rate gap for hryvnia and US dollar deposits indicate significant shifts in banks' and depositors' expectations regarding the maturity structure of resources during crisis periods (Fig. 6). In particular, during episodes of heightened macro-financial turbulence, the gap between interest rates on hryvnia deposits narrowed, at times becoming negative when the rates on 3-month deposits exceeded those on 12-month deposits. This inversion of the yield curve is indicative of elevated uncertainty and rising short-term risks. In fact, a negative interest rate gap or its convergence toward zero can be

interpreted as a signal of a crisis scenario unfolding, or at least the anticipation of such a scenario by market participants. A likely explanation for this inversion is the increased demand for short-term liquidity by banks, which also serves as an indirect indicator of financial instability.

In contrast, the consistently positive gap for US dollar deposits throughout the entire study period may reflect more stable expectations, lower volatility, and the influence of external (global) factors that limit the responsiveness of interest rates in the foreign currency segment.

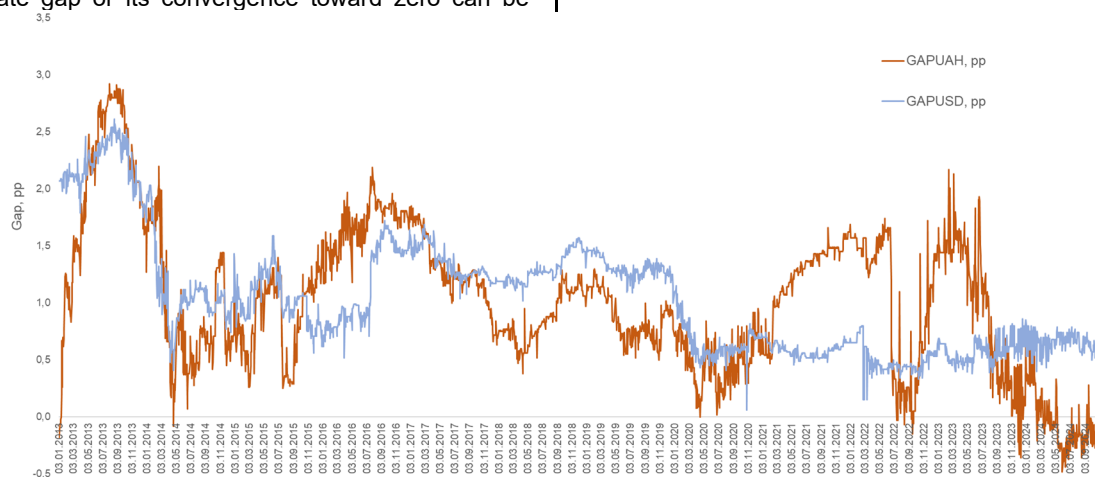


Fig. 6. Trends in interest rate gaps between 3-month and 12-month UAH and USD deposits, January 2013 – October 2024
Source: compiled based on (National Bank of Ukraine, 2025a).

2. Foreign Currency Denominated Bank Deposits

The dynamics of foreign currency deposits differed from those of hryvnia deposits (Fig. 7):

- The negative impact of the events of 2014 on the dynamics of TDs in foreign currency is evident. Between January 2013 and October 2015, the volume of TDs dropped by more than 2.5-fold. At the same time, there was no corresponding shift of funds into DDs, indicating a significant withdrawal of savings from the banking system. This may have been driven either by a rise in depositor distrust or by direct losses resulting from the mass bankruptcy of banks: 33 banks were withdrawn from the market in 2014, followed by another 32 in 2015 (National Bank of Ukraine, 2025b).

- The share of DDs in the structure of foreign currency deposits remained relatively stable during 2014–2017, indicating no significant changes in depositor behavior during this period. However, since 2019, a clear upward trend in DDs has been observed, which was further reinforced by the COVID-19 pandemic. Although the response from depositors was delayed, the effect of the pandemic on foreign currency deposits became evident approximately one year later compared to UAH deposits.

- A key turning point in the dynamics of foreign currency deposits was the moment when the volume of DDs exceeded that of TDs. This structural shift in depositor behavior may reflect deepening mistrust in long-term savings in banks, a growing preference for liquidity, and an increased level of uncertainty in the financial decision-

making environment. In this context, the growth of DDs is not only a consequence of the declining attractiveness of long-term deposits due to near-zero interest rates but also a manifestation of adaptive behavior by the population in the face of economic and geopolitical instability.

- The ratio of term foreign currency deposits to demand deposits has shown a steady downward trend throughout the entire observation period. In January 2014, its value stood at 7.9, but by April 2015, it had already declined to 3.9. A brief stabilization followed, lasting until 2017, after which the downward trend resumed, reaching 0.56 in October 2024. This dynamic indicates profound shifts in depositor behavior and may be considered critical, given the traditional role of foreign currency in Ukraine as a means of saving. During times of uncertainty and financial turbulence, there has been a clear shift away from term instruments in favor of more liquid forms of holding funds. This transformation can be explained by at least three factors. First, the likely withdrawal of foreign currency savings from the banking system for "under-the-mattress" storage, which is a typical reaction during periods of perceived threats to the banking sector. Second, the relocation of funds abroad and migration processes triggered by the full-scale war may have led to the redirection of savings for current use in other jurisdictions, including deposit placement in banks of host countries. Third, the impoverishment of the population due to the economic crisis, loss of income, and inflationary pressure resulted in the fragmentation of the deposit base and the use of previously accumulated foreign currency savings to cover basic needs.

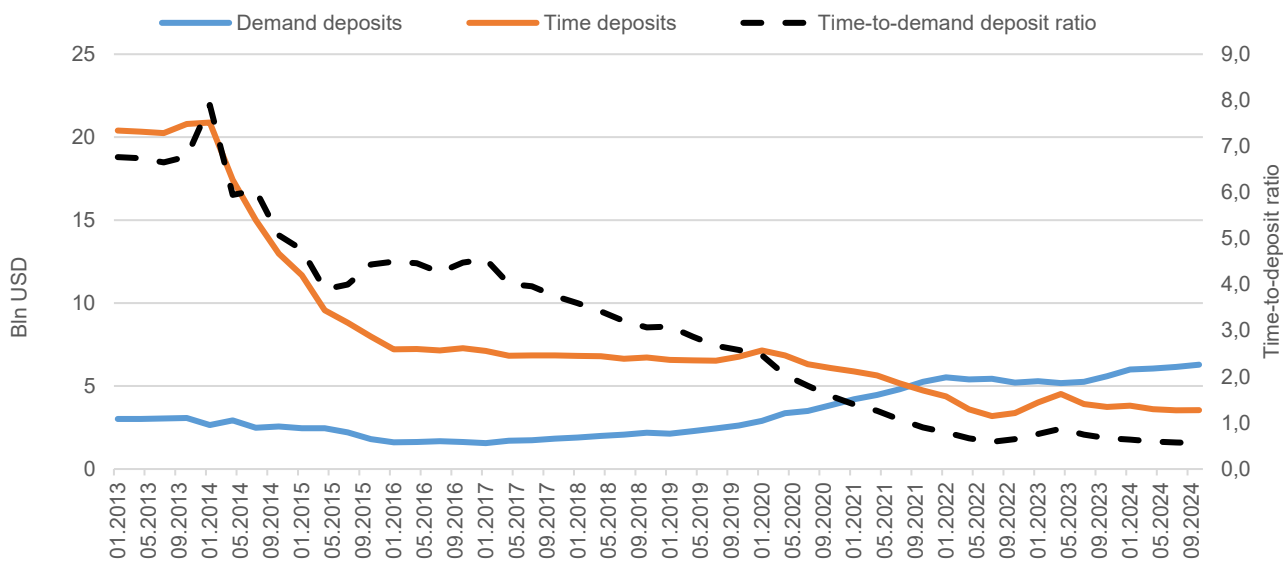


Fig. 7. Trends of foreign currency deposits (left axis) and time-to-demand deposit ratio (right axis) in the Ukrainian banking sector, January 2013 – April 2024 (all banks included)

Source: compiled based on (National Bank of Ukraine, 2024a).

3. National currency-denominated deposits vs. foreign currency-denominated deposits in times of crises

The data presented in Table 1 clearly illustrate the differences in the dynamics of hryvnia and foreign currency deposits under the influence of crisis events, particularly the war and the COVID-19 pandemic. A fundamentally different sensitivity of savings is observed depending on the currency of the deposit and its maturity. While DDs in foreign currency tend to recover relatively quickly even during crises, TDs in foreign currency exhibit high vulnerability and a tendency to decline sharply.

Between 2013 and 2024, the structure of hryvnia deposits underwent significant changes. Overall, the volume of DDs increased by 897.4%, while TDs grew by only 98.3%. The ratio of time-to-demand deposits (TDs/DDs) dropped more than fivefold, from 2.6 in 2013 to 0.5 in 2024, indicating a growing preference for liquidity.

DDs in UAH dropped during the first quarter of 2014 by 21.1%, while TDs declined by 10.1%. However, in 2022, depositor behavior was different: DDs increased by 23.9% in the first quarter, with only a minor outflow of TDs (7.6%). During the COVID-19 pandemic, DDs and TDs increased.

Table 1

Changes in hryvnia and foreign currency deposits in the Ukrainian banking sector during crisis periods (all banks included)

Date	UAH deposits, bln UAH			Chain growth rate, %			FC deposits, bln USD			Chain growth rate, %		
	DD	TD	TD/DD	DD	TD	TD/DD	DD	TD	TD/DD	DD	TD	TD/DD
01.2013	50.35	132.41	2.6	-	-	-	3.01	20.40	6.8	-	-	-
07.2013	62.55	163.05	2.6	24.2	23.1	-0.9	3.04	20.25	6.7	1.0	-0.7	-1.7
01.2014	61.31	190.44	3.1	-2.0	16.8	19.2	2.64	20.88	7.9	-13.2	3.1	18.8
04.2014	48.39	171.25	3.5	-21.1	-10.1	13.9	2.93	17.43	5.9	10.9	-16.5	-24.7
01.2020	146.89	167.43	1.1	203.5	-2.2	-67.8	2.89	7.14	2.5	-1.2	-59.0	-58.5
07.2020	188.51	175.85	0.9	28.3	5.0	-18.2	3.50	6.31	1.8	20.8	-11.7	-26.9
01.2022	262.32	194.64	0.7	39.2	10.7	-20.5	5.52	4.38	0.8	57.8	-30.7	-56.1
04.2022	325.14	179.77	0.6	23.9	-7.6	-25.5	5.40	3.59	0.7	-2.2	-17.9	-16.1
07.2022	494.16	261.46	0.5	52.0	45.4	-4.3	6.15	3.54	0.6	13.9	-1.5	-13.5
10.2024	502.17	262.53	0.5	1.6	0.4	-1.2	6.29	3.54	0.6	2.3	0.2	-2.0
Total	X	x	x	897.4	98.3	-80.1	x	x	x	108.6	-82.6	-91.7

Source: calculated by authors based on (National Bank of Ukraine, 2024a).

A completely different situation is observed with foreign currency deposits. At the onset of the war in 2014, TDs in foreign currency declined from USD 20.88 billion in January 2014 to USD 17.43 billion in April 2014 (-16.5%), while DDs slightly increased over the same period (+10.9%). During the first quarter following the full-scale invasion in 2022, DDs decreased by 2.2%, while TDs dropped by 17.9%. During the COVID-19 pandemic, in July 2020, TDs fell by 11.7% compared to the previous period, whereas DDs rose by 20.8%. The ratio of TDs to DDs dropped significantly – from 6.8 in January 2013 to only 0.6 in July 2024. This more than 91% reduction signals a major structural shift in depositor behavior in favor of liquidity and short-term savings instruments.

A comparison between hryvnia and foreign currency deposits reveals a common trend of declining confidence in

long-term savings, albeit with differing dynamics. First, during the second phase of the war, depositor behavior shifted, possibly due to adaptation and a better understanding of the potential consequences of war. Second, foreign currency deposits proved more sensitive to crises: households tend to hold foreign currency outside the banking system or in current accounts, while hryvnia is primarily kept in liquid savings forms.

4. Coefficient of variation of deposits

The coefficient of variation serves as a relative measure of risk or instability in the process of attracting bank deposits, reflecting the degree of deviation of individual deposit volumes from their average level (Fig. 8).

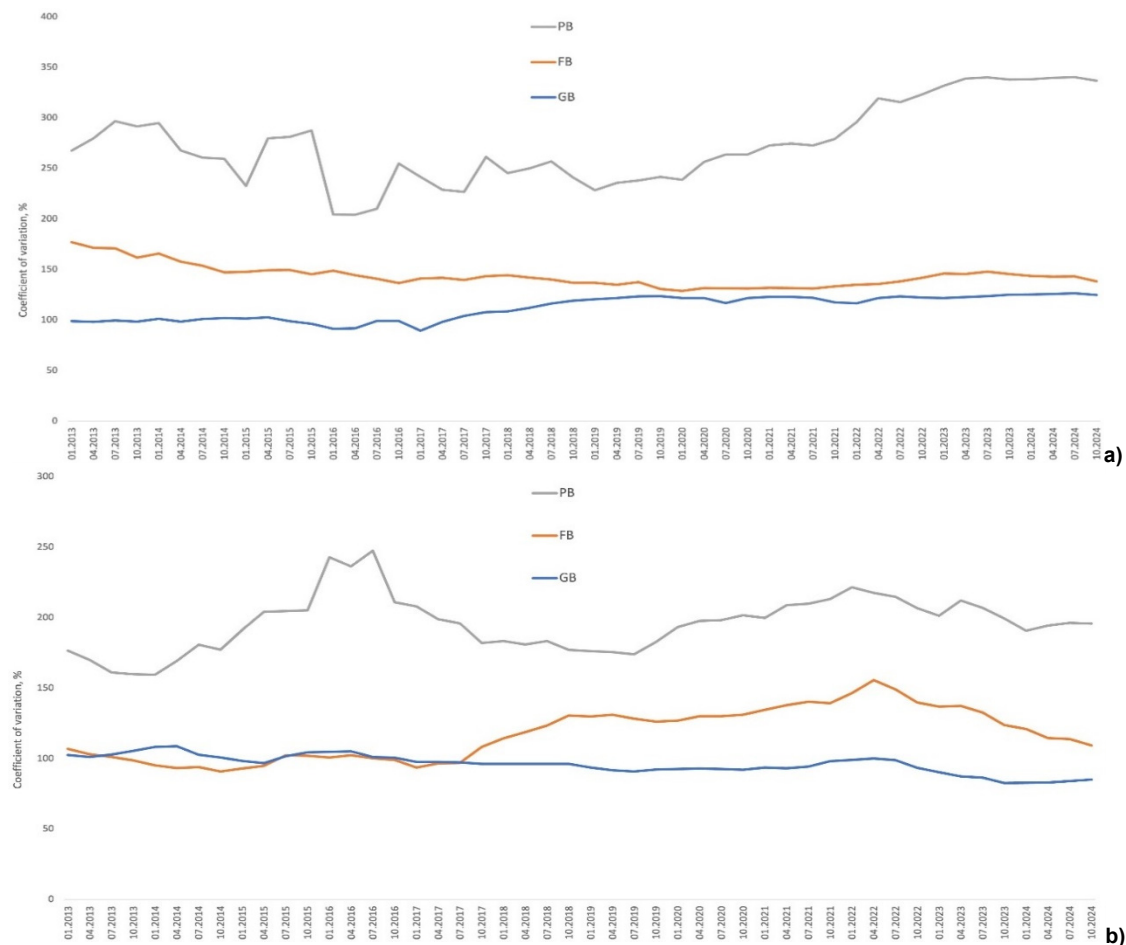


Fig. 8. Coefficient of variation for demand deposits (a) and time deposits (b) in UAH by month (all banks included)

Source: compiled based on (National Bank of Ukraine, 2024a).

Although the coefficient of variation is relatively high for both types of deposits, this study focuses not on the absolute values of the indicator (as they are largely determined by the overall state of the banking system), but rather on its dynamics. It is the changes in this indicator that allow for the assessment of the evolving riskiness of the deposit base and, indirectly, the level of depositor confidence in the banking system.

Specifics of Depositor Trust in Government-Owned Banks, Banks of Foreign Banking Groups, and Private Banks

1. Hryvnia-Denominated Bank Deposits

Throughout the study period, Ukraine's banking sector underwent significant structural transformations associated with large-scale bank insolvencies and restructuring of

banking institutions. To minimize the impact of these processes on the analysis results, the sample includes only those banks that continued operating at the end of the study period. This approach helps avoid distortions caused by license withdrawals, mergers, acquisitions, or liquidations, which would otherwise hinder a reliable assessment of deposit dynamics over the long term.

For a more in-depth analysis, banks were classified into three main groups based on ownership structure: GBs, FBs, and PBs. This classification allows for an examination of depositor behavior within each segment, taking into account trust in ownership, reputational factors, and business models.

Figure 9 presents the distribution of DDs and TDs across these groups of banks.

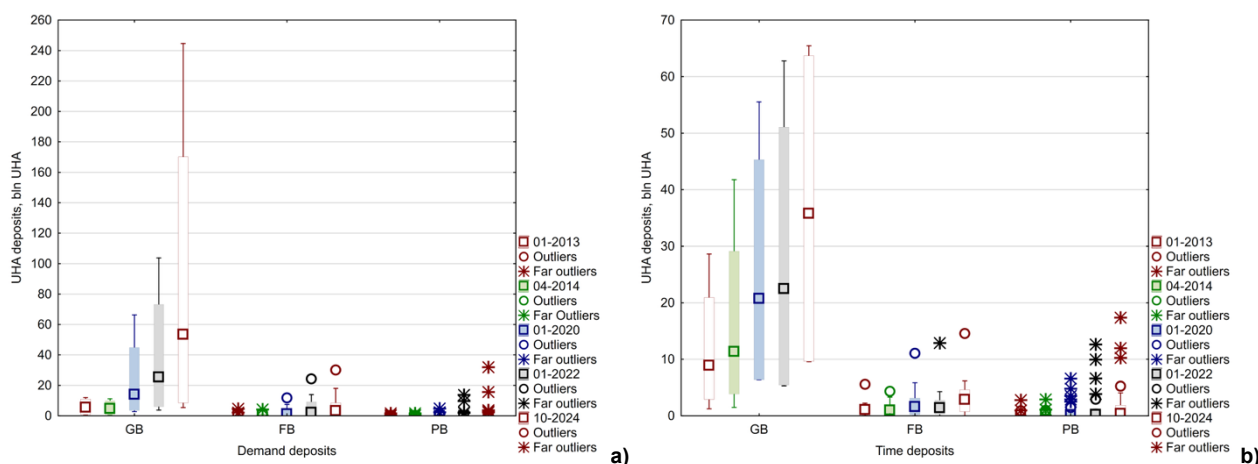


Fig. 9. Distribution of Hryvnia DDs (a) and TDs (b) by Bank Groups in January 2013, April 2014, January 2020, January 2022, and October 2024 (the sample includes only those banks that continued operating at the end of the study period)

Source: compiled based on (National Bank of Ukraine, 2024a).

Since 2020, there has been a clear shift in depositor trust in favor of GBs, driven by the perception of these institutions as more reliable. It is important to note that bank classification by ownership group was fixed as of February 1, 2022. This fixed classification allows for a consistent comparative analysis of deposit dynamics across different types of banks. FBs have shown only a modest increase in demand deposits, indicating a limited level of trust during times of crisis. PBs remain the least attractive to depositors in periods of instability, with increases in trust being rare occurrences. The results point to structural changes in depositor behavior: in the face of external shocks (particularly the full-scale invasion in 2022), individuals tend to prefer GBs as a relatively safer option for storing liquid funds.

Regarding TDs, a slight but steady increase in trust toward banks belonging to FBs is observed. At the same time, PBs show significant variability in the volumes of TDs, indicating an unusual spread – some banks accumulate substantially larger volumes of deposits compared to others. This concentration may be driven by aggressive interest rate policies, a high level of recognition of certain banks among households, or the retention of a specific segment of large depositors.

A more detailed overview of DDs and TDs in FBs and PBs is presented in Fig. 10. Despite the full-scale invasion, the interquartile range for DDs in FBs in October 2024 nearly reached the level observed before the invasion, and for TDs, it even exceeded the pre-war level, indicating partial stabilization. The increase in the median value suggests a rise in the baseline level of depositor trust. The identified outliers are isolated and do not significantly affect the overall picture.

The situation in PBs differs substantially. Compared to GBs and FBs, PBs did not show a noticeable increase in the volumes of DDs. This may be the result of a lower level of competitiveness or a focus on alternative sources of funding. The presence of far outliers indicates that some PBs are accumulating substantial volumes of funds. This situation may be explained either by a high level of public recognition of these banks or by the specific characteristics of their client base, particularly the servicing of individuals with deposits exceeding the guaranteed coverage level.

GBs account for 71% of deposits from all DDs in UAH and 56% of TDs in UAH, FBs for 16% and 17%, PBs for 13% and 28% as of October 2024. GBs demonstrate fairly stable depositor confidence, as confirmed by chain growth rates. However, the maturity structure of deposits remains a matter of serious concern, as the ratio of term deposits to demand deposits decreased by 79.4% overall (Table 2).

The dynamics of deposits in GBs demonstrate important transformations during periods of instability (Table 2). During the first phase of the war, there was a significant outflow of funds from GBs (even if we exclude Privatbank, which we included in GBs, this would only reduce the outflow of funds by 5 percentage points). In 2020, during the COVID-19 pandemic, there was a significant increase in DDs by more than 29%, while TDs grew by 4.4% in just 6 months. During the full-scale invasion between January 2022 and April 2022, DDs grew by 24.5%, while TDs fell by 7.4%.

In FBs, there was also a significant outflow of deposits during the first phase of the war. In 2020, during the COVID-19 pandemic, there was a significant increase in DDs by more

than 22%, but TDs fell by 2% in 6 months. During the full-scale invasion between April 2022 and January 2022, growth for DDs was only 16.8%, while TDs fell by 7.3%.

There is trust in FBs, but it is still not at the same as in GBs (Table 2).

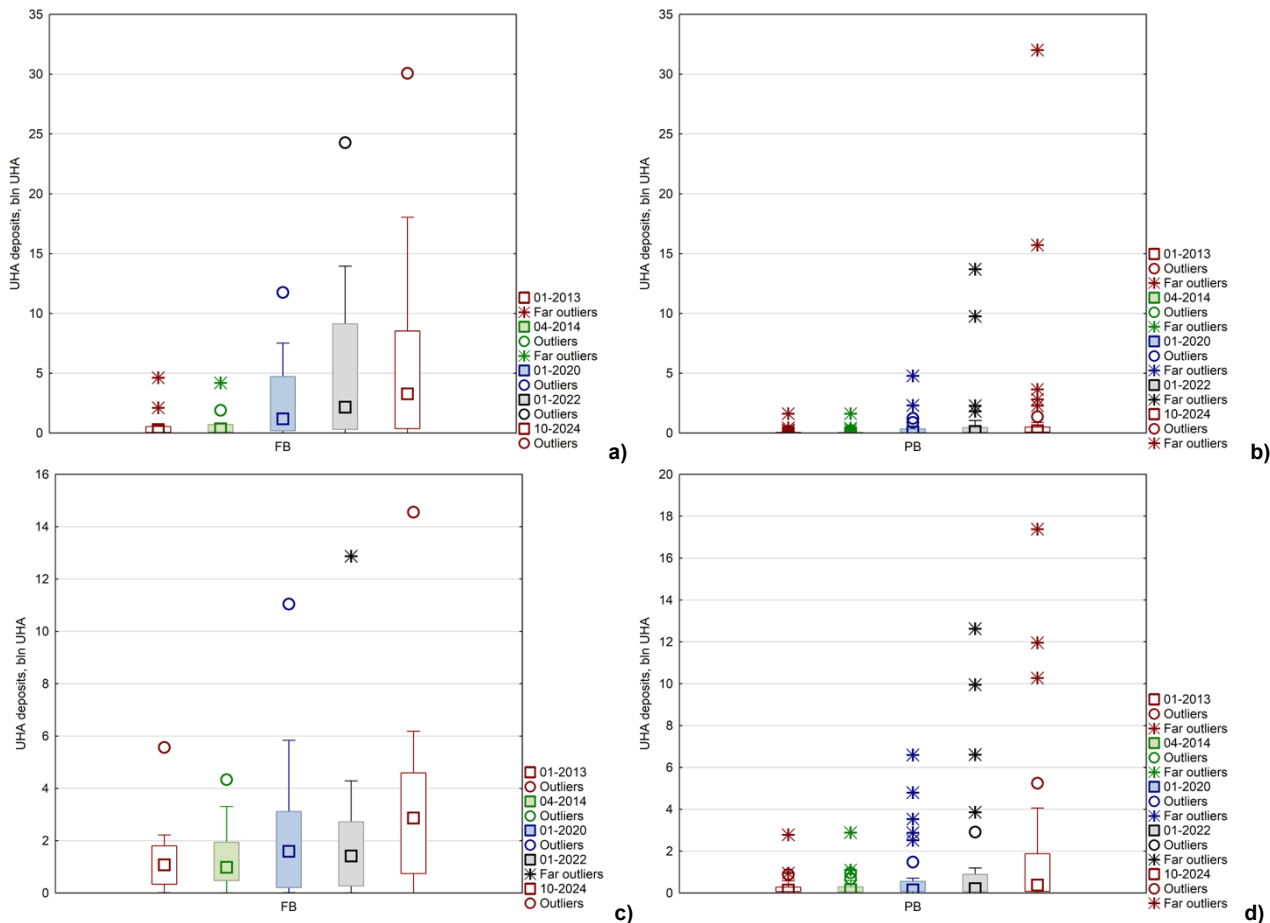


Fig. 10. Distribution of DDs in hryvnia (a, b) and TDs (c, d) in FBs (a, c) and PBs (b, d) in January 2013, April 2014, January 2020, January 2022, and October 2024 (the sample includes only those banks that continued operating at the end of the study period)

Source: compiled based on (National Bank of Ukraine, 2024a).

Table 2

Changes in hryvnia deposits in GBs, FBs, and PBs during crisis periods (the sample includes only those banks that continued operating at the end of the study period. Privatbank was included in GBs from 2013 as an assumption)

Date	GBs						FBs						PBs					
	UAH deposits, bln UAH			Chain growth rate, %			UAH deposits, bln UAH			Chain growth rate, %			UAH deposits, bln UAH			Chain growth rate, %		
	DDs	TDs	TDs/DDs	DDs	TDs	TDs/DDs	DDs	TDs	TDs/DDs	DDs	TDs	TDs/DDs	DDs	TDs	TDs/DDs	DDs	TDs	TDs/DDs
01.2013	24	48	2.0	-	-	-	14	29	2.0	-	-	-	4	10	2.6	-	-	-
07.2013	29	58	2.0	21.9	21.4	-0.4	17	35	2.0	22.8	22.5	-0.2	5	11	2.1	40.7	16.1	-17.5
01.2014	28	72	2.6	-3.7	24.5	29.4	16	34	2.1	-4.1	-1.8	2.4	5	12	2.5	-10.8	4.5	17.1
04.2014	21	66	3.1	-23.7	-8.4	20.0	13	29	2.2	-20.4	-14.8	7.0	4	11	2.8	-21.1	-10.8	13.0
01.2020	97	103	1.1	352.4	56.7	-65.4	35	32	0.9	170.2	10.7	-59.0	14	28	2.0	268.5	166.3	-27.7
07.2020	126	108	0.9	29.9	4.4	-19.7	43	32	0.7	22.3	-2.0	-19.9	18	33	1.8	32.4	14.9	-13.2
01.2022	158	113	0.7	25.5	4.7	-16.6	68	31	0.5	56.6	-2.8	-38.0	35	47	1.3	90.6	45.4	-23.7
04.2022	197	105	0.5	24.5	-7.4	-25.6	79	29	0.4	16.8	-7.3	-20.7	48	43	0.9	35.7	-8.8	-32.8
07.2024	357	146	0.4	81.2	39.6	-22.9	74	44	0.6	-6.2	54.5	64.8	63	71	1.1	31.6	65.1	25.4
10.2024	357	147	0.4	0.1	0.4	0.4	79	44	0.5	6.6	-1.3	-7.4	66	72	1.1	4.6	1.5	-3.0
Total:	x	x	X	1,391.4	207.6	-79.4	x	x	X	466.2	52.6	-73.1	x	X	x	1,620.9	634.7	-57.3

Source: calculated by authors based on (National Bank of Ukraine, 2024a).

During the first phase of the war, there was also a significant outflow of funds from PBs. In 2020, during COVID-19, there was a significant increase in DDs (higher than in GBs and FBs)—by more than 30% and by more than

14% in TDs in just 6 months. During the full-scale invasion between January 2022 and April 2022, DDs grew by 35.7%, while TDs decreased by more than 8%.

Thus, we can conclude that, based on the results of the analysis of hryvnia deposits in crisis conditions, it cannot be said that there are clearly trusted banks. Of course, GBs are preferred, but the population's trust in private and foreign banks needs further study, particularly in terms of the behavior of large depositors, i.e., depositors with deposits exceeding the guaranteed amount. It is also worth noting that the ratio decline is smallest in private banks. However, this can probably be explained by an analysis of interest rates: private banks offer much higher rates on TDs than other banks.

2. Foreign Currency Denominated Bank Deposits

The distribution of foreign currency deposits across bank groups differs significantly from that of hryvnia deposits. A clear decline in interest in TDs in foreign currency is observed across all bank groups. In terms of DDs, FBs – alongside GBs – emerge as active players. PBs, as in the case of hryvnia deposits, exhibit numerous extreme outliers (see Fig. 11, Fig. 12).

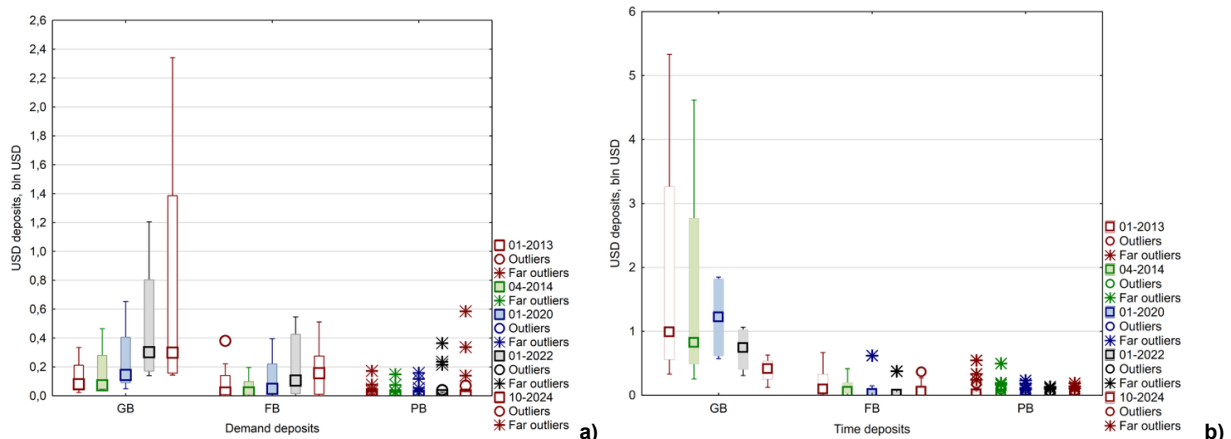


Fig. 11. Distribution of DDs (a) and TDs (b) in foreign currency by bank groups in January 2013, April 2014, January 2020, January 2022, and October 2024 (the sample includes only those banks that continued operating at the end of the study period)
Source: compiled based on (National Bank of Ukraine, 2024a).

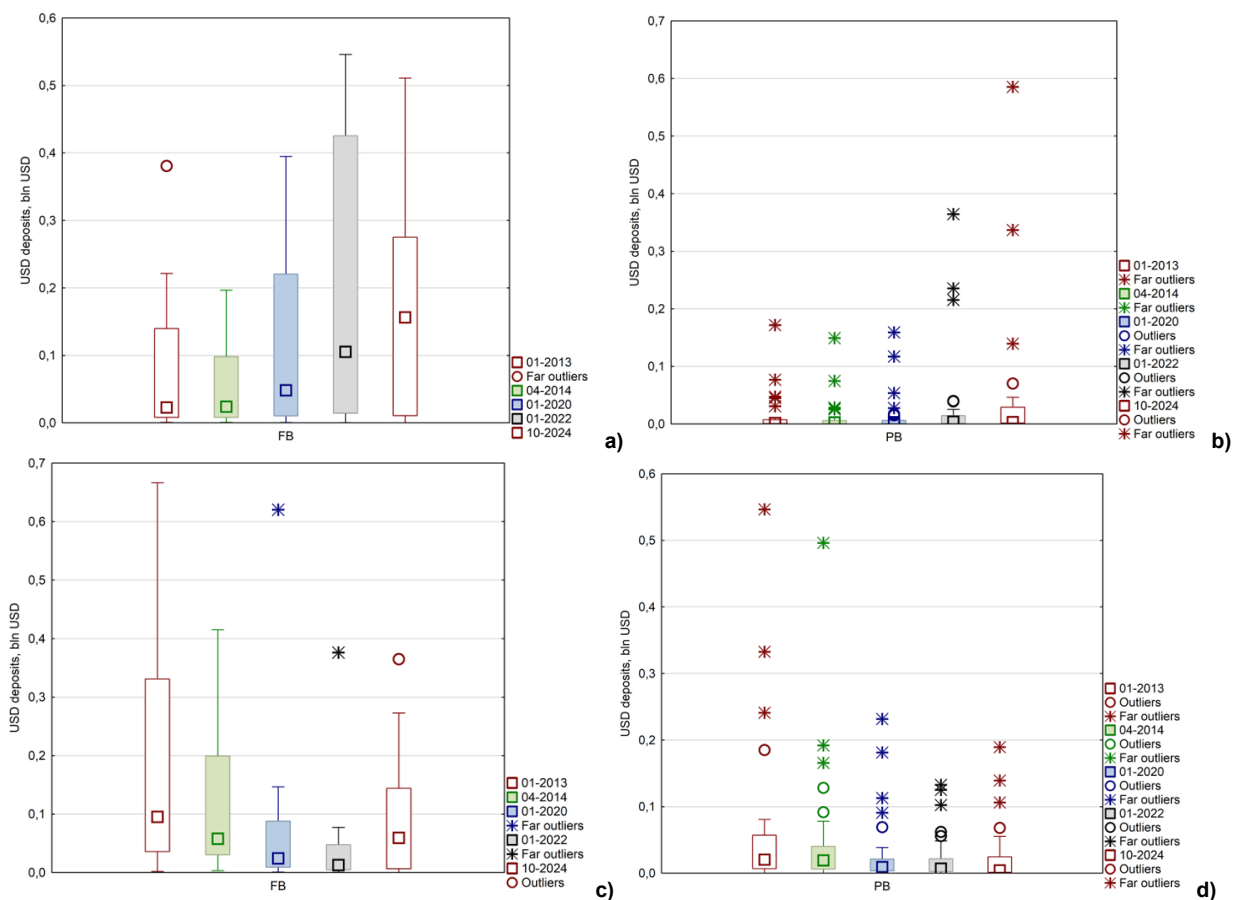


Fig. 12. Distribution of DDs (a, b) and TDs (c, d) in foreign currency in FBs (a, c) and PBs (b, d) as of January 2013, April 2014, January 2020, January 2022, and October 2024 (the sample includes only those banks that continued operating at the end of the study period)

Source: compiled based on (National Bank of Ukraine, 2024a).

As of October 2024, GBs accounted for 49% of DDs in foreign currency and 44% of TDs. FBs held 30% of DDs and 33% of TDs, while the share of PBs was 21% of DDs and 22% of TDs. This structure indicates the leading role of GBs and FBs in household foreign currency savings, with the private segment playing a relatively minor role.

GBs demonstrate growing depositor confidence in the liquid portion of savings: demand deposits increased sixfold between 2013 and 2024. Chain growth rates of DDs

remained mostly positive, especially during shocks. During the full-scale invasion, they grew by 2.6% in January–April 2022 and by another 49.3% by July 2024. However, the dynamics of DDs were completely different, falling much faster: their volumes decreased almost fivefold, and the overall reduction in the TDs/DDs ratio was over 96%. This indicates a profound transformation in foreign currency deposit behaviour toward liquidity, despite the overall level of trust in GBs (Table 3).

Table 3

Changes in foreign currency deposits in GBs, FBs, and PBs during crisis periods
(the sample includes only those banks that continued operating at the end of the study period)

Date	GBs						FBs						PBs					
	FC deposits, bln USD			Chain growth rate, %			FC deposits, bln USD			Chain growth rate, %			FC deposits, bln USD			Chain growth rate, %		
	DDs	TDs	TDs/DDs	DDs	TDs	TDs/DDs	DDs	TDs	TDs/DDs	DDs	TDs	TDs/DDs	DDs	TDs	TDs/DDs	DDs	TDs	TDs/DDs
01.2013	0.5	7.6	14.7	-	-	-	1.0	2.3	2.3	-	-	-	0.4	2.1	4.7	-	-	-
07.2013	0.6	7.6	13.5	7.9	-1.1	-8.4	0.9	2.1	2.2	-6.5	-10.1	-3.9	0.5	2.1	4.1	10.5	-2.8	-12.0
01.2014	0.5	7.7	14.3	-4.6	1.4	6.3	0.8	1.9	2.4	-15.8	-9.1	8.1	0.4	2.1	5.2	-19.5	1.6	26.1
04.2014	0.7	6.5	10.0	22.5	-14.9	-30.5	0.7	1.5	2.3	-15.1	-20.4	-6.2	0.4	1.7	4.3	0.9	-17.2	-17.9
01.2020	1.0	4.9	4.9	51.4	-25.3	-50.7	1.4	1.1	0.8	105.6	-29.3	-65.6	0.5	1.0	2.2	16.2	-40.8	-49.0
07.2020	1.1	4.3	3.8	15.7	-10.9	-23.0	1.6	0.9	0.6	19.7	-13.6	-27.8	0.6	0.9	1.4	36.7	-10.2	-34.3
01.2022	1.9	2.9	1.5	70.0	-34.2	-61.3	2.4	0.6	0.3	46.3	-33.8	-54.7	1.1	0.8	0.7	68.5	-12.3	-48.0
04.2022	2.0	2.3	1.2	2.6	-18.2	-20.3	2.3	0.5	0.2	-3.4	-10.9	-7.7	1.0	0.6	0.6	-3.3	-21.7	-19.0
07.2024	3.0	1.6	0.5	49.3	-31.6	-54.2	1.8	1.2	0.6	-20.7	111.8	167.3	1.3	0.8	0.6	26.0	24.2	-1.4
10.2024	3.1	1.6	0.5	3.4	-1.1	-4.3	1.9	1.2	0.6	2.5	1.1	-1.4	1.3	0.8	0.6	-0.4	1.7	2.0
Total:	x	x	x	494.1	-79.3	-96.5	x	x	x	88.7	-49.8	-73.4	x	x	x	191.7	-62.3	-87.1

Source: calculated by authors based on (National Bank of Ukraine, 2024a).

The reaction for FBs was somewhat different. Although the total volume of DDs in foreign currency grew (+88.7% over the entire period), TDs decreased by almost 50%. However, the overall reduction in TDs/DDs ratio by 73% indicates a similar trend of TDs reduction as in other groups.

Foreign currency deposits have always accounted for a small share of private banks' total deposits. Nevertheless, during the COVID crisis, DDs grew by 36.7%, while TDs fell by more than 10%. The overall reduction in the TDs/DDs ratio was over 87%, reflecting the limited willingness of the population to trust PBs in the foreign currency segment, especially for the long-term.

Overall, all three groups of banks showed a clear structural change in their foreign currency deposit portfolios: DDs dominated amid a decline in TDs, with some differences in the scale and speed of change. The highest liquidity was in the public sector, while the sharpest volatility was in FBs and PBs.

Discussion and conclusions

The study demonstrated that the effectiveness of the deposit guarantee system in Ukraine is shaped both by explicit instruments (the DGF) and implicit support from the state, especially during crises. This implicit component has a significant impact on depositors' behaviour and has proved crucial during periods of deep instability (war and pandemic).

During periods of crisis, structural changes in household deposits were observed. First, the shift from time deposits to demand deposits is evidence of short-term confidence in the banking sector. Only in isolated cases, particularly in 2020, was there an overall increase in deposits, primarily in government-owned banks, which again underscores the importance of implicit support. The DGF fulfils its role under stable macroeconomic conditions. However, its effectiveness is significantly reduced during shock events. As the analysis has shown, despite the formal existence of a protection mechanism, depositors' behaviour is

determined not only by the size of the guaranteed amount, but also by expectations of government support for banks.

Second, government-owned banks in Ukraine play a dominant role, accounting for the bulk of hryvnia deposits. In times of crisis, they tend to have the highest level of public confidence. Foreign banks occupy a stable but less significant position: they are perceived as reliable but less attractive for term deposits. Private banks demonstrate the highest volatility of the deposit base, which requires further research.

Thus, the explicit deposit guarantee system in Ukraine performs a basic stabilising function under normal conditions. At the same time, during crises, the implicit deposit guarantee system is decisive. This points to the need to rethink the role of the explicit deposit insurance system and strengthen it through institutional reforms, expanding protection tools, and increasing adaptability to shocks.

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References

- Allen, F., Carletti, E., Goldstein, I., & Leonello, A. (2015). Moral Hazard and Government Guarantees in the Banking Industry. *Journal of Financial Regulation*, 1(1), 30–50. <https://doi.org/10.1093/jfr/fju003>
- Demirgüç-Kunt, A., Kane, E., & Laeven, L. (2015). Deposit insurance around the world: A comprehensive analysis and database. *Journal of Financial Stability*, 20, 155–183. <https://doi.org/10.1016/j.jfs.2015.08.005>

- Demirgüç-Kunt, A., Karacaovali, B., & Laeven, L. (2005). Deposit insurance around the world: A comprehensive database. *World Bank Policy Research Working Paper*, 3628. <https://doi.org/10.1596/1813-9450-3628>
- DeSilver, D. (2015). *Financial crises surprisingly common, but few countries close their banks*. <https://www.pewresearch.org/short-reads/2015/07/09/financial-crises-surprisingly-common-but-few-countries-close-their-banks/>
- Diamond, D. W., & Dybvig, P. H. (1983). Bank runs, deposit insurance, and liquidity. *Journal of Political Economy*, 91(3), 401–419. <https://doi.org/10.1086/261155>
- Financial Stability Forum (FSF). (2001). *Guidance for Developing Effective Deposit Insurance Systems*. Basel: Bank for International Settlements.
- Grazhevska, N., & Shemakhina, I. (2018). Priority of institutional factors in ensuring the effective functioning of the banking system of Ukraine. *Bulletin of Taras Shevchenko National University of Kyiv. Economics*, 5(200), 13–19 [in Ukrainian]. [Гражевська, Н., & Шемахіна, І. (2018). Пріоритетність інституційних чинників забезпечення ефективного функціонування банківської системи України. *Вісник Київського національного університету імені Тараса Шевченка. Економіка*, 5(200), 13–19]. <https://doi.org/10.17721/1728-2667.2018/200-5/2>.
- IADI. (2024). *IADI Deposit Insurance System Data Base*. <https://www.iadi.org>
- IMF. (2024). *Financial soundness indicators*. <https://data.imf.org/regular.aspx?key=63174545>
- IMF. (2025). *Ukraine: Core FSIs*. <https://legacydata.imf.org/regular.aspx?key=63174545>
- Kindleberger, C. P. (2000). *Manias, panics, and crashes: a history of financial crises*. New York: John Wiley & Sons.
- Malafieiev, T., & Lykhobabina, L. (2017). The deposit guarantee system for individuals as a factor of economic security in banking activities in Ukraine. *Socio-Economic Relations in the Digital Society*, 3(30), 23–29 [in Ukrainian]. [Малафеев, Т., & Лихобабіна, Л. (2019). Система гарантування вкладів фізичних осіб як чинник економічної безпеки банківської діяльності в Україні. *Socio-Economic Relations in the Digital Society*, 3(30), 23–29]. [https://doi.org/10.18371/2221-755x3\(30\)2017124437](https://doi.org/10.18371/2221-755x3(30)2017124437)
- McCoy, P. (2008). The Moral Hazard Implications of Deposit Insurance: Theory and Evidence. *Current Developments in Monetary and Financial Law*, 5, 417–444. <https://doi.org/10.5089/9781589067738.072>
- National Bank of Ukraine. (2005a). *Bulletin of the National Bank of Ukraine: monthly analytical and statistical publication*, 2(143), 98 [in Ukrainian]. [Національний банк України. (2005a). *Зобов'язання банків за коштами, залученими на рахунки суб'єктів господарювання та фізичних осіб. Бюлетень Національного банку України: щомісячне аналітично-статистичне видання*, 2(143), 98].
- National Bank of Ukraine. (2005b). *Bulletin of the National Bank of Ukraine: monthly analytical and statistical publication*, 4(145), 94 [in Ukrainian]. [Національний банк України. (2005b). *Зобов'язання банків за коштами, залученими на рахунки суб'єктів господарювання та фізичних осіб. Бюлетень Національного банку України: щомісячне аналітично-статистичне видання*, 4(145), 94].
- National Bank of Ukraine. (2023). Non-performing loans ratio (NPL) [in Ukrainian]. [Національний банк України. (2023). Рівень непрацюючих кредитів (NPL)]. <https://bank.gov.ua/files/UIRD.xls>
- National Bank of Ukraine. (2024a). Supervisory statistics [in Ukrainian]. [Національний банк України. (2024a). Наглядова статистика]. <https://bank.gov.ua/ua/statistic/supervision-statist>
- National Bank of Ukraine. (2024b). Statistics on the sale and redemption of Domestic government bonds [in Ukrainian]. [Національний банк України. (2024b). Статистика щодо продажу та погашення ОВДП]. <https://bank.gov.ua/ua/news/all/uryad-zaluchiv-ponad-1-trln-grn-vid-prodaju-ovdp-na-auksionah-uprodovj-voyennogo-stanu>
- National Bank of Ukraine. (2025a). Ukrainian Index of Retail Deposit Rates-UIRD [in Ukrainian]. [Національний банк України. (2025a). Український індекс ставок за депозитами фізичних осіб - UIRD]. <https://bank.gov.ua/files/UIRD.xls>
- National Bank of Ukraine. (2025b). Information on banks since 2014 [in Ukrainian]. [Національний банк України. (2025b). Інформація про банки з 2014 року]. <https://bank.gov.ua/ua/supervision/reorganizat-liquidat/reorganiz-history#>
- Pernell, K., & Jung, J. (2024). Rethinking moral hazard: Government protection and bank risk-taking. *Socio-Economic Review*, 22(2), 625–653. <https://doi.org/10.1093/ser/mwad050>
- Quintero-V, J. C. (2023). Deposit insurance and market discipline. *Journal of Financial Stability*, 64, 101101. <https://doi.org/10.1016/j.jfs.2023.101101>
- RBC-Ukraine. (2008). Implementation of the NBU resolution on restrictions on early withdrawal of deposits must be ensured in full. – A. Yatsenyuk [in Ukrainian]. [РБК-Україна. (2008). Виконання постанови НБУ про обмеження на дострокове вилучення депозитів необхідно забезпечити в повному об'ємі, – А. Яценюк]. https://www.rbc.ua/ukr/news/vypolnenie_postanovleniya_nbu_ob_ogranichenii_na_dostrochnoe_izyatie_depozitov_neobhodimo_obespechit_v_polnom_obeme_a_yatsenyuk_141020080
- Silber, W. L. (2009). Why did FDR's bank holiday succeed? *Economic Policy Review*, 19–30.
- Stringer, D. (2007). U.K. Treasury chief talks Northern Rock. <https://eu.oklahoman.com/story/news/2007/09/23/uk-treasury-chief-talks-northern-rock/61708733007/>
- Verkhovna Rada of Ukraine. (1996). *On state guarantee of restoring the savings of Ukrainian citizens* (Law of Ukraine dated November 21, 1996 No. 537/96-BP) [in Ukrainian]. [Верховна Рада України. (1996). *Про державні гарантії відновлення заощаджень громадян України* (Закон України від 21.11.1996 № 537/96-ВР)]. <https://zakon.rada.gov.ua/laws/show/537/96-%D0%B2%D1%80#Text>
- Verkhovna Rada of Ukraine. (1998). *On measures aimed at protecting the rights of natural persons – depositors of commercial banks of Ukraine* (Decree of the President of Ukraine dated September 10, 1998 No. 996/98) [in Ukrainian]. [Верховна Рада України. (1998). *Про заходи щодо захисту прав фізичних осіб – вкладників комерційних банків України* (Указ Президента України від 10.09.1998 № 996/98)]. <https://zakon.rada.gov.ua/laws/show/996/98#Text>
- Verkhovna Rada of Ukraine. (2008). *On additional measures regarding the activities of banks* (Resolution of the Board of the National Bank of Ukraine dated October 11, 2008 No. 319) [in Ukrainian]. [Верховна Рада України. (2008). *Про додаткові заходи щодо діяльності банків* (Постанова Правління Національного банку України від 11.10.2008 № 319)]. <https://zakon.rada.gov.ua/laws/show/2145-19>
- Verkhovna Rada of Ukraine. (2012). *On the system of guaranteeing natural person deposits* (Law of Ukraine dated February 23, 2012 No. 4452-VI) [in Ukrainian]. [Верховна Рада України. (2012). *Про систему гарантування вкладів фізичних осіб* (Закон України від 23.02.2012. № 4452-VI)]. <https://zakon.rada.gov.ua/laws/show/537/96-%D0%B2%D1%80#Text>
- Verkhovna Rada of Ukraine. (2015). *On amendments to certain legislative acts of Ukraine regarding the conditions for the return of term deposits* (Law of Ukraine dated May 14, 2015 No. 424-VIII) [in Ukrainian]. [Верховна Рада України. (2015). *Про внесення змін до деяких законодавчих актів України щодо умов повернення строкових депозитів* (Закон України від 14.05.2015. № 424-VIII)]. <https://zakon.rada.gov.ua/laws/show/424-19>
- Verkhovna Rada of Ukraine. (2022a). *On amendments to certain laws of Ukraine aimed at ensuring the stability of the deposit guarantee system for individuals* (Law of Ukraine dated April 1, 2022 No. 2180-IX) [in Ukrainian]. [Верховна Рада України. (2022a). *Про внесення змін до деяких законів України щодо забезпечення стабільності системи гарантування вкладів фізичних осіб* (Закон України від 01.04.2022 № 2180-IX)]. <https://zakon.rada.gov.ua/laws/show/2180-20#Text>
- Verkhovna Rada of Ukraine. (2022b). *On the operation of the banking system during the period of martial law* (Resolution of the NBU Board dated February 24, 2022 No. 18) [in Ukrainian]. [Верховна Рада України. (2022b). *Про роботу банківської системи в період запровадження воєнного стану* (Постанова правління НБУ від 24.02.2022 № 18)]. <https://zakon.rada.gov.ua/laws/show/v0018500-22/ed202202244#Text>
- Versal, N. (2019). *Financial Shocks in the Banking System of Ukraine: Theory, Practice, and Adaptation Strategies*. FOP Yanchynskyi O. V. [in Ukrainian]. [Версаль, Н. (2019). *Фінансові шоки в банківській системі України: теорія, практика та шляхи адаптації: монографія*. ФОП Ямчинський О.В., 470 с].
- Versal, N., & Stavitskyi, A. (2016). Trends in dollarization of Ukrainian banking sector. *Economy and forecasting*, 4, 106–117 [in Ukrainian]. [Версаль, Н., & Ставицький, А. (2016). Тенденції доларизації банківського сектора України. *Економіка і прогнозування*, 4, 106–117].
- Virchenko, V. (2008). The impact of deposit insurance on the stability of the financial market. *Bulletin of Taras Shevchenko National University of Kyiv. Economics*, 106, 18–20 [in Ukrainian]. [Вірченко, В. (2008). Вплив страхування депозитів на стабільність фінансового ринку. *Вісник Київського національного університету імені Тараса Шевченка. Економіка*, 106, 18–20].
- Yorulmazer, T. (2009). Liquidity, bank runs and bailouts: spillover effects during the Northern Rock episode. *Federal Reserve Bank of New York*. <http://ssrn.com/abstract=1107570>
- Yushchenko, V. (1995). Results of the activities of the National Bank of Ukraine in 1994. *Bulletin of the National Bank of Ukraine*, 2, 3–12 [in Ukrainian]. [Ющенко, В. (1995). Підсумки діяльності Національного банку України за 1994 р. *Вісник Національного банку України*, 2, 3–12].

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ДЕПОЗИТИ ДОМОГОСПОДАРСТВ І СХЕМИ ЇХНЬОГО ГАРАНТУВАННЯ У КРИЗОВІ ПЕРІОДИ В УКРАЇНІ

Вступ. Забезпечення стабільності банківської системи залишається ключовим викликом під час економічних і геополітичних криз. В Україні система гарантування вкладів містить як явні (експліцитні), так і неявні (імпліцитні) компоненти. Явний механізм представлений Фондом гарантування вкладів фізичних осіб (ФГВФО), неявний компонент відображає суспільну довіру до ролі держави у захисті вкладів, особливо в умовах форс-мажорних обставин. Це дослідження має на меті оцінити стабільність вкладів у банках України під час кризових періодів.

Методи. У дослідженні застосовано описовий статистичний аналіз динаміки вкладів із розподілом за формою власності банків (державні, іноземні, приватні) та валютою вкладу (національна й іноземна) у період з 2013 по 2024 рр. Аналіз охоплює показники ланцюгових темпів зростання та структури депозитів (депозити на вимогу та строкові вклади) у ключові фази криз: воєнна агресія 2014 р., пандемія COVID-19 і повномасштабне вторгнення 2022 р.

Результати. Отримані результати свідчать про те, що імпліцитна система гарантування відіграла ключову роль під час значних шоків, причому державні банки демонстрували вищу стабільність вкладів. Структура депозитів суттєво зміщувалася в бік депозитів на вимогу, особливо у періоди невизначеності. Спостерігалися суттєві відмінності залежно від форми власності: іноземні банки демонстрували помірний рівень довіри, тоді як у приватних банках спостерігалися значні коливання обсягів вкладів. Валютна специфіка підкреслила важливість аналізу вкладів як у гривні, так і в іноземній валюті з огляду на вплив девальвації та інфляційних очікувань.

Висновки. Комплексне розуміння поведінки вкладників в умовах стресу вимагає оцінювання як експліцитного, так і імпліцитного захисту. Попри те, що ФГВФО забезпечує надійну основу, його ефективність має підкріплюватися дієвими неявними гарантіями та системами антикризового управління. Девальвація валюти та структура власності банків є критичними факторами у визначенні стійкості депозитної системи.

Ключові слова: система гарантування вкладів, експліцитна система гарантування вкладів, імпліцитна система гарантування вкладів, фінансова криза, стійкість банківської системи.

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