"Deposit insurance development (on the example of Ukraine)"

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NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
20	3	7

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DEPOSIT INSURANCE DEVELOPMENT (ON THE EXAMPLE OF UKRAINE)

Abstract

The deposit insurance market is an essential subsystem of Ukraine's financial infrastructure. The study aims to evaluate the development of deposit insurance in Ukraine based on the depth of deposit insurance, the implementation of the deposit guarantee function, the activity of the banking system and to identify their impact on the development of deposit insurance at various stages.

To determine the periods of deposit insurance in Ukraine, it was proposed to use the methodological toolkit of cluster analysis, having carried out the following stages: selecting input-defining features, variable standardization, applying the Ward procedure for the formation of clusters-periods, and financial and analytical interpretation of the results and characteristics of the periods obtained. Approbation of the proposed scientific and systematic approach allowed drawing conclusions regarding four stages of the development of deposit insurance in Ukraine from 2005–2020: completion of the formation (2005–2007), formedness and activity (2008–2013), performance under pressure (2014–2016), stabilization (2017–2020). While the first two stages, completion of formation and formedness and activity, were followed by a synchronous and slight increase in the level of the depth of the insurance system, the implementation of the deposit guarantee function and the activity of the banking system, the period of performance under pressure and the stabilization period demonstrated a desynchronization between the components.

The completion of the formation of deposit insurance (2005–2007) was followed by a synchronous and slight increase in the level of the depth of the insurance system, the implementation of the deposit guarantee function and the activity of the banking system.

Keywords	deposit insurance, deposit guarantee, banking system, Ward analysis, clusters-periods
JEL Classification	G21, G33, G17

INTRODUCTION

The experience of many countries shows that the bank deposit protection system is an effective tool for solving a whole range of economic and social problems. First, the deposit insurance system protects the interests of millions of citizens who are bank depositors. The deposit insurance system guarantees confidence in reliable and profitable storage of their savings and, in turn, strengthens the social stability of the state.

The deposit insurance system is one of the leading institutions for maintaining banking stability. For banks, the deposit insurance system is a significant source of expanding their resource base for lending to the economy and business development. Only an effective operating system of deposit insurance can maintain the stability of the national banking system, contribute to the formation of a competitive environment in the banking market, and bring political and social benefits to the country. The Deposit Guarantee Fund of Ukraine (DGF) is the only state institution promoting financial stability based on partner-

ship principles of interaction with banks and depositors. The crises of 2008–2009, 2013–2014, and the COVID-19 pandemic significantly affected the DGF, forming new standards and approaches to work in general in the conditions of challenges and uncertainty.

Throughout its existence, the Deposit Guarantee Fund of Ukraine has undergone several reforms to improve the national deposit insurance system. However, today, in the conditions of structural changes in Ukraine's banking system, the role of the Fund has shifted from the usual guarantor of depositors to the so-called advisory body. The national level of solvency of the domestic banking system, since modern financial institutions that attract deposits play an essential role as intermediaries between depositors and borrowers who raise funds as investments.

1. LITERATURE REVIEW

At the current stage, in the conditions of the transformation of the economy, among the main problems of Ukraine, the task of forming an effective banking system occupies an important place. The primary source of strengthening the Ukrainian banking system is the attraction of a larger volume of deposits from individuals, who act as a solid resource base for banking institutions. In recent years, Ukraine has experienced an unprecedented combination of military, political, financial-economic, and banking crises, which has reduced depositors' confidence in commercial banks. Today, one of the first plans in developing an effective banking system should be protecting the rights and interests of bank depositors, strengthening their trust, stimulating the attraction of funds, etc., which, in aggregate, creates the task of the deposit insurance system.

When assessing the state of the deposit guarantee system of individuals in Ukraine, the following indicators were used: the number of banks in Ukraine, the number of banks included in the DGF and excluded from the DGF, the number of depositors, the number of deposits and its currency structure, the average size of the deposit, the amount of possible compensation for Deposit Guarantee Fund account. Thus, Buchko (2016) emphasizes that the deposit guarantee system should be dynamic, constantly improve and respond to any challenges in the modern economic space. Further research should be directed to developing and improving mechanisms for protecting population savings in Ukraine. In his research, the author substantiated the main principles of the operation of the Deposit Guarantee Fund in the banking security system, highlighted the criti-

cal approaches to guaranteeing the deposits of individuals, and comprehensively characterized the main task and functions of the Deposit Guarantee Fund (Buchko, 2016).

Thus, Tyshchenko (2017) systematized approaches to forming an effective system of insurance deposits of individuals in Ukraine and the peculiarities of its development in the conditions of European integration processes. At the same time, in the study, the author identified the directions and channels of influence of the Deposit Guarantee Fund on the economic security of banking activity in Ukraine. Separately, the study focuses on the number of contributions and premiums for the functioning of the deposit guarantee system. At the same time Nuzhnenko (2021) emphasizes that restructuring the guaranteed system's debts, which were left as a legacy after the last banking crisis of 2014–2017, is essential. The researcher emphasizes that the DGF's top priority for the immediate future will be the recovery of damages caused to bank customers by the management and owners of the banks in liquidation, with a focus on tracing and recovering assets taken through various schemes abroad.

Three types of bank deposit insurance systems were singled out: the American one, which is based on the experience of the United States and involves the creation of a particular state or state-controlled body, the financing of which is carried out jointly by the state and banks, the German (European) system, which assumes that the state has no direct relation to insurance, there are no funds and insurance is carried out, as a rule, through nationwide banking associations, mixed, when the insurance system contains elements of both the systems mentioned above. On the one

hand, Tkachenko (2014) studied the international practice of building deposit insurance systems on the example of countries such as the USA, India, Japan, Great Britain, France, Germany, Poland, Spain, Lebanon, the Philippines, as well as the level of the European Union. On the other hand, Danylenko (2017) and Kuznichenko et al. (2021), exploring the macroprudential aspect of the evolution of the deposit guarantee system in Ukraine to global standards, concluded that the deposit guarantee system in Ukraine is currently transforming due to the lessons of the crisis and the movement towards European standards. They emphasize that it is essential that, because of the transformation, the deposit guarantee system acquires features that will contribute to the stability of the state's financial system. Researchers use various statistical and econometric methods to investigate deposit insurance systems. At the same time, cluster analysis is not very common in this scientific area. Thus, cluster analysis is used for various tasks, such as healthcare system (Simakhova et al. (2022), simultaneous compliance with the criteria for the quality of higher education and the level of social and economic development (Hryhorash et al., 2022), or for comparing riskiness of exchange rate volatility (Ndlovu & Chikobvu, 2022).

To study the state and development of the deposit guarantee system, D'yakonov (2015) identified several criteria, parameters, and macroeconomic conditions for such an assessment: the number of deposits of individuals in the Deposit Guarantee Fund, participants the average size of the deposit, the number of financial resources of the Deposit Guarantee Fund, the ratio with the deposits of individuals in the Deposit Guarantee Fund participants. Thus, among the most priority tasks facing the Ukrainian deposit guarantee system, the author includes maintaining the stability of the deposit guarantee system through effective risk minimization and maximum reliance on own sources of financing, ensuring an adequate protection system for depositors' savings and the fastest possible payment of insurance compensation; achieving and maintaining the transparency of the Deposit Guarantee Fund's activities, timely and complete informing of all interested parties about its work.

The analysis was based on the following indicators: dynamics of DGF participants, payment of the guaranteed compensation amount, dynamics of DGF financial resources and their structure, conditions for issuing and repaying long-term promissory notes, implementation of plans for the sale of assets of bankrupt banks, sales of assets of insolvent banks, the number of creditors' claims and their repayment. Skirka (2017) analyzed the activities of the Deposit Guarantee Fund during the crisis period of 2014–2016. The author concluded that to restore banks' public trust, it is necessary to increase the efficiency and effectiveness of banking supervision; bring to justice the guilty persons associated with the bank, and improve the work of the DGF, especially in the revenue part (introduction of differentiated fees, reimbursement by bank owners' damages caused to the state, etc.) and with the management and subsequent sale of bank assets. Rudenko (2014), when researching the activities of the Deposit Guarantee Fund and its cooperation with the National Bank of Ukraine, emphasizes that to encourage banks to reduce risks in 2013, the executive directorate of the Deposit Guarantee Fund decided to introduce differentiated fees for participants, depending on the degree of risk.

At the same time, Oleksyn and Dembits'ka (2018) studied the main directions and further improvement of the activity of the Deposit Guarantee Fund. In their study, they investigated the sources of the formation of financial resources of the DGF, based on indicators such as initial collection, regular collection, income from investing in government securities, income in the form of interest from balances of funds on current accounts with the NBU, loans raised from the NBU. In addition, the growth of the guaranteed amount and the dynamics of deposits of individuals in banks participating in the Deposit Guarantee Fund were studied. In particular, the dynamics of the number of deposits, the number of depositors, the average size of the deposit, and the coverage ratio of the number of depositors were analyzed.

Thus, it should be concluded that the activity of the DGF is gradually acquiring positive features. Still, to reduce the negative impact of the current financial and military crisis on the banking sector in Ukraine, it is necessary to continue improving the deposit guarantee system.

The study aims to evaluate the development of deposit insurance in Ukraine based on components such as the depth of deposit insurance, the implementation of the deposit guarantee function, and the activity of the banking system, as well as to identify their impact on the development of deposit insurance at various stages.

2. AIM, DATA, AND METHODOLOGY

The paper proposes to investigate the development of deposit insurance in Ukraine by carrying out periodization in the following stages: selection of input-defining features, standardization of variables, application of the Ward procedure for the formation of clusters-periods, and financial and analytical interpretation of the results and characteristics of the obtained periods.

Indicators of the functioning and development of deposit insurance in Ukraine for 2005–2020 are selected and grouped according to the following directions: the depth of the deposit insurance

system, the performance of the deposit guarantee function, and the development of the banking system (Figure 1).

Empirical and standardized values of selected indicators are presented in Tables A1 and A2, and standardization of input variables – in Tables A3 and A4 of Appendix A.

Standardization of indicators is carried out based on the value of the arithmetic mean and standard deviations. Thus, there is a transition from the initial empirical values of the x_{it} to its standardized ones s_{it}:

$$s_{it} = \frac{x_{it} - \overline{x}}{\sigma_x}, \tag{1}$$

where $\overline{x}$ – the average value of the variable for the entire studied period; σ_x – the average squared deviation of the characters over the entire studied period.

The coordinates of the reference vector $A = (a_1, a_2, ..., a_n)$ are determined, considering that it is about evaluating the development of deposit insurance:
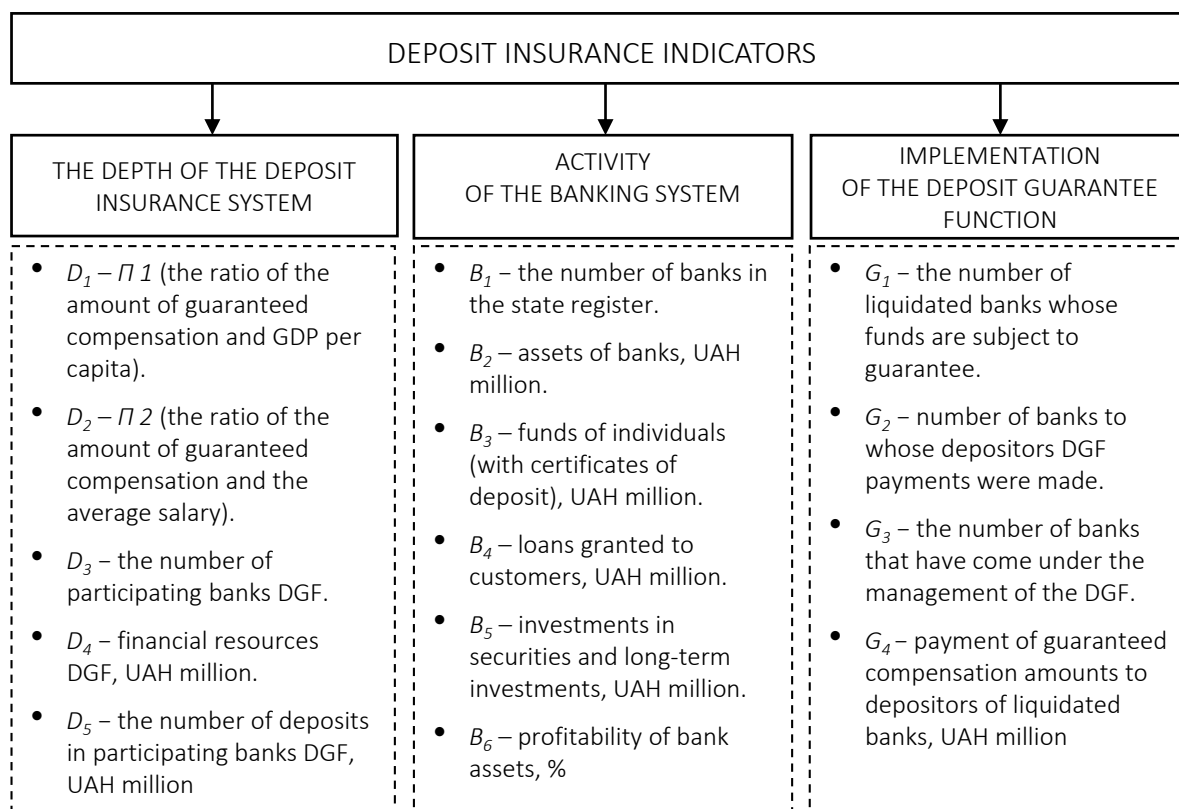

Figure 1. Indicators selected for periodization of the development of deposit insurance

$$a_i = \max_{t=1 \div T} s_{it}. \qquad (2)$$

In the next step, the distances for each of the directions of deposit insurance are calculated:

- the distance L_1^D between each point $D = (d_{1t}, d_{2t}, ..., d_{nt})$, the coordinates of which are indicators of the depth of the deposit insurance system, and the corresponding reference vector $A^D = (a_1^D, a_2^D, ..., a_n^D)$:

$$L_1^D = \sqrt{\left(d_{1t} - a_1^D\right) + \left(d_{2t} - a_2^D\right) + \ldots + \left(d_{nt} - a_n^D\right)}, \quad (3)$$

- the distance L_1^G between each point $G = (g_{1t}, g2t, ...g_{nt})$, the coordinates of which are implementation of the deposit guarantee function, and the corresponding reference vector $A^G = (a_1^G, a_2^G, ..., a_n^G)$:

$$L_1^G = \sqrt{\left(g_{1t} - a_1^G\right) + \left(g_{2t} - a_2^G\right) + \ldots + \left(g_{nt} - a_n^G\right)}, \quad (4)$$

- the distance L_1^B between each point $B = (b_{1t}, b2t, ...b_{nt})$, the coordinates of which are indicators of the activity of the banking system, and the corresponding reference vector $A^B = (a_1^B, a_2^B, ..., a_n^B)$:

$$L_1^B = \sqrt{\left(b_{1t} - a_1^B\right) + \left(b_{2t} - a_2^B\right) + \ldots + \left(b_{nt} - a_n^B\right)}. \quad (5)$$

Based on the calculated distances, the integral indicators are determined:

- depth of the deposit insurance system:

$$I_t^D = 1 - \frac{L_t^D}{\overline{L_t^D} + k \cdot \sigma_{L_t^D}}; \qquad (6)$$

- implementation of the deposit guarantee function:

$$I_t^G = 1 - \frac{L_t^G}{\overline{L_t^G} + k \cdot \sigma_{L_t^G}}; \qquad (7)$$

- activities of the banking system:

$$I_t^B = 1 - \frac{L_t^B}{\overline{L_t^B} + k \cdot \sigma_{L_t^B}}, \qquad (8)$$

where $\overline{L_t^D}$, $\overline{L_t^G}$, and $\overline{L_t^B}$ – the arithmetic mean of the distances L_t^D, L_t^G, L_t^B, respectively; $\sigma_{L_t^D}$, $\sigma_{L_t^G}$, $\sigma_{L_t^B}$ – average square of L_t^D, L_t^G, and L_t^B; k – are some

positive numbers chosen so that the value of I_t^B was in the interval [0; 1]. When performing calculations, $k = 3$ will be used.

The traditional method of forming a generalized assessment of a phenomenon or process (in this study, the development of deposit insurance in Ukraine and its components, the depth of the deposit insurance system, the implementation of the deposit guarantee function, the activity of the banking system) is to determine it depending on the interval that includes the values of the integral indicator (Table 1). To deepen the analytical interpretation, it is proposed to apply cluster analysis to determine the periods in the formation and development of deposit insurance.

Table 1. Ranking of integral indicators of the depth of the deposit insurance system, implementation of the deposit guarantee function, the banking system activity

Value I_t^D, I_t^G, I_t^B	Generalized assessment
[0; 0.15)	Very low level
[0.15; 0.35)	Low level
[0.35; 0.65)	Average level
[0.65; 0.85)	High level
[0.85; 1.00]	Very high level

Cluster analysis allows realizing the complexity and multidimensionality of the analysis regarding the functioning of deposit insurance, which cannot be represented by only one indicator but is reflected by several indicators. The state of deposit insurance in a certain period results from the mutual influence and interweaving of various processes occurring internally and externally. Moreover, they are dynamic and often contradictory.

Cluster analysis allows dividing time series characterizing a phenomenon in time and space based on the similarity of the characteristics of the levels of the time series. Time series can be clustered based on the following criteria: value, increasing and decreasing trends, and recurring patterns.

Among various clustering methods, the use of Ward's procedure is proposed.

The objective function for a given partition C in Ward's method is the sum of intracluster variances:

$$D(C) = \sum_{k=1}^{K} \sum_{i \in V_k} \rho^2(i, z_k), \qquad (9)$$

where k – cluster number, $k = 1, ..., K$; V_k – set of object numbers belonging to the cluster k; ρ – function of the distance (in the chosen metric) between the vertex i (in the space of factors) and the center of the cluster z_k; z_k – the center of the cluster, which is calculated as follows:

$$z_k = \frac{1}{|V_k|} \sum_{i \in V_k} x_i, \qquad (10)$$

where x_i – a vector whose coordinates are equal to the factor values of the object i.

Let us denote the partition obtained as a result C by combining two clusters $k_1, k_2 \in \{1, ..., K\}$, $k_1 \neq k_2$, by (k_1, k_2), then:

$$\Delta(k_1, k_2) = D(C(k_1, k_2)) - D(C). \qquad (11)$$

Checking and sorting through all pairs $k_1, k_2 \in \{1, ..., K\}$, the following numbers should be found k_1^* and k_2^*, for which:

$$\Delta(k_1^*, k_2^*) = \min_{k_1, k_2 \in \{1, ..., K\}} \Delta(k_1, k_2). \qquad (12)$$

The number of clusters in Ward's algorithm is not known in advance.

The Ward procedure is based on a quality criterion that allows you to assess the quality of the combination of pairs at each step and choose the most optimal solution from the options. The algorithm allows monitoring the sequence of formation of combinations and enlarged clusters, minimizing the total quadratic deviation.

The advantages of Ward's algorithm are that it merges closely located clusters of approximately the same size and shape. In addition, the method works for any number of clusters from 1 to N elements in the initial set.

Considering the existing practice of conducting cluster analysis, the periodization of deposit insurance in Ukraine will be carried out in the following stages:

• selection of input explanatory features;

• standardization of variables;

• application of the Ward procedure for the formation of clusters-periods;

• financial and analytical interpretation of the results and characteristics of the obtained periods.

Combining the toolkit of integral indicators and cluster analysis will allow determining the level of development of deposit insurance as a whole and assessing the impact on it of components of insurance such as the depth of the deposit insurance system, the implementation of the deposit guarantee function, and the activity of the banking system.

3. RESULTS AND DISCUSSION

The results of calculations of integral indicators of the depth of the deposit insurance system, the implementation of the deposit guarantee function, and the activity of the banking system are given in Figure 2.

The ranges are given in Table 2, such as one rank of the depth of the deposit insurance system, the deposit guarantee function implementation, and the banking system activity. The obtained results proved that the depth of the deposit insurance system in 2005–2007 was at a low level, and since 2008 it has been at an average level. The most significant frequency of fluctuations characterized the implementation of the deposit guarantee function. It was at a low level in 2005–2009, 2012–2013, 2010–2011, 2014, 2017–2020 – at an average level, and in 2015–2016 – at a high level. The activity of the banking system demonstrated a gradual evolutionary development: in 2005–2007, it was at a low level; in 2008, there was a transition to an average level; and in 2018 was at a high level.

The practical implementation of the Ward procedure as a method of cluster analysis for periodization of the development of deposit insurance in Ukraine was carried out using the statistical analysis program "STATISTICA 12" based on official statistical data for the period 2005–2020.
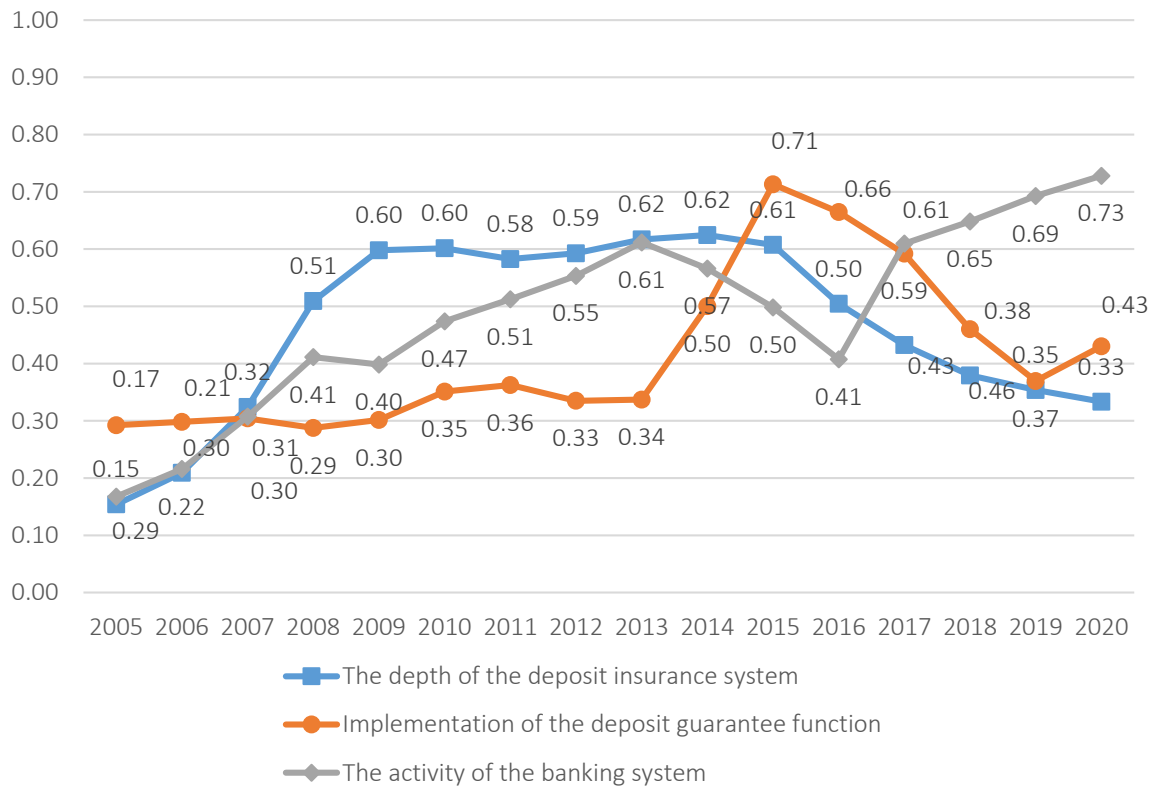
Figure 2. Integral indicators of the depth of the deposit insurance system, the deposit guarantee function implementation, and the banking system activity in 2005–2020

As a result of applying the cluster analysis method, a dendrogram was constructed (Figure 3), based on which it is possible to hypothesize that there are four clusters-periods in the dynamic series of de-posit insurance development, which is described by several indicators: 2005–2007, 2008–2013 2014–2016, and 2017–2020. It should be noted that the chronological sequence was preserved when

Table 2. Generalized assessment of the depth of the deposit insurance system, the deposit guarantee function implementation, and the activity of Ukraine's banking system in 2005–2020

Year	The depth of the deposit insurance system	Implementation of the deposit guarantee function	The activity of the banking system
2005	Low level	Low level	Low level
2006	Low level	Low level	Low level
2007	Low level	Low level	Low level
2008	Average level	Low level	Average level
2009	Average level	Low level	Average level
2010	Average level	Average level	Average level
2011	Average level	Average level	Average level
2012	Average level	Low level	Average level
2013	Average level	Low level	Average level
2014	Average level	Average level	Average level
2015	Average level	High level	Average level
2016	Average level	High level	Average level
2017	Average level	Average level	Average level
2018	Average level	Average level	High level
2019	Average level	Average level	High level
2020	Average level	Average level	High level

applying the Ward algorithm, which is essential for identifying periods and their characteristics.

The specified periods can be defined as corresponding to four stages of the development of deposit insurance in Ukraine:

1) 2005–2007 – completion of formation;
2) 2008–2013 – formedness and activity;
3) 2014–2016 – performance in pressure conditions;
4) 2017–2020 – stabilization.

Analytical interpretation of the obtained results is the final stage of cluster analysis.

The period 2005–2007 was characterized by an increase in the incomes of the population, which stimulated the investment of funds in real estate objects and the placement of funds on deposits. In 2005, the increase in banks' liabilities at the expense of individuals amounted to 75.9% and was the highest in the last five years. The growth of individual deposits provided 63.5% of the total growth of deposits in 2005. Most deposits were funded in the national currency, which increased by 65.3% over the year, and their share in the structure of deposits by types of currencies increased to 65.7%. In 2006, the increase in banks' liabilities at the expense of individuals amounted to 45.8%. The growth of individual deposits provided 65.1% of the total growth of deposits in 2005. Most deposits were funded in the national currency, which

increased by 30.8% over the year, and their share in the structure of deposits by types of currencies decreased to 61.9%. In 2007, the increase in banks' liabilities at the expense of individuals amounted to 53.8%. The growth of individual deposits accounted for 60.1% of the total growth of deposits in 2005. Most deposits were funded in the national currency, which increased by 30.8% over the year, and their share in the structure of deposits by types of currencies increased to 67.9%.

The amount of guaranteed compensation to GDP per capita increased from 53.3 to almost 325 units during 2005–2007, and the ratio of the guaranteed compensation to the average salary increased from 620 to almost 4,000. The number of banks participating in the Deposit Guarantee Fund increased, but insignificantly, from 160 to 166, with 158-175 banks in the state registered. During this period, the financial resources of DGF almost doubled, reaching UAH 867 million. The number of deposits in banks participating in the DGF increased from UAH 38.4 billion to UAH 100.4 billion. The number of liquidated banks whose funds are subject to guarantee was 2-3 banks per year in 2005–2007, while DGF made payments to 5-8 banks annually. Guaranteed compensation payments to depositors of liquidated banks in 2007 reached UAH 105.6 million. At the same time, bank assets and loans increased almost three times – from UAH 213.9 to UAH 617.7 million and from UAH 143.4 to UAH 426.9 million, respectively. Banks' capital, funds of individuals, granted loans, and invest-
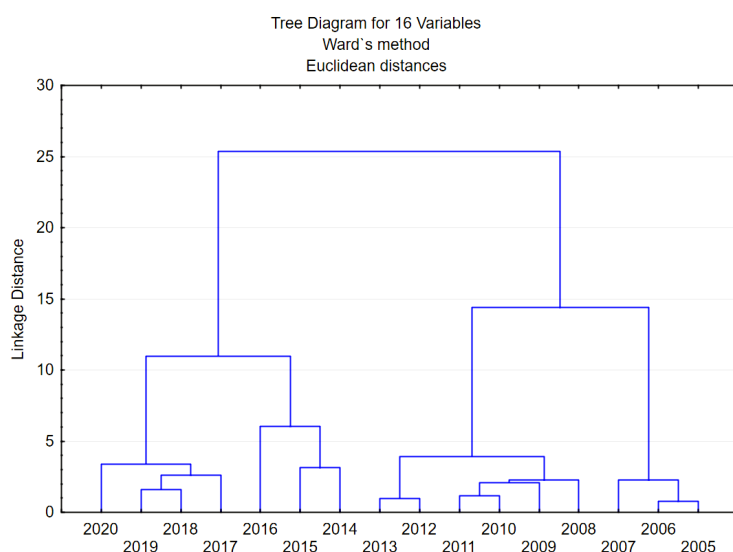

Figure 3. Dendrogram of the cluster analysis of deposit insurance development indicators in Ukraine in 2005–2020

ments in securities and long-term investments also showed an upward trend; the profitability of bank assets was 1.3-1.5%.

In 2001, Ukrainian Parliament adopted the Law of Ukraine "On the Deposit Guarantee Fund," which formed the appropriate regulatory and legal basis for the creation of a deposit guarantee system, in particular: general provisions, the legal status of the DGF, and its governing bodies, the legal status of the DGF and its governing bodies, procedure use of DGF funds for reimbursement of deposits. In the same year, payments of the guaranteed compensation amount were started to depositors of GSC Bank Slaviansky and JSC APB Ukraine, in 2004 – to depositors of JSC Nash Bank, JSC OLbank, JSC Rostok Bank, and JSC Allonzh. In 2006, changes were made to the Law that concerned branches and representative offices of banks on the territory of Ukraine. At that time, the regulatory framework for guaranteeing deposits in Ukraine was formed. Moreover, working deposit guarantee mechanisms also contributed to the attraction of deposit funds. Following the decision of the administrative board of the DGF, in 2005, the amount of compensation to depositors in the event of bank bankruptcy was increased to UAH 5,000, in January 2006 to UAH 8,000, and in May 2006 to UAH 15,000. In February 2007 – up to UAH 25 thousand; in August 2007 – up to UAH 50 thousand.

During 2005–2007, the Deposit Guarantee Fund began to pay the guaranteed compensation to depositors of 4 banks: in 2005 to depositors of AKB Premierbank and 2006 to depositors of AKB Harant, AKB Interkontynentbank, LLC Kyyivskyy Universalnyy Bank.

Ambiguous dynamics of household deposits characterized the 2008–2013 period. A slowdown in the rate of growth of deposits has been noted since April 2008, primarily due to the revaluation of the hryvnia against major foreign currencies. In 2008, the increase in banks' liabilities at the expense of individuals amounted to 26.7%. The share of deposits in national currency decreased to 50.5% in 2008. In 2009, the balance of deposits decreased by 6.9% compared to the growth of the previous year; the volume of household deposits also decreased by 1.7%. However, their share in the total volume of deposits increased to 63.9%. In 2010,

the growth of funds of the household sector in banks was 28.5% and exceeded the pre-crisis level by a third. This year, the currency structure of deposits changed: the share of deposits in the national currency increased to 57.4%. Deposits of the household sector in 2011 remained the most significant component of deposits raised by banks and accounted for 63.1% of all bank deposit liabilities. The growth rate of household deposits slowed down and amounted to 12.8%. In 2012, attracted household deposits accounted for 38.0% of all bank liabilities, showing a growth rate of 18.9%. Funds in national currency increased by 15.9%, while in foreign currency – by 16.4%. In 2013, attracted household deposits accounted for 40.0% of all bank liabilities, the volume of which increased by 19.2%. First, deposits in national currency grew by 38.6%, while deposits in foreign currency grew by less than 0.5%.

The ratio of guaranteed compensation to GDP per capita during 2008–2013 decreased from 731.6 to almost 6,252 units, and the ratio of guaranteed compensation to the average wage decreased from almost 8,300 to 6,109.1 units. During 2008–2010, the number of banks participating in the DGF grew, reaching 184 banks, and by 2013, it had decreased to 174. During this period, the financial resources of the DGF increased significantly and amounted to more than UAH 6 billion. The number of deposits in banks participating in the DGF increased from UAH 155.3 billion to almost UAH 340 billion. The number of liquidated banks, the funds of which are subject to the guarantee, in 2009–2011 had an upward trend; in the following 2012 and 2013, it decreased to three banks per year. In 2013, the number of banks whose DGF depositors were paid reached 24. Guaranteed compensation payments to depositors of liquidated banks in 2009 and 2013 exceeded UAH 1 billion, and in 2010 amounted to UAH 2.3 billion. At the same time, bank assets and loans increased almost three times – from UAH 213.9 to UAH 617.7 million and from UAH 143.4 to UAH 426.9 million, respectively. In 2009, compared to 2008, bank assets granted loans and investments in securities, and long-term investments decreased. Since 2010, all studied indicators of banks' business activity have shown an upward trend. The profitability of bank assets in 2010 and 2011 was negative; in 2012 and 2013, this indicator became positive but did not exceed 0.5%.

Following the Law of Ukraine "On Priority Measures to Prevent the Negative Consequences of the Financial Crisis and on Amendments to Certain Legislative Acts of Ukraine," in 2008, the amount of guaranteed compensation was set at UAH 150,000. In 2010 the amount was maintained by the decision of the Administrative Council of the DGF of the guaranteed amount of compensation in the same amount. In August 2012, the decision of the administrative council of the DGF established the amount of the guaranteed amount at the level of UAH 200,000.

In 2008, 2009, and 2010, amendments were made to the Law of Ukraine "On the Deposit Guarantee Fund," which supplemented the procedure for replenishment of funds and lending to the Deposit Guarantee Fund by the National Bank of Ukraine, specified the composition of DGF participants and deposit guarantees, improved DGF regulations.

In 2012, Ukrainian Parliament adopted the Law of Ukraine, "On the Deposit Guarantee System of Individuals," which significantly transformed the regulatory and legal basis for the operation and development of the deposit guarantee system. In the same year, amendments were made to the Law regarding the powers of the administrative board, the executive board, and the internal audit of the DGF, the directions for the use of funds, the terms of payment of regular contributions by the participants of the DGF, the imposition of administrative fines on bank managers, DGF lending, and financing of the system of guaranteeing deposits of individuals by the state on an irreversible basis, administrative and economic sanctions against banks for violating the legislation on guaranteeing deposits of individuals, requirements for an authorized person, consequences of the introduction of a temporary administration, providing financial support to the receiving or transitioning bank, the sequence and order of meeting demands to the bank, payment of expenses and making payments. In 2013, changes were made to the Law "On the Deposit Guarantee System of Individuals

During 2008–2013, the Deposit Guarantee Fund began paying guaranteed compensation to depositors of 26 banks: in 2008 to depositors of JSC European Development and Savings Bank, in 2009 to depositors of JSC Eastern European

Bank, OJSC Bank Of Regional Development, JSC KB National Standard, JSC European, JSC Odesa-Bank, JSC Black Sea Bank, in 2010 to depositors of JSC Regional Development Bank, JSC Eastern European Bank, JSC Ukrainian Financial Group, LLC Ukrainian Industrial Bank, JSC KB Arma, JSC Transbank, OJSC BIG Energy, OJSC Selyansky Commercial Bank Dniester, OJSC CB Ipobank, PJSC Land Bank, PJSC Syntez, in 2011 to the depositors of Dialogbank LLC, PJSC KB Soskom Bank, in 2012 to the depositors of PJSC Bank Stolytsia, PJSC Innovation-Industrial Bank, PJSC KB Volodymyrskyi, PJSC AKB Bazis, in 2013 to depositors JSC Erde Bank, JSC Bank Tavrika.

According to the results of 2014, the total volume of new deposits amounted to UAH 1,811.3 billion, an increase of 21.5% compared to 2013. In 2015, the total volume of client funds (funds of legal entities and individuals), adjusted for changes due to the revaluation of currency funds, increased by 9.6%. After a long period of panic, deposits of individuals in the national currency resumed growth in April 2015. At the end of the year, their volume exceeded the pre-crisis level. In 2016, the funds of individuals in solvent banks increased by 9.1% in hryvnia and by 1% in foreign currency. The shares of deposits of economic entities and individuals in banks' liabilities at the end of the year almost equaled to 36% and 37%.

The ratio of guaranteed compensation to GDP per capita during 2014–2016 decreased from 558.1 to 358.1 units, and the ratio of guaranteed compensation to the average salary went from more than 5,750 to almost 3,850. The number of banks participating in the DGF significantly decreased – from 178 to 118 banks against a decrease in the number of banks in the state register – from 163 to 96. The financial resources of DGF during this period almost doubled, reaching UAH 14 billion. The number of deposits in banks participating in the DGF decreased from UAH 402.6 billion to UAH 362.3 billion. The number of liquidated banks whose funds are subject to guarantee increased from 2 banks in 2014 to 43 banks in 2016. In 2016, DGF made payments to 74 banks. If in 2013 payments to depositors of liquidated banks of guaranteed compensation amounted to 1.2 billion UAH, then in 2014–2016, this value was measured in tens of billions: 14.6 billion UAH in

2014, a record 22.7 billion UAH in 2015, and almost UAH 12 billion in 2016. If we talk about the business activity of banks in 2014–2016, then assets, equity, and loans had a downward trend. The profitability of bank assets during 2014–2016 was negative; in 2016, it was recorded at an unprecedentedly low level of –12.6%.

In 2014–2015, significant changes were made to the Law "On the Deposit Guarantee System of Individuals" regarding the definition of terms, the legal status of the DGF and its governing bodies, participation in the DGF, the procedure for the formation of DGF funds, guarantees, and reimbursement of funds for deposits, regulatory activities, temporary administration, liquidation of the bank, coordination of DGF activities with the National Bank of Ukraine. Amendments to the Law in 2016 concerning appeals to the DGF in case of discovery of damage (damages) caused to the bank, with a demand for compensation in favor of the DGF, as well as the participation of the DGF in the procedures provided for by the Law of Ukraine "On Financial Restructuring," equalization with the deposit of funds, which are raised from an individual as a loan or deposit to a non-bank financial institution through a bank acting as attorney under the relevant contract.

During 2014–2016, the Deposit Guarantee Fund faced many bankruptcies – more than 80 banks. In 2014, the National Bank of Ukraine recognized 33 banks as insolvent. In 2015, the National Bank of Ukraine classified 33 banks as insolvent. Of these, 29 DGF banks were placed under temporary administration, and four were immediately liquidated: JSC Bank Morsky, PJSC Chornomorsky Bank of Development and Reconstruction, PJSC Shidno-Promyslovy Komertsiinyi Bank, JSC Veles Bank. In 2016, the National Bank of Ukraine classified 16 banks as insolvent: JSC Avant-Bank, JSC KB TK Kredit, JSC Bank Petrocommerts Ukraine, JSC Rodovid Bank, PJSC KB Khreshchatyk, PJSC Bank Unison, PJSC Fidobank, PJSC Bank Mykhailivsky, JSC Smartbank, PJSC Classicbank, PJSC KB Eurobank, PJSC Derzembank, JSC Artem-Bank, PJSC Bank Trust, PJSC KB Investbank, and PJSC KB Privatbank. In addition, in 2016, DGF immediately started liquidating the following banks for violating the legislation: JSC KB Soyuz, PJSC KB Premium, and PJSC KSG Bank.

In 2017, deposits of individuals in the national currency increased by 22.4%, reaching UAH 235 billion. The specific weight of household deposits in bank liabilities returned to pre-crisis values of 40-41% of total liabilities. In 2018, hryvnia funds of the population increased by 14.8% y/y, currency funds – by 1.4%. In 2019, the growth rates of population deposits remained consistently high. Hryvnia funds of individuals increased by 17.5% over the year. The last quarter of the year demonstrated the highest growth rate of deposits in the national currency. When devaluation expectations were high in the third quarter, households invested in foreign currency deposits.

In 2020, despite the crisis, hryvnia deposits of the population increased by 26.5%. Much cheaper foreign currency deposits increased by 0.6%. The first signals of a crisis in March traditionally led to the population withdrawing funds from their accounts. However, the panic was short-lived.

Annual reports of the National Bank of Ukraine for 2017–2018 note that at the end of the year, the deposit guarantee system entirely covered 98% of the total number of deposits, which meets the international standards defined by IADI, and 59% of deposits by the number of deposits.

The ratio of guaranteed compensation to GDP per capita and the amount of guaranteed compensation to the average salary during 2017–2020 continued to show a downward trend from 284.8 to 199.1 and from 2814.8 to 1724.6, respectively. The number of banks participating in the DGF continued to decrease – from 99 to 74 banks against the background of a decrease in the number of banks in the state register. During this period, the financial resources of DGF decreased by 23.8%, from 15.3 to 11.7 billion UAH. The number of deposits in banks participating in the DGF increased by 24.2%, reaching UAH 474.4 billion. The number of liquidated banks whose funds are subject to guarantee has decreased from 16 banks in 2017 to 1 bank in 2020. In 2017, DGF made payments to 82 banks, and in 2020 – to 52 banks. If in 2017, payments to depositors of liquidated banks of guaranteed compensation amounts amounted to UAH 7.0 billion, then in 2020, this value amounted to UAH 390.7 million. As for the business activity of banks in 2017–2020, assets, funds

of individuals, investments in securities and long-term investments, and loans had an upward trend. Equity began to grow in 2019. The profitability of banks' assets was negative in 2017; however, starting from 2018, it became positive and was in the range of 1.7-4.3%.

In 2017, compensation was paid to depositors of banks that were liquidated in previous years and to those declared insolvent during the reporting year. This year, the National Bank of Ukraine classified nine banks as insolvent, and the DGF introduced temporary administration in 9 banks: PJSC Vektor Bank, JSC Bank Narodnyi Kapital, PJSC Platinumbank, JSC Fortuna-Bank, PJSC Finbank, PJSC Commercial Bank Hefest, JSC Bank Boguslav, PJSC Diamondbank, and AKB Novy. The first seven banks were taken out of the market by way of liquidation of the bank with reimbursement by the DGF of funds from the deposits of individuals as the only possible (due to the lack of qualified investors/host banks) and, accordingly, the least costly for the DGF. PJSC Diamantbank and AKB Noviy) were withdrawn from the market due to the alienation of all or part of the assets and liabilities of the insolvent bank in favor of the receiving bank with the revocation of the banking license of the insolvent bank and its subsequent liquidation. In 2018, guaranteed compensation payments were made to depositors of 84 banks. This year, payments of guaranteed compensation amount to PJSC Bank Unison depositors and JSC VTB Bank began. In 2019, payments of guaranteed compensation amounts were made to depositors of 81 banks, and in 2020 it was 52 banks. In 2019, the Deposit Guarantee Fund started paying the guaranteed compensation to PJSC KB Finansova Initiativa and in 2020 to JSC KB Arkada.

In 2017, changes were made to the Law "On the Deposit Guarantee System of Individuals" regarding the form of a transition bank. In 2018, the changes were focused on the legal definition of the non-profitability of the Deposit Guarantee Fund and the elimination of the legal gap regarding the deregistration of liquidated banks. Amendments to the Law "On the System of Guaranteeing Deposits of Individuals" in 2019 related to the powers of the Executive Directorate of the DGF to establish compliance by banks classified as insolvent with the requirements of legislation in the

field of prevention and countermeasures against legalization (laundering) of proceeds obtained through crime, financing of terrorism and financing of the proliferation of weapons of mass destruction, procedures for compiling a list of depositors' accounts, financial transactions that have been suspended in connection with the prevention and countermeasures against the legalization (laundering) of proceeds of crime, the financing of terrorism and the financing of the proliferation of weapons of mass destruction, the powers of the DGF to continue, limit or terminate operations by the bank, form the liquidation mass of the bank, provide information to the DGF for the National Bank of Ukraine and other state bodies. In 2020, significant changes were made to improve the liquidation procedure and satisfy the requirements of the largest possible number of creditors of liquidated banks, improve the mechanisms of the possible participation of the state in withdrawing the bank from the market, as well as regulate the peculiarities of court proceedings in cases related to the withdrawal of banks from the market.

The totality of the results of a critical assessment and cluster analysis of the development of deposit insurance is given in Table 3.

Thus, it can be argued that at such a stage of the development of deposit insurance, as the completion of the formation (2005–2007), a synchronous increase took place within the low level of the depth of the insurance system, the implementation of the deposit guarantee function and the activity of the banking system. At the stage of formedness and activity (2008–2013), the unidirectional change of all components of the development of deposit insurance continued; the only thing is that the implementation of the guaranteed function reacted more intensively, returning to a low level in 2013–2014. With the development of the deposit insurance system, there is a desynchronization in the change in the depth of the insurance system, the implementation of the deposit guarantee function on the one hand and the activity of the banking system on the other. Thus, during the period of performance under pressure (2014–2016), the depth of the insurance system and the implementation of the deposit guarantee function increased. Indeed, the depth of the insurance system varied within the medium level, and the implementation

Table 3. Dynamics of the components that shape the development of deposit insurance

Year	The depth of the deposit insurance system	Implementation of the deposit guarantee function	The activity of the banking system
2005–2007 – completion of formation	Increase within the low level	Increase within the low level	Increase within the low level
2008–2013 – formedness and activity	An increase within the average level	Increase	An increase within the average level
2014–2016 – performance in pressure conditions	An increase within the average level	from low to medium level, decrease to low level	A decrease within the average level
2017–2020 – stabilization	The decline from medium to low	Increase from medium to high level	Increase within the high level

of the deposit guarantee function increased and reached a high level. During this period, the deposit guarantee function was implemented under conditions of excessive and rapidly growing load due to the withdrawal of many banks from the market.

The desynchronization between the components of the development of deposit insurance remained during the stabilization period (2017–2020): while the depth of the insurance system and the implementation of the deposit guarantee function decreased, the activity of the banking system increased. At the same time, the depth of the insurance system and the implementation of the deposit guarantee function were within the medium and/or low level, and the activity of the banking system remained at a high level.

The findings from this study suggest that the development of deposit insurance is determined by its depth, the level of activity in the performance of the deposit guarantee function, and the development of the banking system. Considering the development of the banking system as a separate component for evaluating the development of deposit insurance is undoubtedly debatable. Therefore, the debatable issue regarding the limitations of the development of the banking system

becomes important. After all, the development of the banking system, on the one hand, promotes savings, and financial depth, increasing the depth of the deposit insurance system. On the other hand, the banking system can be a source of crises and financial upheavals. That, in turn, leads to activating the deposit guarantee function. In the conditions of the bankruptcy in Ukraine, the deposit guarantee function was performed in challenging conditions and fundamentally changed the capital structure of the Individual Deposit Guarantee Fund. The study of changes in the financial condition of the Fund and sources of its funding is a priority area for further research.

It may be noteworthy that the proposed approach makes it possible to carry out a comprehensive analysis of the development of the deposit insurance system, respond to problems promptly, and identify factors that have a direct and indirect influence. So, the questions for further research regarding assessing the deposit insurance system's stability are up to date. Also, the issue of assessing the stability and predictability of the deposit insurance system remains open. That will allow determining the main directions of its operation and transformation, forming and increasing trust in banking and non-banking institutions and the financial sector.

CONCLUSION

The investigation aimed to consider the deposit insurance development in Ukraine established on features such as deposit insurance depth, deposit guarantee function implementation, and banking system activity and to determine their influence on the deposit insurance development at different stages.

Thus, according to the results obtained, the depth of the deposit insurance system in 2005–2007 was at a low level, and in 2008–2020 it was at an average level. The implementation of the deposit guarantee function was characterized by the most significant frequency of fluctuations and was at a low level in

2005–2009, 2012–2013, 2010–2011, and 2014, 2017–2020 at an average level. At the same time, in 2015–2016 – at high level, the activity of the banking system gradually increased: in 2005–2007, it was at a low level. In 2008 there was a transition to an average level, and in 2018 to a high level.

Using the Ward algorithm, periods were indicated that can be defined as corresponding to four stages of the development of deposit insurance in Ukraine:

1) 2005–2007 as a completion of the formation period;
2) 2008–2013 as a formedness and activity period;
3) 2014–2016 as performance in pressure conditions;
4) 2017–2020 as a stabilization period.

The results indicate that, in the first two stages, the components of the development of deposit insurance changed in one direction: in the first stage, the depth of the deposit insurance system, the implementation of the deposit guarantee function, and the activity of the banking system grew within a low level, and in the second – within the average range. In the third and fourth stages, the depth of the deposit insurance system and the implementation of the deposit guarantee function remained unidirectional. In contrast, the activity of the banking system changed in the other direction. In 2014–2016, the depth of the deposit insurance system and the implementation of the deposit guarantee function increased, the latter generally reached its maximum level, and the activity of the banking system decreased. In the last period, the activity of the banking system expanded against the background of a decrease in the depth of the deposit insurance system and implementation of the deposit guarantee function.

It should be noted that the proposed approach makes it possible to conduct a comprehensive analysis of the development of the deposit insurance system, quickly respond to emerging problems, and identify factors that have a direct and indirect influence.

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ACKNOWLEDGMENT

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APPENDIX A

Table A1. Deposit insurance indicators in Ukraine in 2005–2012

No.	Indicator	2005	2006	2007	2008	2009	2010	2011	2012
1	P1 (ratio of the amount of guaranteed compensation and GDP per capita)	53.3	128.9	322.6	731.6	1008.3	847.3	694.1	647.0
2	P2 (ratio of the amount of the guaranteed compensation and the average salary)	620.2	1,438.3	3,696.2	8,292.2	10,475.3	8,901.7	7,578.1	6,596.5
3	Number of DGF participating banks	160	163	166	172	183	184	175	175
4	Financial resources of DGF, UAH million (as of January 1)	407.0	629.7	867.0	1,335.5	2,987.3	4,302.7	3,390.3	4,827.3
5	The number of deposits in banks participating in the DGF, million hryvnias	38,417.0	67,885.0	100,416.0	155,246.0	204,935.0	198,011.0	254,180.0	282,597.0
6	The number of liquidated banks whose funds are subject to guarantee, units	2	2	3	0	1	5	10	3
7	Number of banks to whose DGF depositors were paid out	5	8	8	9	9	17	18	22
8	The number of banks that have come under the control of the DGF	–	–	–	–	–	–	–	2
9	Guaranteed compensation payments to depositors of liquidated banks, UAH million	20.0	147.1	105.6	265.6	1,054.0	2,293.7	191.2	532.1
10	Number of banks in the state register	158	170	175	184	182	176	176	176
11	Assets of banks, million hryvnias	213,878.0	340,179.0	617,682.8	926,086.0	873,450.0	942,084.0	1,054,272.3	1,127,179.4
12	Equity capital of banks, million hryvnias	18,421.0	25,451.0	42,566.0	69,578.0	120,207.0	146,100.0	155,487.0	170,196.0
13	Funds of individuals (with savings (deposit) certificates), UAH million	72,542.0	106,078.0	163,482.0	213,219.0	213,542.0	275,075.0	310,545.0	369,906.0
14	Loans are provided to customers	143,423.4	245,230.4	426,867.3	734,021.7	723,295.1	732,822.8	801,809.2	815,142.1
15	Investing in securities and long-term investments	14,070.0	13,877.0	29,268.0	40,884.0	40,065.0	85,612.0	90,005.0	98,658.0
16	Return on assets,%	1.31	1.60	1.50	1.03	−4.38	−1.45	−0.76	0.45

Table A2. Deposit insurance indicators in Ukraine in 2013–2020

No.	Indicator	2013	2014	2015	2016	2017	2018	2019	2020
1	P1 (ratio of the amount of guaranteed compensation and GDP per capita)	625.2	558.1	432.8	358.1	284.8	237.6	211.4	199.1
2	P2 (ratio of the amount of the guaranteed compensation and the average salary)	6,109.1	5,755.8	4,753.6	3,855.5	2,814.8	2,255.5	1,904.1	1,724.6
3	Number of DGF participating banks	174	178	161	118	99	83	77	74
4	Financial resources of DGF, UAH million (as of January 1)	6,092.1	7,292.9	16,872.6	14,084.4	15,315.9	14,354.4	14,339.2	11,668.2
5	The number of deposits in banks participating in the DGF, million hryvnias	338,497.0	402,616.0	382,082.0	362,278.0	382,150.0	413,769.0	438,353.0	474,440.0
6	The number of liquidated banks whose funds are subject to guarantee, units	3	2	17	43	16	11	2	1
7	Number of banks to whose DGF depositors were paid out	24	28	61	74	82	84	81	52
8	The number of banks that have come under the control of the DGF		33	33		19	9	1	2
9	Guaranteed compensation payments to depositors of liquidated banks, UAH million	1,186.4	14,588.0	22,740.5	11,767.7	7,010.9	979.6	832.8	390.7
10	Number of banks in the state register	180	163	117	96	82	77	75	73
11	Assets of banks, million hryvnias	1,277,508.7	1,316,717.9	1,254,385.2	1,256,298.6	1,333,831.0	1,359,703.0	1,493,298.0	1,822,841.0
12	Equity capital of banks, million hryvnias	192,599.0	148,063.0	103,712.8	123,783.6	161,108.0	154,960.0	199,921.0	209,460.0
13	Funds of individuals (with savings (deposit) certificates), UAH million	441,892.0	422,733.0	402,136.8	437,152.4	478,100.0	508,457.0	552,115.0	681,892.0
14	Loans are provided to customers	910,781.7	1,020,667.2	1,009,768.3	1,005,923.0	1,036,745.0	1,118,860.0	1,033,430.0	960,597.0
15	Investing in securities and long-term investments	140,955.0	171,419.0	201,520.2	332,273.2	425,803.0	480,615.0	539,466.0	791,373.0
16	Return on assets,%	0.12	−4.10	−5.46	−12.60	−1.93	1.69	4.26	2.44

Table A3. Standardized values of deposit insurance indicators in Ukraine in 2005–2012

No.	Indicator	2005	2006	2007	2008	2009	2010	2011	2012
1	P1 (ratio of the amount of guaranteed compensation and GDP per capita)	−1.50	−1.22	−0.50	1.01	2.04	1.44	0.87	0.70
2	P2 (ratio of the amount of the guaranteed compensation and the average salary)	−1.44	−1.16	−0.38	1.21	1.96	1.42	0.96	0.62
3	Number of DGF participating banks	0.34	0.42	0.50	0.65	0.93	0.95	0.72	0.72
4	Financial resources of DGF, UAH million (as of January 1)	−1.21	−1.17	−1.13	−1.05	−0.76	−0.54	−0.69	−0.45
5	The number of deposits in banks participating in the DGF, million hryvnias	−1.80	−1.58	−1.34	−0.93	−0.56	−0.62	−0.20	0.01
6	The number of liquidated banks whose funds are subject to guarantee, units	−0.53	−0.53	−0.43	−0.72	−0.62	−0.24	0.23	−0.43
7	Number of banks to whose DGF depositors were paid out	−1.07	−0.96	−0.96	−0.93	−0.93	−0.66	−0.62	−0.49
8	The number of banks that have come under the control of the DGF	−1.07	−1.07	−1.07	−1.07	−1.07	−1.07	−1.07	−0.92
9	Guaranteed compensation payments to depositors of liquidated banks, UAH million	−0.62	−0.60	−0.60	−0.58	−0.46	−0.26	−0.59	−0.54
10	Number of banks in the state register	0.38	0.66	0.77	0.98	0.93	0.79	0.79	0.79
11	Assets of banks, million hryvnias	−2.13	−1.82	−1.13	−0.37	−0.50	−0.33	−0.05	0.13
12	Equity capital of banks, million hryvnias	−1.86	−1.74	−1.45	−0.99	−0.13	0.32	0.48	0.73
13	Funds of individuals (with savings (deposit) certificates), UAH million	−1.71	−1.50	−1.15	−0.85	−0.85	−0.47	−0.26	0.10
14	Loans are provided to customers	−2.31	−1.95	−1.30	−0.22	−0.25	−0.22	0.02	0.07
15	Investing in securities and long-term investments	−0.92	−0.92	−0.85	−0.80	−0.80	−0.60	−0.58	−0.54
16	Return on assets,%	0.59	0.66	0.64	0.52	−0.85	−0.11	0.07	0.37

Table A4. Standardized values of deposit insurance indicators in Ukraine in 2013–2020

No.	Indicator	2013	2014	2015	2016	2017	2018	2019	2020
1	P1 (ratio of the amount of guaranteed compensation and GDP per capita)	0.62	0.37	−0.10	−0.37	−0.64	−0.82	−0.92	−0.96
2	P2 (ratio of the amount of the guaranteed compensation and the average salary)	0.45	0.33	−0.02	−0.33	−0.69	−0.88	−1.00	−1.06
3	Number of DGF participating banks	0.70	0.80	0.37	−0.72	−1.20	−1.60	−1.76	−1.83
4	Financial resources of DGF, UAH million (as of January 1)	−0.23	−0.02	1.63	1.15	1.36	1.19	1.19	0.73
5	The number of deposits in banks participating in the DGF, million hryvnias	0.43	0.90	0.75	0.60	0.75	0.98	1.17	1.43
6	The number of liquidated banks whose funds are subject to guarantee, units	−0.43	−0.53	0.90	3.37	0.80	0.33	−0.53	−0.62
7	Number of banks to whose DGF depositors were paid out	−0.42	−0.28	0.84	1.28	1.55	1.62	1.52	0.53
8	The number of banks that have come under the control of the DGF	−1.07	1.42	1.42	−1.07	0.37	−0.39	−0.99	−0.92
9	Guaranteed compensation payments to depositors of liquidated banks, UAH million	−0.44	1.63	2.89	1.20	0.46	−0.47	−0.49	−0.56
10	Number of banks in the state register	0.89	0.50	−0.55	−1.03	−1.35	−1.47	−1.51	−1.56
11	Assets of banks, million hryvnias	0.50	0.60	0.44	0.45	0.64	0.70	1.03	1.85
12	Equity capital of banks, million hryvnias	1.11	0.35	−0.41	−0.07	0.57	0.47	1.23	1.40
13	Funds of individuals (with savings (deposit) certificates), UAH million	0.54	0.42	0.30	0.51	0.76	0.95	1.21	2.00
14	Loans are provided to customers	0.41	0.80	0.76	0.75	0.86	1.15	0.84	0.59
15	Investing in securities and long-term investments	−0.35	−0.21	−0.08	0.51	0.93	1.18	1.44	2.57
16	Return on assets,%	0.29	−0.78	−1.13	−2.94	−0.23	0.69	1.34	0.88