

UDC 336.71:342

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#### **MINIMIZATION OF PROBLEM LOANS IN BANKS: ECONOMIC AND LEGAL ASPECT OF STATE REGULATION**

**Abstract.** The authors of the article have studied the problem of managing non-performing loans within loan portfolios. It has been substantiated that Ukraine as a developing country is in such socio-economic conditions of development that increase credit risks for banks. Numerous studies of the determinants for the formation of loans portfolios in countries with different levels of economic development demonstrate that developing countries are prone to negative consequences that lead to insolvency of debtors in case of a drop in the GDP, inflation, legal uncertainty, political crises, etc. The lack of long-term experience of banks in solving problems of increasing the share of non-performing loans in banks' portfolios demonstrates that minimization of such assets requires regulation at the level of the banking system, but not a separate bank. Based on statistical data, it has been demonstrated that the minimization of problem loans of banks gained significant positive dynamics only after the National Bank of Ukraine regulated the process of managing distressed assets by adopting a regulatory act. Detailing the process of legal regulation of managing distressed assets allowed banks to structure and organize the work of their divisions in accordance with the normatively defined life cycle of distressed asset in such a way that all measures taken by them affect the efficiency of their work. Using permits, prohibitions and obligations as legal means of regulating relations between banks and their debtors, those relations have become predictable, allowing banks to control the process of managing non-performing loans and make timely decisions on the use of tools to minimize the share of distressed assets of the bank. The wide choice and consistency of applying financial and legal instruments in the process of managing non-performing loans allows banks to maximize the contractual settlement of debt and address to the competent authorities for the application of state coercion to debtors. Direct prohibitions, which are provided in the procedure of writing-off impaired assets, prevent corruption manifestations in this process. However, the authors have argued that the practice of 2008—2019 in terms of managing non-performing loans of banks demonstrated that the effectiveness of this process directly depends on government regulation. If the economic preconditions for the formation of problem loans depend on various factors of objective and subjective nature, then the management of non-performing loans directly depends on the existing legal models in the state for solving this problem. The autonomy of

banks and their right to independently determine their strategies for managing distressed assets does not provide the desired efficiency without the imperative intervention of the central bank. Thus, the state regulation of the life cycle of distressed assets has demonstrated its effectiveness, and thus confirmed the need for regulatory influence on the processes of minimizing non-performing loans in Ukrainian banks.

**Keywords:** non-performing loans, distressed assets, agreement-based regulation, state influence, state coercion, legal regulation.

**GEL Classification** G18, G21, G34, K12, K42

Formulas: 0; fig.: 2; tabl.: 0; bibl.: 12.

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## **МІНІМІЗАЦІЯ ПРОБЛЕМНИХ КРЕДИТІВ У БАНКАХ: ЕКОНОМІКО-ПРАВОВИЙ АСПЕКТ ДЕРЖАВНОГО РЕГУЛЮВАННЯ**

**Анотація.** Досліджується проблема управління непрацюючими кредитами у кредитних портфелях банків. На основі аналізу детермінантів проблемних кредитів зроблено висновок, що Україна як держава з економікою, що розвивається, розв'язати цю проблему без нормативно-правового регулювання не може. На основі статистичних даних продемонстровано, що за допомогою дозволу, заборони і зобов'язання вітчизняна банківська система змогла істотно зменшити частку проблемних кредитів. Відстоюється думка протє, що нормативна деталізація процесу управління проблемними активами дозволила банкам відповідно до нормативно визначеного життєвого циклу проблемного активу структурувати і поліпшити організацію роботи своїх підрозділів. Обґрунтовується, що економічні передумови формування непрацюючих кредитів залежать від різних факторів об'єктивного і суб'єктивного характеру, а управління проблемними кредитами прямо залежить від наявних у державі правових моделей розв'язання цієї проблеми. Державне регулювання життєвого циклу проблемного активу показало свою ефективність і тим підтвердило необхідність нормативно-правового впливу на процеси мінімізації проблемних кредитів в банках України.

**Ключові слова:** непрацюючі кредити, проблемні активи, договірне регулювання, державний вплив, державний примус, правове регулювання.

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**Introduction.** Credit risk constantly accompanies banking activity, because banking activity is risky, at the same time in crisis situations when the real sector of the economy and citizens lose their profits, the problem of banks untimely repayment of loan assets and interest money for their use is aggravating, it threatens both the development of banking sector and its sustainable functioning. The problems of the banking business caused by the growing share of non-performing loans pose a risk of a banking crisis, liquidity crisis and financial stability of banks, which, in turn, weakens the financial system of the state. Therefore, reducing the level of non-performing loans is the necessary condition for ensuring the financial stability of the banking system and the economy in the whole.

**Research analysis and problem's setting.** Despite the fact that the credit crisis of 2008—2009 is in the past the banking systems of the world are still studying non-performing loans and their impact on the development and functioning of the banking system. A lot of scientific papers are also focused on the problem of non-performing loans in Ukraine. However, the scientific basis of this research was the works of foreign scholars, such as: Dickinson D.G., Dimitrios A., Frantz R., Grima S., Helen L., Jovović J., Kutancde Ali M., Mazreku I., Mike T., Misiri V., Morina F., Nikolopoulos K. I., Ozili P. K., Radivojevic N., Spiteri J. V., Tsalas A. I., Zhang D., Caia J.

**The purpose of the article** is grounding and proving of the key role of the state and legal impact on the reduction of the share of non-performing loans in the banking system of Ukraine.

**Research results.** The study of distressed assets in the world's banking systems is characterized by a unity of views on the concept and legal nature of non-performing loans. Scholars, economists, managers and lawyers admit that «problem loans, referred to as non-performing loans (NPL), are loans which are not paid in the structured time period as set in the contract between the borrower and the bank» [1, p. 3]. The formation of problem loans is directly related to the violation of the terms of the loan agreement and the solution of this problem is not always cost-effective in the legal context, because the forced recovery of funds from the borrower is a long process. It is one thing if such cases are solitary, and another thing when a significant part of borrowers in the socio-economic conditions of the state become unable to timely and properly fulfill their contractual obligations under the loan. At the same time the bank finds itself in a situation where the quality of the loan portfolio threatens its development and normal functioning while the legal solution of numerous debt collection cases is underway. With regard to Ukraine, the frequency of crisis situations in the country indicates that the arsenal of the banking system should contain a variety of tools that can reduce the level of problem loans by managing them.

Problem loans worsen the quality of the loan portfolio not only in domestic banks, the world's banking systems have also been trying to find optimal ways to solve the problem of non-performing loans for a long time. In particular, Roger Frantz studying *The Beginnings of Behavioral Economics: Katona, Simon, and Leibenstein's X-Efficiency Theory (Perspectives in Behavioral Economics and the Economics of Behavior)* emphasizes that the focus of the studies are the effects of the role of management, the quality of bank loans, asset size, and economies [2, p. 137—155]. It shows us that the bank's loan portfolio cannot be managed without assessing the economic behavior of borrowers.

There are two main streams in the literature that examine the determinants of bad loans: the first accepts the perspective that the macroeconomic environment influences credit risk; the second adopts the viewpoint that credit risk is affected by bank-specific factors. Recent empirical evidence highlights the importance of both macroeconomic and bank-related factors but also the significance of other influences related to the broader legal and regulatory environment, in explaining the evolution of credit risk [3, p. 47]. In our opinion, it is worth talking about the synergy of both approaches, with regard to the banking system of Ukraine. That is, when assessing the determinants that form the distressed assets of banks, it is necessary to pay attention not only to macroeconomic indicators and banking risks, but also to the growth of legal risk or to the lack of legal opportunities to minimize the share of non-performing loans by the legal method.

Nikola Radivojevic, Jelena Jovović accomplished analysis of Determinants of Non-Performing Loans based on a cross-country analysis from the sample of 25 emerging countries. And they concluded «that NPLs rate can be mainly explained by crucial macroeconomic factors, such as the GDP and inflation rate, and bank-specific factors, such as ROA, CAP and lagged NPLs rate» [4, p. 300]. Thus, macroeconomic indicators (GDP, overall inflation) in Ukraine as a developing country, significantly affect the solvency of borrowers. At the same time, the banking risks that accompany banking activities in Ukraine absorb a certain «national spirit», which convinces of the importance, for example, of legal risk for the functioning of the domestic banking system. It should be borne in mind that certain political processes can also have a negative impact on the banking system.

Dayong Zhang, Jing Caia, David G. Dickinsonb, Ali M. Kutancde note that «Non-performing loans (NPLs) represent a major obstacle to the development of the banking sector. One of the key objectives of the banking sector reforms in China has therefore been to reduce the high level of NPLs. Using a threshold panel regression model and a dataset covering 60 city commercial banks, 16 state-owned banks and joint-stock banks, and 11 rural commercial banks during 2006—2012, we test whether lending decisions of Chinese banks exhibit moral hazard. The results support the moral hazard hypothesis, suggesting that an increase in the NPLs ratio raises riskier lending, potentially causing further deterioration of the loan quality and financial system instability» [5, p. 48]. That is, the world's successful economies suffer from the deterioration of the quality of banks' loan portfolios. The Chinese example shows that the efficiency of the banking system is affected not only by systemic banks, but also by banks with small capital. Therefore, the problem of managing problem loans is not a purely national problem of developing countries.

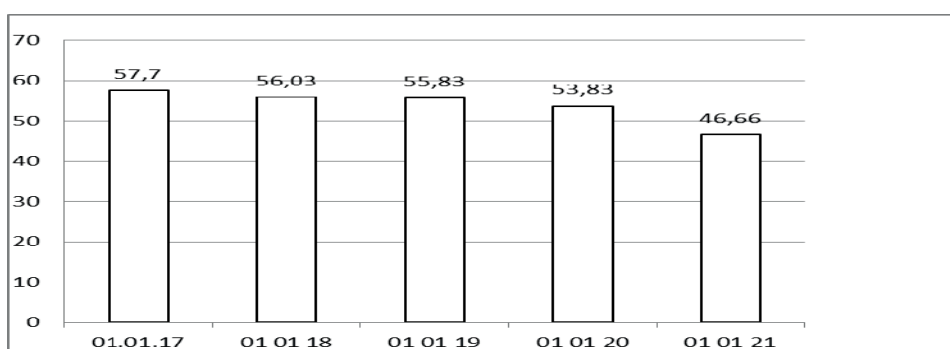
«Data from the World Bank and International Monetary Fund for a sample of transition countries over the period 2006 and 2016 show the impact of specific macroeconomic factors of transition countries at the level of NPLs. We show the relationship by using four different econometric models and found that GDP growth showed the strongest (inverse) relationship with NPLs, meaning that as GDP growth increases, people have more disposable income and can meet their loan payment obligations. Inflation also showed a significant negative relationship with NPLs, revealing that in times of low inflation, people can honor their loan obligations due to the reduced real burden of such repayments as general prices rise. Unemployment showed a significant positive relationship with NPLs, in line with prior findings, further underscoring the importance of domestic economic conditions for NPLs. Finally, export growth showed largely non-significant results, indicating that NPLs within our sample were mainly affected by domestic conditions rather than external economic shocks [1, p. 3, 11]. Based on the fact that the level of non-performing loans in the domestic banking system is influenced by macroeconomic indicators and determinants generated outside the banking system, the domestic system of managing distressed assets of banks, in this case, is more dependent on state and legal influence.

The importance of state and legal influence on the managing processes of non-performing loans can be traced in the Euro-zone. Thus, Anastasiou Dimitrios, Louri Helen, Tsionas Mike conducted research on Determinants of non-performing loans: Evidence from Euro-area countries and grounded the need to improve macro-prudential and fiscal policies [6, p. 116]. However, the ability of legal norms and standards to simultaneously solve the problem of non-performing assets should not be overestimated. It should be understood that regulatory acts provide only a legal opportunity to resolve this problem by offering separate models for managing non-performing loans. Such legal models can be divided into three groups. The first includes legal means of contractual settlement of the problem, which are based on the agreement of the parties and the absence of a dispute between the bank and the debtor. The second includes instruments of state coercion, which are used only on the basis of court decisions, and the implementation of which takes a long time. The third should include directly the legal instruments that regulate the issue by involving third parties, or by writing off such loans from the bank's balance sheet. All these models are suitable for modification, and the main task of banking management is the effective use of legal tools to prevent the growth of the share of non-performing assets in the loan portfolio of banks.

P. K. Ozili writes: «Post-crisis Basel regulation did not lead to a decrease in the size of NPLs among banks in developed countries but appear to minimize NPLs in some developing countries» [7, p. 73]. Thus, international studies substantiate that Ukraine, as a developing country, should pay attention to the state and legal influence on the processes of managing problem loans. This indicates that it is the state authorities that should offer banks permitted ways to reduce the share of non-performing loans. Regulatory conditions that determine the legal capacity of banks to manage problem loans regulate not only the relationship between the bank and the borrower, but between the bank and the National Bank of Ukraine (the NBU) in the process of realizing the banking supervision and between the bank and the state in terms of taxation of bank profits.

P. K. Ozili has also concluded that «after examining 82 banks from the US, Europe, Asia and Africa, the result indicates that banks adjust the level of loan loss reserves and loan growth to minimize the size of NPLs. Our results do not show evidence that loan diversification minimizes NPLs. Further, I find that banks in developing countries reduce loan growth when they expect high NPL while banks in developed countries do not anticipate the level of NPL by adjusting loan growth. Overall, the significance and predictive power of each bank-specific factor (excluding loan diversification), regulatory variable and macroeconomic indicator in explaining NPLs depends on regional factors (less significantly) and country-specific factors (more significantly)» [7, p. 79]. The study demonstrates that diversification significantly affects the share of problem loans, and in our opinion, is one of the main tools to prevent increases in non-performing loans. At the same time, diversification in case of the loan's transfer into the category of non-performing loans, works as a stabilizing element of the bank's activity, but does not resolve the issue of its repayment. P. K. Ozili has proved the direct dependence of the growth of problem loans on factors specific for a particular country. This convinces in the need to build own management system for problem loans, taking into account national characteristics and the practice of applying legislation in this area. It means for Ukraine that, based on the provisions of the Basel Committee on the management of distressed assets of banks, the NBU must implement its own rules for managing problem loans.

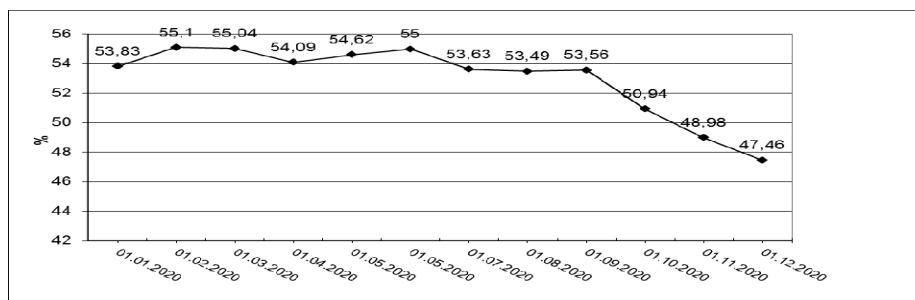
Thus, let's turn to the analysis of statistics on problem loans of Ukrainian banks. As of January 2021, the share of problem loans of banks decreased compared to previous years. According to the NBU data, problem loans in the loan portfolio of banks at the beginning of the year accounted for 46.66%. Starting from 2017, the share of problem loans is decreasing, and from 2018 to 2021 the share of non-performing loans decreased by almost 10%. Decrease in the share of non-performing loans from 2017 to 2021 is the following (*Fig. 1*).



**Fig. 1. Share of non-performing loans of 2018-2021 in percentage (%)**

Source: the National Bank of Ukraine [8; 9].

The data demonstrates that the banking system of Ukraine is getting rid of non-performing loans, while their share remains high till now. Starting from 2017 to 2020, banks managed to reduce the share of non-performing loans by 3.87%. A significant shift in solving the problem of non-performing loans occurred in 2020, when banks showed significant positive dynamics in reducing the share of non-performing loans. At the beginning of the year the share of non-performing loans was 53.83%, and at the end of the year — 47.46% (*Fig. 2*).



**Fig. 2. Share of non-performing loans in 2020 in percentage (%)**

Source: the National Bank of Ukraine [8].

In general, starting from 2017 till 2021, the share of non-performing loans decreased by 11.04%. What role did state regulation play in this process? State regulation in this aspect in Ukraine is carried out through the use of levers of authoritative impact, which are reflected in regulatory acts. The central bank heads the process of normative regulation of banks' distressed assets management activities. The NBU performing its functions defined in the Art. 7 of the Law of Ukraine «On the National Bank of Ukraine», has the right to issue regulatory acts, which by virtue of the Art. 56 of this Law «are mandatory for state authorities and local self-government agencies, legal entities and individuals» [10].

Responding to the request in regard to regulatory settlement of the problem of overdue loans and the slow reduction of portfolios of non-performing assets of banks, the NBU adopted regulations on working with distressed assets attempting to accelerate the process of clearing banks' balance sheets from problem loans [11, p. 41]. That is, the decrease in the share of non-performing loans is a consequence of the use by banks of the tools set out in the Regulations on the organization of the process of managing distressed assets in banks of Ukraine [12]. In fact, this regulatory act allowed banks to adjust the ways to reduce non-performing loans within the legal field. Prior to the adoption of this Regulation, domestic banks took the following measures: voluntary settlement; write-off at the expense of reserves; sale of the right of claim; financial restructuring; acquisition of property; forced debt collection [11, p. 41]. However, streamlining and combining the tools on a legal basis for minimizing non-performing loans has assisted to improve the process of managing problem loans of banks in Ukraine.

The reduction of shares of problem loans in 2020, in our opinion, is due to the fact that the central bank has urgently approved the Schedule for the implementation of the Regulations on the organization of the process of managing problem assets in banks of Ukraine by Ukrainian banks [12]. The same Regulations provided banks with a description of short-term and long-term restructuring instruments for distressed assets. The NBU, as a special central agency of state administration, using legal means such as: permission, prohibition and obligation, normatively defined the life cycle of the distressed asset by dividing it into four stages. Thus, the management of problem loans is currently carried out in accordance with the established procedure, which has given positive results.

Thus, according to the Regulation [12], the first stage of the life cycle of the distressed asset obliges the bank to identify debtors according to specific criteria and to take measures to reduce credit risk. The NBU allowed banks at this stage to apply the means of contractual settlement of the loan repayment problem. The requirement of the NBU to control the implementation of measures on reducing credit risk and / or fulfilling the conditions of restructuring is accompanied by the establishment of a minimum frequency of this control. The second stage is of a recommendatory nature. The regulatory conditions of this stage of the life cycle of the distressed asset are set out through the permit. In general, the first and second stages include the contract into the main legal instruments for minimizing the distressed asset. The NBU recommends the use of short-term and long-term restructuring instruments on a contractual basis. The central bank does not restrict banks in the ways and procedures of implementing restructuring instruments.

The third stage of the life cycle of the distressed asset is regulated by the obligation of the bank to take measures to terminate the relationship with the debtor through out-of-court or judicial means of debt collection. This step is mandatory. Banks at this stage, in case of impossibility to resolve the problem of debt repayment in a contractual manner, have a legal opportunity to apply to the competent authorities for the application of state coercion. Out-of-court repayment of debt at this stage is carried out through: 1) transfer of funds to repay the debt; 2) repayment of part of the debt with subsequent: (a) write-off of the debt or (b) assignment of the right of claim; 3) voluntary sale of the debtor's property: (a) the subject matter of the pledge or (b) the mortgage; 4) acquisition of ownership of the debtor's property: (a) the subject matter of the pledge, (b) the mortgage or (c) other property with the transfer of the debtor's property to financial leasing; 5) forced repayment of the debt by making a notary's writ of execution; 6) sale of debt — assignment of the right of claim; 7) conversion of the debtor's debt into the debtor's capital; 8) other measures with the involvement of third parties: (a) financial guarantor or (b) a guarantor. The above measures of out-of-court process for the minimization of problem loan are implemented by the bank in accordance with its internal provisions, but it is important that debt write-off can be carried out in compliance with the standards set by the NBU. Debt write-offs are used as a tool to manage distressed assets through legal means of permit and prohibitions, which prohibit the establishment of more favorable criteria for writing-off impaired assets for debtors who are related to the bank. The normative principle of equal treatment is laid down here, which fully corresponds to the world practice. The permission to refuse in repaying the debt in the presence of legal grounds for such repayment is also fundamental at this stage, if the implementation of such measures is economically impractical.

The fourth stage of the life cycle of the distressed asset is to manage the foreclosed property. This stage does not belong to a purely banking activity, but the critical level of the distressed assets in the banking system of Ukraine forced the NBU to oblige banks to create appropriate structural units that directly manage the foreclosed property by preparing it for sale, approving the sale plan. The provisions on the management of the distressed assets also allow banks to enter into outsourcing agreements in order to transfer certain procedures to them.

**Conclusions.** The stated above gives grounds for the following conclusions:

- first of all, Ukraine as a developing country is in such socio-economic conditions of development that increase credit risks for banks. Numerous studies of the determinants for the formation of loans portfolios in countries with different levels of economic development demonstrate that developing countries are prone to negative consequences that lead to insolvency of debtors in case of a drop in the GDP, inflation, legal uncertainty, political crises, etc. The lack of long-term experience of banks in solving problems of increasing the share of non-performing loans in banks' portfolios demonstrates that minimization of such assets requires regulation at the level of the banking system, but not a separate bank;

- secondly, statistical data demonstrates that the minimization of problem loans of banks in Ukraine gained significant positive dynamics only after the National Bank of Ukraine regulated the process of managing distressed assets by adopting a regulatory act. Detailing the process of legal regulation of managing distressed assets allowed banks to structure and organize the work of their divisions in accordance with the normatively defined life cycle of distressed asset in such a way that all measures taken by them affect the efficiency of their work. Using permits, prohibitions and obligations as legal means of regulating relations between banks and their debtors, those relations have become predictable, allowing banks to control the process of managing non-performing loans and make timely decisions on the use of tools to minimize the share of distressed assets of the bank. The wide choice and consistency of applying financial and legal instruments in the process of managing non-performing loans allows banks to maximize the contractual settlement of debt and address to the competent authorities for the application of state coercion to debtors. Direct prohibitions, which are provided in the procedure of writing-off impaired assets, prevent corruption manifestations in this process;

- thirdly, the effectiveness of this process directly depends on government regulation as evidenced by the practice of 2008—2019 in terms of managing non-performing loans of banks

demonstrated that, if the economic preconditions for the formation of problem loans depend on various factors of objective and subjective nature, then the management of non-performing loans directly depends on the existing legal models in the state for solving this problem. The autonomy of banks and their right to independently determine their strategies for managing distressed assets does not provide the desired efficiency without the imperative intervention of the central bank. Thus, the state regulation of the life cycle of distressed assets has demonstrated its effectiveness, and thus confirmed the need for regulatory influence on the processes of minimizing non-performing loans in Ukrainian banks.

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Статтю рекомендовано до друку 24.03.2021

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The article is recommended for printing 24.03.2021

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