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Improving the Mechanism for Managing Problematic Loans from Second-Tier Banks

KALAMKAS RAKHIMZHANOVA¹, ZHULDYZAY ZHORABAYEVA²,
RUSLANA ICHSHANOVA³, ZAGIRA ISKAKOVA⁴ (*Corresponding author*),
GAUKHAR KODASHEVA⁵, and GALINA MIKHAILOVA⁶

¹ PhD student, L.N. Gumilyov Eurasian national university, Kazakhstan, e-mail: Kalamkas.Rakhimzhanova@mail.ru, ORCID ID: <https://orcid.org/0000-0001-8004-4326>

² Associate Professor, Al – Farabi Kazakh National University, Kazakhstan, e-mail: zhuldyz_70@mail.ru, ORCID ID: <https://orcid.org/0000-0001-7393-4937>

³ Associate Professor, Central Branch (Astana) republican state institution of the National Bank of Kazakhstan, Kazakhstan, e-mail: R_jschanova@mail.ru, ORCID ID: <https://orcid.org/0000-0001-8576-3813>

⁴ Professor, L.N. Gumilyov Eurasian national university, e-mail: izd1944@mail.ru, ORCID ID: <http://orcid.org/0000-0002-7827-2407>

⁵ Associate Professor, L.N. Gumilyov Eurasian national university, e-mail: kodasheva@mail.ru, ORCID ID: <https://orcid.org/0000-0002-1734-418X>

⁶ Associate Professor, Department of digital business technologies and accounting systems, North-Caucasus Federal University, e-mail: ainuraphd@mail.ru, ORCID ID: <https://orcid.org/0000-0002-6734-1518>

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ABSTRACT

The relevance of the study of improving the mechanism for managing problem loans of second-tier banks is of significant importance and necessity, since the effective management of problem loans in second-tier banks is a key element in ensuring financial stability and the sustainability of the banking system as a whole. Poor management of problem loans can lead to deterioration in asset quality, capital decline and even financial crises. The goal of improving the mechanism for managing problem loans of second-tier banks is to identify best practices and approaches to managing problem loans that are used in the banking industry, including analysis of successful strategies to reduce the level of problem loans, methods of debt collection, increasing their stability and efficiency. The study aims to develop more effective strategies for the disposal of distressed assets, including the analysis of alternative methods of disposal, such as sale, restructuring or attracting external investors to jointly manage distressed assets. Research hypothesis: The introduction of innovative technologies and data analysis methods into the management processes of problem loans of second-tier banks will lead to a reduction in the level of problem assets and an improvement in the financial stability of these banks. The results of the study provide valuable information and resources for the development and implementation of strategies and practices aimed at improving the financial position and operational efficiency of these second-tier banks, as well as helping to improve financial

INTRODUCTION

Over the past year, financial conditions have tightened around the world in response to monetary policy actions aimed at reducing inflation. Recent turmoil in the US and Swiss banking sectors has further tightened financial conditions. Authorities in these countries responded quickly, limiting the spillover effects on the broader financial system. These events have exposed vulnerabilities, particularly in business models that over-rely on the low interest rate and low volatility environment, and serve as a reminder that risks can quickly emerge and spread. As the financial sector adjusts to higher interest rates, participants, regulators and central banks must remain increasingly vigilant about lending vulnerabilities and risks.

Currently, the activities of commercial banks are the most important attribute of the normal development of the economy of any state. A developed banking system occupies a significant place not only for the business sector, but also in the everyday life of many individual consumers. The main factor in the stable functioning of the banking system of any state is the effectiveness of banking regulation and supervision.

Second-tier banks play an important role in financing small and medium-sized businesses, which is the driving force of economic development. Effective management of problem loans in these banks helps improve the quality of the loan portfolio and ensures the availability of credit for entrepreneurs. Financial market regulators are increasingly intervening in risk management processes in the banking sector, including the management of problem loans. This creates additional requirements and expectations for second-tier banks regarding the efficiency and transparency of problem loan management.

Modern technologies and innovations in finance pose new challenges and opportunities for banks in risk management. Research into non-performing loan management can help identify best practices and use emerging technologies to improve loan portfolio management processes. The practical significance of the study is based on the fact that more effective management of problem loans helps reduce risks and improve the quality of the loan portfolio, increasing the financial stability of second-tier banks and facilitating their successful activities in the market. Thus, research on improving the mechanism for managing problem loans of second-tier banks is relevant and can make a significant contribution to increasing the efficiency and stability of the banking system.

1. RESEARCH BACKGROUND

Over the past years, developed countries have begun to pay increasing attention to the small and medium-sized business segment, in particular to the problem of availability of debt financing. Central banks in developed countries are trying to improve the functioning of financial markets so that small businesses can grow and multiply. A study of the lending market for small and medium-sized companies showed that banks in their activities combine various lending models, in the vast majority of cases using product-oriented and risk-oriented models. However, the most effective approach to lending to small and medium-sized businesses is to use.

Banks with a product-oriented lending model for small and medium-sized businesses set themselves the task of offering a new and original product that will stand out from others (Barbuta-Misu et al., 2023). Banks with a risk-based model in lending to small and medium-sized businesses focus on assessing the borrower's creditworthiness and the level of risk that may be acceptable for the lending institution in the event of further financing of the client.

The foreign experience of bad banks, as D.A. Potapeiko describes in his scientific articles, is successful. In the 90s in Sweden, banks with problem assets managed to return a third of the book value of problem debt. At the moment, at the end of March, the US Treasury Department unveiled a long-awaited program called "TARP" (Troubled Asset Relief Program). Its essence lies in the purchase of "toxic assets" from

banks and their transfer to the balance sheets of specially created public-private investment funds (Potapeiko, 2014). Non-performing loan management should indeed be viewed as a comprehensive process that covers various aspects of management (Kirchherr et al., 2017), including strategic, tactical and organizational.

- Strategic aspects - related to the development of an overall strategy for managing problem loans in the bank, including the definition of goals, policies and procedures aimed at minimizing risks and improving the quality of the loan portfolio. Strategic decisions may also include the development of credit recovery programs, collateral disposal strategies, etc.
- Tactical aspects - about actions aimed at solving specific problem situations with loans. This includes making decisions on negotiations with borrowers, loan restructuring, sale of distressed assets, etc. Tactical decisions are made based on the current situation and the goals defined within the strategy.
- Organizational aspects cover all necessary organizational measures for the implementation of strategy and tactical decisions, including the creation of specialized units for the management of problem loans, the appointment of qualified specialists, the development of monitoring and reporting systems, as well as ensuring compliance with legislation and internal bank policies.

Combining these aspects into a single problem loan management process helps the bank effectively manage risks and minimize losses in the loan portfolio. A large number of scientific works and articles are devoted to the issue of managing problem loans. The problem of searching for indicators of innovation activity has now become universal and relates not only to innovation activity, but also to the economy, ecology, social, and banking spheres (Kirilchuk et al., 2017; Streimikiene et al., 2024).

The availability of financing for innovative activities of SMEs through business lending continues to be one of the factors that has a significant impact on the business climate and the development of entrepreneurship. The gradual improvement of lending conditions with government participation helps to attract more clients to banks, the growth of the small and medium-sized business segment, and the ability to remain competitive (Fedorova et al., 2018; Potkány et al., 2023). Financing SME innovation through lending is a necessity, but is associated with changes in price and non-price factors, which allows us to conclude that the existing system is highly sensitive to variations in individual factors, and, therefore, makes it possible to determine the vector of further development (Pravikov and Peredera, 2019; Ma and Ji, 2023).

Given the increasing complexity of business, banks, insurers and financial institutions need to quickly learn how to make money in an ecosystem economy. For example, today APIs, which are consumed by partners and fintech players, are becoming new products for financial companies. This requires a completely different approach to monetization, since clients are not only end-consumers - individuals or b2b clients (business to business is the sale of goods to corporate clients, executives or managers of enterprises), but also ecosystem partners and developer communities.

The digitalization of the economy has contributed to the banking sector; the industry has come to the need for change due to the so-called “digital compression”:

- reduction in business profitability due to the influence of technology,
- competition – because simultaneously with the pressure of regulatory changes and competition from fintech (financial technologies) and bigtech players.

This is influenced by the actions of regulators, such as:

- PSD2 (the second payment services directive in the EU, aimed at increasing competition in the banking sector);
- Open Banking;
- trend towards fragmentation and stratification of the banking business into more specialized players (Figure 1).

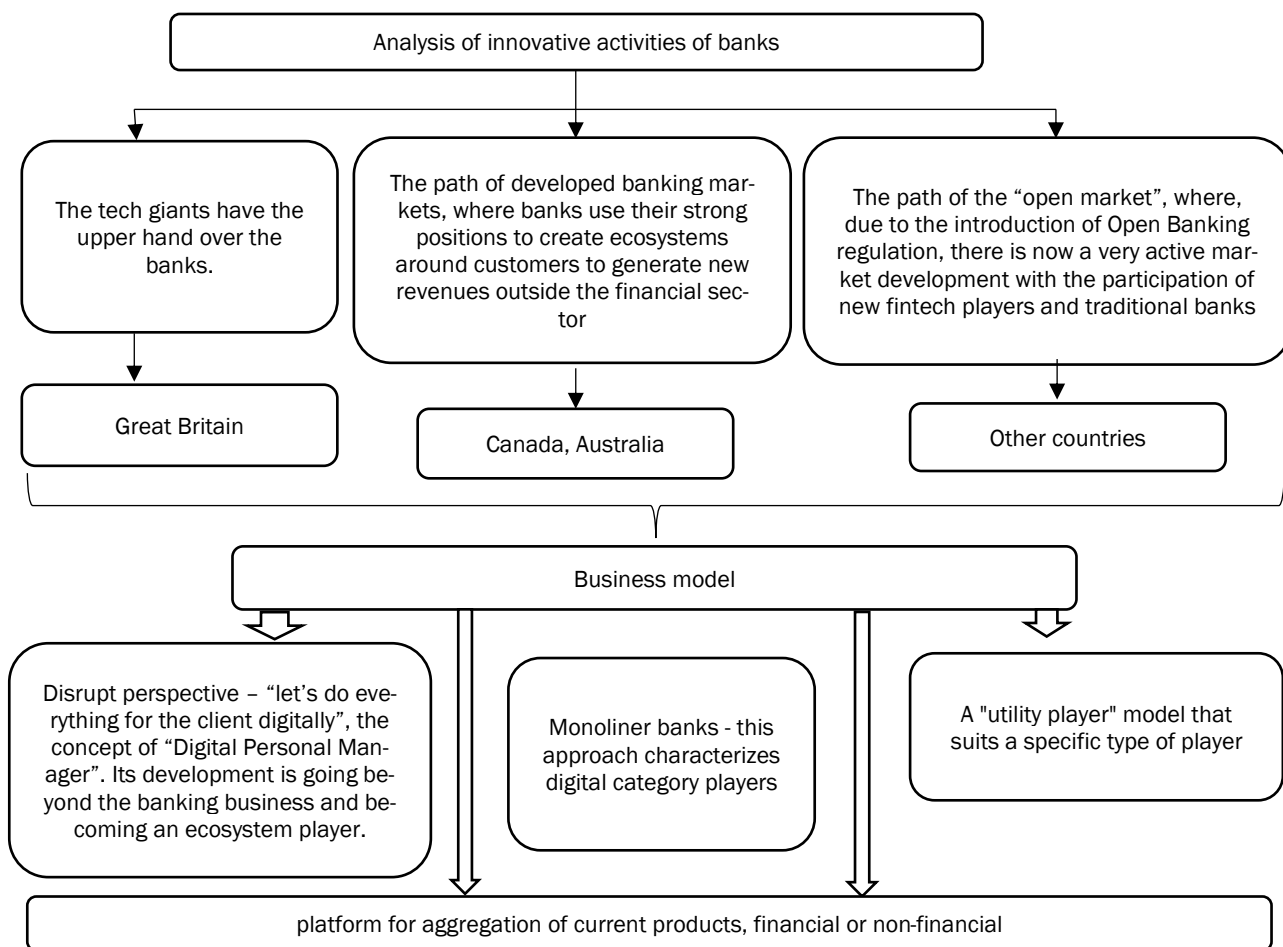


Figure 1. Innovative aspects of STBs in improving the mechanism for managing problem loans
 Source: Compiled by the authors

For example, today new products for financial companies are APIs (application programming interfaces), which are consumed by partners and fintech players. This requires a completely different approach to monetization, since clients are not only end-consumers (individuals or b2b clients), but ecosystem partners and developer communities. Each area of the bank's work is considered as the most important and priority, which allows it to carry out both traditional banking operations and provide clients with complex, specialized services (Table 1).

Table 1. Matrix of transformation of the banking market infrastructure

Banking market	Simplification of procedures	Clearing	Calculations	Information service	Technical infrastructure
Credit services market					→
Investment services market					→
Market of settlement and cash services					→
Trust services market					→
Market for consulting services					→
Other (insurance, storage, notary services)			→		

Where: dark color means constant presence
 Light color - developing presence

Source: Compiled by the authors

According to the transformation matrix of the banking market infrastructure, we can see that the most developed are the market for credit services and the market for settlement and cash services. But at the same time, these markets are in constant motion, that is, dependent on the development of information services and technical infrastructure, indicating that financial institutions are striving to introduce digital technologies into the process of their activities using financial instruments in order to maintain and increase competitive advantages. Where: dark color means constant presence; Light color – developing presence and improving the bank's loan portfolio management process, reducing credit risks. According to D. Sinki (2016), for example, managing a loan portfolio is a process of finding a compromise between its risk and profitability. The monograph provides specific examples of the use of new financial technologies and tools for managing bank credit risks.

P. Gurny (2012) draws attention to the assessment of the probability of default as the most important parameter in risk management, in particular, the risk of the loan portfolio. The book by L. Thomas and D. Edelman (2020) describes in detail mathematical models that help lenders make reasonable decisions about credit risk, including when forming their loan portfolio. J. Mbroch and K. Koomson (2015) consider the credit management system to be a factor that plays a decisive role in managing the quality of a bank's loan portfolio.

Regulatory capital can mitigate banks' moral hazard behavior because low-capital banks have incentives to engage in risky lending, which can lead to an increase in non-performing loans. For example, during the crisis caused by the COVID-19 pandemic, the share of non-performing loans among foreign banks was much higher than among domestic ones:

- firstly, foreign banks are required to maintain higher pre-coverage ratios, which limits their liquidation of NPLs;
- secondly, foreign banks, compared to their domestic counterparts, are subject to higher risks due to language, culture, regulation, legal system and asymmetric information problems (Fungáčová and Klein, 2020).

From the analysis, it can be concluded that regulatory capital plays an important role in mitigating the moral hazard behavior of banks, especially in the context of non-performing loan management. Low capital levels can create incentives for banks to engage in risky lending activities, which can ultimately lead to an increase in non-performing loans.

Analysis of data on the share of non-performing loans among foreign banks compared to domestic ones during the crisis caused by the COVID-19 pandemic confirms this trend. Foreign banks, required to maintain higher pre-coverage ratios, had limited ability to liquidate non-performing loans. In addition, they faced higher risks due to differences in language, culture, regulation, legal system, and asymmetric information problems (Duan et al., 2021). Thus, increasing regulatory capital can help reduce moral hazard and limit the increase in non-performing loans by creating incentives for banks to comply with more conservative lending strategies and improving risk management.

2. FOREIGN EXPERIENCE IN LENDING TO SMALL AND MEDIUM-SIZED BUSINESSES

Over the past years, developed countries have begun to pay increasing attention to the small and medium-sized business segment, in particular to the problem of availability of debt financing. Central banks in developed countries are trying to improve the functioning of financial markets so that small businesses can grow and multiply. However, the COVID-19 pandemic has had a devastating impact on the economies of developed countries, especially on the SME sector. The pandemic has also had a profound impact on the performance of financial markets serving small businesses. The main loan product for SMEs in 2020-2021 was a revolving loan. In general, during the two years of the pandemic, there was a drop in demand for repayable external financing, including due to additional government support measures, the basis of which are loan deferments and grants. British Business Bank conducts an annual analysis of the British SME lending market. Lending to small businesses by UK banks has returned to pre-pandemic levels in 2021, following a record £104.8 billion of loans made in 2020 (Figure 2).

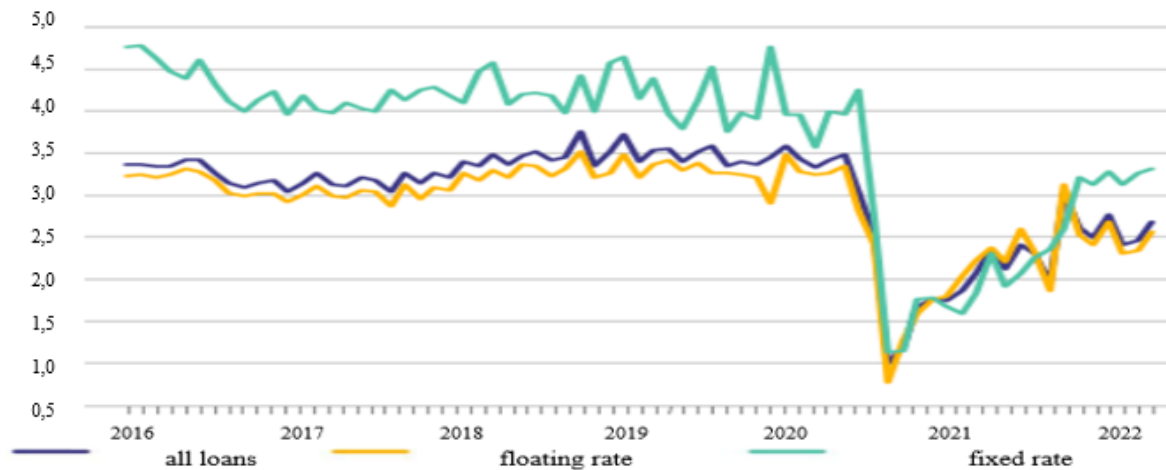


Figure 4. Schedule of effective interest rates on new issues for SMEs, in %

Source: compiled by authors according to <https://www.british-business-bank.co.uk/research/sbfm/>

The Bank of England's net lending measure has turned negative in 2021. Net lending was minus £8.0 billion. This is down from the positive figure of £47.2 billion in 2020. Negative net lending in 2021 reflects that repayment levels have outpaced originations since April.

The negative net lending figure was also influenced by lenders being cautious about extending excessive amounts of additional credit to borrowers, which was likely reflected in loan approval rates. England's top 7 lenders approved 65% of small business loan applications in 2021, down 30% from the 2020 peak and around 15% below pre-pandemic levels. If the UK's economic recovery from the impact of COVID-19 is to continue, it is vital that the banking sector provides SMEs with the finance they need.

This trend has not bypassed the United States of America. According to research results, in 2021 only 48% of SMEs were able to meet their needs for financial resources. This number includes 28% of SMEs that were able to do without debt financing, and 20% that had to use credit resources to meet their needs. However, 52% of US SMEs were unable to meet their financing needs, received only a fraction of the financial resources they needed, or had too much debt to qualify for lending in 2021.

At the end of 2021, at least 70% of SMEs in the United States had outstanding debt. However, it is also important to consider the amount of debt to creditors. Thus, 38% of small firms have a debt of less than 100 thousand US dollars, while 17% of them have a debt of less than 25 thousand dollars (Figure 5).

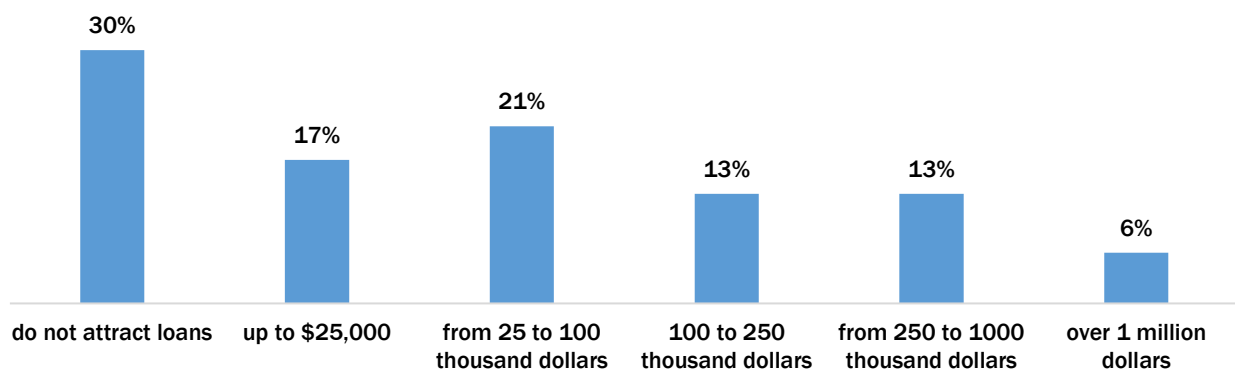


Figure 5. Graph of the amount of debt of US SMEs to creditors in 2021

Source: compiled by the authors according to <https://www.zippia.com/>

Among all industries, the construction and logistics industries were most dependent on debt financing.

These industries typically require loans to purchase, repair, maintain equipment and fixed assets, and sometimes to make a profit.

According to the World Bank, about 90% of organizations today are small and medium-sized businesses, while providing more than 50% of jobs worldwide and generating more than 40% of global GDP.

According to his estimates, by 2030 the workforce will grow by an additional 600 million employees who will be able to find employment through SME organizations. This trend forces governments of developed and developing countries to pay increased attention to supporting small and medium-sized businesses. However, many small and medium-sized organizations still experience difficulties in attracting debt financing. Therefore, business owners have to use their own resources to develop their organizations.

Declining home equity in Canada could limit the ability to refinance mortgages, leading to an increase in defaults. Lenders' credit losses will also increase if the liquidation value of the home in default is less than the value of the outstanding mortgage.

If banks experience large enough losses on their loan portfolios or a significant deterioration in the quality of their assets, they may tighten their lending standards. This could lead to a contraction in lending across the economy, exacerbating the economic downturn.

To date, around a third of mortgages have increased their repayments compared to February 2022 - just before the Bank began raising its benchmark interest rate (Chart 12). By the end of 2026, payments will increase for almost all mortgage holders. Assuming mortgage rates evolve in line with current market expectations, the median payment increase over the 2023-26 period would be around 20%.

To estimate how higher interest rates would impact mortgage debt service costs in the future, Bank staff conducted modeling using anonymized loan level data from federally regulated financial institutions.

The modeling analyzed mortgages that had already recorded or would record a higher payment than in February 2022 - just before the Bank began increasing its discount rate. The sample covered approximately six million mortgages and assumed that hypothetical interest rates on variable and fixed rate mortgages were in line with market expectations (Figure 6).

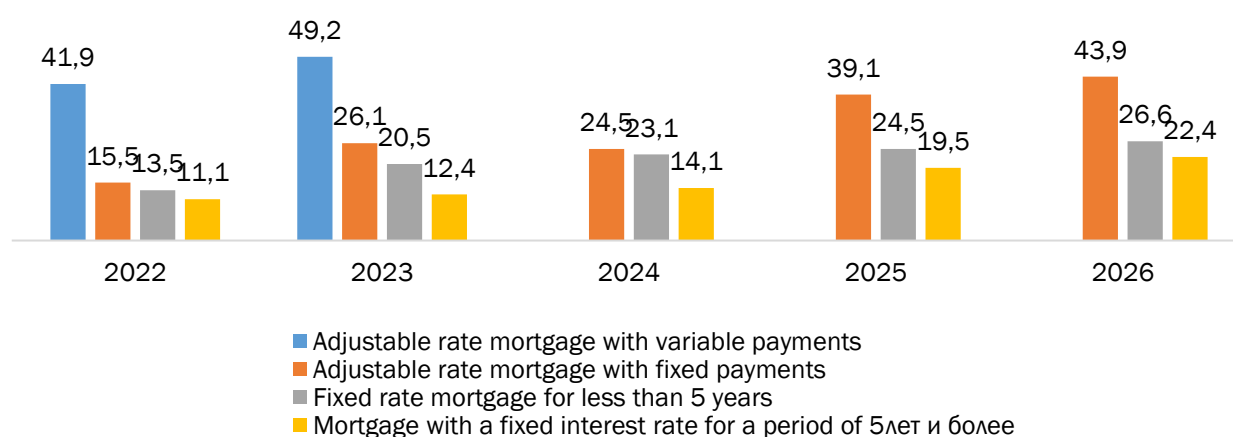


Figure 6. Indicators of increase in mortgage payments

Source: compiled by the authors according to <https://www.bankofcanada.ca/>

The level of overdue debt on loans can be observed for any type of debt and represents the share of households that are overdue on payments for a given type of debt by three months or more (Figure 7).

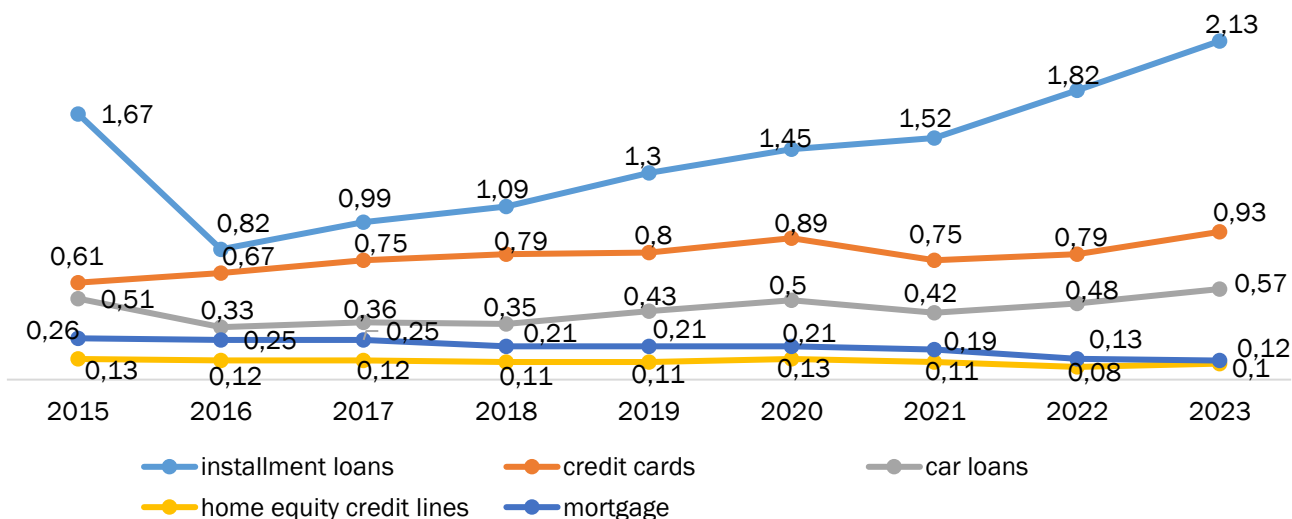


Figure 7. Level of overdue debt on loans depending on the type of debt

Source: compiled by the authors according to <https://www.bankofcanada.ca/>

3. RESULTS AND APPLICATION FUNCTIONALITY

Forecast values of the level of overdue debt on loans depending on the debt are presented in Table 2.

Table 2. Forecast values of the level of overdue debt on loans depending on debt

Indicator	2024	2025	2026
Installment loans			
Trend	1,94	2,04	2,15
Growth	1,98	2,14	2,30
Credit cards			
Trend	0,92	0,94	0,97
Growth	0,93	0,96	1,00
Car loans			
Trend	0,51	0,53	0,55
Growth	0,52	0,54	0,56
Lines of credit secured by real estate			
Trend	0,09	0,08	0,08
Growth	0,09	0,08	0,08
Mortgage			
Trend	0,11	0,09	0,08
Growth	0,12	0,11	0,10

Source: compiled and calculated by the authors

The justification that the level of overdue debt on loans, depending on the debt, tends to increase every year, is based on several factors:

- Accrued interest and penalties. Loan debt is often accompanied by interest and late fees. If you fail to repay your loan on time, the amount owed increases, leading to an increase in your total debt every year.
- Accumulation of new arrears. Borrowers in default on their loans may experience financial difficulties and incur further delinquencies or increases in the amount of delinquency in subsequent periods of time.
- Increase in total debt. Some borrowers in delinquency may not be able to repay the debt in full or on time. This can cause debt to accumulate year after year as the loan amount, interest and penalties continue to accumulate.
- Economic factors. Economic factors, such as rising unemployment, inflation, deteriorating economic situation in a country or region, may increase the financial difficulties of borrowers and contribute to an increase in overdue debt.
- Psychological aspects. Borrowers may experience stress or feelings of helplessness due to past-due debt, which can lead to reluctance to resolve the problem and increased debt.

Thus, these factors together may create a trend toward increasing loan delinquency levels every year.

Elimination of overdue loans requires an integrated approach and the adoption of a number of measures:

- it is important to develop a debt repayment plan, determining the amount that must be allocated monthly to repay the loan. This plan should be based on your financial status and capabilities;
- discussion of the situation and search for solutions to the problem. Most banks are willing to provide assistance by offering loan restructuring, temporary payment reductions, or other solutions;
- loan restructuring - includes increasing the loan term, revising the interest rate, redistributing debt and other changes in conditions that will make monthly payments more affordable;
- searching for additional sources of income to increase your ability to repay debts;
- budget planning and savings.

Eliminating outstanding debt can be a difficult process, but with constant effort and the right approach, it is possible.

The overall SREP (Supervisory Review and Evaluation Process) assessment is an assessment carried out by European banks and financial institutions in which regulators assess their financial health, risks and ability to manage them, which includes aspects such as:

- level of capital,
- quality of assets,
- liquidity,
- management of risks,
- management processes.

According to Figure 8: A) Risk assessment involves the analysis of various financial indicators of a bank, such as capital, liquidity, credit risk, operational risk and market risk, the purpose of which is to determine the overall level of risk faced by the bank, allowing regulators to gain insight into financial health and strength bank, as well as identify potential problem areas that require special attention and management. Risk assessment is an important tool for ensuring financial stability and the health of the banking system as a whole. B) 2. Capital assessment is a process in which regulators analyze the adequacy of a bank's capital to cover risks, including:

- assessing the capital to risk ratio to ensure that the bank has a sufficient level of capital to cover potential losses in the event of risks;
- an analysis of capital levels is carried out taking into account the requirements and standards established by regulators to ensure that the bank complies with all necessary standards and regulatory requirements.

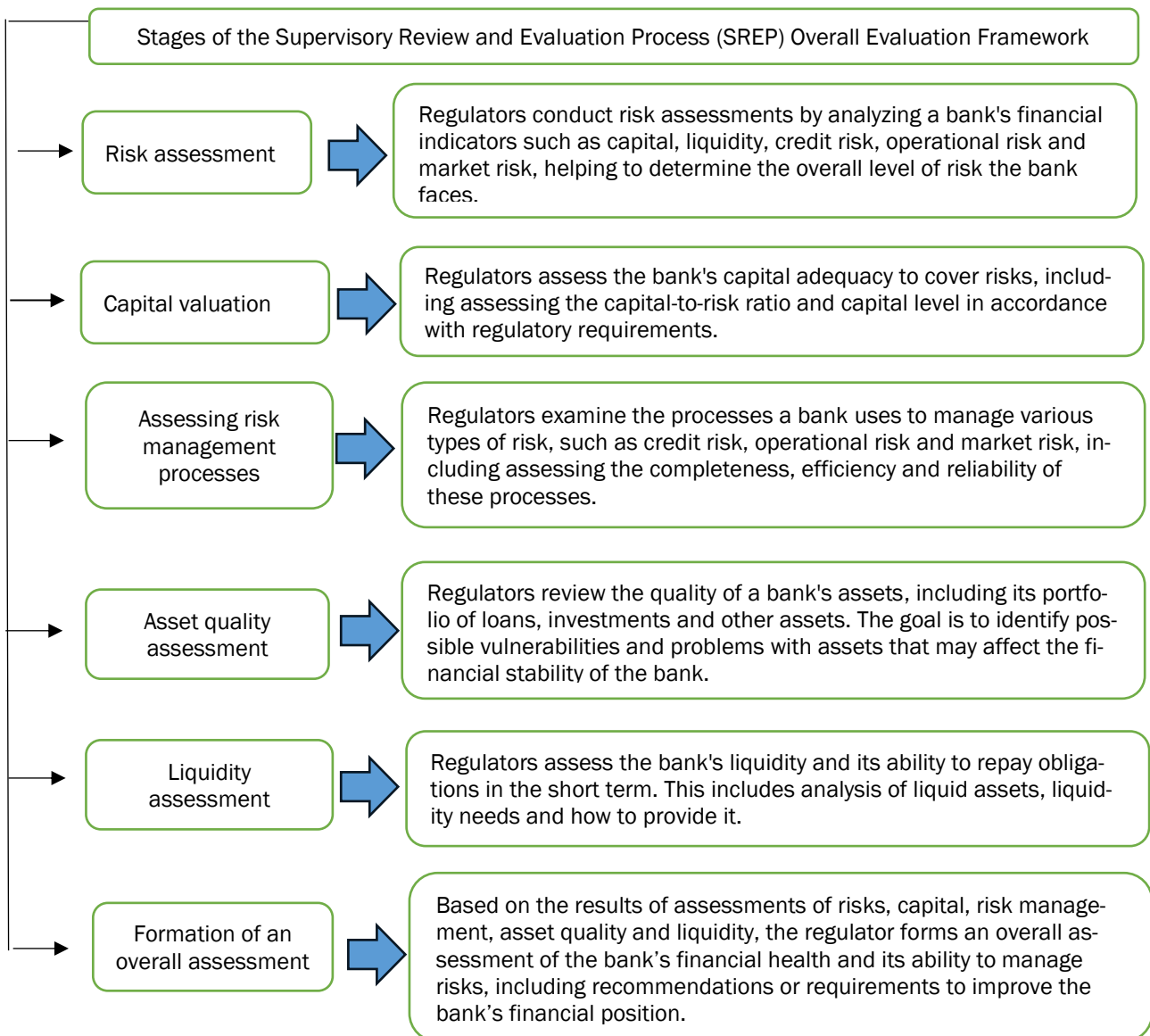


Figure 8. Stages of the overall evaluation mechanism of the Supervisory Review and Evaluation Process (SREP)

Source: Compiled by the authors

CONCLUSION

Based on the conducted research, conclusions can be drawn.

The introduction of innovative technologies allows second-tier banks to more accurately assess credit risk and predict possible borrower defaults, helping to reduce the level of problem loans in the bank's loan portfolio.

A decrease in the level of problem assets can lead to an improvement in the financial stability of the bank. Better management of problem loans reduces losses and ensures more efficient use of capital.

The use of innovative technologies and data analytics methods can also improve the operational efficiency of a second-tier bank. Process automation and improved decision-making algorithms reduce the time and resources spent on managing problem loans.

For the successful implementation of innovative technologies, significant investments are required both in technological resources and in personnel training, which requires appropriate financing and strategic planning on the part of the bank.

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