



Presenting a model of micro-determining factors in the formation of non-performing loans of banks by the method of thematic analysis (the case study of Mehr Eghtesad Bank)

Sadegh Ansari

Ph.D. Student, Department of Financial and Accounting, Firoozkuh Branch, Islamic Azad University, Firoozkuh, Iran
sadegh_ansari@yahoo.com

Seyyed Mohammad Hasheminejad

Assistant Professor of Business Management Department, Islamic Azad University of Tehran Medical Branch, Tehran, Iran.
(Corresponding Author)
m.hasheminejad@iautmu.ac.ir

Abdolreza Talaneh

Associate Prof., Faculty of Management and Accounting, Firoozkuh Branch, Islamic Azad University, Firoozkuh, Iran.
unistpapers@yahoo.com

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ABSTRACT

The deterioration in the quality of the loan portfolio of banks was the leading cause of problems in the banking system and financial crises in developed economies. Indeed, the increase in loan defaults. This study aims to uncover the micro determinants that contribute to creating non-performing loans in the branches of Mehr Eghtesad Bank in Iran. The research methodology used is theme analysis, which is qualitative and exploratory, based on the kind and characteristics of the data. The research's statistical population comprises 15 individuals with accounting, economics, and financial management expertise. These individuals have positions as professors, managers, and assistants within the branches of Mehr Eghtesad Bank throughout several provinces. Their participation in the study occurred over the period spanning from May to August of 2022. The data was gathered through interviews. The sampling methodology used in this study is deliberate and snowball sampling. This approach allows for the identification of specific groups of informants based on the research subject, issue, and contextual circumstances. The data obtained from the study were analyzed using MAXQDA software to conduct a theme analysis. This analysis included three primary steps: open, axial, and selective coding. The findings indicate that 5 determinants of Insufficiency in the customer evaluation procedure; Absence of an integrated information system; Failure to use the novel loan-collecting mechanisms; Deficiency in the workflow; Lack of expertise personnel in credit issues had a significant impact on the formation of these types of loans.

Keywords: Micro determinants; Non- performing loans; Mehr Eghtesad Bank



1. Introduction

The deterioration in the quality of the loan portfolio of banks was the leading cause of problems in the banking system and financial crises in developed economies. Indeed, the increase in loan defaults banking mortgages in the United States underlines the links between macroeconomic and financial shocks and the relationship between the friction in the credit market and the risk of financial instability.

The "non-performing loans" (NPL) theme has attracted more attention in recent decades. Banks still had a high level of impaired loans before the bankruptcy. Therefore, the large amount of bad loans in the banking system generally results in a bank failure. The NPL is among the leading causes of the problems of economic stagnation. Each impaired loan in the financial sector may lead the company to difficulty and unprofitability. The discussion on Non-Performing Loans (NPL) has been an essential topic among economic policymakers and researchers in recent years due to its critical nature in determining the health of banks, its impact on the financial system, and ultimately, it is an attendant systemic risk on the economy. An unhealthy financial system undermines economic growth due to NPLs and insufficient capital, while a healthy financial system could enhance economic growth (Osunnaiye & Alymkulova, 2022). Furthermore, developing countries feel the impact of the financial sector performance more than developed countries (Sulong & Bakar, 2018).

The general and well-known fact is that the stability of the banking system is one of the significant preconditions for economic growth of every society since the banks play a vital role in allocating capital from capital-sufficient agents to capital-deficient participants in the economic life of the society (Fukuda & Dahalan, 2012). The strengthening competition between banks affected the banks' increased credit risk, i.e., influenced the relaxation of their borrowing criteria and screening procedures, which led to the erosion of the quality of the banks' lending activity, that is, the increasing rate of non-performing loans (NPLs). The speed of growth of the NPLs rate, on the one hand, and its potential consequences, on the other, have influenced the NPLs studies of occurrence, movement, and determinants to become an inevitable topic in the banking and academic circles, as well as the subject of much research. Unfortunately, numerous studies based on the use of panel data in this

phenomenon resulted in contradictory conclusions regarding the direction, intensity, and significance of micro determinants of NPLs (Radivojević et al., 2019).

Lending is the primary business of retail banking, and non-performing loans (NPLs) have been the focus of attention by regulators in recent years, as many banks still face difficulties disposing of those that materialized on their balance sheets during the financial crisis (Bellotti et al., 2021). The banks have experienced a particularly challenging period over recent years. The Great Financial Crisis (GFC) has highlighted the weakness of the banking system and the need to investigate further banks' asset quality and transparency from both a regulatory and an accounting perspective, which pressure by different institutions for a more accurate assessment of loan portfolios led to the general need for higher provisioning in a period characterized by highly low-interest rates and low bank profitability (Bolognesi et al., 2020).

In the past two decades, numerous banks have defaulted, and the Global financial crisis has unveiled the systemic importance of bank default. The health of a country is dependent on its financial stability, and Bank's Non-Performing Loans (NPLs henceforth) assumes critical importance amongst financial stability indicators. Many researchers have proved that NPL is impacted by bank-specific (Bawa et al., 2019) and macro and microeconomic variables (Hassan et al., 2022). Bank-specific and microeconomic variables can be controlled by the bank and at the bank's level. However, macroeconomic variables are beyond the bank's control, and global economic prospects describe the contraction of 5.2%1 in the Global GDP due to the ongoing Covid pandemic. Amidst all the ongoing macroeconomic changes, banks can preserve themselves by making some strategies if it measures the impacts of given factors on the Bank's NPLs. Knowing the critical determinants of a bank's NPL, strategies can be made in advance, which is essential to safeguard the bank, and macro-prudential surveillance.

Existing researchers have divided the explanatory factors of NPLs into macroeconomic and Bank specific or micro factors. Among macro-economic variables, GDP, Inflation, Interest rate, unemployment, and exchange rates are among the commonly studied variables. In contrast, Capital, Management, Credit Quality, Asset structure, Cost efficiency, etc., are among bank-specific and micro factors that have been

given due attention. Researchers have proved the influence of macro and micro-economic factors on the Bank's NPL (Dua & Kapoor, 2018; Kumar et al., 2023), but these factors explain the NPLs of countries differently.

In the current banking system of Iran, the accumulation of NPL by the bank plays a crucial role in enhancing financial statements and resource preparation. Like allocating resources in diverse credit sectors such as currency and credit and the context of loan collection, banks should leverage the expertise of their top-performing employees and tap into the private sector's potential to facilitate the recovery of impeded financial resources and reintegrate them into the resource cycle. A significant part of the facilities granted by banks and financial institutions in the form of outstanding debts, matured liability, doubtful debts, and uncollectible debts are not returned to the banking network, and this issue has become a significant challenge to the current conditions of the country's banking system. So we will see a decrease in asset quality, and as a result, we will see more severe problems in the country's banking network (Ghaemi Asl & Ghasemi Nik, 2018). Furthermore, by utilizing high-performing personnel and leveraging the capabilities of the private industry, it is possible to reintegrate the impeded resources back into the resource loop. However, further investigation is required to identify and introduce significant factors that contribute to the formation of NPL and explore the dynamic factors of Bank Mehr Eghtesad branches. It is essential to acknowledge that numerous investigations have been conducted globally to examine the factors contributing to the development of NPL.

Nonetheless, a need exists for more comprehensive research on the impact of micro determinants on NPL in the banking sector; the significance of doing this study is heightened when considering the examination of internal organizational variables and bank-specific determinants, in addition to macroeconomic factors, in the formation of NPLs. This issue at hand has received little attention in prior scholarly investigations. Likewise, prior studies examining the NPLs of banks have predominantly relied on quantitative methodologies. However, this study employs the thematic analysis approach and qualitative methods to present the social reality as perceived by experts and bank managers. It addresses the need for a model that

can effectively evaluate the micro yet influential factors contributing to the formation of NPL of Bank Mehr Eghtesad branches across the country. In this study, we are trying to find out micro determinants which have a role in making banks NPLs. It is critical for the financial system of any economy, as a failing banking system can shake the entire financial system.

Literature review

NPLs are unprofitable facilities or loans (Amuakwa-Mensah & Boakye-Adjei, 2015). Whereas, Fofack (2005) used NPLs and bad loans interchangeably. Dimitrios et al. (2016) described NPLs as problem loans. In the broader context, NPLs can be considered outstanding loans in interest and principal for some time, contrary to the terms and conditions set out in the loan agreement. This section deals with literature on determinants of Non-performing Loans for banks. In order to have a complete understanding of the phenomenon of NPL, microeconomic variables should be considered (Algeri et al., 2023). Macroeconomic factors cannot fully explain NPL development because, most of the time, the endogenous characteristics of the banking system, such as cost structure, risk management, and resource allocation, play a critical role in influencing the general economy (Loizos, 2022).

The extant literature on NPLs suggests that determinants can be categorized into internal (micro) and external (macro) factors. Internal factors, firm size, profit, capital adequacy ratio, total loan amount, and interest rate are important determinants of NPLs. Meanwhile, economic growth (GDP) and inflation are categorized as the external factors of NPLs (Mohanty et al., 2018).

One set of studies has focused on Bank specific variables only as NPL determinants, which includes an investigation by Bawa et al. (2019). They used the GMM model to find out the determinants of NPLs in scheduled commercial banks. They used 31 bank-specific financial ratios that capture operating capacity, liquidity, Solvency, profitability, and business development capacity that will impact the NPLs of the bank. Saleh and Winarso (2021) examined the non-performing loans (NPL) and loan-to-deposit ratio (LDR) towards profitability. They found that capital helps small banks increase survival probability in all situations and enhances the performance of medium and large banks during crises.

Podpiera and Weill (2008) have found causality between Non-performing loans and the cost efficiency of Czech Banks. They proved that reduced cost efficiencies lead to Non-performing loans. NPLs are a byproduct of performing loans and must be treated as an undesirable output (Guarda et al., 2013). Klein (2013), in their research “Non-Performing Loans in CESEE: Determinants and Impact on Macroeconomic Performance,” investigated the non-performing loans (NPLs) in Central, Eastern, and South-Eastern Europe (CESEE) from 1998 through 2011. They employed Panel VAR in their analysis and found that the level of NPLs can be attributed to both macroeconomic conditions and banks’ specific factors; however, bank-specific factors seem to have relatively low explanatory power. While NPLs were found to respond to macroeconomic conditions, such as GDP growth, unemployment, and inflation, the analysis also indicates that there are strong feedback effects from the banking system to the real economy, thus suggesting that the high NPLs that many CESEE countries currently face adversely affect the pace economic recovery.

Park and Zhang (2012) examined the determinant factors of NPLs in the United States. They considered solvency ratio, ROE, NIM Ratio, inefficiency ratio, and bank size as bank-specific determinants of NPL. The ROE and NIM ratio, representing the financial institution's profit or performance, positively and significantly impacts NPLs in the United States. However, Beaton et al. (2016) assessed the factors of NPLs in the Eastern Caribbean Currency Union (ECCU) and found that more profitable banks tend to have lower NPL ratios. In the ECCU, higher bank profitability is associated with lower NPLs levels (as demonstrated by the bank's return on assets), which can reflect the quality of bank management. Both studies proved that the bank's profits or financial intuitions influence NPLs.

Shingjergji (2013) studied the “impact of bank-specific factors on NPLs in the Albanian banking system.” In the study, capital adequacy ratio, loan-to-asset ratio, net interest margin, and return on equity were considered determinant factors of NPLs. The study utilized a simple regression model for the panel data from 2002 to 2012 and found that the capital adequacy ratio is negative but insignificant. In contrast, ROE and loan-to-asset ratio has a negative significant effect on NPLs. The study justifies that an

increase in the CAR will cause a reduction in the NPLs ratio. Besides, an increase in ROE will determine a reduction in the NPLs ratio.

E. M Musau (2014). In his research “Modeling Non-Performing Loans in Kenya Commercial Banks,” he used a dynamic econometric model to link and assess the joint relationship between the NPLs ratio and its determinants in Kenya's Banking sector. The author found a positive relationship between inflation rate, Rear Interest rate, credit growth, liquidity of the bank, and non-performing loans among Commercial Banks in Kenya. The relationship between Gross domestic product, capital adequacy, and non-performing loans was negative.

Barseghyan (2010) suggests that NPLs have widespread social and economic implications, as they reduce social output and diminish production growth. World development indicators (World Bank, 2013) suggest that Iran is one the countries which account for the highest NPL ratio among Asian countries. Thus the issue of NPLs has rigorous implications for developing countries like Iran, where SMEs constitute a significant chunk of the economy.

Khan, Siddique and Sarwar (2020) identify the main determinants that lead to the emergence of nonperforming loans in the banking sector in developing countries, taking Pakistan as a case study. The analysis is based on panel data from 22 commercial banks in Pakistan, in the period 2005-2017 and examines the impact of different variables, specific to the banking field, on Non-Performing Loans. The authors come to the conclusion that the bank profitability, the operating efficiency, the bank capital and the income diversification have a significant and negative impact on the variability in the Non-Performing Loans.

Ludwian and Soekarno (2022) analyze the relationship between the rate of non-performing loans and the operational efficiency of the bank, based on data taken from the Banking Statistical Reports in Indonesia, and covering the period January 2010 - September 2021. The results show that each banking group (cluster) in the banking system of the country behaved differently in terms of the association between problematic loans and operational efficiency, and the bad management and bad luck hypotheses were tested separately for each cluster. The authors suggest the need for the authorities to develop clear,

relevant and individualized regulations for each group (cluster) separately, depending on its behavior.

Wang et al. (2023) investigated the function of Fintech in preventing and resolving financial risks, and the ability of small and medium-sized commercial banks to apply Fintech to resolve non-performing loan risks deserves attention. Their paper uses as a sample the micro-survey data of 432 branches of the city commercial banks in Beijing from 2005 to 2022 and constructs an econometric model of the risk reduction effect of Fintech on non-performing loans. The findings are as follows. Firstly, Fintech inputs can significantly reduce the risk of non-performing loans. For every 1% increase in IT personnel inputs, software inputs, and hardware inputs, the non-performing loan ratio will reduce by 0.091%, 0.055%, and 0.024%, respectively. In other words, IT personnel inputs contribute the most to the reduction of non-performing loan risk, followed by software inputs. Fintech has a certain lag effect in alleviating the risk of non-performing loans in banks and tends to strengthen over time. Secondly, Fintech inputs has an indirect effect on banks' performance by reducing non-performing loan risk, and there is a positive feedback loop between Fintech inputs, non-performing loan risk mitigation, and improving performance. This effect is not significant in the current period but significant when lagged by three periods. Thirdly, Fintech inputs has a significant inhibitory effect on non-performing loans, loans of concern and subprime. For every 1% increase in inputs in IT personnel, software, and hardware, concern will decrease by 0.263%, 0.358%, and 0.107%, respectively, while subprime will decrease by 0.115%, 0.216%, and 0.057%, respectively. Software and personnel inputs have a greater inhibitory effect on the above two types of loans than hardware inputs. Fourthly, mechanism analysis shows that data governance application, compliance enforcement, and internal control enforcement have a moderating effect on Fintech input's impact on banks' non-performing loan risk.

Methodology

A qualitative and exploratory approach characterizes the research methodology used in this study. Data collection was conducted via an interview protocol, and afterward, thematic analysis was employed to ascertain, categorize, and examine the collected data. Furthermore, this study's objective falls within applied

and developmental research. Based on an examination of the research's background, theoretical underpinnings, and expert perspectives, the research inquiries, formulated in the form of an interview protocol, can be articulated as follows:

- 1) What are the variables' indications, components, and dimensions contributing to the emergence of micro-level NPL in Mehr Eghtesad Bank?
- 2) What variables influence the temporal dynamics in modeling micro factors related to the emergence of NPL in Mehr Eghtesad Bank?
- 3) What elements contribute to the microeconomic impacts in the causes of NPL generation at Mehr Eghtesad Bank?
- 4) What elements influence banks' financial leverage elements influence banks' financial leverage NPL at Mehr Eghtesad Bank?
- 5) What elements influence banks' profitability when modeling the factors contributing to the emergence of NPL in Mehr Eghtesad Bank?
- 6) What elements contribute to the bank's credit risk when modeling the circumstances leading to the emergence of NPL at Mehr Eghtesad Bank?
- 7) What elements influence the liquidity volume in modeling the factors contributing to the emergence of NPL in Mehr Eghtesad Bank?
- 8) What relevant variables contribute to the modeling of micro-factors in the production of NPL at Mehr Eghtesad Bank?
- 9) What model may be proposed to elucidate the micro-level variables contributing to the emergence of NPL within Mehr Eghtesad Bank?

The statistical population includes managers and deputy managers of Mehr Eghtesad Bank branches in several provinces and academics specializing in accounting, economics, financial management, and banking. A focused and exploratory approach characterizes the individual's involvement in the interview process. The methodology used included first selecting a primary group for interviews, followed by additional groups being interviewed depending on the recommendations of the original group. The interview continued until no more novel ideas were acquired, reaching a state of theoretical adequacy or theoretical saturation. It is essential to acknowledge

that the recurrence of codes was seen starting with the 15th interview.

Nevertheless, the data-collecting procedure was extended until the fifteenth interview to achieve comprehensive theoretical saturation, resulting in twenty interviews. The deliberate snowball sampling approach aims to identify specific informants groups that align with the study subject, issue, and contextual circumstances. Consequently, the research data has been systematically collected via a snowball method.

Concerning the research's validity, it is essential to note that the study's statistical population comprised experts and professors within the relevant field of knowledge. The acceptance of the research's validity was based on these individuals' expertise and knowledge level. However, specific measures were taken during the interview process to ensure the accuracy of the findings, both from the researcher's perspective and from the broader research population.

- Analyzing the results and providing commentary on them.
- The categories in the first stage were revised based on the input of the statistical population included in the exploratory interview.

The qualitative method has been used in all three criteria to assess reliability by implementing the following strategies.

- Credibility strategies: The research included individuals with management and specialized expertise within the banking and financial business.
- The verifiability technique used in this study utilized a multi-angle data collection approach.
- The reliability technique used in this study was using a coding system to assess and validate the qualitative research process. A comprehensive report was then produced, which included a thorough description of the qualitative study process, including data collection, analysis, and interpretation.

It is essential to acknowledge that reliability pertains to the consistency and comparability of measurement outcomes over various time intervals. Reliability assessment is less controversial than validity assessment since the latter is contingent upon the former. Consequently, the evaluation of reliability alone suffices to establish the presence of validity. However, to enhance the level of assurance, professionals have used the concept of a "research

audit" to assess the compatibility of the research method and its outcomes.

Thus, the anticipated trustworthiness of the study was acquired. Furthermore, the researcher enhanced the reliability of the study by systematically removing duplicated data throughout the interview phase.

In order to assess the reliability of the research findings, the researcher shared the initial draft with their research colleagues, who were university professors. Furthermore, the researcher consistently cross-referenced and aligned the extracted codes and the research documents (interviews) to identify any necessary revisions and critical insights during the final analysis.

Results and Analysis

The process of theme analysis involves six distinct processes. Initially, the data were acquired and analyzed to elucidate the study model's structures and dimensions. This process included the execution of three distinct processes. The three coding techniques used in qualitative research are 1) open coding, 2) axial coding, and 3) selective coding.

In the data analysis, the first step is to determine the subject (terminology). The researcher interviewed managers and deputy managers of Mehr Eghtesad Bank branches and recognized academics specializing in accounting, economics, financial management, banking, and law. Hence, during the coding phase of the study, a set of codes arose after the completion of this step and the analysis of the first 14 interviews. They analyzed the interviews by revisiting previously established concepts, categories, and relationships. This iterative approach brought the study close to achieving theoretical saturation. However, an additional six interviews were conducted to mitigate the risk of overlooking specific codes and potential new relationships and ultimately enhance the validity of the research. The subsequent phase is axial coding, systematically organizing and grouping the categories. During the third stage, the researcher engages in the identification of themes or categories. This phase involves classifying codes into probable themes and organizing all summarized coded data into designated themes. The researcher started the analysis of their codes and saw the potential for amalgamating distinct codes to generate a comprehensive thematic framework. During this phase, preliminary codes representing the primary topics were established.

During the fourth step of the study, the researcher generated and evaluated the identified themes. This step has two components: the review and refinement of the topics. In the first phase, the researcher assessed the extent of coded summaries. In the subsequent section, the researcher assessed the soundness of the identified themes about the dataset. During the fifth step of selective coding, identifying and naming themes begins after establishing a suitable map of themes. During this phase, the researcher delineated

and subsequently refined the thematic categories that were put out for analysis, then examined the data inside these categories.

The commencement of the sixth stage occurs when the researcher has a well-defined collection of concepts. The final stages include the concluding analysis and composition of the report. According to Braun and Clarke (2014), Table 1 presents the report generated for the study, including the thematic map and the overall data analysis approach.

Table 1- Encoding Phases

Main category (selective coding)	subcategory (axial coding)	Basic Concepts (Open Coding)
Micro Determinants	Insufficiency in the customer evaluation procedure	The absence of accurate and dependable techniques for Bank Account Verification and Validation
		Inadequate evaluation validation system in the bank
		Refrain from neglecting the customer's technical, economic, financial, and executive capabilities and influence.
		The properties of debtors, guarantors, and mortgagees cannot be identified.
		Unsuccessful expert facility-granting procedures
	Absence of an integrated information system	Weakness in determining the applicant's eligibility and capacity to be granted facilities.
		The absence of a comprehensive and integrated information system throughout bank branches
	Failure to use the novel loan-collecting mechanisms	Absence of an integrated information database
		Neglecting to develop the required means to collect loans
		Failure to employ an integrated audit and inspection system, service disruption system
	A deficiency in the workflow	Failure to employ existing tools, including legal and non-legal ones
		Lack of counseling of debtors by personnel
		Lack of attention of officials of branches, management, and departments to the task of collecting loans
		Failure to pay attention to the contents of the credit report issued by credit experts
	Lack of expertise personnel in credit issues	Failure to grant the privilege of delay harm absolution in general
		Lack of experience to cope with people's demands
	lack of prompt loan follow-up	Lack of mastered personnel in credit and currency concerns in the facilities department of branches
		loan files are waiting at the offices
The importance of prompt follow-up of loans in the shortest time following transfer		
Failure to provide a warning to the guarantor and mortgagor in the event of non-fulfillment of obligations		
Issues about bonds and guarantees	Advisability about non-follow-up of loans	
	Collaterals being shared and not being able to seize or sell them.	
The lack of careful attention given to the issued approvals	Obtaining feeble collaterals	
	Failure to rigorously implement the issued approvals and failure to pay attention to the conditions contained therein	
Micro Determinants	Utilizing typical ineffectual techniques	Issuing inadequate approvals, exceeding the authority of the issuing authority
	Utilizing traditional ineffective approaches.	
	Failure to pay heed to the consequences of past performance in decisions and activities	Not utilizing the organization's past experiences as a source of knowledge.
	Deficiencies in the procedure for evaluating the receiver's facility's activities and refunding the	Failure to monitor the repayment of installments
Lack of accurate and appropriate oversight on the process of granting phased facilities		

Main category (selective coding)	subcategory (axial coding)	Basic Concepts (Open Coding)
Micro Determinants	facility	
	Inadequateness of the planned penalties	The lowness of the deemed penalties Lack of a deterrent penalty mechanism
	Inappropriate and unhealthy communication	Advocacy, the existence of dysfunctional relationships The prospect of corruption and personal gain
	Lack of infrastructure to acquire complete and accurate customer information in IRAN	Lack of required financial and banking system infrastructure and support systems
	Ignorance about hidden risks management in explanatory plans	Emergence and increase of risks

Regarding available resources, Iran's banking sector exhibits a relatively favorable state compared to other nations. A speedy resolution to the issue of NPLs is imperative, and a thorough examination of the underlying causes of this problem would significantly contribute to its mitigation and future prevention. On the contrary, empirical data reveals that state-owned banks of a significant scale presently possess a substantial proportion of bank loans, while private banks established in recent years exhibit the lowest loan volumes due to their used strategies and methodologies. Hence, given that the primary cause of NPLs in the banking sector can be traced back to obligatory and compulsory lending practices, the utilization of collateral and the imposition of late payment penalties within the national banking system are ineffective mechanisms. Furthermore, the prevalence of NPLs continues to rise, indicating a significant concern. The current challenge we are encountering is to securing bank loans for various facilities.

This research provides a conclusion highlighting the significant significance of the banking sector in the national economy, emphasizing its status as the fundamental pillar of the country's financial transactions. The formation of NPLs is undeniably one of the repercussions and consequences resulting from the monetary operations conducted by credit institutions. One of the primary concerns for banks and credit institutions is a phenomenon that has detrimental effects on branches' resource and expenditure cycle. This phenomenon has significant internal implications, including increased operating costs, reduced work efficiency, lower customer service levels, decreased branch ratings, and potential negative impacts on employee salaries, benefits, and other quality indicators. Externally, this phenomenon can lead to a slowdown in the liquidity cycle within the

country's economy, resulting in the suboptimal and untimely allocation of resources, limited employment opportunities, and, ultimately, economic stagnation. The variables associated with this phenomenon have been derived through qualitative analysis of in-depth interviews with experts and coding of secondary data (articles and books) based on theoretical sensitivity. Based on the data shown in Table 1, it can be seen that micro factors include the following elements:

- Insufficiency in the customer evaluation procedure
- Absence of an integrated information system
- Failure to use the novel loan-collecting mechanisms
- A deficiency in the workflow
- Lack of expertise personnel in credit issues
- Lack of prompt loan follow-up
- Issues about bonds and guarantees
- The lack of careful attention given to the issued approvals
- Utilizing traditional ineffective approaches.
- Not utilizing the organization's past experiences as a source of knowledge.
- Deficiencies in the procedure for evaluating the receiver's facility's activities and refunding the facility
- Inadequateness of the planned penalties
- Inappropriate and unhealthy communication
- Lack of required financial and banking system infrastructure and support systems
- Emergence and increase of risks

Table 2- Extracted concepts of micro factors

Items	Number of interviews	Code importance percentage	Credit percentage
Insufficiency in the customer evaluation procedure	5	83.33	100.00
Absence of an integrated information system	3	50.00	60.00
Failure to use the novel loan-collecting mechanisms	2	33.33	40.00
A deficiency in the workflow	2	33.33	40.00
Lack of expertise personnel in credit issues	2	33.33	40.00
Lack of prompt loan follow-up	1	16.67	20.00
Issues about bonds and guarantees	1	16.67	20.00
The lack of careful attention given to the issued approvals	1	16.67	20.00
Utilizing traditional ineffective approaches	1	16.67	20.00
Not utilizing the organization's past experiences as a source of knowledge	1	16.67	20.00
Deficiencies in the procedure for evaluating the receiver's facility's activities and refunding the facility	1	16.67	20.00
Inadequateness of the planned penalties	1	16.67	20.00
Emergence and increase of risks	1	16.67	20.00
Lack of required financial and banking system infrastructure and support systems	1	16.67	20.00
Inappropriate and unhealthy communication	1	16.67	20.00
DOCUMENTS with code(s)	5	83.33	100.00
DOCUMENTS without code(s)	1	16.67	-
ANALYZED DOCUMENTS	15	100.00	-

The significance of code frequency in coding can be observed in Table 2 within the micro factors explanation. Based on the data in this table, certain factors exhibit a higher degree of significance than others.

- Insufficiency in the customer evaluation procedure
- Absence of an integrated information system
- Failure to use the novel loan-collecting mechanisms
- A deficiency in the workflow
- Lack of expertise personnel in credit issues

Based on the interviews conducted, it can be concluded that insufficiency in the customer evaluation procedure can have significant negative impacts on a bank's performance. These effects include overlooking high-value customers, increasing credit risk, and diminishing competitiveness in customer relations, which, in turn, is one of the reasons for the emergence of NPLs. To prevent these issues, banks need to enhance their customer assessment processes and utilize modern technologies for collecting and analyzing customer data. Furthermore, a commitment to training employees to improve their customer assessment skills is also crucial.

The absence of an integrated information system can lead to various problems, such as redundant data entry, an increase in human error rates, delays in decision-making, and missed opportunities. To address this issue, banks require the establishment of an integrated information system to ensure that customer data is synchronized and readily available, allowing for the optimal use of data for assessment and the prevention of NPLs.

Deficiency in the workflow can also result in several problems, including decision-making delays, errors in customer assessments, lack of coordination among branches, wastage of time and resources, as well as decreased customer satisfaction. To improve this situation and prevent the formation of NPLs, banks must focus on improving workflow processes, enhancing coordination among units, and leveraging modern technologies.

Discussion and conclusion

The growth of the rate of NP is a global phenomenon that has gained importance since the appearance of the world of economic crisis. Government failures could make the occurrence of risky financial behaviors that generate financial fragility, with the increase in the share of NPLs more likely.

Empirical researches show that NPLs are closely linked to the economic and business cycles, i.e., behind each financial crisis, there are macroeconomic factors, such as falls in aggregate economic activity. When growth slows or becomes negative, borrowers reduce their cash inflows, making it easier to pay interest and principal. Under these circumstances, borrowers will need more liquidity, and delays in meeting their financial obligations to banks will likely increase.

The comparison research conducted on banks' non-performing loans across various nations from 2013 to 2020 reveals that our country's performance in this domain has room for improvement. For example, the mean proportion of NPLs across all nations globally 2017 was around 3%, which significantly deviates from Iran's proportion of 11.8%. Iran has a substantial disparity in the global proportion of NPLs.

Based on the above, it is possible to compare the results of this research with the results of previous studies, as outlined in the table below.

Table 3- Comparing the results of previous studies with the research results

Author's name, Year	Subject	Research variables	Comparison of consistency with research results
Rashidi et al, 2023	Recognizing the effective factors on the collecting non-current macro debts	<ul style="list-style-type: none"> • Profitability • Stability • Economic growth 	It is consistent
Rahmah & Armina, 2020	Macro and micro determinants of the non-performing finance: The case of Indonesian Islamic bank	Islamic bank, non-performing finance, gross domestic product	It is consistent
Radivojević et al, 2019	Econometric model of non-performing loans determinants	General moment method Non-performing loans Macroeconomic variables Microeconomics variables Banking system Dynamic panel	It is consistent
Ihtesham Khan et al, 2017	Microeconomic and Social Factors as Determinants of Non-Performing Loans: Based on Opinion of Pakistani Bankers		It is consistent
Ikram et al, 2016	Determinants Of Non-Performing Loans: An Empirical Investigation Of Bank-Specific Microeconomic Factors	Non-Performing Loans; Small And Medium Enterprises; Commercial Banks, Microeconomic Factors; Pakistan	It is consistent

This study offers valuable management implications by shedding light on the relationship between NPLs, bank efficiency, and capital. Hence, it is essential for regulatory authorities overseeing bank performance to conduct a thorough examination of banks to ensure higher capital reserves to mitigate the impact of NPLs and enhance overall operational efficacy (Lashgari et al., 2022). The results elaborate that various origins of NPLs are closely associated. For instance, improper selection of borrower is the foremost cause instigated by the loan sanctioning procedure and entirely handled by the bank itself, accompanied by improper appraisal of collateral which can decline the bank's recovery in case of default. Willful default of the borrower is another aspect that must be keenly sorted out. SMEs rely heavily on the bank's facility for their continuation and growth objectives. Thus, banks must

vigilantly utilize their funds to develop SMEs and the country. Financial institutions should not sleep over their funds after issuance. Instead, they should ensure the proper disposal of funds by the borrower. Based on the findings presented and drawing on the existing body of research, it is conceivable to put forward potential remedies to mitigate non-performing loans. These proposed solutions encompass the following:

- The implementation of an ongoing and enduring monitoring system for non-performing loans.
- Leveraging external expert expertise
- Enhancing the scientific and professional proficiency of personnel
- When considering facilities, carefully scrutinizing customers' financial accounts is crucial.

- Taking into consideration the customer's economic perspective and area of operation.
- This study focuses on the oversight of project execution phases and the subsequent payment stages for facilities.
- The precise assessment of customer needs

It is additionally proposed that the prevention of non-performing loans in Mehr Eghtesad Bank branches can be addressed by enhancing the customer evaluation process, bolstering the requisite mechanism and infrastructure of the banking system, updating the information systems, and intensifying the rigorous monitoring of contract types and conditions, along with obtaining comprehensive information from economic actors.

Managers of Mehr Eghtesad Bank take necessary measures to remove technical and specialized limitations in the field of credit and correct evaluation of projects. The managers of Mehr Eghtesad Bank undertake appropriate efforts to address technical and specialized constraints about loans.

Also, through proactive measures such as diligent follow-up and innovative debt collection mechanisms, managers and associated personnel can proactively identify debtors before their payment deadlines, compelling them to fulfill their financial obligations.

To effectively integrate scientific and executive methodologies with the understanding and practical application of study themes, it is recommended for forthcoming researchers:

- Investigating the relationship between the mechanisms, criteria, and conceptual model of the causes of NPLs formation in Mehr Eghtesad Bank branches in Iran from the point of view of the employees of Mehr Eghtesad Bank.
- Diagnostics of the difficulties and roadblocks in implementing and identifying the causes of the formation of NPLs of Mehr Eghtesad branches in Iran.

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