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Determinants of Credit Risk in Multiple Banking Institutions in Bolivia: A Systematic Review Using Prisma

Determinantes del Riesgo Crediticio en Bancos Múltiples de Bolivia: Una Revisión Sistemática Según Prisma

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ABSTRACT

Risk management, with a particular focus on credit risk, is a fundamental element within the core activities of the financial system. Conducting an in-depth analysis of this aspect is essential for proper administration and informed decision-making. The present study aims to analyze the determinants factors of credit risk in Bolivia's multiple banking institutions through a documentary research approach based on the PRISMA methodology. The eligibility criteria included scientific articles published between 2014 and 2024 in the Scopus and Web of Science databases. A total of 4,231 studies were analyzed, resulting in 83 articles selected for review. This research serves as a foundation for future studies on the subject and contributes to improving risk management practices and guiding decisions regarding the expansion of credit portfolios, with the ultimate goal of enhancing the stability of the financial system.

KEYWORDS: credit risk, risk management, financial system, profitability.

RESUMEN

La gestión de riesgos, con un enfoque particular en el riesgo crediticio, es un elemento fundamental dentro de las actividades propias del sistema financiero. Su análisis a profundidad es importante para una correcta administración y toma de decisiones. El presente trabajo tiene como objetivo analizar los factores determinantes del riesgo crediticio en los bancos Múltiples de Bolivia, por medio de un estudio documental utilizando la metodología PRISMA. Los criterios de elegibilidad fueron artículos científicos publicados durante el periodo 2014 y 2024 en las bases de datos Scopus, Web of Science. Se analizaron 4.231 estudios y cuyos resultados obtenidos muestran 83 artículos para su revisión. El trabajo, sirve de base para futuras investigaciones sobre el tema, de igual manera contribuye a una adecuada gestión del riesgo y tomar decisiones sobre la expansión de la cartera de créditos, con el fin de mejorar la estabilidad del sistema financiero.

PALABRAS CLAVE: riesgo crediticio, gestión de riego, sistema financiero, rentabilidad.

1. INTRODUCTION

The expansion of financial intermediation has definitely brought more complex challenges, especially regarding risk management, so it's crucial for institutions to have robust processes in place to minimize that risk. As Valarezo et al. (2024) indicate, the risk management in the financial sector involves the following stages: identification, measurement, control, mitigation, and disclosure. This structure is vital because, as Salas-Tenesaca (2025) notes, the global banking system is going through a major transformation driven by globalization and technology, which Chowdhury et al. (2023) argue has a direct impact on the economy.

As Dang and Nguyen (2022) point out, economic dynamics have sparked remarkable growth in financial intermediation markets in many countries. Bolivia is no exception here, the country's financial system has gone through a real transformation, marked by a significant expansion in banking operations. This growth has been driven by both micro- and macroeconomic factors, as well as the introduction of *Financial Services Law* No. 393. Ultimately, this legislation aims to encourage financial inclusion and strengthen the framework for financial services in Bolivia.

To provide context, Cucinelli et al. (2018) emphasize that the financial system plays a vital role in channeling resources across economic sectors, supporting productive development, and facilitating investments and economic growth. Along similar lines, Tabra Ochoa and Aguilar Quiñónez (2022) argue that a nation's economic growth is closely tied to the progress and consolidation of its financial system, with credit allocation acting as a key driver of economic development by generating financial resources. Another critical consideration is the relative weight of the business sector in the economy. As Gu et al. (2024) note, this sector is a fundamental contributor to national advancement and progress.

When discussing comprehensive risk management, credit risk emerges as a pivotal element. As Rodríguez Guevara et al. (2022) observe, all financial institutions are inherently engaged in credit allocation to enhance investment activities or meet clients' expenditure needs. These clients, whether individuals or businesses, inevitably expose institutions to credit risk. According to Vinueza et al. (2021), credit risk is one of the most significant factors in assessing profitability and objectively measuring delinquency rates.

In light of these considerations, this study underscores the importance of conducting a systematic review of the literature on this subject. The objective is to analyze the determinants of credit risk in multiple banks in Bolivia through a documentary analysis using the PRISMA methodology (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). The eligibility criteria included scientific articles published between 2014 and 2024 in databases such as Scopus and Web of Science. A total of 83 studies were analyzed. This research is guided by the following questions: Are macroeconomic and microeconomic factors key determinants of credit risk in multiple banks in Bolivia?, and; does credit risk impact the profitability of multiple banks in Bolivia?

The document is structured as follows: Section 1 presents the foundational concepts; Section 2 details the methodology applied for data collection; Section 3 presents the study results; and Section 4 discusses the findings and conclusions.

2. METHODOLOGY

This study is based on a systematic literature review following the PRISMA protocol (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). As Serrano et al. (2022) point out, properly applying this protocol generates reliable and precise responses in educational and research contexts, ensuring that the answers to research questions provide valuable insights for the academic community. Similarly, Page et al. (2021) highlight PRISMA's usefulness in generating theoretical evidence and formulating recommendations on the studied topic. Zotero was used as a tool to manage and organize bibliographic references. This software enables users to store, categorize, and automatically generate citations for selected documents, thereby ensuring a well-structured and systematic record of all consulted sources.

The search was conducted in reputable academic databases, including Scopus and Web of Science, covering publications from 2014 to 2024. Search terms combined keywords such as *"credit risk determinants", "credit risk", "risk management", "Bolivian financial system", "profitability"* and *"financial intermediation"*, using Boolean operators (AND, OR) to define the results effectively, as shown in Figure 1 below.

Figure 1

Search terms combined keywords (2025)

Inclusion and exclusion criteria

To optimize the results of this study, both inclusion and exclusion criteria were considered. The following inclusion criteria were applied: peer-reviewed studies analyzing credit risk determinants, research focusing on multiple banks in Bolivia, studies published in Spanish and English, works addressing both external and internal factors influencing credit risk, studies centered on Latin America and emerging economies, publications from 2014 to 2024.

Likewise the following exclusion criteria were applied: studies not directly related to the identification, measurement, or management of credit risk in financial intermediation entities, research without full access to methodology, results, or analysis, works not specifically addressing financial intermediation entities, studies with duplicate results, theses and dissertations.

The information search utilized Scopus and Web of Science, both widely recognized platforms for systematic literature reviews. These databases provide robust tools for selecting research articles, including advanced search functionalities. By employing specific terms and constructing search equations, relevant articles were filtered efficiently. Keywords were translated into English to broaden the search scope and ensure comprehensive coverage.

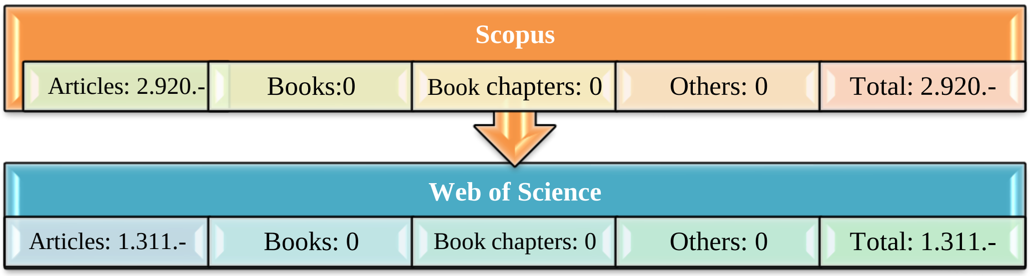
Search strings were created using logical connectors and Boolean operators such as OR and AND to combine keywords effectively. The search string entered included: *("credit risk determinants" OR "credit risk factors" OR "credit risk") AND ("risk management" OR "credit risk management" OR "financial intermediation") AND ("Bolivian financial system" OR "banking sector in Bolivia" OR Bolivia) AND profitability.*

(("credit risk determinants" OR "credit risk factors" OR "credit risk") AND ("risk management" OR "credit risk management") AND ("financial intermediation") AND ("Bolivian financial system" OR "banking sector in Bolivia") AND profitability).

Figure 2 illustrates the volume of articles retrieved from Scopus and Web of Science (WoS), which served as the basis for this research.

Figure 2

Description of records in Scopus and WoS (2025)



This study examined a diverse range of articles, as illustrated in the Figure 3. A rigorous selection process was applied to ensure a consistent and well-founded analysis.

Figure 3

Flowchart (2025)

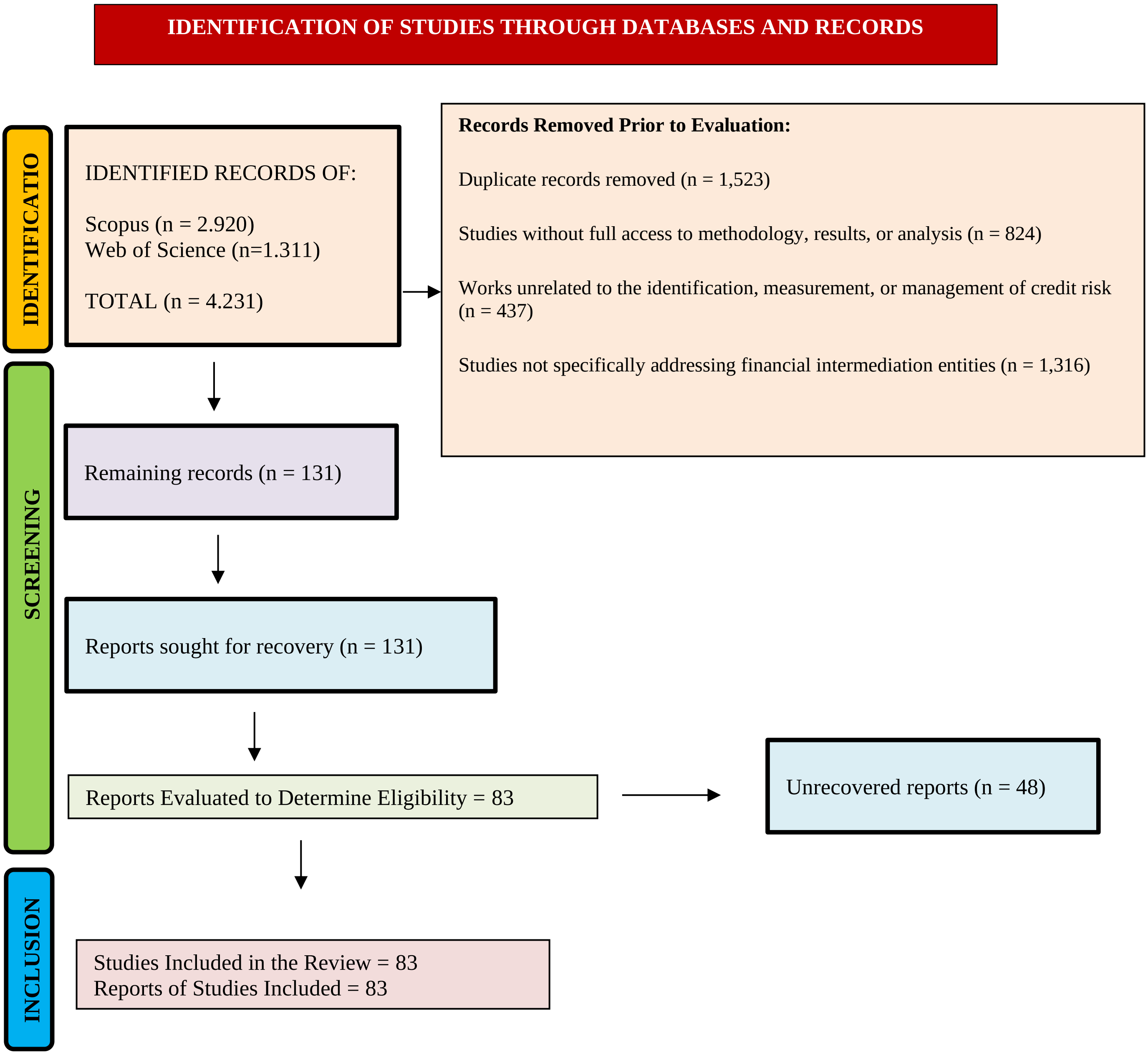
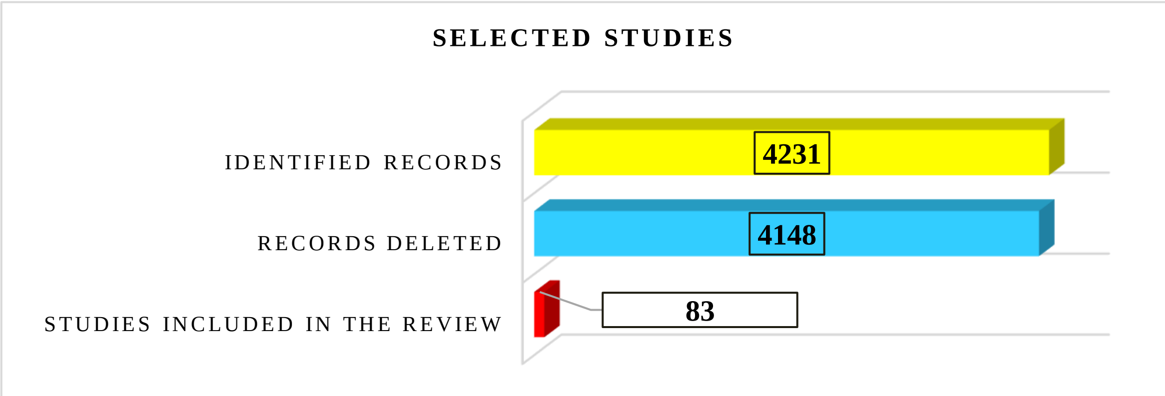


Figure 4 outlines the article selection process, detailing the number of records identified, screened out, and finally included.

Figure 4
Selected Studies (2025)



3. Results And Discussion

Results

Credit risk represents one of the main challenges in financial management for banking institutions. As Bekhet and Eletter (2014) explain, there is a direct relationship between the quality of administrative management and credit risk, making it essential for this factor to be integrated into the administrative policies of banks. This type of risk is defined as the potential loss faced by an institution due to a borrower's failure to meet financial obligations, as Kwashie et al. (2022) explain, directly impacting the stability and profitability of the financial system. According to Natufe and Evbayiro-Osagie (2023), poor credit risk management leads to a decline in bank performance and reduces returns for investors.

Nourrein Ahmed Mennawi (2020) says academic research has shown growing interest in understanding the determinants of credit risk. Studies have examined internal factors such as capitalization, operational efficiency, and credit-granting policies, as well as external elements including regulatory frameworks, sector competition, and macroeconomic conditions as Jansson et al. (2023) argue.

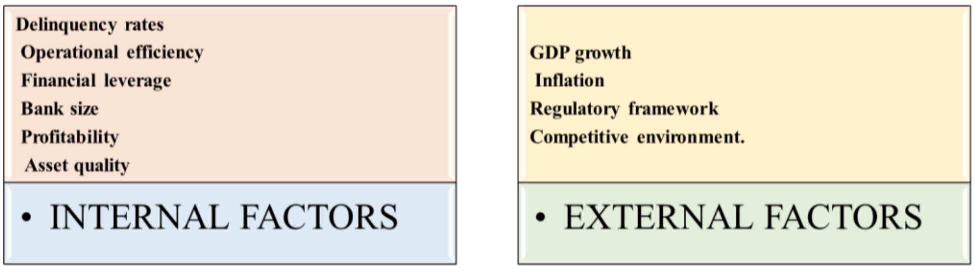
When we look at the most recurring internal factors, we find delinquency rates, operational efficiency, and financial leverage. As Sahiti et al. (2022) also indicate, bank size, profitability, and asset quality play a key role. These factors have proven to be significant in various contexts across countries like Ghana, Peru, India, and Vietnam. As Boateng et al. (2019) and Doko et al. (2021) point out, higher operational efficiency and proper leverage control are correlated with lower levels of credit risk. Along the same lines, Priyadi et al. (2021) explain that profitability indicators—such as Return on Equity (ROE) and Return on Assets (ROA)—show a negative relationship with credit risk exposure.

Regarding external factors, key macroeconomic elements include GDP growth, inflation, the country's regulatory framework, and the competitive environment, as Musau et al. (2018) indicated. Systemic events such as financial crises also play a critical role. Studies conducted in the Eurozone, Turkey, and Middle Eastern countries, such as those by Yağli and Topcu (2023), demonstrate that regulatory policies and economic conditions directly affect banks' ability to manage their loan portfolios and minimize risks.

Based on a systematic analysis of the selected studies, several determinants of credit risk in banks have been identified. These determinants can be grouped into two broad categories: internal factors and external factors, as illustrated in Figure 5.

Figure 5

Factors (2025)



Moreover, Butola et al. (2022) drawing on the Indian experience, highlight a positive correlation between sound risk management and bank profitability. Their statistical analysis supports the view that prudent internal supervision practices are key determinants of institutional financial performance.

Notable differences have emerged between developing and developed countries regarding the influence of internal bank variables on credit risk. ALrfai et al. (2022) argue that foreign direct investment significantly impacts credit risk. Differences in regulation and market structure are also relevant; for example, Islamic banks exhibit distinct credit risk behaviors due to their unique contractual structures and financial principles. As Gassouma and Ghroubi (2021) point out, there is a direct link between administrative inefficiency and conventional risks in financial intermediation entities.

Regional comparisons further illustrate these dynamics. Rakotoniraíny et al. (2020) show that in Asian countries, macroeconomic factors predominate, while in African regions, financial inclusion plays a critical role, as Moloi (2014) highlights. In Eastern Europe, bank capital and unemployment exert significant influence. Likewise, Mendoza and Rivera (2017) emphasize that in emerging markets, external shocks can increase or reduce credit risk, with competition and banking income acting as key modifiers.

In regions such as Asia and Africa, macroeconomic conditions exert considerable influence, as Karadima and Louri (2020) note. In Eastern Europe and countries with weaker institutional frameworks, internal bank factors become critical determinants. Additionally, Morina (2020) argues that trends such as digitalization, financial inclusion, and competition are increasingly shaping the risk landscape.

The following Table 1 presents the studies included in this systematic review, allowing for comparison of regions and countries of study:

Table 1
Works studied (2025)

Author	Title	Source	Country of study	Conclusions
Thi Thanh Tran and Phan (2020)	Bank size, credit risk and bank profitability in Vietnam.	Malaysian Journal of Economic Studies	Vietnam	The outcomes show that there is a significant adverse relationship between credit risk and bank profitability, but this harmful effect tends to decrease in larger size banks. The negative correlation between bank size and profitability indicates that large banks tend to perform inefficiently compared to small banks.
Akram and Rahman (2018)	Credit risk management: A comparative study of Islamic banks and conventional banks in Pakistan	International Journal of Islamic Finance	Pakistan	Loan quality has a direct positive relationship with credit risk management, while asset quality shows a negative relationship with credit risk management.
Bsoul et al. (2022)	Determinants of Banks' Credit Risk: Evidence from Jordanian Banks Listed on Amman Stock Exchange	Academic Journal of Interdisciplinary Studies	Jordan	There is a direct negative relationship between return on assets, income ratio, and bank size with the level of credit risk.
Kil et al. (2021)	Scoring Models and Credit Risk: The Case of Cooperative Banks in Poland	Risks	Poland	A more advantageous solution for small, relational, and local banks is to apply standard models developed by a credit reference bureau at the sectoral level rather than models created individually on small samples, the effectiveness of which has not been confirmed.

Valarezo et al. (2024)	Riesgo de crédito en instituciones financieras en Ecuador	Revista Venezolana de Gerencia	Ecuador	Credit risk and delinquency affect all institutions engaged in financial intermediation. They have a negative impact on these entities' profitability, liquidity, and solvency. When financial resources are limited, the ability to expand the loan portfolio decreases, leading to a lower market penetration rate and a reduced potential for profit growth.
Calderon-Contreras et al. (2022)	Determinants of credit risk: a multiple linear regression analysis of Peruvian municipal savings banks.	Decision Science Letters	Peru	The variable with the greatest negative impact on the Credit Risk of Peruvian municipal savings banks is the Coverage of Provisions, and the variable with the greatest positive impact is the Liquidity Ratio in PEN. In contrast, the variable with the least impact on the Credit Risk of Peruvian municipal savings banks is the Interest Rate for SMEs.

Credit risk stands as one of the main challenges to the stability of Bolivia's financial system, much like in other developing countries. Effective management is essential to preserve banking profitability and maintain user and client confidence, as Lajili et al. (2022) indicate. International evidence shows that both internal and external factors have a direct influence on the levels of exposure to risk. In the Bolivian context, these factors are equally significant, particularly given the growth of consumer lending and microenterprise credit.

Similarly, as noted by Ngo et al (2021), the analysis shows that sound prudential practices, robust internal supervision, and regulatory policies tailored to the country's realities reduce the likelihood of default. Bolivia has implemented financial inclusion policies aimed at expanding credit portfolios; consequently, it is imperative to strengthen comprehensive risk management, enhance credit evaluation models, and refine loan approval processes. These actions will help consolidate the resilience of the financial system and in turn, foster the country's sustainable economic development.

Discussion

It is essential to enhance prudential banking supervision mechanisms by adapting them to the structural and economic specificities of each country and region. Risk-sensitive supervision enables institutions to anticipate systemic vulnerabilities more effectively. Martín-Oliver et al.

(2020), argue that it is a priority to integrate macroeconomic variables and internal bank characteristics into predictive models for credit risk assessment. Only a holistic approach can capture the complexity of today's financial environment.

The global financial crisis precipitated a wave of failures across the traditional banking sector as Ghenimi et al. (2017) argue. Financial education and banking inclusion should also transition from ancillary policies to core strategies for reducing collective risk exposure. Empowering financial users strengthens the overall health of the banking system, as Balina and Idasz-Balina (2021) note.

Institutional capacity-building for the production, collection, and analysis of financial data must become a top priority, particularly in emerging economies where structural constraints often hinder evidence-based decision-making. Duarte et al. (2020) recommend developing regulatory frameworks that promote transparency in collateral management practices, preventing distortions in bank–client relationships.

In the competitive institutional environment, fostering conditions that reduce disparities among financial institutions can improve efficiency and equity in credit allocation. Rehman et al. (2019) advocate for an organizational culture grounded in transparency, accountability and strong corporate governance. According to Nguyen and Nguyen (2024), financial regulators must address the challenge of designing control schemes that are more responsive to the digital context, characterized by new forms of risk and unexplored opportunities.

The systematic analysis of reviewed studies reveals that credit risk in banks arises from a combination of internal factors (specific to bank management) and external factors (associated with the macroeconomic environment). Among internal factors, capitalization levels, profitability, loan portfolio growth, liquidity, and asset quality stand out, as Bawa and Basu (2020) say. Externally, GDP growth, inflation, unemployment, foreign direct investment, and remittances exert significant influence.

Regional comparisons reveal significant differences. Le and Diep (2020) report that in Asia, macroeconomic conditions exert strong influence, while in Eastern Europe and countries with weak institutions, internal bank factors are critical determinants, as Sahiti and Sahiti (2021) note. Digitalization, financial inclusion, and competition also play important roles in emerging markets.

The comparative analysis identifies the most frequent determinants of credit risk as follows: *External (macroeconomic) factors:* GDP growth, inflation, interest rates, unemployment, foreign direct investment, remittances, and public debt. *Internal (bank-specific) factors:* capitalization, bank size, profitability, loan portfolio growth, liquidity, and prior delinquency.

As Barra and Ruggiero (2023) indicate, credit policies, loan volumes, and intermediation costs significantly influence bank delinquency levels. As Mukhtarov et al. (2018) state, these factors vary in intensity depending on each country's economic and regulatory context. For instance, studies in Jordan and Vietnam reveal significant sensitivity of credit risk to macroeconomic conditions, while in European countries, as Karadima and Louri (2020) observe, internal variables and financial inclusion carry greater weight.

At a comparative level, notable convergences exist between developing and developed countries regarding the influence of internal bank variables on credit risk. However, contextual differences introduce important nuances according to Papanikolaou (2019). For example, Koh et al. (2022) assert that Islamic banks exhibit distinct risk behaviors due to their unique contractual structures and financial principles. In terms of implications, the findings highlight the importance of proactive risk management based on internal financial indicators, coupled with adaptive regulatory policies. For academia, this comparative analysis advances a more comprehensive and contextualized understanding of credit risk in the banking sector.

As Sadaa et al. (2023) note, corporate governance and bank performance variables emerge as the most frequently cited factors, followed by macroeconomic and contractual variables. These results align with prior reviews in European and Asian contexts, although the intensity of effects varies across regions and levels of financial development. Furthermore, there is growing interest in leveraging big data tools and internal credit records to anticipate risks more accurately. This trend represents a significant evolution in financial analysis applied to the banking sector.

After conducting the analysis, we determined that there is insufficient academic production and scientific literature on the subject in Bolivia. It is important to highlight this point, as the relevance of the present study is grounded in this component. We observed that numerous studies exist in European and Asian countries, which may be due to the fact that in those regions the financial system is more consolidated and serves as an economic benchmark. In contrast, we consider that developing countries must make greater efforts to give the financial system the importance it deserves something that can be achieved through effective risk management, particularly in the area of credit risk management.

In conclusion, this systematic review underscores the need to strengthen regulatory frameworks, improve internal management practices, and embrace emerging technologies as key strategies for reducing credit risk exposure in multiple banks in Bolivia.

4. CONCLUSION

The reviewed studies reveal that credit risk in banks stems from a complex interaction between internal factors—related to the structure and efficiency of bank management—and external elements dependent on macroeconomic conditions. Internally, key variables include capitalization, profitability, loan portfolio growth, liquidity, and asset quality; these metrics serve as critical indicators of a bank's financial health. Conversely, external factors encompass variables such as GDP, inflation, interest rates, unemployment, foreign direct investment, remittances, and public debt.

Comparative regional analysis uncovers significant nuances. For instance, while macroeconomic conditions serve as critical determinants in Africa, the internal performance of financial entities becomes the primary driver of credit risk in Eastern Europe and countries with weak institutions. Furthermore, in emerging markets, dynamics such as digitalization, financial access, and increased competition also act as influential forces shaping risk exposure. In countries such as Jordan, credit risk shows high sensitivity to macroeconomic cycles; conversely, in Egypt, internal variables and financial inclusion factors are the dominant drivers. These contextual differences underscore the necessity of avoiding oversimplified generalizations when analyzing credit risk.

Despite these particularities, common patterns emerge across countries with varying levels of development, particularly regarding the influence of internal variables. However, national regulatory frameworks and contractual practices between banks and borrowers remain pivotal. Islamic banks exemplify this dynamic, as their distinct practices—based on ethical and contractual principles—directly influence risk perception and management. From a financial management perspective, these findings emphasize the need for a proactive, evidence-based approach to risk mitigation, grounded in reliable internal metrics and flexible regulatory frameworks capable of adapting to environmental changes. In this context, corporate governance and financial performance are equally pivotal.

In conclusion, this systematic review underscores the urgent need to strengthen institutional frameworks, optimize internal control practices, and leverage emerging technological capabilities to significantly mitigate credit risk vulnerabilities across diverse banking systems.

Particularly in Bolivia, the current economic landscape demands a robust and resilient financial system capable of fostering stability and ensuring long-term sustainability. Given the scarcity of scientific research on this subject, it is the responsibility of the academic community to contribute novel insights and propose relevant solutions that drive the country's economic and financial development.

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APPENDICES

Appendix A. Detailed list of articles consulted based on the Prisma review

Table A1
Detailed list of articles (2025)

Author	Title	Source	Country or region of study
Acheampong and Elshandidy (2021).	Does soft information determine credit risk? Text-based evidence from European banks	Journal of International Financial Markets, institutions and Money	Europe
Akram and Rahman (2018)	Credit risk management: a comparative study of Islamic banks and conventional banks in Pakistan.	ISRA International Journal of Islamic Finance	Pakistan
ALrfai et al. (2022)	Empirical examination of credit risk determinant of commercial banks in Jordan	Risks	Jordan
Balina an Idasz-Balina (2021)	Drivers of individual credit risk of retail customers—a case study on the example of the polish cooperative banking sector	Risks	Poland
Barra and Ruggiero (2023)	Bank-specific factors and credit risk: evidence from Italian banks in different local markets	Journal of Financial Regulation and Compliance	Italianx
Bawa and Basu (2020)	Restructuring assets reform, 2013: Impact of operational ability, liquidity, bank capital, profitability and capital on bank credit risk	IIMB Management Review	India
Bekhet and Eletter (2014)	Credit risk assessment model for Jordanian commercial banks: Neural scoring approach	Review of Development Finance	Jordan

Bidzhoyan et al. (2019)	Credit risk stress testing in a cluster of Russian commercial banks	Business Informatics	Russia
Boateng et al. (2019)	Politically connected boards, ownership structure and credit risk: Evidence from Chinese commercial banks	Research in International Business and Finance	China
Böhnke et al. (2023)	Back to the roots of internal credit risk models: Does risk explain why banks' risk-weighted asset levels converge over time?	Journal of Banking & Finance	Europe
Brei et al. (2020)	Credit risk and bank competition in Sub-Saharan Africa	Emerging Markets Review	Africa
Bsoul et al. (2022)	Determinants of banks' credit risk: Evidence from Jordanian banks listed on Amman Stock Exchange	Academic journal of interdisciplinary studies	Jordan
Butola et al. (2022)	A study on impact of credit risk management on the profitability of Indian banks	International Journal of Management and Sustainability	India
Calderon-Contreras et al. (2022)	Determinants of credit risk: A multiple linear regression analysis of Peruvian municipal savings banks	Decision Science Letters	Peru
Chowdhury et al. (2023)	Potential risks of liquidity and credit affecting the efficiency of Islamic banks in Bangladesh	Cogent Economics & Finance	Bangladesh
Cucinelli et al. (2018)	Credit risk in European banks: The bright side of the internal ratings based approach	Journal of Banking & Finance	Europe
Dang and Nguyen (2022)	Credit risk amid banking uncertainty in Vietnam	Bulletin of Monetary Economics and Banking	Vietnam
Dibra and Bezo (2021)	Corporate governance and credit risk in the banking sector	Review of Economics and Finance	Albania
Doko et al. (2021)	Credit risk model based on central bank credit registry data	Journal of Risk and Financial Management	Republic of North Macedonia

Duarte et al. (2020)	Credit risk, owner liability, and bank loan maturities during the global financial crisis	European Financial Management	Portugal
Eyalsalman et al. (2024)	The impact of IFRS 9, liquidity risk, credit risk, and capital on banks' performance	Journal of Governance and Regulation	Jordan
Gadzo et al. (2019)	Credit risk and operational risk on financial performance of universal banks in Ghana: A partial least squared structural equation model (PLS-SEM) approach.	Cogent Economics & Finance	Ghana
Gassouma and Ghroubi (2021)	Discriminating between Islamic and conventional banks in terms of cost efficiency with combination of credit risk and interest rate margin in the GCC countries: Does Arab Spring revolution matter?	ACRN Journal of Finance and Risk Perspectives	Arabia
Ghenimi et al. (2017)	The effects of liquidity risk and credit risk on bank stability: Evidence from the MENA region	Borsa Istanbul Review	Middle East
González-Fernández and González-Velasco (2020)	An alternative approach to predicting bank credit risk in Europe with Google data	Finance Research Letters	Europe
Gu et al. (2024)	Credit risk assessment of small and micro enterprises based on machine learning	Heliyon	China
Halim et al. (2023)	The nexus of banks' competition, ownership structure, and economic growth on credit risk and financial stability	Economies	Middle East and North African
Hoque et al. (2015)	Bank regulation, risk and return: Evidence from the credit and sovereign debt crises	Journal of Banking & Finance	USA
Hosszú and Dancsik (2018)	Measuring bank efficiency and market power in the household and corporate credit markets considering credit risks	Acta Oeconomica	Hungary
Jansson et al. (2023)	Banks' risk taking in credit decisions: Influences of loan officers' personality traits and financial risk preference versus bank-contextual factors	Managerial Finance	Sweden

Karadima and Louri (2020)	Bank competition and credit risk in Euro Area banking: Fragmentation and convergence dynamics	Journal of Risk and Financial Management	Europe
Kil et al. (2021)	Scoring models and credit risk: The case of cooperative banks in Poland	Risks	Poland
Koh et al. (2022)	Credit risk differential between Islamic and conventional banks in Malaysia	Journal of Southeast Asian Economies	Malaysia
Kola et al. (2019)	Commercial bank performance and credit risk in Albania	Journal of Central Banking Theory and Practice	Albania
Krasniqi et al. (2023)	Relationship banking, collateral, and the economic crisis as determinants of credit risk: An empirical investigation of SMEs	South East European Journal of Economics and Business	Kosovo
Kwashie et al. (2022)	Investigating the impact of credit risk on financial performance of commercial banks in Ghana	Cogent Economics & Finance	Ghana
Lajili et al. (2022)	A qualitative analysis of bank credit risk disclosure: Evidence from the Canadian and Italian banking sectors	Journal of Corporate Accounting & Finance	Canada, Italy
Le and Diep (2020)	The effect of lending structure concentration on credit risk: The evidence of Vietnamese commercial banks	The Journal of Asian Finance, Economics and Business	Vietnam
Liu et al. (2020)	Impact of ownership structure and ownership concentration on credit risk of Chinese commercial banks	International Journal of Managerial Finance	China
Ma et al. (2024)	The impact of geographic factors on credit risk: A study of Chinese commercial banks	Economics	China
Madugu et al. (2020)	Differential effects of credit risk and capital adequacy ratio on profitability of the domestic banking sector in Ghana	Transnational Corporations Review	Ghana
Martín-Oliver et al. (2020)	How does bank competition affect credit risk? Evidence from loan-level data	Economics Letters	Spain

Mendoza and Rivera (2017)	The effect of credit risk and capital adequacy on the profitability of rural banks in the Philippines	Scientific Annals of Economics and Business	Philippines
Metawa et al. (2023)	The impact of digitalization on credit risk: The mediating role of financial inclusion (National Bank of Egypt (NBE) case study)	Economic Research-Ekonomska istraživanja	Egypt
Misman et al. (2020)	Credit risk, Islamic contracts and ownership status: Evidence from Malaysian Islamic banks	International Journal of Financial Research	Malaysian
Misman and Bhatti (2020)	The determinants of credit risk: An evidence from ASEAN and GCC Islamic banks	Journal of Risk and Financial Management	ASEAN (Association of Southeast Asian Nations) and the GCC (Gulf Cooperation Council)
Moloi (2014)	Leading internal and external sources of credit risk in the top South African banks	Risk Governance and Control: Financial Markets and Institutions	South Africa
Morina (2020)	Determinants of credit risk in commercial banks of Kosovo	International Journal of Economics and Business Administration	Kosovo
Muhammed et al. (2023)	Credit risk determinants in selected Ethiopian commercial banks: A panel data analysis	Journal of Risk and Financial Management	Ethiopia
Mukhtarov et al. (2018)	Factors that increase credit risk of Azerbaijani banks	Journal of International Studies	Azerbaijan
Musau et al. (2018)	Financial inclusion, bank competitiveness and credit risk of commercial banks in Kenya	International Journal of Financial Research	Kenya

Natsir et al. (2019)	Foreign penetration, competition, and credit risk in banking	Borsa Istanbul Review	America, Europe, Asia, Africa
Natufe and Evbayiro-Osagie (2023)	Credit risk management and the financial performance of deposit money banks: Some new evidence	Journal of Risk and Financial Management	Nigeria
Ngo et al. (2021)	Factors affecting credit risk in lending activities of joint-stock commercial banks in Vietnam	Journal of Eastern European and Central Asian Research (JEECAR)	Vietnam
Nguyen and Nguyen (2024)	Impacts of digital transformation and Basel III implementation on the credit risk level of Vietnamese commercial banks	International Journal of Financial Studies	Vietnam
Niepmann and Schmidt-Eisenlohr (2022)	Foreign currency loans and credit risk: Evidence from U.S. banks	Journal of International Economics	USA
Nourrein (2020)	The impact of liquidity, credit, financial leverage risks on financial performance of Islamic banks: The case of Sudanese banking sector	International Journal of Applied Economics, Finance and Accounting	Sudan
Nyebar et al. (2024)	The effectiveness of credit risk mitigation strategies adopted by Ghanaian commercial banks in agricultural finance	Journal of Risk and Financial Management	Ghana
Page et al. (2021)	Updating guidance for reporting systematic reviews: development of the PRISMA 2020 statement	Journal of clinical epidemiology	USA
Papanikolaou (2019)	How changes in market conditions affect screening activity, credit risk, and the lending behaviour of banks	The European Journal of Finance	USA
Pelizzon et al. (2016)	Sovereign credit risk, liquidity, and European Central Bank intervention: Deus ex machina?	Journal of Financial Economics	Europe
Pérez-Martín et al. (2020)	Feature selection to optimize credit banking risk evaluation decisions for the example of home equity loans	Mathematics	Spain

Priyadi et al. (2021)	Determinants of credit risk of Indonesian Sharīʿah rural banks	ISRA International Journal of Islamic Finance	Indonesia
Rakotonirainy et al. (2020)	Macro stress testing credit risk: Case of Madagascar banking sector	Journal of Central Banking Theory and Practice	Madagascar
Rehman et al. (2019)	Impact of risk management strategies on the credit risk faced by commercial banks of Balochistan	Financial Innovation	Balochistan
Rodríguez et al. (2022)	Modelación de riesgo de crédito de personas naturales: Un caso aplicado a una caja de compensación familiar colombiana	Revista de Métodos Cuantitativos para la Economía y la Empresa	Colombia
Sadaa et al. (2023)	Corporate governance as antecedents and financial distress as a consequence of credit risk: Evidence from Iraqi banks	Journal of Open Innovation: Technology, Market, and Complexity	Iraq
Sahiti and Sahiti (2021)	The commercial banks' credit risk efficiency: Empirical evidence from Kosovo	Journal of Eastern European and Central Asian Research (JEECAR)	Kosovo
Sahiti et al. (2022)	Managing credit risk strategies for commercial banks: The case of Kosovo	Journal of Eastern European and Central Asian Research (JEECAR)	Kosovo
Salas-Tenesaca (2025)	Concentración y rentabilidad: Un análisis del sistema financiero privado en Ecuador durante el periodo 2015–2023	European Public & Social Innovation Review	Ecuador
Saleh and Abu Afifa (2020)	The effect of credit risk, liquidity risk and bank capital on bank profitability: Evidence from an emerging market	Cogent Economics & Finance	Jordan
Salim et al. (2017)	Banks' efficiency and credit risk analysis using by-production approach: The case of Iranian banks	Applied Economics	Iran

Scannella and Polizzi (2021)	How to measure bank credit risk disclosure? Testing a new methodological approach based on the content analysis framework	Journal of Banking Regulation	Italy
Serrano et al. (2022)	¿Cómo hacer una revisión sistemática siguiendo el protocolo PRISMA? Usos y estrategias fundamentales para su aplicación en el ámbito educativo a través de un caso práctico	Bordón. Revista de Pedagogía	Spain
Smales (2016)	News sentiment and bank credit risk	Journal of Empirical Finance	Europe
Soedarmono et al. (2017)	Abnormal loan growth, credit information sharing and systemic risk in Asian banks	Research in International Business and Finance	Asia
Sondakh et al. (2021)	The effect of third-party funds, credit risk, market risk, and operational risk on profitability in banking	Journal of Governance and Regulation	Indonesia
Tabra Ochoa and Aguilar Quiñónez (2022)	El fortalecimiento del gobierno corporativo en las empresas de créditos	Ius et Veritas	Peru
Thi Thanh Tran and Phan (2020).	Bank size, credit risk and bank profitability in Vietnam	Malaysian Journal of Economic Studies	Vietnam
Valarezo et al. (2024)	Riesgo de crédito en instituciones financieras en Ecuador	Revista Venezolana De Gerencia	Ecuador
Vinueza et al. (2021)	El impacto del riesgo crediticio en la rentabilidad de cooperativas de ahorro y crédito ecuatorianas	Universidad y Sociedad	Ecuador
Win (2018)	What are the possible future research directions for bank's credit risk assessment research? A systematic review of literature	International Economics and Economic Policy	United Kindom
Yağli and Topcu (2023)	Determinants of credit risk in the Turkish banking sector: Does ownership matter?	Sosyoekonomi	Turkey

ADDITIONAL INFORMATION

JEL Classification: E54, G32, G20, G21, G24