Article

Risk and Uncertainty in the Banking Sector: Evidence from the Romanian Banking System

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Abstract: This research analyzes the distinction between risk and uncertainty within the Romanian banking system, utilizing recent data from 2024. The study examines key prudential indicators, specifically the Non-Performing Loan (*NPL*) ratio, interest rate risk, and liquidity metrics (Liquidity Coverage Ratio—*LCR* and Net Stable Funding Ratio—*NSFR*). The results indicate that while consumer and SME segments show higher vulnerability to interest rate fluctuations, the corporate sector remains stable. Furthermore, the system maintains robust liquidity positions, consistently exceeding regulatory thresholds. It is concluded that aggregate risks remain manageable, though flexible management strategies are essential to navigate future economic volatility.

Keywords: banking activity; uncertainty; financial stability; credit risk; liquidity ratios

1. Introduction

The banking sector operates within a complex and dynamic landscape shaped by inherent risks and uncertainties. As financial intermediaries, institutions must navigate pressures from economic volatility, political shifts, and evolving regulatory frameworks, all of which necessitate proactive adjustments to management strategies. In this context, forecasting and anticipating banking risks are essential to financial stability.

Risk and uncertainty are fundamental concepts in financial analysis; although they may appear similar, they carry distinct implications. Risk refers to situations in which the probability of an unfavorable outcome can be measured, whereas uncertainty denotes the inability to assess such probabilities [1]. This distinction is fundamental in the banking sector, as it directly shapes strategic decision-making. We chose to explore this topic because risks in the banking sector are not merely technical concerns; they also have a substantial impact on the economy. The financial crises of recent decades have revealed that these vulnerabilities are structural, highlighting the need for a rigorous, proactive approach to risk management [2].

Furthermore, over time, the types of risks encountered by financial institutions have diversified considerably. While the focus was previously primarily on credit risks, today banks must face a wide range of risks, including market, liquidity, operational, and interest-rate risks. This diversification involves not only the correct identification of risks but also a deep understanding of the factors and mechanisms that can influence banking performance. In simple terms, banking risk arises whenever the future evolution of economic events is uncertain, and the bank is exposed to potential losses. This duality, risk consisting of both uncertainty and exposure, is what characterizes risk. For example, when a loan is granted, there is always some uncertainty about repayment, and the involvement of guarantees can increase risk and generate additional costs.

The purpose of this article is to present in detail the main types of risk encountered in banking activity and to highlight how they are concretely reflected in the Romanian banking system. The first part describes credit, liquidity, market, and other risks, explaining the essence and importance of each. The second part includes a case study of Romanian banks, analyzing recent data to show the impact of these risks on the institutions' stability and performance.

Literature Review

Ref. [3] discussed topics related to how banks manage liquidity risks and their effects on financial regulations, particularly Basel III. Also, ref. [4] introduced a banking model with imperfect competition in which loan availability for creditors improved as banks transfer credit risk.

Ref. [5] studied the impact of interest rates on risk assets and found that this impact is diminished for banks with higher social capital and amplified for banks with higher off-balance-sheet elements.[6] investigated the growth of bank lending in emerging markets before, during, and after the 2008–2009 financial crisis, using bank-level data and emphasizing bank ownership. Ref. [7] show that banks cannot simultaneously manage interest rate and liquidity risk and must prioritize one of them. In the proposed model, in the context of rising interest rates, the deposit franchise helps protect against interest rate risk by increasing its value, provided deposits remain with the bank. Ref. [8] provided evidence that high-risk periods weaken bank returns. Another series of papers demonstrated that bank loans respond differently across the economic cycle, decreasing during periods of uncertainty or financial crisis: Refs. [9–11]. To manage liquidity risk, bank managers generate liquidity on their balance sheets by converting non-liquid assets, such as bank loans, into liquid assets, such as cash and securities [12].

Recent research has concentrated on modern risk strategies and digital tools. Ref. [13] analyzed risk management evolution and suggested integrating non-financial factors into traditional models. Ref. [14] provided evidence from the European market that Non-Performing Loans (*NPLs*) continue to be a major factor in systematic risk. Ref. [15] demonstrated that in emerging markets, business models moderate the impact of uncertainty on bank risk. Additionally, ref. [16] proposed the use of probabilistic graphical models to improve credit risk prediction.

Specialist literature analyses the recent evolution of the Romanian banking system utilizing a dual lens: structural performance and adaptability to external shocks. Ref. [17] report an unprecedented growth of the banking balance sheets, complete with total net assets reaching the historical threshold of 803.4 billion RON across 32 credit institutions. The authors claim that this growth is not merely nominal but represents a consolidation of financial intermediation capacity, supported by a record consolidated net profit of 13.7 billion RON. Such performance is an indication of the institutions' ability to control capital flows and preserve savings during inflationary periods.

In addition to this prudential framework, ref. [18] also provide a rigorous econometric analysis of the determinants of banking performance in Romania for the 2010–2024 period. Their study highlights that fundamental indicators such as return on assets, return on equity, and net interest margin are statistically significantly influenced by the non-performing loan ratio and the degree of banking concentration among the top five institutions in the market. The authors demonstrate that efficient cost management (analyzed through the ratio between expenses and income) and the size of the bank's assets are essential predictors of institutional success.

According to these criteria, the performance of the Romanian banking system is not limited to its structural aspects but also includes the responsiveness to systemic shocks and the efficiency of the institutional framework. Ref. [19] argue that moving between 2013 and 2021 global volatility relied fundamentally on a dynamic adjustment of capital buffers, because it is a strategic need to navigate this complexity of interdependencies between macroeconomic indicators such as unemployment and inflation. Ref. [20] accentuate that the COVID-19 pandemic (2020–2022) generated significant uncertainty and legislative changes for banks, which shifted the focus away from traditional financial metrics and toward assessing clients' operational resilience. In this uncertain context, ref. [21] suggests that as fiscal expansion reaches its limits, the stability of the sector depends more and more on the credibility of the National Bank of Romania's inflation-targeting policy to shape long-term economic beliefs.

2. Materials and Methods

This paper discusses the main banking risks, and the quantitative indicators to quantify the risk. The study initially employs a systematic financial risk classification, which supplies the general theoretical underpinnings to enable a consistent analysis. This classification provides a structured outline of each risk category before it is quantitatively assessed. The study then focuses on three dimensions of credit risk, liquidity risk, and interest rate risk. It also sets out the specific computation formulas needed for each of these categories as well as prudential metrics needed to assess the risk profile of the entire sector. This helps establish these mathematical parameters as a standard, which is then reflected across the technical assessment by the research. This framework provides a needed foundation for reviewing the overall financial soundness of banking institutions

2.1. Typology of Banking Risks

In specialized literature, banking risks are classified in several ways. Financial risks are often the most important because they have a major, direct impact on the bank's performance indicators, and poor management

of these is the most frequent cause of banking institution failures. Thus, these risks are associated with current operations are illustrated in Figure 1 [22,23]:
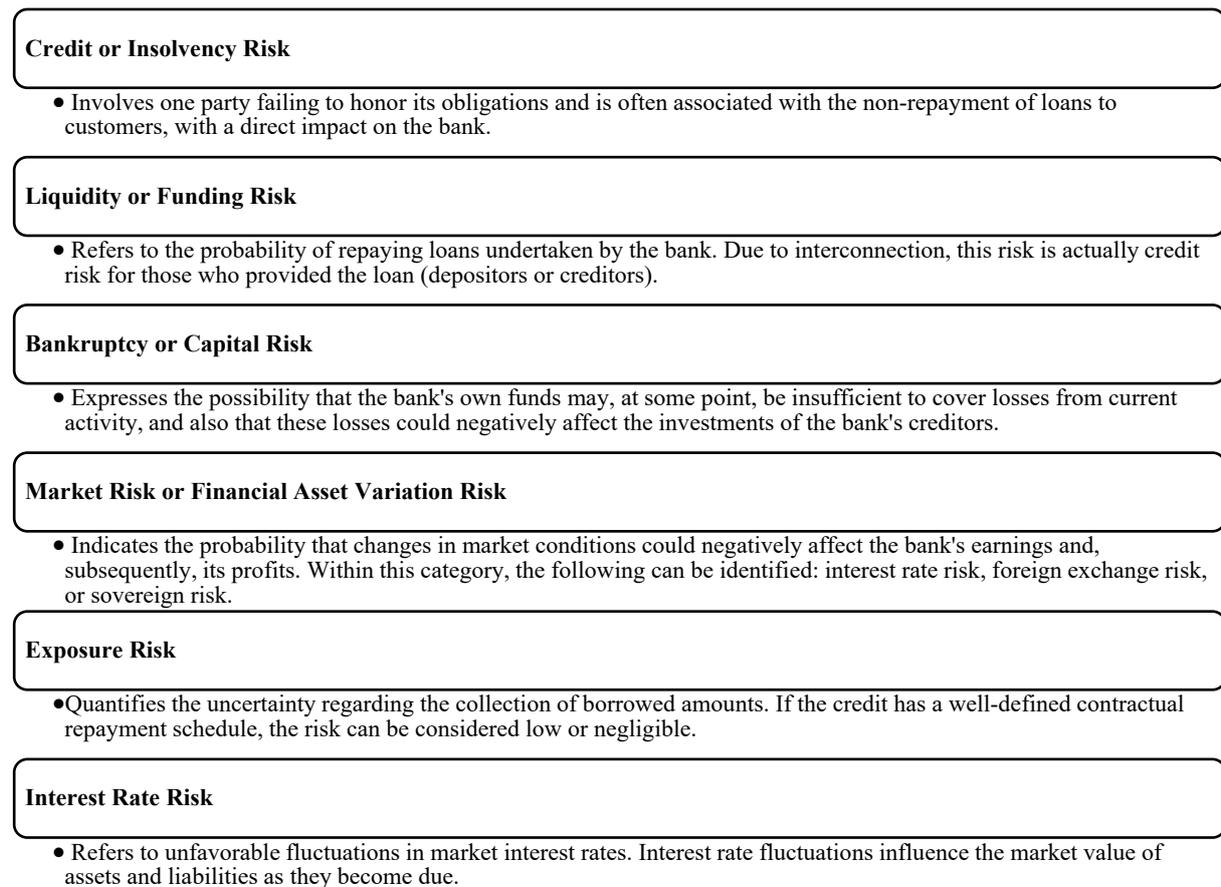

Credit or Insolvency Risk

- Involves one party failing to honor its obligations and is often associated with the non-repayment of loans to customers, with a direct impact on the bank.

Liquidity or Funding Risk

- Refers to the probability of repaying loans undertaken by the bank. Due to interconnection, this risk is actually credit risk for those who provided the loan (depositors or creditors).

Bankruptcy or Capital Risk

- Expresses the possibility that the bank's own funds may, at some point, be insufficient to cover losses from current activity, and also that these losses could negatively affect the investments of the bank's creditors.

Market Risk or Financial Asset Variation Risk

- Indicates the probability that changes in market conditions could negatively affect the bank's earnings and, subsequently, its profits. Within this category, the following can be identified: interest rate risk, foreign exchange risk, or sovereign risk.

Exposure Risk

- Quantifies the uncertainty regarding the collection of borrowed amounts. If the credit has a well-defined contractual repayment schedule, the risk can be considered low or negligible.

Interest Rate Risk

- Refers to unfavorable fluctuations in market interest rates. Interest rate fluctuations influence the market value of assets and liabilities as they become due.

Figure 1. Classification of banking risks. Source: Author's own elaboration**.**

2.2. Credit Risk Indicators

The primary banking risks and the quantitative instruments for assessing the risk are explored in this paper. The study starts with a systematic financial risk classification, which provides theoretical background. Then, the study focuses on three essential dimensions of credit, liquidity, and interest rate risk. For each of these categories, the research also prescribes the individual computation formulas and prudential metrics that are required for determining the sector's vulnerability. This framework constitutes a necessary basis for analyzing the overall financial soundness of banking institutions [24].

Past-Due Loan Ratio:

$$PDR = \frac{Volume\ of\ loans\ in\ arrears}{Total\ loan\ portfolio} \times 100$$

This ratio measures the volume of loans in arrears relative to the total loan portfolio. It serves as an early warning signal regarding the degradation of the borrowers' financial situation.

Non-Performing Loan (*NPL*) Ratio:

$$NPL\ Ratio = \frac{Volume\ of\ non-performing\ loans}{Total\ loan\ portfolio} \times 100$$

This indicator represents the weight of non-performing loans within the total credit portfolio. High values of this ratio indicate structural problems in the bank's activity and directly affect its financial results.

2.3. Liquidity Risk Indicators

Banking liquidity is an institution's ability to fund its necessary activities, maintain operations or perform its normal processes without incurring any unacceptable losses. Two international standards were introduced by Basel

III, the international reform of the global banking system aimed at preventing financial crises in the banking industry [25].

Liquidity Coverage Ratio (*LCR*): is designed to promote short-term resilience during a potential liquidity crisis. It requires banking institutions to hold a sufficient stock of high-quality liquid assets to survive an acute stress scenario lasting 30 days. By ensuring that banks have enough immediate liquidity to cover net cash outflows during a one-month period of distress, this indicator acts as a critical buffer against sudden market disturbances.

Net Stable Funding Ratio (*NSFR*): focuses on a longer-term horizon of one year, aiming to establish a solid structural liquidity profile. This indicator discourages an over-reliance on volatile short-term funding sources, which was a significant vulnerability during previous financial turbulences. Instead, it promotes long-term resilience by requesting that a bank's activities and assets be funded through more stable and reliable sources of financing over the long term. This ensures that the institution maintains a sustainable balance between its long-term obligations and its available stable funding

2.4. Interest Rate Risk Indicators

Interest rate risk is a key element in market risk, characterized by the vulnerability of a bank's earnings (specifically Net Interest Margin) and the economic value of its equity in relation to financial market rates. For the Romanian banking system, where reference benchmarks like *ROBOR* (Romanian Interbank Offered Rate) provide a close correlation between commercial rates and the internal workings of the bank, the risk assessment can be done using two approaches: analyzing the structure of the bank balance sheet and the price-setting mechanism [26].

Repricing GAP Analysis

The Repricing GAP model is a fundamental method used to quantify a bank's exposure to interest rate risk. This indicator gauges asset-liability mismatch for interest rate-sensitive assets and liabilities at a fixed time horizon (usually one year):

$$GAP = RSA - RSL$$

RSA (Rate Sensitive Assets): Comprise asset items that are repriced at new market conditions during the analyzed period. In this study, these are exemplified by corporate loans with floating interest rates indexed to *ROBOR* 3M.

RSL (Rate Sensitive Liabilities): Represent funding sources (such as household deposits) whose interest costs adjust as contracts reach maturity or are renewed at current market cotes.

A positive *GAP* (*RSA > RSL*) indicates that profitability may increase when market rates rise, while a downward trend in *ROBOR*—as observed in the 2024 data—may compress the bank's margin if assets reprice faster than liabilities

Interest Rate Spread and Risk Premium

Complementary to the structural analysis, the interest rate spread reflects the difference between the yield on placements and the cost of funding, serving as the basis for credit pricing [2]:

$$Spread = i\,lending - i\,benchmark$$

i Lending represents the rate applied to loans (e.g., the corporate lending rate);
i Benchmark is the money market reference rate (e.g., *ROBOR* 3M).

3. Results

In this section, we analyze the performance of the Romanian banking system during 2024 using weighted system aggregates obtained from the BNR Financial Stability Reports (June 2024 and December 2024), the BNR Annual Report 2024, and the BNR Monthly Statistical Bulletin (December 2024). The following subsections provide a quantitative evaluation of the primary risks identified in the sector: credit risk quality, liquidity positions, and interest rate dynamics. This evidence-based method enables a clear assessment of how prudential indicators evolved across different segments of banking activity

The empirical data represent end-period values for credit risk (*NPL*) and liquidity (*LCR*, *NSFR*), while the *ROBOR* benchmarks and interest rates for loans and deposits are calculated as period weighted averages. Matching these factors with the market pricing environment provides a coordinated and comprehensive depiction of the development of the sector.

3.1. Credit Risk Analysis

The data presented in Figure 2 highlights a pronounced heterogeneity in the non-performing loan (*NPL*) ratio within the Romanian banking system as of 2024. It is observed that the consumer loans segment records the highest level of non-performance, reaching a threshold of 5.70%, followed by the SME sector with a rate of 4.70% and the commercial real estate (CRE) segment at 4.6%.
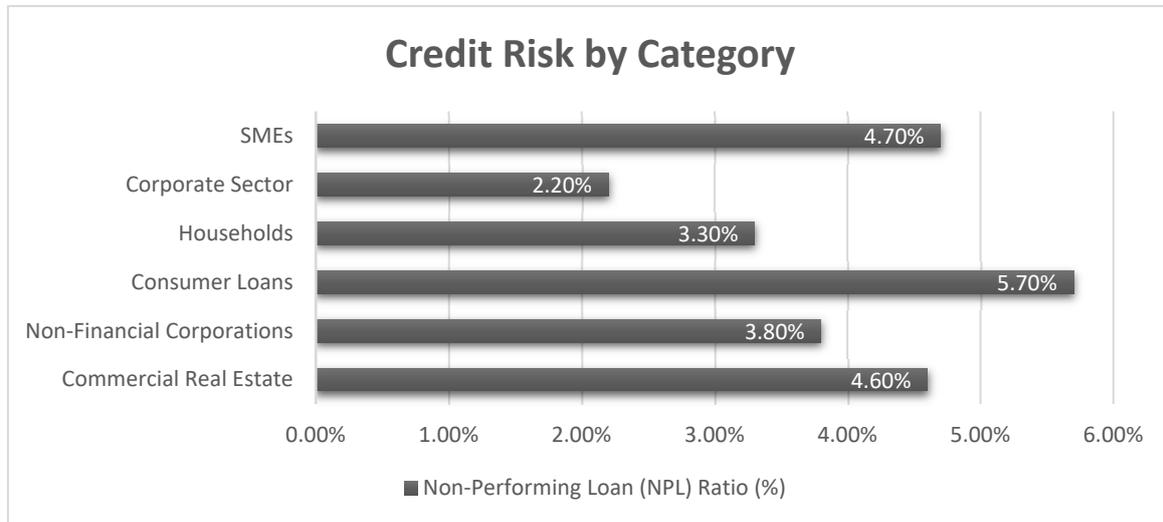

Figure 2. Credit risk by category. Source: BNR, author's calculations.

In contrast, the non-financial corporations segment presents an average rate of 3.80%, while the aggregate indicator for the households stabilizes at 3.30%. A major discrepancy is visible in the case of the large corporate sector, which displays the highest stability across the entire portfolio, with an *NPL* rate of only 2.20%. This distribution indicates a concentration of vulnerabilities within the retail and small business areas, whereas large exposures maintain a significantly lower risk profile, falling below the general system average.

3.2. Liquidity Analysis

In 2024, liquidity indicators of the Romanian banking sector continue to show the stability of prudent positions, as can be seen from the liquidity indicators as depicted in Figure 3. The *LCR* showed decreasing behavior in all of the four periods of reports from 286.00% in March 2024 until the end of 2024. It fell to 271.70% in June and 248.80% in September and at the end of the fiscal year came to 254.70% by December. This contraction of 31.3 percentage points left the indicator well above a threshold of 100.0% compliance and more than 150.00% continuously.
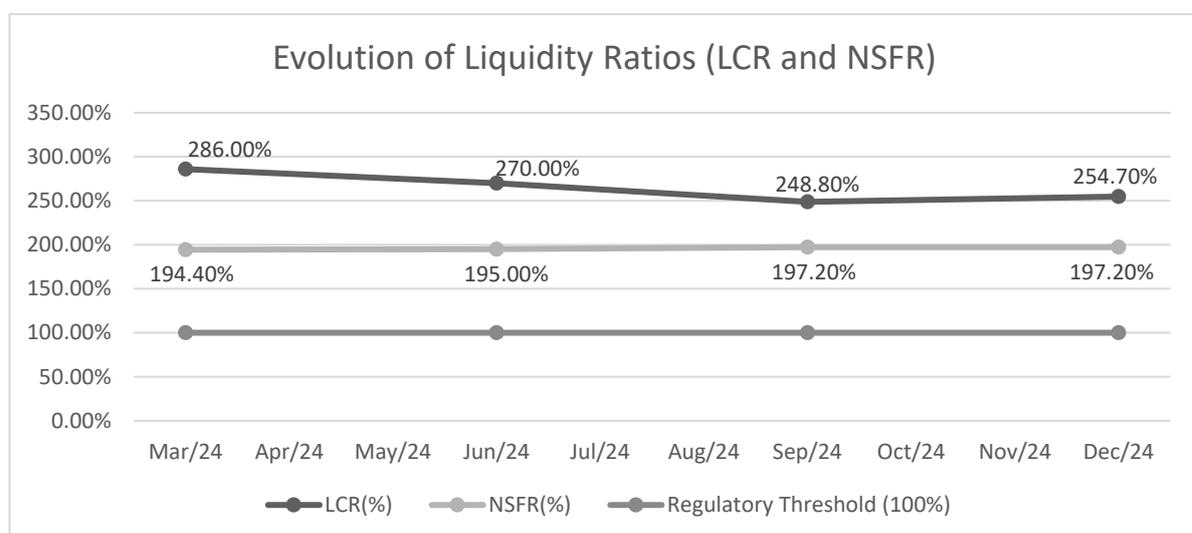

Figure 3. Evolution of liquidity ratios. Source: BNR, author's calculations.

At the same time, the Net Stable Funding Ratio (*NSFR*) evolved step by step, strengthening the long-term structural liquidity picture. In March 2024, this figure was 194.40%, followed by modest improvements to 195.00% in June and 197.20% in September. At the end of its fourth quarter, the *NSFR* was 197.20% with a full 2.8 percentage point appreciation, on the year-to-date basis, over the beginning of the year. This close-up convergence of measurements.

3.3. Interest Rate Analysis

In the Romanian banking sector during 2024, the money market reference rate (Romanian Interbank Offered Rate-*ROBOR* 3M) exhibited a slow downward trend, decreasing from 6.08% in March to 5.91% in December, reflecting a gradual easing of liquidity conditions.

However, corporate lending rates remained rigid, stabilizing at a high level of 8.26%, which signals persistent financing costs for the real economy despite market relaxation. Conversely, the interest rate on household deposits adjusted downward to 4.82%, widening the gap compared to lending rates. This divergence indicates that banks prioritized preserving their net interest margins, effectively managing interest rate risk by transferring the cost of capital to borrowers while reducing remuneration for depositors.

4. Discussion

Based on the 2024 analysis of the Romanian banking industry, risk management is considered a multidimensional process in which the risk profile varies significantly across the analyzed segments. From the global viewpoints of ref. [19], during times of extreme volatility, banking systems will need to rely on the dynamic adjustment of capital buffers to effectively navigate the interdependence between persistent inflation and global economic stability.

The empirical evidence from Figure 2 reveals a stark contrast in asset quality within the Romanian economy. The corporate sector maintains the lowest non-performing loan (*NPL*) rates, recorded at a mere 2.20%, illustrating an ability to survive in unstable times. This persistence may be a result of the ability of major businesses to tap diversified sources of finance, as well as adopt sophisticated measures for the hedging of their risk as detailed by [17] in their report on the Romanian banking system.

In contrast, households and small and medium enterprises (SMEs) exhibit higher vulnerability, where consumer loans stood at 5.70%, while SMEs stood with a *NPL* of 4.70%. The retail and SME sector is furthermore susceptible due to numerous overlapping issues needing deeper scrutiny. Firstly, ongoing inflationary pressures have caused a massive growth in operating costs and raw material prices that can directly reduce the margins of small businesses and the disposable income of families.

Large corporations often transfer rising operational costs to the final consumer; however, households lack protection mechanisms to counteract falling purchasing power. Not to mention that those segments have no equity reserves (capital buffers) and are thus extremely sensitive in the face of fluctuations, given a market in flux. One example is a household with a mortgage or a consumer loan, which has increasing monthly bills that often exceed their salary indexations, which have the impact of inducing insolvency.

These findings align with [14], which recognizes these exposed segments as key sources of systemic risk. According to this perspective, systemic risk does not always stem from an aggregation of a general collapse, but from the build-up of losses in acts of instability in peripheral segments (e.g., SMEs and individual consumers). These could then propagate through the entire banking portfolio through the sudden and huge need for impairment provisions. As a result, banks must watch these segments not only as isolated losses but as fundamental risk determinants that may challenge the overall equilibrium of the system.

Regarding liquidity risk, 2024 data indicates that Romanian banks are valuing structural stability as opposed to aggressive credit expansion. Liquidity metrics remained significantly above regulatory thresholds throughout the fiscal year. The *LCR* began at 286.00% in March 2024, followed by 270.00% in June 2024, and 248.80% in September 2024, and ended the year at 254.70% in December 2024. At the minimum requirement mandated by the Basel III regime and national legislation of 100.00%, still the banking system maintained a substantial buffer of over 154 percentage points in December.

This consistently high surplus highlights the sector's ability to absorb acute liquidity shocks and address potential capital outflows when under stress. Keeping these high levels in place reflects a strategy of liquid assets consolidation—a tactical need for an emerging market, where liquidity fluctuations can generate immediate withdrawals during their transactions. These findings are consistent with [15], suggesting that conservative banking practices and large reserve of liquidity are crucial to counter economic uncertainties. In addition, banks secured their long-term structural position further by enhancing the Net Stable Funding Ratio (*NSFR*) from

194.40% in March to 195.00% in June, 197.20% in September, and maintaining 197.20% in December 2024. Against the minimum requirement of 100.00%, the system posted a 97.20-percentage point surplus at the year's end when excess liquidity turned a bank into a core tool of institutional vigilance.

Figure 4 provides a macro-economic channel under structural rigidities for the transmission behavior of interest rate throughout 2024. While the benchmark *ROBOR* 3M gradually declined from 6.08% in March to 5.91% in December, loan rates for corporations remained stubbornly stable. These rates ended the year well above 8.26% which means that banking institutions kept a high-risk premium to cover the macro uncertainty.
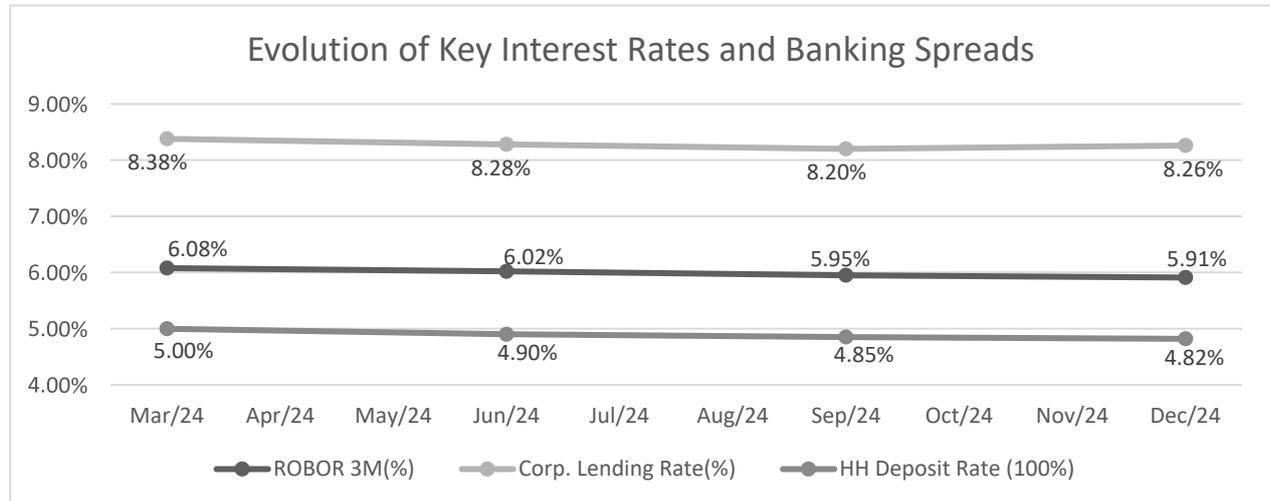

Figure 4. Evolution of key interest rates and banking spreads. Source: BNR, author's calculations.

Simultaneously, household deposit rates experienced a more rapid decline, reaching 4.82% in December. The asymmetry of downward thrusting savings remuneration with continued high cost of credit enabled the banking sector to increase its net interest margin, which resulted in record profitability. This asset and liability management strategy is essential to institutional soundness [26], yet it places a significant financial burden on borrowers. The interest rate pattern is related as well to the economic environment following the COVID-19 outbreak.

Accommodative monetary policies during the pandemic drove rates to historic lows during the health crisis, but post COVID-19 inflationary shocks forced interest rates to high levels immediately. In the current economic climate, between emergency measures and the current economic scenario, [20] assert that it becomes important that banks can maintain a balance between profit in the short term and the solvency of their customers in the long term, especially for their recovering clients (i.e., during its crisis recovery period from financial crises).

Table 1 summarizes the concentration of risk in retail and SME segments, contrasting these vulnerable areas with the structural stability and robust liquidity buffers of the corporate sector. This matrix categorizes each segment according to its specific risk level and reveals that while consumer and SME portfolios require closer monitoring due to higher *NPL* ratios (5.70% and 4.70%, respectively), the aggregate system remains firmly anchored. This visualization serves as a bridge to the concluding remarks, confirming the resilience of the Romanian banking system in 2024 despite specific sectoral vulnerabilities.

Table 1. Summary of risk indicators by banking segment. Source: BNR, author's calculations.

Segment	Credit Risk (*NPL*)	Interest Rate Sensitivity	Liquidity Status
Retail (Consumer)	High (5.70%)	High	Solid
SMES	Medium (4.70%)	High	Solid
Large Corporate	Low (2.20%)	Moderate	Solid

5. Conclusions

Through this study we have shown the essential theoretical and practical differences between risk and uncertainty in today's banking system. Risk explains the statistical evaluation of the probabilities of the loss from past patterns, whereas uncertainty indicates situations where previous patterns can no longer predict the outcome. After all, in 2024, the Romanian banking system had to change its decision-making process to cope with not just common quantified risk, but also to deal with the new uncertainties that come from the dynamic dynamics of an unstable economic environment. The analysis suggests that preserving large liquidity buffers far above the regulatory requirements is not purely a performance measure, but a critical protection strategy, as maintaining

robust liquidity buffers is essential for safeguarding the system. As summarized in Table 1, the greater risks faced by households and SMEs relative to firm lending stress is an illustration of the crucial dependency: when lending rates are strong even with declining market indicators such as *ROBOR* still high, the strain on borrowers ramped up fast. This inflexibility in the interest rate can lead to fast turns on individual repayments challenges into systemic liquidity strains. As a result, real-time monitoring of each of these sectors is a priority to prevent credit shocks that can lead to an unstable aggregate financial system. In this perspective, incorporating non-financial variables and advanced mathematical algorithms in the decision-making process is no longer a technological innovation, but a strategic necessity to handle economic cycle shifts. By doing so, banks can shift from a reactive model of risk analysis to a proactive model, where institutional profitability can be balanced with the long-term solvency of borrowers. Ultimately, while uncertainty cannot be wholly removed, the implementation of advanced analytical models represents the most sustainable path to ensuring financial stability in a post-pandemic environment defined by constant economic fluctuations.

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Institutional Review Board Statement

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Not applicable.

Data Availability Statement

Publicly available datasets were analyzed in this study. This data can be found here: National Bank of Romania (https://www.bnr.ro).

Conflicts of Interest

The author declares no conflict of interest.

Use of AI and AI-Assisted Technologies

During the preparation of this work, the author used Gemini (Google) for reviewing English grammar and to efficiently extract relevant data from the National Bank of Romania reports. After using this tool, the author reviewed and edited the content as needed and takes full responsibility for the content of the published article.

References

1. Knight, F.H. *Risk, Uncertainty, and Profit*; Houghton Mifflin: Boston, MA, USA, 1921.
2. Năstase, G. Gestiunea Riscurilor Bancare. *Rev. Univ. Strateg.* **2018**, *9*, 95–112.
3. Ippolito, F.; Peydró, J.L.; Polo, A.; et al. Double Bank Runs and Liquidity Risk Management. *J. Financ. Econ.* **2016**, *122*, 135–154.
4. Hakenes, H.; Schnabel, I. Credit Risk Transfer and Bank Competition. *J. Financ. Intermediat.* **2010**, *19*, 308–332.
5. Delis, M.D.; Kouretas, G.P. Interest Rates and Bank Risk-Taking. *J. Bank. Financ.* **2011**, *35*, 840–855.
6. Chen, G.; Wu, M. *Bank Ownership and Credit Growth in Emerging Markets During and After the 2008–2009 Financial Crisis*; IMF Working Papers; International Monetary Fund: Washington, DC, USA, 2014.
7. Drechsler, I.; Savov, A.; Schnabl, P. *Deposit Franchise Runs*; National Bureau of Economic Research: Cambridge, MA, USA, 2023.
8. Gambacorta, L. Bank Profitability and the Business Cycle. *J. Financ. Stab.* **2009**, *5*, 393–409.
9. Delis, M.D.; Kouretas, G.P.; Tsoumas, C. Anxious Periods and Bank Lending. *J. Bank. Financ.* **2014**, *38*, 1–13.
10. Ivashina, V.; Scharfstein, D. Bank Lending during the Financial Crisis of 2008. *J. Financ. Econ.* **2010**, *97*, 319–338.
11. Košak, M.; Li, S.; Lončarski, I.; et al. Quality of Bank Capital and Bank Lending Behavior during the Global Financial Crisis. *Int. Rev. Financ. Anal.* **2015**, *37*, 168–183.
12. Berger, A.N.; Bouwman, C.H. Bank Liquidity Creation. *Rev. Financ. Stud.* **2009**, *22*, 3779–3837.

13. Nguyen, M.S. Evolution and Future Directions of Banking Risk Management Research: A Bibliometric Analysis. *Banks Bank Syst.* **2024**, *19*, 1–14.
14. Di Nallo, L.; Russotto, M.L.; Zaccarella, P.; et al. The Impact of Non-Performing Loans on Systematic Risk of Banks: Evidence from the European Market. *Int. J. Manag. Decis. Mak.* **2024**, *23*, 647–664.
15. Huynh, J.; Phan, T.M.H. Uncertainty and Bank Risk in an Emerging Market: The Moderating Role of Business Models. *PLoS ONE* **2024**, *19*, e0297973.
16. Moolchandani, S. Advancing Credit Risk Management: Embracing Probabilistic Graphical Models in Banking. *Int. J. Sci. Res.* **2024**, *13*, 74–80.
17. Sîrbulescu, E.C.; Feher, A.; Toader, C.; et al. An Overview of the Romanian Banking System. *Sci. Pap. Anim. Sci. Biotechnol.* **2024**, *57*, 156.
18. Mițu, M.; Apostoaie, C.M. Determinants of Banking Performance in Romania: An Empirical Study. In Proceedings of the 2025 NextStepEU International Conference, Iași, Romania, 29–31 May 2025; pp. 126–139.
19. Nițescu, D.C.; Anghel, C. The Banking System during Crisis Times, A Global Perspective. *J. East. Eur. Res. Bus. Econ.* **2024**, *2024*, 360917.
20. Tanasă, A.; David, D.E. The Impact of the Financial and Pandemic Crises on the Romanian Business Environment. *Eur. Financ. Regul. Bus.* **2025**, *1*, 32.
21. Mihu, P. Considerations Regarding Fiscal Policy, Monetary Policy... in Romania (2013–2023). *Econ. Transdiscipl. Cogn.* **2023**, *26*, 1.
22. Bodo, G.; Avram, D. Noțiuni Teoretice Privind Riscurile Bancare. *Rom. Stat. Rev.* **2017**, *11*, 23.
23. Sîrbulescu, C. Aspects Regarding the Risk in Banking Activity. *Sci. Pap. Anim. Sci. Biotechnol.* **2016**, *49*, 230.
24. Pripoaie, R. Riscul de Creditare. In *European Integration—Realities and Perspectives Proceedings*; Editura Universitară Danubius: Galati, Romania, 2011; Volume 6.
25. Elena, M.; Angela, S. Riscul de Lichiditate și Supravegherea Bancară Prudențială Eficientă. *Economica* **2014**, *90*, 87–93.
26. Bodo, D.G.; Mirea, D.M. Modelul de Analiză a Sensibilității Indicatorilor de risc ai Băncii la Variația Ratei Dobânzii. *Rom. Stat. Rev.-Supl.* **2017**, 53–63.