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Financial Risk Management and Countermeasure Research in Commercial Banks: A Case Study of Bank X

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Abstract

In the context of global economic integration and rapid progress of financial technology, commercial banks are facing unprecedented financial risk challenges. Taking Bank X as the research object, this paper analyzes in depth the causes of its financial risks and proposes corresponding management countermeasures. Using a combination of quantitative analysis and case studies, the paper identifies risks and proposes solutions by comparing the key financial indicators of Bank X with the industry average. It is found that Bank X has significant risks in terms of capital structure, liquidity, profitability and management operations, which mainly stem from factors such as intensified market competition, irrational asset-liability structure and inadequate internal control. The unique value of this paper is that it provides targeted risk management strategies for regional city commercial banks.

Keywords

Commercial Banks, Financial Risk, Liquidity Risk, Operations Management

1. Introduction

As China has pursued economic liberalization, its trade has become increasingly intertwined with the global economy. Concurrently, factors such as the Russian-Ukrainian war, the Palestinian-Israeli conflict, and other national confrontations and global trade disputes have exerted influence on China's economic transformation toward high-quality advancement. Within this context, the evolution of commercial banks, as a pivotal component of the real economy, merits particular attention. The advent of financial technology has precipitated the integration of cutting-edge technologies, such as big data, cloud computing, and artificial intelligence, into the daily operations of commercial banks, thereby engendering an unprecedented surge in innovation. Yet, concomitantly, this transformation has given rise to a proliferation of nascent financial institutions, armed with advanced technological prowess and adaptable business models, which have emerged as formidable competitors to long-standing commercial banks. The traditional financial landscape is undergoing significant changes due to the emergence of new financial institutions, which present both challenges and opportunities. These institutions offer a wider range of financial products and services, catering to the increasingly diverse needs of customers. At the same time, they also promote the self-innovation of traditional financial institutions. The advent of numerous Internet financial enterprises has had a substantial impact on the core business of commercial banks, specifically payment and settlement. Conventional payment and settlement methods have been superseded by more expedient and efficient Internet payment methods, resulting in a decline in deposits and a concomitant diminution in the capacity of commercial banks to absorb savings funds. Commercial banks have been forced to raise the cost of capital in order to draw in more capital in order to continue operating. This has changed the commercial banks' profit model and presented new difficulties. In addition to altering commercial banks' profit models, this also raises the bar for their risk management and customer support. Because of the ongoing growth and changes in the financial industry, commercial banks are also facing more complex and severe financial concerns. Commercial banks need to follow more stringent regulatory requirements in the process of operation, and their growth is therefore facing new impacts and challenges. In order to cope with this situation, domestic commercial banks have begun to actively adjust and optimize their business structure and operation strategy. On the one hand, commercial banks need to pay more attention to risk management and strengthen internal control in order to prevent and resolve various risks; on the other hand, banks also need to actively seek innovation and explore new business models to adapt to market changes and the challenges of Internet financial enterprises.

2. Financial Risk Identification

2.1 Risk of Capital Structure

The capital structure indicator is a core element of bank supervision, which is crucial for assessing the bank's soundness and sustainability. First, in terms of the loan-deposit ratio, from 2019 to 2023, Commercial bank X (henceforth referred to as X) 's loan-deposit ratio gradually rises from 0.66 to 0.71, but it is always lower than the industry average. This observation suggests that Bank X adopts a more conservative approach towards bond issuance, resulting in an underutilization of its available savings resources. Consequently, the bank's lower loan-to-deposit ratio not only limits its profitability but also constrains its potential for business expansion. Furthermore, an analysis of Bank X's capital to risk-weighted assets ratio (CRAR) from 2019 to 2023 reveals fluctuations between 12.28% and 11.26%, consistently falling below the industry average. This trend underscores significant deficiencies in the bank's capital replenishment strategies and crisis management capabilities, thereby exposing it to heightened credit and market risks that could adversely affect its financial stability. The relatively low capital to risk-weighted asset ratio significantly limits the bank's ability to expand its business and take on potential risks. Such constraints not only hampered the institution's operational flexibility in a competitive market, but also posed a significant threat to its long-term sustainability and growth track. As regulators are placing increasing emphasis on capital adequacy, failure to maintain optimal capital buffers could make the bank more vulnerable in an economic downturn, thereby imperiling its future profitability. For the third, the core CRAR is a key indicator showing the adequacy of a bank's core capital, and X's core capital to weighted assets ratio continues to decline between 2019 and 2023, from 10.26% to 8.46%, again well below the industry average. This indicates that X has problems with the replenishment and structure of its core capital, affects the stability of its operations and its ability to withstand risks. As a result, X has obvious shortcomings in capital adequacy, and its loan-deposit ratio, capital adequacy ratio and core capital adequacy ratio are all lower than the industry average, facing certain risks (see Table 1 for details).

Table 1. Capital Structure Indicators for Bank X in 2019-2023

index	2019	2020	2021	2022	2023
Loan-deposit ratio	0.66	0.65	0.68	0.71	0.71
Industry average for loan-deposit ratio	0.79	0.77	0.81	0.85	0.86
Capital to weighted assets ratio	12.28%	11.75%	13.25%	11.55%	11.26%
Industry average for capital to weighted assets ratio	23.48%	23.81%	24.70%	25.17%	26.07%
Core capital adequacy ratio	10.26%	9.40%	9.04%	8.57%	8.46%
Industry average for core capital adequacy ratio	12.72%	12.77%	13.21%	13.50%	13.91%

2.2 Risk of Liquidity

Liquidity risk is the danger that a bank will not be able to obtain sufficient funds in a timely manner and at a reasonable cost to meet normal business operations or to repay debts as they fall due. Firstly, from the perspective of current ratio, X shows an increasing trend year by year between 2019 and 2023, growing from 34.17% to 52.89%. In comparison to the industry average, Bank X consistently maintains a lower current ratio, indicating a notable deficiency in its liquidity risk management practices relative to its peers. This lower current ratio suggests that the bank may not possess an adequate level of liquid assets, which are crucial for swiftly converting into cash to address liquidity demands during periods of outflow pressure. Additionally, while Bank X's liquidity coverage ratio exhibited relative stability from 2019 to 2023, it experienced a marked decline in 2022, dropping to 129.68%, before rebounding to 152.69% in 2023. Although this ratio remained marginally above the industry average during the earlier years, it fell significantly below the industry benchmark from 2022 onward, thereby revealing underlying vulnerabilities in the bank's short-term liquidity risk management strategies. Especially in the event of market liquidity tightness or emergencies, which exacerbates its short-term liquidity risk. Finally, the net steady finance ratio (NSFR) is an overriding indicator of a bank's long-term liquidity risk. X's NSFR shows a fluctuating downward trend between 2019 and 2023, decreasing from 103.78% to 99.67%. The effect of this lower NSFR implies that X faces greater challenges in maintaining sound operations over the long term, especially in the face of a changing economic environment or increased competition in the market. Consequently, there are certain shortcomings in liquidity risk management (see table 2 in details).

Table 2. Liquidity Risk Indicators for Bank X in 2019-2023

index	2019	2020	2021	2022	2023
Current ratio	34.17%	38.17%	40.27%	43.89%	52.89%
Industry average for current ratio	51.61%	53.81%	56.93%	60.57%	63.61%
Liquidity coverage ratio	227.29%	219.76%	216.89%	129.68%	152.69%
Industry average for liquidity coverage ratio	237.16%	235.82%	232.28%	217.26%	225.81%
Net steady finance ratio	104.77%	102.22%	99.89%	100.77%	99.67%
Industry	141.50%	139.39%	136.21%	137.41%	135.91%

average for net steady finance ratio	

2.3 Risk of Profitability

The matter faced by X mainly stems from the increase in the degree of publicization of China's financial industry and the intensification of market competition, thus leading to its low market share. During the period from 2019 to 2023, the statistical results of X's profitability indicators are as follows: from the angle of total operating income, in the first place, X shows a fluctuating growth trend during this period. Despite the negative growth in 2021 and 2023, overall, the bank's total operating income maintained a certain upward trend. This demonstrates that X has been actively expanding its business in the course of its operations and has realized the expansion of its scale. Secondly, the change in shareholders' net income is more complicated. Between 2019 and 2020, X's net profit attributable to shareholders experienced a significant decline, decreasing by 34.85% year-on-year. Even though the shareholders' net profit rebounded in the following years, it still has not recovered to the level of 2019, which indicates that X faces certain challenges in terms of profitability, which is affected by various factors such as market competition, cost control and risk management. As a third point, from a growth rate perspective, an examination of the year-on-year growth rates of both total operating income and net profit attributable to shareholders reveals significant volatility. This fluctuation indicates that Bank X's profitability is influenced by a myriad of factors, including but not limited to prevailing market conditions, regulatory policy adjustments, and the effectiveness of its internal operational and management practices. Such variability in financial performance underscores the need for the bank to adopt a more robust strategy that can mitigate external shocks and enhance its overall profitability. The fourth is that net interest rate is one of the key indicators of a bank's profitability. Between 2019 and 2023, X's net interest rate exhibits a fluctuating downward trend. It is still lower than the level of 2019 overall regardless of the recovery in 2023, which suggests that there is still much room for improvement in X's cost control and enhancement of its profitability. Therefore, the statistical results show that X has certain challenges and deficiencies in terms of profitability (see Table 3 for details).

Table 3. Profitability Indicators for Bank X in 2019-2023

index	2019	2020	2021	2022	2023
Operating revenue (billion yuan)	6.7	7.5	7.2	7.7	7.3
Net profit attributable to	2.23	1.45	1.48	1.55	1.72

shareholders (billion yuan)					
Year-on-year growth rate of operating revenue	3.37%	12.02%	-4.11%	7.28%	-4.91%
Year-on-year growth rate of net profit attributable to shareholders	-4.7%	-34.84%	1.95%	4.8%	10.70%
Net interest rate	33.31%	19.61%	20.97%	20.44%	23.7%

2.4 Risk of Operations Management

The routine operations and management practices of Bank X play a pivotal role in its overall financial health. An increase in operational costs can have detrimental effects on key performance indicators, specifically the return on net assets and return on total assets. Such a scenario not only diminishes profitability but also exposes the bank to significant operational risks, as the pressure to maintain efficiency and cost-effectiveness becomes increasingly challenging. From the perspective of cost expenses, X shows a fluctuating upward trend between 2019 and 2023, which is mainly a result of a combination of factors, such as the expansion of the bank's business scale, intensified competition in the market and rising operating costs. The increase in cost expenses will undoubtedly put pressure on banks' profitability. The cost-to-expense ratio serves as a critical metric for assessing the efficacy of a bank's cost control measures. In the case of Bank X, this ratio has consistently remained elevated and displayed a fluctuating upward trend from 2019 to 2023, suggesting that the bank faces significant challenges in managing its operational costs effectively. Furthermore, the return on net assets and return on total assets are vital performance indicators that reflect the bank's profitability. Over the same period, both metrics have experienced considerable declines, signaling a gradual deterioration in the bank's profitability. This decline can be attributed to a combination of factors, including adverse market conditions, structural inefficiencies within the business, and inadequacies in risk management practices (see table 4 for details).

Table 4. Managing Operational Indicators for Bank X in 2019-2023

index	2019	2020	2021	2022	2023
Allowable	4.45	6.05	5.71	6.17	5.61

cost(billion yuan)					
Cost and expense ratios	65.93%	79.77%	78.55%	79.01%	75.71%
Rate of return on common stockholders' equity	10.33%	6.06%	5.85%	4.75%	4.76%
Return on total assets	0.78%	0.46%	0.43%	0.41%	0.41%

4. Analysis of The Causes of Financial Risk

X, as a regional city commercial bank, has a relatively small total asset scale, which, to a certain extent, limits its ability to raise capital in the equity and bond markets. Bank X, due to its relatively modest size, faces considerable challenges in garnering sufficient attention within the capital market. This lack of visibility adversely impacts the appeal of its equity issuance efforts. Specifically, if Bank X's stock prices underperform in the market, it diminishes the attractiveness of its equity financing, leading potential investors to become hesitant to acquire its shares or to demand significant discounts as compensation for perceived risk. Consequently, this situation not only reduces the bank's capital-raising capabilities but also hampers its strategic initiatives aimed at growth and expansion. Under adverse market conditions, such as an economic recession or financial market volatility, capital raising will become more difficult, investors will become more cautious, stock prices will fall, and the bond market will become less active, constricting capital raising.

Intense competition in the deposit market has also led to the loss of X's large deposit customers. To begin with, the deposit market is extraordinarily competitive and X is exposed to the risk of large-scale deposit withdrawals or loss of funds, which could lead to a liquidity crisis. Such losses may be exacerbated by withdrawals of large deposit customers, deposit outflows triggered by unhealthy competition, and market rumors or reputational problems. In the second place, the bank's irrational asset-liability structure leads to liquidity risk. An imbalance in X's balance sheet, i.e., a mismatch between long-term assets and short-term liabilities, may trigger a funding shortfall. X is overly reliant on long-term assets, such as long-term loans or investments, which cannot be liquidated quickly, thereby increasing the risk of a funding shortfall. Similarly, X is overly reliant on short-term liabilities, like short-term deposits or short-term bonds, and is under pressure to repay these liabilities in the short term, while lacking the liquidity to easily liquidate the assets, leading to liquidity risk. In addition, X is overly reliant on short-term financing instruments, such as the Lend-Lease market and the commercial paper market, which may not be available in the short term, contributing to liquidity challenges.

Variations in X's profitability are closely related to its strategy for building its business. In recent years, with the intensification of competition in the financial market and the diversification of customer needs, intermediate services have gradually become an important direction for the bank's development. Against the backdrop of weak intermediate sector, the profitability of X, however, has declined. The development of middle business usually requires banks to invest a large amount of resources, including human resources, technology and capital. These inputs are resistant to quick conversion into profitability in the short term and may even lead to rising costs, thus negatively affecting profitability. In particular, revenues from intermediary business are usually closely related to transaction volume and customer size. Hence, at the early stage of business growth, income from intermediary business often fails to cover its costs due to a weak customer base and insufficient transaction volume, thereby further affecting profitability. The traditional deposit and lending business remains its main source of income, while the intermediary business has not yet developed a scale effect to effectively supplement its sources of funding. This limits the bank's flexibility in the use of funds and affects the efficiency of capital utilization. The successful expansion of intermediary activities necessitates that banks possess a diversified range of product offerings and strong innovation capabilities to effectively cater to the varied needs of their clientele. However, Bank X currently exhibits significant deficiencies in both its intermediary product portfolio and innovation processes. This lack of diversity has resulted in pronounced product homogenization, which in turn erodes the institution's competitive edge within the market. As a consequence, the limitations placed on the growth potential of its intermediary business not only stifle its operational expansion but also adversely impact the overall profitability of the bank.

There are some deficiencies in X's internal control system, in which the internal control environment is the basis for building an effective control system, covering a variety of aspects such as governance structure, organizational structure, corporate culture and employees' understanding of internal control. In terms of governance structure, X faces the problems of unclear definition of authority and responsibility and insufficient transparency in decision-making, factors that weaken the effectiveness of internal control. Meanwhile, the complex organizational structure leads to obstacles in information transmission, and then affect the efficiency of internal control implementation. In addition, X fails to fully emphasize the importance of internal control in the construction of corporate culture, and employees' understanding and implementation of internal control still need to be improved. Effective risk assessment is a fundamental component of a bank's internal control framework, necessitating precise identification, comprehensive assessment, and appropriate responses to a range of potential risks. Unfortunately, Bank X has encountered challenges characterized by imprecise risk identification and incomplete assessment processes. These shortcomings have culminated in insufficient responses to identified risks, thereby exacerbating the bank's exposure to various threats. This situation underscores the urgent need for enhanced risk assessment methodologies to safeguard the institution's financial stability and operational integrity. Internal control activities include a range of policies, procedures and measures designed to ensure the compliance and soundness of the bank's operations. X may be too simplified or complex in the design of internal control activities to cover all key business aspects and risk points. In the implementation process, there are also problems such as insufficient implementation and insufficient supervision, resulting in the internal control activities failing to achieve the expected results.

5. Proposal for Controlling Financial Risks

In order to bolster its capital adequacy, Bank X must proactively engage in a variety of capital-raising initiatives while simultaneously broadening its channels for capital generation. By leveraging its status as a publicly listed entity, the bank can undertake additional equity offerings or issue various financial instruments such as stocks, preferred shares, or convertible bonds. These targeted issuance strategies will not only attract social capital investments but also enhance its capital reserves. Furthermore, the introduction of strategic investors is critical; by collaborating with other financial institutions, corporations, or investment funds, Bank X can strengthen its shareholder base and improve its overall capital framework. Lastly, the bank should consider issuing capital-augmenting debt instruments, including convertible bonds and perpetual bonds. This approach will facilitate flexible and diversified capital acquisition, further reinforcing the bank’s capital reserves and ensuring its ongoing financial robustness.

Optimizing X asset-liability structure can be done by lessening the over-reliance on lending business and classifying and managing different types of liabilities in order to reduce liquidity risk. Increasing the share of non-loan assets to diversify the asset-liability structure. Reducing the single dependence on the lending business so as to mitigate the liquidity risk. X should strengthen the exploitation and management of deposit business to appeal to more deposit resources and stabilize the deposit base to cope with unexpected funding needs and provide adequate liquidity support. It is also capable of adopting different management strategies for different types of liabilities (e.g. demand deposits and fixed-term deposits) and flexibly adjusting its deposit structure to meet various types of maturity and liquidity needs.

X can increase non-interest income by actively expanding intermediary businesses, such as note guarantee, derivatives trading and agency services, so as to enhance profitability. Such intermediary businesses usually offer higher yields and lower risks, which can effectively improve the bank's profitability and enhance its capital strength. Compared with traditional deposit and loan business, intermediary business often brings more substantial profits for banks. Middle market deals with a wide range of products, including foreign exchange derivatives, interest rate derivatives and commodity futures, etc. These products can meet the risk management and investment needs of different customers and provide banks with diversified profit opportunities. Despite the market and operational risks associated with certain intermediary businesses, their risk level is usually low compared to traditional credit business. For example, the note guarantee business, which is secured by marketable securities, has a more controllable risk; and with proper management and control of risks, derivatives trading also maintains a low risk level. By increasing its non-interest income, X can effectively enhance its profitability and strengthen its capital strength through the accumulation and transformation of capital, thereby improving its risk-taking ability to cope with potential market fluctuations and risk events.

X should reasonably optimize the allocation of resources and scientifically deploy human, physical and financial resources in order to reduce operating costs. By implementing stringent cost control measures and efficient resource management practices, Bank X can significantly reduce waste and eliminate redundancies within its operations. This strategic focus on optimizing resource utilization will enhance overall operational efficiency and contribute to a reduction in business operating costs. Moreover, it is imperative for Bank X to reinforce its risk management frameworks and internal control systems. By doing so, the bank will be better positioned to mitigate operational risks and minimize potential losses, ensuring a more resilient and sustainable financial performance in the long term. To this end, it is vital to establish a sound risk management system and internal control mechanism, which will help to strengthen the monitoring of various business activities and risk events, identify and resolve potential risks in a timely manner, and reduce operating losses. x should introduce technological and intelligent administrative means, and adopt advanced information technology and management tools, in order to improve operational efficiency and management level. By introducing intelligent systems and digital technology, X can automate and intellectualize its business processes, reduce labor costs and improve work efficiency.

In this regard to effectively control financial risks, X should take measures to further improve the internal control system in an effort to standardize the bank's internal operation and management activities. First of all, it is necessary to establish rules and regulations. X should clarify the operational processes and norms of each business to guide the code of conduct and work standards of its employees. These regulations should cover many aspects such as risk management, internal control, financial management and human resource management, etc., so as to provide institutional guarantee for the normal operation of the bank. It is also imperative to strengthen the internal supervision and management system. X shall establish a sound internal supervision and management mechanism, including internal audit, risk management and compliance monitoring departments, which are responsible for supervising and inspecting the bank's internal operation and management activities. Through regular internal audits, risk assessments and compliance inspections, problems and risks can be identified and corrected in a timely manner to ensure the bank's normal operation and compliance. In this respect, X is also required to improve its risk prevention and control system. By establishing a risk management framework and formulating relevant policies and processes, it strengthens the monitoring and management of various risks, such as credit, market and operation, and identifies and prevents potential risks in advance, for this reason of ensuring the safety of the bank's assets and financial soundness. Lastly, the establishment of an effective performance management system is also the key to improving the overall operational efficiency of the bank. By setting clear performance objectives and targets, evaluating and assessing employees' performance, and adopting corresponding incentives, employees can be motivated to actively fulfill their duties, enhance work efficiency and quality, and promote the continuous improvement and enhancement of the bank's internal operation and management.

6.Conclusion

This study provides an in-depth and detailed analysis of Bank X's financial risks, focusing on revealing the major risk factors it faces in a number of areas, including capital structure, liquidity, profitability and management operations. Based on the research data, this paper proposes a series of effective risk management countermeasures to help Bank X be able to better cope with these risks. The study shows that Bank X's financial risks mainly stem from the increasingly competitive market environment, the irrational configuration of its asset and liability structure, and the deficiencies and loopholes in its internal control mechanisms. This paper analyzes Bank X's key financial indexes, identifies specific risk points, and designs more targeted risk management strategies for Bank X and other regional city commercial banks. These recommendations include enhancing capital adequacy to improve risk resistance, optimizing asset and liability structure to reduce liquidity risk, expanding intermediary business to increase non-interest income sources, and strengthening internal control mechanisms to improve overall risk management. The findings of the study not only provide a new perspective and in-depth understanding for academics, but also practical risk management tools for the practice area, which are of great practical significance in enhancing the risk management capability of commercial banks and promoting their sustainable development. This research can serve to guide comparable commercial banks to make healthier decisions in an increasingly complex financial environment and ultimately achieve the goal of healthy and sound development.

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