

The Study of Interest Rate Liberalization and Bank Performance — An Empirical Analysis Based on Listed Banks in Jiangsu Province

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Abstract

In the modern economic system, interest rates are key economic variables that not only reflect the cost of capital but are also closely related to market-oriented reforms, profoundly impacting the entire economy. This study focuses on the effects of interest rate fluctuations on the performance of listed banks, conducting an in-depth analysis of data from nine listed commercial banks in Jiangsu Province from 2012 to 2020. Utilizing qualitative, quantitative, and comparative analysis methods, this research explores the specific impact of interest rate liberalization on bank performance. It was found that interest rate liberalization has a significant negative impact on the overall performance of commercial banks, especially on city commercial banks. Furthermore, the nominal interest spread positively affects the performance of both types of banks, but its reduction has led to a more passive banking operation. In summary, interest rate liberalization has lowered banks' return on assets and increased operational risks. Currently, commercial banks in Jiangsu Province are still adapting to the challenges of market-oriented reforms.

Keywords: interest rates, marketization, non-performing loan ratio, return on total assets, performance

1. Introduction

Commercial banks, as the core of the financial system, are crucial for stabilizing finance and economic development. China began implementing interest rate liberalization reforms in 1993, which were largely completed by 2015. This reform has significantly impacted commercial banks, especially listed ones. Facing intense competition and challenges to traditional business models, these banks must innovate financial products and services to adapt to the market environment. Commercial banks in Jiangsu Province, particularly the large ones like Jiangsu Bank and Nanjing Bank, set an example for the national banking sector. Thus, studying the impact of interest rate liberalization on the performance of these banks is not only practically significant but also of great theoretical importance for the stability of China's financial market and supply-side structural reforms.

Commercial banks in Jiangsu Province have achieved remarkable development under the push of interest rate liberalization reforms but also face new challenges. The reform grants banks more choices and autonomy, leading to more flexible operations (Wu Huaqing, 2022), promoting financial product innovation, and enabling the creation of specific investment products based on investor demands. However, compared to Western countries, China's interest rate liberalization started late, causing a lack of experience among commercial banks in dealing with emerging issues (Dilesha Nawadali Rathnayake, 2022). Moreover, the traditional profit source for commercial banks, the interest spread between deposits and loans, is impacted by these reforms, intensifying competition (Zeng Xiaochun & Zhong Shihe, 2018).

Regarding the impact of interest rate liberalization reforms on commercial bank performance, there are three main views in academia. First, some scholars believe that the reform has suppressed bank performance by narrowing

net interest margins. Lu Jing (2014), using Generalized Method of Moments, focused on analyzing the impact of commercial banks' profit models and loan growth on banking risk. The findings indicate that bank risk is positively correlated with size and non-interest income proportion, and the marketization of loan interest rates increases operational risks, thereby suppressing performance. Zeng Xiaochun (2018) argues that interest rate liberalization narrows commercial banks' interest spreads, altering the traditional banking structure, thus exacerbating competition among banks. Zhou Nan (2015), building on the work of Franck and Krausz (2007), developed a cross-period local equilibrium model of bank asset-liability allocation to explore the relationship between regulatory policy, debt financing, and bank lending behavior. The study shows that the advancement of interest rate liberalization changes the resource allocation pattern of commercial banks, facing them with challenges of rising funding costs and deposit outflows. Dilesha Nawadali Rathnayake (2022) and Tian Meng (2020) both believe that interest rate liberalization significantly narrows banks' net interest margins, with smaller banks being more affected due to their asset characteristics and profitability features. Xinchun Zha (2022) focused on the challenges to the profitability of urban commercial banks in China under economic downturn pressure and financial market changes, finding that the profitability of these banks is influenced by a combination of internal and external factors.

Secondly, another group of scholars believes that the reform has promoted bank liberalization and financial product innovation, thereby improving bank performance. Li Hongjin (2015), by comparing the situations in different countries after the liberalization of interest rates, analyzed the specific impact of interest rate marketization on commercial banks. The findings suggest that with the progression of interest rate marketization, the nominal interest spread of commercial banks does not necessarily shrink, and the net interest margin may further increase. Additionally, the intermediate business has developed rapidly, with large financial institutions holding an advantage. Li Cheng (2015), through the establishment of theoretical models, conducted a mathematical analysis of the relationship between interest rate marketization and commercial banks' risk-taking, using the FGLS method to test the propositions put forward by the model. The results indicate that both loan and deposit interest rate marketization and non-loan and deposit interest rate marketization significantly reduce the risk-taking of commercial banks, thereby enhancing the banks' profitability and guarantee capacity. Wu Huaqing (2022) divided the banking production process into financing and fund utilization stages, studying the impact of interest rate liberalization on overall efficiency, financing efficiency, and fund utilization efficiency. The findings show that interest rate liberalization helps enhance banking efficiency, but this positive impact is not evident throughout the entire production process and is only reflected in the financing stage.

Thirdly, some scholars have analyzed the challenges brought about by interest rate marketization from other perspectives, arguing that its impact on bank performance is not significant, or that the opportunities and challenges it brings cancel each other out, thus having no significant effect on performance. Liu Yuanqing (2018) analyzed the limitations of the traditional development model of domestic commercial banks under capital constraints, financial disintermediation, and interest rate marketization conditions, and the necessity of strategic transformation. The study concludes that commercial banks must undergo strategic transformation, with the core being to change the method of business growth, reconstruct the risk management model, and update the performance assessment system. Huang Bo (2017) discussed solutions to the financing difficulties of small and micro enterprises under the context of interest rate marketization, arguing that the reform effectively alleviated the financing difficulties of small and micro enterprises and the concentration of credit funds in large and medium-sized enterprises, but also increased the non-performing loan rate of banks.

This paper is divided into five chapters. Chapter one, the introduction, explains the research background, significance, and methodology. Chapter two provides a theoretical explanation, summarizing domestic and international theories on interest rate marketization and commercial bank performance. Chapter three introduces the research methods and data sources. Chapter four presents an empirical analysis, exploring the relationship between interest rate marketization and commercial bank performance through regression analysis and drawing conclusions. Chapter five, based on the empirical analysis, proposes operational and management suggestions for commercial banks in Jiangsu Province to adapt to market-oriented reforms and promote stable development and risk resistance.

In terms of research methods, this paper employs a combination of theoretical and empirical analysis. Firstly, it explains the concepts of bank performance and interest rate marketization, then uses panel data to establish a model for empirical testing. Additionally, it combines qualitative and quantitative analysis to summarize the current situation and patterns of commercial bank management and explores the mathematical relationship between interest rate marketization and commercial bank performance. Finally, using comparative and inductive analysis, the paper analyzes the performance differences among different types of commercial banks in Jiangsu Province to understand the impact of the interest rate marketization process. The marginal contribution of this paper is reflected in its in-depth study of regional listed banks, especially the detailed exploration of regional bank development. The paper not only deepens the understanding of the operating mechanisms of regional financial institutions but

also provides empirical analysis for understanding the development strategies and performance of regional banks under different economic environments. By comparing the operating models and market performance of city commercial banks and rural commercial banks, this paper further enriches the theoretical and practical knowledge base in the field of banking research.

2. Theoretical Analysis of Interest Rate Marketization and Commercial Bank Performance

2.1 Theories Related to Interest Rate Marketization

Concept of Interest Rates and Interest Rate Marketization: Interest rates, as the price of capital transactions in the economy, are influenced by supply and demand forces and competitive relationships. Marx, in “Das Kapital,” interpreted interest rates as a division of surplus value, while Marshall and Keynes analyzed interest rates from different perspectives. Marshall considered interest rates to be influenced by the ratio of investment to savings, whereas Keynes emphasized the liquidity of money and people’s preference for liquidity. Interest rate marketization means letting the market determine the level of interest rates, which includes four aspects: marketization of interest rate determination, marketization of the formation method, having a benchmark interest rate, and marketization of interest rate management methods. The government balances the blindness and lag of market entities through macroeconomic regulation in this process. Experiences from various countries show that interest rate marketization is an inevitable trend in economic development.

Theory of Financial Repression and Financial Deepening: In 1973, Ronald McKinnon and Edward Shaw introduced the theory of “financial repression,” emphasizing that excessive government intervention leads to limited development in the financial sector. Particularly post-World War II, many countries attempting economic recovery adopted strict financial regulatory measures, which ironically led to problems such as inflation and limitations on banking activities. In response to these issues, McKinnon and Shaw proposed the “financial deepening” theory, advocating for reduced government intervention in financial markets and allowing market forces to freely determine exchange and interest rates. They also suggested that developing countries should coordinate the increase and decrease of money and capital. This theory later became the guiding principle for many countries’ policies on interest rate liberalization.

Financial Constraint Theory: The Financial Constraint Theory emphasizes that the government should respect market laws while moderately regulating the financial industry to promote economic growth and financial stability. Compared to financial repression, financial constraints aim to maintain market vitality while conducting effective supervision, avoiding excessive intervention. These constraints have a positive impact on financial development: on one hand, they improve the overall quality and stability of the financial system by limiting market entry for banks; on the other hand, by controlling the upper limit of loan interest rates, they support business development and improve the operating environment for commercial banks, enhancing the safety of residents’ deposits and financial products.

2.2 Theories Related to the Operational Performance of Commercial Banks

The Meaning of Operational Performance in Commercial Banks: The operational performance of banks is mainly assessed from two aspects: performance and efficiency. Performance focuses on profitability, involving profitability indicators such as net profit; efficiency measures the ability to utilize resources, including asset quality, debt-paying ability, etc. The performance evaluation of commercial banks typically relies on financial indicators, such as Return on Assets (ROA), and bank-specific indicators, including capital adequacy ratio, non-performing loan ratio, net interest margin, etc.

Market Dominance Theory: The Market Dominance Theory studies the relationship between corporate performance and market structure, mainly divided into the Structure-Conduct-Performance Hypothesis, the Relative Market Power Hypothesis, and the X-Efficiency Theory. The Structure-Conduct-Performance Hypothesis suggests that higher industry concentration leads to higher market barriers, and banks gain more profit through market share. The Relative Market Power Hypothesis, similar to the former but with a different focus, defines market structure in terms of market share. The X-Efficiency Theory posits that high-performance banks may reduce management efficiency to maintain a monopoly, leading to inefficient resource utilization, indicating that the market structure and bank performance might be inversely related.

Efficiency Structure Theory: The Efficiency Structure Theory asserts that a bank’s performance depends on the efficiency of resource utilization, including management level and production technology. As the quantity of a bank’s resources is fixed in the short term, improving resource utilization is key to enhancing performance. Empirical analysis shows that when efficiency factors are considered, the impact of market structure on bank performance becomes insignificant, demonstrating that efficiency is the decisive factor affecting performance. Based on this perspective, this paper will focus on examining efficiency structure indicators in empirical research.

Resource-Based Theory: In the 1990s, Barney Wernerfelt proposed the Resource-Based Theory, which posits that firms can build unique competitive advantages by integrating resources and transforming them into

productivity, thereby enhancing performance. For the banking industry, strategic resources supported by the government, such as monopolies and subsidies, can bring competitive advantages to banks, which ultimately reflect in the bank's performance.

3. Empirical Design and Data Source

This study collected financial data of nine listed banks in Jiangsu Province from 2012 to 2020. For precise analysis, this nine-year span was subdivided into 18 semi-annual time units, based on which relevant financial indicators were calculated. The selection of data from 2012 to 2020 is based on two considerations: firstly, 2015 was a key year for the interest rate marketization reform in China, making it crucial to include this period in the study; secondly, some banks had missing data before 2012. Moreover, using semi-annual rather than annual data was to increase the sample size, thereby avoiding insufficient degrees of freedom due to too few sample observations, which could affect the credibility of the results. The study utilized Stata 18 software to construct econometric models and provided a comprehensive summary of the empirical analysis results.

3.1 Variable Selection

Dependent Variables: To measure the operational performance of commercial banks, commonly used indicators include Return on Total Assets, Equity Multiplier, and Return on Equity. Among these, Return on Total Assets (ROA) integrates the three major financial statements and provides a comprehensive reflection of a commercial bank's operational management. Therefore, this paper selects ROA as one of the dependent variables. ROA is calculated as $\text{Net Profit} / \text{Total Assets}$.

Apart from profitability indicators, it is also necessary to include indicators that reflect the risk of banks. The Non-Performing Loan Ratio (NPLR) is a key indicator of a bank's operational risk. Thus, this paper uses the NPLR as another dependent variable. NPLR is calculated as $\text{Total Non-Performing Loans} / \text{Total Loans}$.

Independent Variables: For independent variables, they should effectively measure the degree of interest rate marketization and describe the fluctuations in interest rates. Previously, the Chinese government controlled interest rates, resulting in regulated rates being lower than equilibrium rates. After implementing interest rate marketization reforms, actual rates tend to converge towards market rates. Hence, in this paper, the Interest Rate Marketization Index (IMI) is defined as the difference between the market equilibrium rate and the government-regulated rate, represented by the difference between the one-year benchmark deposit rate and the one-year Shibor rate. The paper collected daily Shibor rates and monthly benchmark deposit rates from 2012 to 2020, calculating the interest rate marketization index using a weighted average method.

In the context of interest rate marketization, fluctuations in deposit and lending rates also have a significant impact on the performance of commercial banks. Therefore, this paper selects the nominal interest spread as another independent variable. Nominal Interest Spread is calculated as the one-year statutory lending rate minus the one-year statutory deposit rate.

Control Variables: Total Assets (LNTA): Reflects the size of a bank's assets. Larger commercial banks have more significant advantages in risk management when facing the impacts of interest rate marketization. Total assets also reflect a bank's expansion capabilities to some extent.

Capital Adequacy Ratio (CRAR): Commonly used to measure a bank's capital operations, reflecting its capital structure.

Cost-Income Ratio (CIR): Indicates a bank's ability to utilize resources. If a commercial bank can generate more income with unchanged costs, it suggests improvements in operational management and enhanced risk resilience, impacting performance.

Proportion of Non-Interest Income (PNI): Measures the income structure of a bank. An increase in non-interest income indicates that the bank is innovating financial products and improving its business practices.

Net Interest Margin (NIM): Reflects the level of a bank's net interest income. Banks with higher net interest margins have stronger profitability.

Loan-to-Deposit Ratio (LDR): Used to measure the efficiency of a bank's fund usage. To some extent, a higher loan-to-deposit ratio positively affects a bank's operations.

Income Revenue Growth Rate (IRBR): Measures a bank's profitability.

lnGDP: The logarithm of GDP, a macroeconomic indicator. The banking sector is crucial to national economic development, and changes in the macroeconomy affect the operational management of commercial banks, further influencing their operational performance.

3.2 Model Setting and Data Source

Based on the previous theoretical analysis and the description of each variable, the models are constructed as

follows:

Model One: $ROA_{it} = \alpha + \alpha_1 IMI_{it} + \alpha_2 NS_{it} + \alpha_3 LN(TA)_{it} + \alpha_4 LDR_{it} + \alpha_5 PNI_{it} + \alpha_6 CIR_{it} + \alpha_7 LNGDP_{it} + \alpha_8 NIM_{it} + \alpha_9 CRAR_{it} + \alpha_{10} IRBR_{it} + \varepsilon_{it}$

Model Two: $NPLR_{it} = \beta + \beta_1 IMI_{it} + \beta_2 NS_{it} + \beta_3 LN(TA)_{it} + \beta_4 LDR_{it} + \beta_5 PNI_{it} + \beta_6 CIR_{it} + \beta_7 LNGDP_{it} + \beta_8 NIM_{it} + \beta_9 CRAR_{it} + \beta_{10} IRBR_{it} + \epsilon_{it}$

Here, i represents the number of sample banks, and t is the time dimension ($t=1,2,3,\dots,18$), corresponding to the nine years from 2012 to 2020, divided into half-year periods. ROA_{it} represents the Return on Total Assets of the i th bank in period t , and $NPLR_{it}$ represents the Non-Performing Loan Ratio of the i th bank in period t . ϵ and ω denote random error terms. All data are sourced from the Choice Financial Database, semi-annual and annual reports published by the banks, and the GTAP (Global Trade Analysis Project) Economic Database.

3.3 Empirical Analysis

Variables	Urban Commercial banks		Rural Commercial banks	
	ROA	NPLR	ROA	NPLR
IMI	-0.050** (-2.10)	0.074** (2.20)	-0.013 (-0.52)	0.017 (0.47)
NS	1.353*** (4.19)	-0.81 (-1.58)	0.619* (1.81)	-1.915*** (-3.75)
CRAR	0.015* (1.95)	-0.065 (-5.64)	0.006 (0.48)	-0.224 (-1.13)
IRBR	-0.0004 (-0.4)	0.0001 (0.65)	0.002 (1.42)	-0.004 (-1.65)
NIM	0.123** (2.33)	-0.119* (-1.69)	0.227*** (8.13)	-0.089 (-1.33)
PNI	0.0001 (0.05)	0.0009 (0.32)	-0.0001 (-0.14)	0.002 (1.02)
LDR	-0.007*** (-5.17)	0.152*** (2.71)	0.002 (1.10)	-0.002 (-0.62)
LNTA	0.037** (2.04)	0.085 (0.87)	-0.031** (-2.18)	-0.979*** (-6.69)
CIR	0.019 (0.25)	0.239** (2.17)	-1.382*** (-7.62)	2.036*** (6.77)
LNGDP	-0.806*** (-7.92)	0.0354 (0.17)	-0.484*** (-3.94)	1.310*** (5.49)
_cons	-21.326*** (7.84)	-0.12 (-0.03)	15.109*** (4.88)	-9.965** (-1.99)
N	54	54	108	108
R2	0.871	0.769	0.809	0.686

Note: * * * indicates significant at 1% significance level, * * significant at 5% significance level, and * significant at 10% significance level.

The grouped regression results indicate that for ROA, different types of banks are affected differently by various factors. The Interest Rate Marketization Index (IMI) significantly influences the ROA of urban commercial banks at the 5% level but has no significant impact on rural commercial banks. The nominal interest spread is significant at the 1% level for urban commercial banks and at the 10% level for rural commercial banks, with the impact on

urban banks being nearly twice that on rural banks, reflecting a greater impact of interest rate marketization reforms on urban banks. The capital adequacy ratio positively correlates and is significant at the 10% level for urban commercial banks' ROA, but not for rural commercial banks. The net interest margin is significant at the 5% level for urban banks' ROA and at the 1% level for rural banks, with the impact on rural banks being twice that of urban banks, indicating that net interest margin is crucial for both, especially for rural banks. Lastly, the loan-to-deposit ratio is significant at the 1% level for urban banks but not for rural banks, pointing to significant differences in their deposit and loan operations.

Different types of banks respond differently to asset size. For urban commercial banks, asset size positively correlates with ROA, indicating that larger urban banks usually have a larger market share, thereby improving ROA. Conversely, asset size negatively correlates with ROA for rural commercial banks, possibly because larger rural banks are more impacted by competition from urban banks and challenges from smaller competitors. In terms of the cost-income ratio, its impact is not significant for urban banks' ROA but is significantly negative for rural banks, suggesting cost efficiency is crucial for the ROA of rural banks. With fewer resources and smaller scale than urban banks, efficient resource utilization is key to their survival and development. Additionally, GDP negatively impacts the ROA of both bank types, with the effect on urban banks being twice that of rural banks. This implies that economic development and the rise of new industries pose challenges for all banks, especially urban banks.

Regarding the Non-Performing Loan Ratio (NPLR), the IMI index is positively correlated with urban banks' NPLR at the 5% level but has no significant impact on rural banks. This reflects that interest rate marketization has intensified competition among urban banks, increasing the NPLR. The nominal interest spread is significantly negatively correlated with rural banks' NPLR at the 1% level but has no significant impact on urban banks, indicating that in the context of narrowing nominal interest spreads, rural banks in Jiangsu Province pursue higher-risk financial products to maintain profits, leading to an increased NPLR. The net interest margin is significantly negatively correlated with urban banks' NPLR at the 1% level but has no significant impact on rural banks, suggesting that urban banks face more severe issues of information asymmetry, reflected in their NPLR. The loan-to-deposit ratio is positively correlated with urban banks' NPLR at the 1% level but does not significantly affect rural banks, meaning urban banks can effectively reduce the NPLR by controlling the loan-to-deposit ratio. The logarithm of total assets is negatively correlated with rural banks' NPLR at the 1% level but has no significant impact on urban banks, showing that rural banks can reduce the NPLR by expanding asset size. The logarithm of GDP is positively correlated with rural banks' NPLR at the 1% level but has no significant impact on urban banks, suggesting that with GDP growth, rural banks face greater challenges in business transformation.

3.4 Analysis of Econometric Results

Based on a comparative analysis of sample panel data from nine commercial banks in Jiangsu Province from 2012 to 2020, the following conclusions are drawn:

Interest Rate Marketization's Impact: Interest rate marketization has a significant negative impact on commercial banks in Jiangsu Province, indicating that the inverted U-shaped effect of interest rate marketization on banks has entered its later stages, presenting serious challenges through various means. Nominal interest spread has a significant positive impact on ROA, but the narrowing of the spread poses more severe challenges for commercial banks in Jiangsu Province.

Influence of Net Interest Margin: The net interest margin significantly positively affects the operational performance of commercial banks in Jiangsu Province. The larger the net interest margin, the better the bank's performance.

Cost-Income Ratio: There is a significant negative correlation between the cost-income ratio and ROA, and a significant positive correlation with the non-performing loan ratio. This suggests that improving resource utilization and reducing the cost-income ratio can effectively enhance operational performance and reduce the non-performing loan ratio.

Asset Size and Non-Performing Loan Ratio: There is a significant negative correlation between the bank's asset size and the non-performing loan ratio, implying that expanding the asset size of banks can reduce the non-performing loan ratio to some extent.

GDP's Impact on ROA: GDP growth has a significant negative effect on ROA at the 1% level, indicating that the growth of GDP poses increasingly severe challenges for the management and operations of commercial banks in Jiangsu Province.

Comparing and analyzing the regression results of the ROA and NPL performance models for the two sample bank groups leads to three further conclusions:

Urban Commercial Banks: In the case of urban commercial banks, nominal interest spread, loan-to-deposit ratio,

and GDP all passed the 1% significance test. The IMI index, net interest margin, and total assets passed the 5% significance test, and the capital adequacy ratio passed the 10% significance test.

Rural Commercial Banks: For rural commercial banks, nominal interest spread, net interest margin, total assets, and GDP all passed the 1% significance test.

Differences Between Rural and Urban Banks: There is a significant difference in coefficients between rural and urban commercial banks, with some variables showing opposite effects.

4. Suggestions for Improving the Operational Performance of Commercial Banks in Jiangsu Province

4.1 Developing Intermediate Business and Accelerating Financial Product Innovation

Before the interest rate marketization reform, commercial banks mainly relied on the interest spread between deposits and loans for profit. However, the narrowing spread post-reform has impacted bank performance, highlighting the limitations of traditional business models. Thus, developing intermediate business and diversifying business structures become key for banks' transformation. The extent of development of intermediate business is a crucial factor in a bank's competitiveness. Commercial banks should fully utilize their conditions to innovate financial products, adapting to market changes. Currently, most banks still focus on traditional business and lack innovation capacity, limiting performance growth. Both rural and urban commercial banks need to increase investment in financial product innovation, actively develop new products, and expand the intermediate business market. Urban banks, with abundant resources and a solid customer base, should leverage big data analytics to develop financial products that meet different customers' risk preferences. Moreover, urban banks need to accelerate the development of high-tech and high-yield financial products to cultivate new profit growth points. Utilizing the funding advantages of listed banks, urban banks should increase investment in technology to enhance service quality and levels. Although rural banks have less funding than urban banks, their flexibility in operation is an advantage. They should use internet platforms to develop innovative financial products and services with local characteristics to attract investment. Additionally, rural banks need to update their business philosophy, shifting from traditional business dependency to market orientation and efficiency-centeredness, accelerating investment in innovative products to create new profit growth points.

4.2 Accelerating the Development of Non-Interest Income

With the advancement of interest rate marketization, stable interest income is increasingly challenging to secure. Hence, the key to banking development lies in maintaining a stable interest margin while accelerating the development of non-interest income business. Urban banks, with their larger asset size and advantageous position in city centers, should exploit the benefits of internet finance to develop diversified financial products, broaden business scopes, and actively collaborate with local financial institutions to form core competitiveness. For rural banks, despite their smaller asset size and relatively limited business scope, their operational flexibility is an advantage. Under the support of local governments, rural banks should increase the development of innovative financial products, develop new business types, and enhance investment in intermediate and off-balance-sheet business. Simultaneously, they should improve the management system for "agriculture, rural areas, and farmers" services, strengthen the promotion of financial innovation products and services, and formulate long-term strategies for non-interest income development in conjunction with local economic growth.

4.3 Improving Loan Quality

As interest rate marketization intensifies competition in the banking industry, leading to an increase in the non-performing loan rates, especially for rural commercial banks, it is crucial for commercial banks to focus on enhancing loan quality and management levels. Firstly, developing asset diversification and controlling the loan-to-deposit ratio is key. Commercial banks should diversify their investments to achieve asset diversification, reducing reliance on loan business and minimizing operational risks. Secondly, establishing a comprehensive risk assessment system is vital. Banks should use big data analytics to improve loan risk management, conduct thorough pre-loan examinations, ensure full disclosure of borrower information, strictly enforce loan eligibility criteria, and strengthen supervision in all stages of loan approval and disbursement. Finally, perfecting post-loan collection efforts is necessary. Comprehensive management of disbursed loans, particularly subprime, doubtful, and loss loans, is crucial. This involves confirming information and pursuing collections, issuing timely warnings to borrowers, and taking preemptive repayment measures when necessary to safeguard bank assets.

4.4 Enhancing Pricing Capabilities for Financial Products

The pricing of financial products directly affects a bank's business revenue and performance. Customers choose between different financial products based on their risk and return, catering to varying risk preferences. Strong pricing capabilities can attract quality customers and foster long-term bank development; conversely, weak pricing leads to a poor customer base. Therefore, enhancing the pricing capabilities of financial products is key to stable development amidst interest rate marketization. Firstly, banks should establish an internal pricing review system

and set price fluctuation ranges in line with market demands and regional development. Secondly, for different types of financial products, banks should consider factors like cost and return for optimized pricing. Additionally, accelerating the development of customer data systems is crucial to understand customer needs fully and use big data and information repositories to create market-demanded and customer-satisfying products. Finally, banks should strengthen cooperation with non-banking financial institutions. For instance, the experience of securities companies in investment product development and insurance companies' understanding of insurance demand elasticity are valuable resources for commercial banks. Such collaborations can address issues of inadequate pricing capabilities and establish a robust pricing model.

4.5 Making Reasonable Use of Financial Derivatives

Financial derivatives, such as futures and options, can mitigate the risk of interest rate fluctuations. Commercial banks first need to forecast spot interest rates and assess the range of future rate fluctuations. By using these tools for risk hedging, banks can reduce the risks brought about by interest rate fluctuations, thereby enhancing business revenue and reducing operational risks, which in turn improves performance. Although financial derivatives offer dual advantages to commercial banks, banks should avoid over-reliance on them. Derivatives are merely a means of risk adjustment. Banks should adapt to interest rate marketization reforms, align with financial market development trends, continually self-improve, enhance profitability and risk management, and pursue stable performance to meet the challenges brought by interest rate marketization.

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