

The Impact of Exchange Rate Changes and Diversified Revenue Structure on The Profitability of Commercial Banks

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Abstract: All the income of commercial banks is divided into traditional interest rate spread income and various non-interest income, all along, the bank's income mainly comes from its deposit and loan spread, that is, net interest income, and other businesses develop slowly. However, with the deepening of interest rate market-oriented reform and foreign exchange system reform, the diversified development of commercial banks has become increasingly prominent, becoming one of the basic hubs for bank transformation and financial risk prevention and control. Based on the revenue data of 10 listed commercial banks in China from 2011 to 2021, this paper analyzes the impact of commercial banks' profitability on their income structure and exchange rate changes, so as to explore the business strategies that can bring profit improvement to banks in the context of changing macro economy.

Keywords: Commercial banks, Changes in exchange rates, Income structure, Profitability.

1. Background and Significance of The Topic

1.1. Research background

Since the reform and opening up, China's economy has been increasingly vigorous, and commercial banks have irreplaceable significance for the development of the national economy, and have become the main body of the financial institution system and have a leading position. However, since 2012, China's economy has slowed down its development and its economic structure has been continuously improved, bringing economic development to a new stage. The financial environment has also changed, the market has driven the decision on the level of interest rates, and China's financial industry has developed healthily under the influence of interest rate reform, and it did not take long to have a huge impact on Chinese commercial banks.

China's foreign exchange market has gone through different stages of development, and the business activities of banks have also been affected to a certain extent. The reform of the foreign exchange system in 2005 increased the exchange rate risk of commercial banks. As the magnitude and frequency of RMB appreciation against the US dollar accelerates, the impact of the shrinkage of US dollar assets on banks increases. The resulting economic risk refers to the possibility of future cash flow changes of commercial banks due to exchange rate changes.

After nearly two decades, in the smooth progress of the process of market supply and demand determining interest rates, the net interest rate gap has continued to narrow; In addition, with the formation of China's financial intermediation trend, China's listed commercial banks between deposits and loans between interest margin income is facing a huge impact, operating income and net interest income growth rate have declined, so that commercial banks can not continue to rely on deposit and loan business and passive liabilities to develop, in the past deposit and loan

interest rate spread brought by the excess profit for China's commercial banks accounted for too large, however, according to a wide range of growth model, the pursuit of number and ignore the inventory structure, is unable to cope with the reduction of interest rate differentials caused by the marketization of deposit and loan interest rates, resulting in a continuous decrease in profit margins, which is not conducive to the improvement of the overall competitiveness of Chinese commercial banks and restricts the long-term development of commercial banks. The main content of managers' management activities is the income structure of commercial banks, which is the most critical part of the entire development process. In the general environment, market competition is becoming more and more tense for commercial banks, if they want to ensure that their profits are at a high level, banks must improve their revenue structure, achieve business transformation, broaden business areas, while controlling risks, should form a diversified income structure, and gradually adapt to the requirements of interest rate marketization. The key to the strategic transformation of commercial banks by adjusting their own business methods lies in the change in their revenue composition. Commercial banks rely on traditional business, and in order to achieve diversified sources of income, their income structure has gradually changed to interest income and non-interest income in parallel, rather than only interest income. This paper plans to conduct research on this, select the operating income of 10 commercial banks in China from 2011 to 2021, and analyze how the profits of commercial banks in China are affected by the income structure and exchange rate changes, so as to formulate development plans and change the income structure of commercial banks in China.

1.2. Research significance

Since in the past, the central bank was the only actual market maker in China's foreign exchange market, the central bank could only passively absorb foreign exchange. When the import and export volume of foreign trade and the amount of

foreign direct investment continue to increase, the foreign exchange account increases significantly, crowding out the basic money supply channels and affecting the effect of the central bank's implementation of monetary policy, thus forcing the central bank to frequently carry out open market operations, resulting in increased pressure on the appreciation of the RMB. Now, with the introduction of the foreign exchange market maker system, commercial banks will to a large extent disperse or bear the pressure and risks borne by the original central bank due to holding a large number of foreign exchange reserves, thereby increasing the foreign exchange management risks of commercial banks. Studying the impact of exchange rate changes on commercial banks is conducive to helping banks avoid risks and has important reference value.

Under the background of interest rate liberalization, the domestic and foreign financial environment and laws and regulations have undergone tremendous changes. As an important link in China's economic regulation and control and the most basic channel for financing the real economy, banks' income structure and survival have been profoundly affected. One of the obvious changes is the diversification of the income structure of the banking industry, which is mainly manifested in the development of non-interest business. This trend has an impact on bank risk and, in turn, on the stability of the financial sector. Exploring the diversification of banks' income structure is particularly important to prevent systemic financial risks and help the state effectively guide the development of banks.

2. Relevant Literature and Theoretical Basis

2.1. References

Exchange rates and interest rates indirectly affect banking systemic risk by influencing cross-border capital flows. According to the theory of comparative advantage, as the cost of capital, interest rate differentials promote capital flow from low-interest countries to high-interest countries (Fisher, 1907); International capital flow models also suggest that capital flows to high-yield countries (Macdougall, 1960). Exchange rate fluctuations give economic entities the opportunity and incentive to adjust their foreign exchange asset and liability structure and facilitate cross-border capital flows.

Gaiesetal uses the logit panel model to analyze the banking crisis in developing countries from the aspects of the nature of external liabilities and exchange rate stability, and finds that external liabilities increase the likelihood of crises, and reducing external liabilities reduces the occurrence of banking crises. As exchange rate fluctuations flatten, crises are much less likely to occur given real GDP growth and effective human capital and political institutions. While the impact of the financial crisis on the real economy may amplify and spread the financial crisis through bilateral trade flows, the exchange rate regime can also be a key factor in stimulating trade and mitigating the scope of the crisis. Santana-Gallegoetal similarly believes that the choice of exchange rate regime could be a factor in promoting trade, thereby reducing the spread of financial crises by stimulating international trade. Changes in the exchange rate regime can significantly affect the probability of a currency crisis. The greater the flexibility of the exchange rate system announced by the government and the greater the tolerance of the country to exchange rate fluctuations, the greater the possibility of a

currency crisis. Zhang Zhengping (2009) believes that the impact of exchange rate changes on commercial banks is negative, and there is no clear cointegration relationship and causal relationship between exchange rate changes and joint-stock banks. Cheng Chuannan believes that the impact of exchange rate changes on the stock price of the commercial banking industry in the long run is negative, which shows that the appreciation of the RMB will lead to the appreciation of the stock of commercial banks in the long run. Ye Hua and Wang Yueping advocated the use of VAR analysis methods to help banks prevent their own market risks and improve their competitiveness. Wen Bin (2005) analyzed the impact of RMB appreciation on the management of assets and liabilities, international settlement, foreign exchange funds, and capital adequacy ratio of Chinese commercial banks. Zheng Jiaying (2010) analyzed the specific performance of exchange rate risk of commercial banks and put forward countermeasures. Foreign research on the risks posed by exchange rate changes to banks is relatively mature, while domestic related research is mostly similar to foreign results, with less quantitative analysis and more qualitative analysis.

The existing research on the diversification of bank revenue structure mainly focuses on the impact of bank revenue structure diversification on bank risk and the relationship with performance, and scholars at home and abroad have different views on this issue. Gallo and others propose that adding other non-interest businesses will diversify bank earnings and reduce risk. Similarly, Stiroh based on the Herfindhal index to conclude that the share of non-interest income is inversely proportional to bank risk. However, later scholars also put forward different opinions, Lepetit et al. based on European bank data analysis on the relationship between bank diversification and bank risk, the results show that non-interest income is directly proportional to bank operating risk, among which the risk increase in fees and commissions is the most sharp, and this conclusion is especially significant for banks with smaller assets. Saunders and others believe that the combination of multiple businesses can make the bank's profit source more stable. Stiroh et al. have conducted research on financial institutions in the United States and believe that diversification of income structure has both positive and negative effects on performance, but negative effects often offset the positive effects. In addition, foreign scholar Mercieca et al. conducted an empirical study on the operation of 755 small European banks between 1997 and 2003, and the results showed that the performance of banks was inversely proportional to non-interest income. By exploring the data of a series of Western banks, Laetitia et al. concluded that there is a negative correlation between the operating performance of banks and the diversification of bank income, while banks engaged in other businesses other than deposit and loan business have higher bankruptcy rates and higher operational risks than banks that mainly provide loans. Zhai Guangyu and others believe that diversification of income structure will exacerbate operational risks and credit risks, and banks should not respond to the impact of interest rate marketization through diversification. Zhao Shengmin and others believe that the competitive effect brought by the development of Internet finance will exceed the technological spillover effect, so it will significantly reduce the overall non-interest income level of commercial banks.

2.2. The impact of RMB exchange rate changes on commercial banks

1. Asset and liability management of commercial banks. The appreciation of the renminbi will have an impact on the foreign currency component of the capital. As far as China's commercial banks are concerned, the amount of foreign exchange capital is large, and the currency is mainly US dollars. Once the RMB exchange rate changes, it will lead to changes in the bank's capital, which will significantly increase the bank's exchange rate management risk. On the other hand, with the appreciation of the RMB, foreign exchange deposits decrease, and the demand for foreign exchange loans by enterprises and individuals will increase, resulting in an increase in the balance of foreign exchange loans in banks, changing the structure of foreign exchange assets and increasing liquidity risks.

2. Foreign exchange exposure positions of commercial banks. The assets held by commercial banks for the purpose of conducting foreign exchange transactions, as well as the foreign exchange assets and liabilities in bank accounts, will be affected by changes in the RMB exchange rate. With the appreciation of the RMB, the increase in the foreign exchange deposit to loan ratio increases the loss, and under the expectation of RMB appreciation, the willingness to hold foreign exchange weakens, and foreign exchange is constantly sold to commercial banks, so that the foreign exchange exposure positions of commercial banks continue to increase;

3. Commercial banking business operation. The import and export industry is significantly affected by the change of RMB exchange rate, which will have an impact on the credit business of banks. As the renminbi appreciates, for those exporters, operating profits are reduced and repayment capacity is reduced. Therefore, for industries affected by RMB appreciation, the impact of some enterprises' ability to repay loans increases, and the profitability of some enterprises decreases, which increases the risk of bank loans in related industries.

3. Empirical Research Design

3.1. Research hypotheses

Under the conditions of market economy, interest rates and exchange rates are highly correlated, and the changes of the two restrict each other, and jointly affect a country's money supply and internal and external equilibrium. Changes in exchange rates will inevitably cause fluctuations in interest rates, which in turn will affect the bank's related income and revenue structure.

Hypothesis 1: Exchange rate fluctuations affect the profitability of commercial banks by affecting their level of revenue diversification.

Interest rate fluctuations have brought some uncertainty to the operation of banks, and conducting other businesses other than deposit and loan business is conducive to diversifying risks and thereby increasing profit opportunities.

Hypothesis 2: Increasing the level of revenue diversification of commercial banks can enhance their profitability.

The income structure of commercial banks is gradually adjusting, and the proportion of non-interest income is

increasing, and the non-interest income mainly includes the handling fees and commissions charged by banks for customers to handle various businesses, and some other non-interest income.

Hypothesis 3: The impact of non-interest income on profitability of commercial banks is mainly generated by fee and commission income.

3.2. Explanatory variables and selection of explanatory variables

Explanatory variables: Considering the process of collecting data and subsequent analysis, the explanatory variable selected in this paper is ROA of total return on assets, generally speaking, ROA is commonly used to measure the profitability of commercial banks, it is the ratio of net profit to average total assets, the size of this ratio is positively correlated with the profitability of commercial banks, and can be used to reflect the operating ability of bank management and the ability of commercial banks to use their total assets to obtain operating profits.

Explanatory variables: This paper takes the actual effective exchange rate of RMB as a variable and is represented by *reer*. Real effective exchange rate is based on the nominal effective exchange rate, the exchange rate index adjusted by the price level of trading partners, is also the calculated weighted average, in the calculation of the real effective exchange rate, measuring the weight of the currency is the most complex and important step, the rise in the real effective exchange rate indicates that the local currency appreciates against the weighted currency, and the decline in the real effective exchange rate indicates that the currency depreciates against the weighted currency, which in turn affects the market competitiveness of domestic commodities and affects domestic export trade.

The income diversification index is constructed using the Herfindhal index, where the Herfindhal index measures the concentration of industries and reflects the diversity of the bank's income structure. Subdividing non-interest income, including fee and commission income and other non-interest income, can reflect the income structure of banks, and facilitate the exploration of specific types of business that will bring profits to commercial banks, so that various types of banks can give full play to their respective advantages, adjust marketing strategies, and improve their comprehensive competitiveness. The Revenue Diversification Index (DIV) is constructed from net interest income as a percentage of operating income (NET), fee and commission income as a percentage of operating income (ONI) and other non-interest income as a percentage of operating income (NFC), and the size of the DIV value is positively proportional to the degree of diversification of the bank. Div is built as follows:

$$div = 1 - (net^2 + oni^2 + nfc^2)$$

Net interest margin (NIM) refers to the ratio of net interest income to all interest-bearing assets, reflecting the impact of commercial banks' traditional deposit and loan business on their profitability. The proportion of non-interest income (NIIR) refers to the ratio of commercial banks' income to operating income other than traditional deposit and loan business, reflecting the impact of non-interest income on the profitability of commercial banks.

Table 1. List of variables

variables	The variable name	Variable definitions
The variable being explained	Return on total assets roa	Net profit/average total assets
Explanatory variables	Real effective exchange rate reer	
	Diversification index div	$div = 1 - (\frac{net^2}{net^2 + oni^2 + nfc^2})$
	Net interest margin nim	Net interest income/total interest-bearing assets
	Percentage of fee and commission income oni	Fee and commission income/operating income
	Proportion of other non-interest income nfc	Other non-interest income/operating income

3.3. Sample selection and data collation

This paper is limited by the availability and reliability of relevant analysis data, so 10 listed commercial banks were selected, of which 5 are state-controlled commercial banks: ICBC, ABC, BOC, CCB and BOCOM; There are also 5 joint-stock commercial banks: China Merchants, Shanghai Pudong Development Bank, CITIC, Everbright and Huaxia Bank. In order to ensure the validity of the data and results, monthly data from 2011 to 2021 were selected for analysis and research, including a total of 440 data sets. The raw data of these 10 listed banks is mainly derived from the annual reports of each bank.

3.4. Model Building

Based on the assumptions made above, the following regression model is established:

$$div = c + \beta_1 reer + \beta_2 nim + \varepsilon \quad (1)$$

$$roa = c + \beta_1 reer + \beta_2 nim + \beta_3 oni + \beta_4 nfc + \beta_5 div + \varepsilon \quad (2)$$

4. Analysis of Empirical Results

4.1. Descriptive statistics of variables

Table 2. Sample variable descriptive statistics

variable	N	mean	p50	sd	min	max
roa	440	0.260	0.260	0.0680	0.110	0.430
reer	440	120.0	121.9	8.178	99.83	131
nim	440	0.00600	0.00600	0.00100	0.00300	0.00900
oni	440	0.192	0.188	0.0650	-0.169	0.368
nfc	440	0.0660	0.0560	0.0560	-0.0840	0.300
div	440	0.393	0.405	0.111	0.306	0.599

It can be seen from Table 2 that among the 10 commercial banks studied, the maximum return on total assets was 0.43%, the smallest was 0.11%, a difference of almost four times, and the diversification index was 59.9% and the smallest was 30.6%, which was a big difference, indicating that different commercial banks have different degrees of diversification and large differences in income structure. The size of non-interest income varies greatly between banks, and it can be seen that the significant proportion of non-interest income is

fee and commission income.

4.2. Model regression results

Before the regression analysis, this paper first analyzes the correlation between the variables, and roughly understands the correlation relationship between the variables according to the calculated Person correlation coefficient between the main variables, and the results are shown in Table 3.

Table 3. Correlation analysis

	roa	reer	nim	oni	nfc	div
roa	1					
reer	-0.370***	1				
nim	0.436***	-0.439***	1			
oni	0.140***	0.180***	-0.401***	1		
nfc	-0.113**	0.403***	-0.536***	0.0280	1	
div	0.0500**	0.377***	-0.614***	0.735***	0.669***	1

As can be seen from Table 3, the correlation between each indicator and individual stock market earnings ratio is basically consistent with the previous assumptions.

Based on the revenue data of these 10 commercial banks from 2011 to 2021, the panel data was established and regression analysis was performed using Stata16.0. The specific results of the regression are shown in Table 4.

It can be seen from Table 4 that the real effective exchange

rate has a very significant positive relationship with the diversification index, while the net interest income has a negative effect on the diversification index, and the second model returns to the surface of the results, the exchange rate indirectly affects the bank's profit by affecting the diversity of the bank's income structure, and will directly have a significant negative effect on the bank's profit, indicating that the exchange rate change brings a lot of uncertain risks to the

bank, affecting the stability of the bank's profit, proving that hypothesis 1 is significantly valid. There is a positive proportional relationship between commercial bank earnings and diversification index (div), which indicates that the development of diversified business of commercial banks in China can increase the operating performance of banks, and hypothesis 2 is supported. Therefore, commercial banks can focus on developing diversified operations to improve their profitability and competitiveness.

Further analysis, from the regression results, it can be seen that the net interest margin (NIM) with the greatest impact on the profitability of commercial banks among the selected explanatory variables is significantly positive, which

indicates that the net interest margin level is lower than that of commercial banks.

For the return on total assets (ROA) of commercial banks, the income with a more significant positive coefficient is the proportion of fees and commission income in non-interest income (ONI), and the proportion of other non-interest income (NFC), which is non-interest income, will also have a positive impact on the operation of commercial banks, but it is not as significant as the impact of fee and commission income, so as mentioned in hypothesis 3, in the non-interest income, the main role in the profitability of commercial banks is undoubtedly the fee and commission income.

Table 4. Regression results

	(1) div	(2) roa
nim	-55.478*** (4.050)	32.889*** (3.152)
reer	0.001*** (0.001)	-0.002*** (0.000)
oni		0.622*** (0.148)
nfc		0.433** (0.151)
div		0.178** (0.111)
_cons	0.560*** (0.077)	0.230** (0.052)
N	440.000	440.000
r2	0.432	0.378
ar2		

In summary, for commercial banks, exchange rate changes will have a positive and negative impact on bank profits, and expanding the diversified development of income structure will have a positive impact.

5. Conclusions and Related Recommendations

5.1. Conclusions

This paper selects the income-related data of 10 listed commercial banks (including 5 state-controlled commercial banks and 5 joint-stock commercial banks) in China from 2011 to 2021, and uses the Stata 16.0 application for regression to analyze the relationship between the profitability of listed commercial banks and their revenue structure and RMB exchange rate.

Based on the analysis of empirical results, we find that on the whole, changes in the RMB exchange rate will have a significant positive impact on the income structure diversification index of commercial banks, and then indirectly affect the final profitability of banks. However, the exchange rate level has a direct and significant negative effect on the operation of commercial banks. Further, China's commercial banks have effectively improved their efficiency and enhanced their ability to obtain profits through business diversification. For different types of banks, the effect of net interest income and income diversification is different, and generally speaking, the profitability of joint-stock commercial banks will increase more than that of state-owned commercial banks.

By decomposing the non-interest income, it is found that

other non-interest business income does not have a greater effect on the profitability of commercial banks than the development of handling fees and commission income, but commercial banks with different natures should choose diversified businesses suitable for their own development to develop their own profitability.

5.2. Countermeasure suggestions

The impact of RMB appreciation on the profitability of China's commercial banks cannot be ignored, the fluctuation of RMB exchange rate will have a great impact on commercial banks that do not actively take exchange rate risk prevention measures, and a good exchange rate risk control model should run risk management through the whole process of foreign exchange business. In order not to make the fluctuation of the RMB exchange rate excessively affect the profitability of China's commercial banks, in the face of the long-term trend of the RMB exchange rate formation mechanism, China's commercial banks should take change and reform as the norm, gradually update the business management concept, strengthen follow-up research, pay close attention to the relevant measures of the central bank, judge the direction and intensity of the RMB exchange rate adjustment according to the adjustment of policies and changes in market funds, and take corresponding measures to reduce foreign exchange risks. At the same time, it is necessary to pay close attention to the impact of changes in the macro situation of major economies in the world on the exchange rate level, scientifically forecast the exchange rate, and timely adjust business development and risk management strategies.

With the in-depth development of interest rate market-oriented reform and the great changes in the domestic and foreign financial industry, the development situation and business model of China's banking industry have also undergone great changes, one of the significant trends is the diversification of bank income structure. In this regard, the academic community generally believes that this is due to the influence of domestic and foreign financial development forms and China's reform policies and measures, the bank's business model relying on traditional deposit and loan interest income as the main source of income has been impacted, so it has turned to the development of non-interest income. However, while economic policy changes effectively respond to changes in the financial environment, they will also exacerbate economic policy uncertainty, which in turn will have a new impact on the income structure of banks.

The following recommendations are put forward:

1. The change of RMB exchange rate has both favorable and unfavorable aspects for the development of China's commercial banks. In the face of exchange rate risks, commercial banks should effectively change their traditional mindset, actively create new profit margins, and launch new foreign exchange wealth management products in a timely manner according to different customer needs, so as to effectively avoid and control exchange rate risks. In the era of floating exchange rates, China's commercial banks must change their thinking under the traditional system and respond to exchange rate changes in a market-oriented manner. Commercial banks should actively create a new market for foreign exchange wealth management, such as giving full play to the advantages of RMB foreign exchange trading market makers, and using overseas institutional networks to accelerate the internationalization process of banks; On the basis of actively guiding customers to enhance their understanding of the RMB exchange rate mechanism, accelerate business innovation and provide customers with corresponding hedging, value preservation and high value-added products and services; Actively develop risk management products, risk hedging products and investment products, comprehensively use interest rates, exchange rates and other value interaction mechanisms, and adopt different pricing policies for import and export enterprises; Strengthen the research and practice of exchange rate risk management, pay close attention to exchange rate trends, effectively control exchange rate risk exposure, and try to avoid exchange rate risks caused by exchange rate price fluctuations. Strengthen the risk management system. To improve the forecasting mechanism for RMB exchange rate changes, reduce the difficulty of managing exchange rate risks for commercial banks, continuously revise the forecast mechanism, and improve the initiative of exchange rate risk management. Improve the risk control of three-level business units, form a risk management organizational framework, and establish an effective internal control mechanism.

2. Ensure the stable growth of net interest income and lay the foundation for optimizing the income structure.

According to the results of the return, the income obtained through the deposit and loan business is still the main income of China's commercial banks, and the development of banks in the traditional interest rate income business has been relatively mature, and there are also certain management and operation methods. Based on the experience of successful transformation of profitability methods in foreign commercial banks, it is necessary to maintain a reasonable level of net

interest margin in order to maintain profitability at a high level. In the future optimization of revenue structure, commercial banks should still strive to promote the sustainable development and stable growth of interest rate spread business, so as to ensure that they generate revenue for commercial banks, and at the same time lay a solid foundation and provide reliable support for them to diversify their operations, explore new revenue growth points, and optimize their income composition. In order to continue to leverage the advantages of credit business level, we should develop innovative credit asset business. The best operating situation is to maintain continued growth in net interest income and steady non-performing income. Non-interest income is increasing and accelerating. Under the condition that both net interest income and non-interest income are growing, the proportion of net interest income and the proportion of non-interest income will be stabilized and coordinated to achieve equilibrium, and finally the income structure will be rationalized. Therefore, on the basis of ensuring the growth of net interest income, the focus of the income structure optimization of China's commercial banks should be to develop intermediate business outside the traditional deposit and loan interest rate differential, increase the proportion of non-interest income in operating income, and achieve diversified business development.

3. Develop a reasonable development strategy.

Although the form is more special, commercial banks are also enterprises, so the ultimate purpose of all commercial banks should be to make profits. Under the background of the continuous advancement of financial globalization and the deepening of interest rate market-oriented reform, commercial banks no longer simply rely on interest rate differentials as a source of income, many banks have broadened their business areas to manage funds, insurance business, private banking, securities investment and other fields, and continue to develop financial service products that are not available in the traditional model, so as to increase the source of operating income and achieve the expansion of market share. Therefore, due to the increasing direct financing, facing narrowing of profit surface, shrinking of the deposit and loan business market, and increasing risks, it is absolutely necessary for China's commercial banks to open up new ways and markets to generate income through diversified business. At the same time, due to the different sources of customers, the capital structure and asset scale of commercial banks are also different. When commercial banks conduct business, they should start from their own actual conditions, discover their own advantages, carry forward them, and not blindly follow the crowd. (1) Adjust the concept of management and management. State-controlled commercial banks, which have better talent and capital advantages, should fully grasp and actively play a role, adjust their management and operation systems, shift from pursuing quantitative improvement to paying attention to qualitative leaps, improve the internal management mechanism, improve the practice system, and reorganize traditional enterprises. (2) Improve the ability to refurbish financial products. If joint-stock commercial banks want to reduce product homogeneous competition, they should increase the innovation of financial products, and at the same time appropriately expand the scale of bank operating assets, because the effect of economies of scale can often be reflected when they have a large asset scale, and if they want to diversify operational risks, they should strive to develop diversified businesses.

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