

Study on the Impact of Interest Rate Marketisation on the Profitability of Chinese Commercial Banks

Zhichao Guo^{1,*}

¹Universiti Sains Malaysia, penang, Malaysia

*Corresponding author email: guozhichao@student.usm.my

Abstract: Interest rates play a role in regulating the allocation of resources in the financial market and can be used as the price of money. In order to allow the market to play a fundamental role in resource allocation, the reform of the socialist market economy system has been gradually launched in China since the 1990s. From the establishment of the interbank lending market in 1996 to the reform of the interest rate quotation mechanism in the loan market in 2019, the marketisation of interest rates has played an important role in the independent allocation of resources in the financial market, and is getting closer and closer to achieving the ultimate goal of interest rate marketisation. However, as the pricing power is controlled by financial institutions, the competition among the banking sector has become more and more intense. According to the financial reports of listed banks, the operating situation of the banking industry is very tough, and the return on assets has been declining, leading to the transformation of major banks to achieve greater profitability. In general, exploring the impact of interest rate marketisation on the profitability of commercial banks helps to analyse the current situation of bank operations, improve the ability to cope with risks by finding new profit models, and occupy a favourable position in the competition in the financial market. This paper takes the impact of interest rate marketisation on the profitability of Chinese commercial banks as the object of research, by finding relevant literature, starting from relevant theories, and using internal and external factors to study its impact mechanism; and according to the reform history of China's interest rate marketisation, it analyses the trend of changes in the indexes of Chinese commercial banks to determine the impact of interest rate marketisation on the profitability of commercial banks; it also adopts the multivariate linear regression model, according to the regression analysis found that the interest rate marketisation has a strong impact on the profitability of commercial banks, but the change of the bank's income structure does not significantly improve the profitability; finally, the following conclusions are drawn: (1) the basis for the realisation of the interest rate marketisation is to improve the pricing system and open the interest rate conduction channel; (2) by optimising the income structure and improving the operational efficiency, the profitability of the bank can be improved; (3) by reasonable response to interest rate fluctuation risk and improving risk management ability, it can gain an advantage in the fierce market competition.

Keywords: Commercial banks; interest rate marketisation; profitability; panel model; multiple linear regression model.

1. Introduction

1.1. Background and significance of the study

1.1.1. Research background

Interest rates can reflect the price of funds, regulate the flow of funds and influence economic production activities, and are an important means of regulating the allocation of resources in the financial market, so they have become an important regulating indicator for achieving a country's monetary policy objectives. After the Second World War, countries generally use interest rate control and other ways to suppress the cost of capital, rapid recovery of economic development, rapid economic growth in a short period of time, but a long period of interest rate control triggered hyperinflation and economic growth stagnation. In the 1970s, the theory of "financial deepening" proposed that a country's financial development and economic development should be a dialectical relationship that promotes the development of each other, and the long-term implementation of interest rate control and other artificial intervention in the market pricing will lead to financial and economic stagnation, and the actual situation of many developing countries confirmed this kind of "financial inhibition". The actual situation in many developing countries confirms this phenomenon of "financial repression". As a result, there has been a wave of interest rate marketisation in the international arena, with many countries

successively realising interest rate marketisation and then financial liberalisation in accordance with different reforms. While the marketisation of interest rates has helped the healthy functioning of finance and the economy, it has also led to risks and crises, which have provided China with valuable experience in the marketisation of interest rates.

Against the backdrop of deregulation of interest rates and a general decline in the industry's profitability, it is crucial to study the impact of interest rate marketisation on banks' profitability. This will help banks to have a clearer picture of the industry's development trend and to find a path for the future development of their business model so that they can adapt to the new environment of the financial market in the wake of comprehensive reforms.

1.1.2. Research significance

This helps us to identify theories related to the sound operation of commercial banks in the context of interest rate marketisation. The reform of interest rate marketisation and the growth of commercial banks are in a mutually supportive relationship. On the one hand, the reform directly promotes the transformation and development of commercial banks; on the other hand, the transformation and upgrading of commercial banks promote the reform to a deeper level. At present, as the reform enters the deep water, commercial banks are facing the impact of interest rate marketisation. If commercial banks want to improve their profitability and enhance the quality of their earnings, they must transform

their development model. This paper identifies the positive effects of banking transformation on improving bank profitability by building a model, which will help construct a theoretical framework for commercial bank profitability in the context of interest rate marketisation.

This helps us to face up to the impact of interest rate marketisation on the business development of commercial banks. The marketisation of interest rates has returned the right to determine prices to the market, which has increased the pressure of competition in the market, forcing banks to look for a wider range of sources of income and promoting business transformation. This has a dual impact on commercial banks. Determining the net impact on the profitability of commercial banks since the reform of interest rate marketisation will help banks to cope well with future waves of reform and various external shocks.

1.2. Research ideas, research methodology and content

1.2.1. Research ideas

This paper focuses on the impact of interest rate marketisation on the profitability of China's commercial banks. Firstly, it reviews the existing research literature, starting from the relevant theories on interest rate marketisation and the factors affecting the profitability of commercial banks, and analyses the mechanism of the impact of interest rate marketisation on the profitability of commercial banks from internal and external factors: Second, it clarifies the history of China's interest rate marketisation reforms and analyses the development status of listed commercial banks in the past ten years, and then uses multiple linear regression models to explore the impact of interest rate marketisation on commercial banks. Second, it clarifies the reform history of interest rate marketisation in China, and analyses the trend of various indicators of banks using charts and graphs to determine the impact of interest rate marketisation on the profitability of commercial banks from a qualitative perspective: Then it adopts the multiple linear regression model to explore the impact of interest rate marketisation on commercial banks, and according to the results of the empirical regression, it is found that the interest rate marketisation significantly weakened the bank's profitability, and that there is no obvious improvement of the bank's profitability from the change of the proportion of non-interest income, and other conclusions: Then it analyses its profitability model, providing the bank's profitability experience to learn from.

1.2.2. Research methodology

This paper draws on the relevant research methods of domestic and foreign scholars in recent years on interest rate marketisation and bank profitability to make the research results more reliable.

(1) Literature analysis method, collect domestic and foreign literature on financial liberalisation, interest rate marketisation and qualitative and quantitative analysis of the profitability of commercial banks, summarise the characteristics of previous research, take the strengths and weaknesses, and find that it is not enough to continue the further study of this paper.

(2) Data chart description method. Using the data of 16 listed commercial banks in China in the past ten years from the Wande database, the charts are made to visualise the trend of the bank's indicators and to analyse them accordingly.

(3) Hierarchical analysis method. It is a systematic and

hierarchical weighting method to determine the weights of the indicators of the interest rate marketisation index, subjectively determine the degree of importance among the indicators, and then objectively calculate the weights of the indicators according to the matrix.

(4) Multiple linear regression model. In order to increase the accuracy of the regression model, the mixed (pooled) panel data model, fixed-effects variable intercept model, random-effects variable intercept model were used for research and analysis. After the F-test eliminates the mixed (pooled) panel data model or fixed effects variable intercept model, the final model of this paper is judged by the Hausman test.

1.2.3. Content of research

The research object of this paper is the commercial banks listed on the A-share market as of 2022, including five large state-owned commercial banks, eight national joint-stock commercial banks and three city commercial banks, with a wider sample range, and in view of the availability of data from other non-listed commercial banks and the objective authenticity of the audits, this paper does not include the samples of other commercial banks. The profitability indicators, income structure indicators, risk indicators and capital level indicators of the sample banks are studied qualitatively and quantitatively in the context of interest rate marketisation.

Starting from the theoretical analysis of interest rate marketization and commercial banks' profitability, this paper conducts a graphical and empirical analysis of the changes in the profitability of China's commercial banks in the context of interest rate marketization, comments on specific cases, and finally makes conclusions and recommendations.

The first chapter takes the impact of interest rate marketisation on the profitability of China's commercial banks as the object of research by finding relevant literature, starting from relevant theories and using internal and external factors to study the impact mechanism; the second and third chapters analyse the trend of changes in the indicators of China's commercial banks according to China's reform history of interest rate marketisation to judge the impact of interest rate marketisation on the profitability of commercial banks; The fourth chapter adopts the multiple linear regression model, according to the regression analysis, found that the interest rate marketisation has a strong impact on the profitability of commercial banks, but the change of the bank's income structure does not significantly improve the profitability.

2. A Theoretical Analysis of The Impact of Interest Rate Marketisation on The Profitability of Commercial Banks

2.1. Theory of financial constraints

In the 1990s, Thomas Herman, Kevin Murdock and others put forward the "financial constraints theory". At that time, the regulator through the establishment of the banking industry access threshold, deposit and loan interest rate fluctuations set the upper and lower limits and a number of constraints on financial policy, can make the government to obtain relative to the full financial freedom of more rent-seeking profits, but at the same time than the full financial inhibition of the economy to achieve more efficient allocation

of funds, to ensure that the financial system of the development of a stable and economic growth. In contrast, the theory of financial constraints is more of a compromise. The essence of financial constraints is to obtain invisible gains in the private financial sector in the context of progressive reforms, and such power rents are then invested in the market with tools such as fiscal policy, thus promoting economic development, stability in the macroeconomic environment and moderate inflation, which are the main elements of the theory of financial constraints.

2.2. Theory of financial repression

In the two decades after the Second World War, countries around the world entered a state of active restoration of economic growth, but in the process of economic development ignored the importance of financial instruments, the mainstream Western growth theory is less involved in financial theory. Until 1973, Ronald McKinnon and Edward Shaw and other research pointed out that the backward financial system will seriously hamper the economic development, and financial inhibition is the cause of the backwardness of the financial system, the main financial inhibition manifested in the following aspects:

(1) the imposition of credit rate control and inflation depresses the real interest rate. In order to reduce the cost of capital in the state sector, and the implementation of lending rate control: rely on inflation to make up for the fiscal deficit, resulting in hyperinflation phenomenon, so that the real deposit and loan interest rates down.

(2) Artificially low interest rate policy brings low savings and low capital allocation efficiency. Interest rate control is usually coupled with credit rationing policy to allocate scarce market funds, the government guides the flow of funds to its own preferred sectors and industries, unfair allocation of funds to split and limit the development of the financial market, and the government's preferred projects are often not optimal rate of return on investment, so the formation of a low interest rates lead to low savings, low yields caused by the vicious circle of low interest rates, so that the use of funds is very inefficient.

(3) Strict control over the establishment and operation of financial institutions. Higher reserve ratios and liquidity requirements, artificially guiding the flow of funds, and so on, are all manifestations of the strict control imposed on financial institutions. High transaction and income taxes on privately owned bonds and securities, excessive reserve requirements for financial institutions and the policy of mandatory holding of government bonds, thus enabling the Government to raise low-cost financing in the context of financial repression policies, have led to high operating costs

and a single revenue component for financial institutions.

2.3. financial deepening theory

Financial deepening policies, such as the marketisation of interest rates, can alleviate the distress caused by financial repression and have a number of positive effects:

(1) Rising savings rates. The deregulation of interest rates has led to higher savings rates and a wider choice of assets, thereby increasing incentives to save and raising the share of domestic savings in income. At the same time, the exchange rate determination mechanism has been improved, making it easier to raise funds in international capital markets and reversing capital flight.

(2) Increased investment. Interest rates play an effective role in guiding the allocation of resources. Pricing power returns to the market, asset information disclosure is more complete, and investors are able to independently choose financial assets with different risks and returns. At the same time, the demand for funds has fair access to funds, thus optimising the allocation of savings.

(3) Improving unemployment. Under financial inhibition, low interest rates lead to low savings, scarce financial resources are invested in non-optimal choices of enterprises, and poor profitability of enterprises easily triggers bankruptcy, which aggravates the emergence of unemployment. Therefore, the implementation of financial liberalisation in a backward economy can help alleviate unemployment.

(4) Promote economic stability. The reliance on inflation to solve the fiscal budget can be effectively mitigated, and the increase in savings provides the possibility of stable fiscal and monetary policies, while enhancing the ability to withstand fluctuations in international trade, credit and other risks.

The ability of financial deepening to promote economic growth has contributed to the implementation of financial liberalisation reforms, such as the marketisation of interest rates and the reduction of government intervention, in many countries at different levels of economic development since the 1970s.

3. Empirical Analysis of the Impact of Interest Rate Marketisation on the Profitability of Commercial Banks

3.1. Model Selection and Establishment

3.1.1. Data selection

The data in this paper are selected from the panel data of 16 listed commercial banks in China, macro GDP growth rate (GDP_r) and broad money supply growth rate (M2) from 2007 - 2022. The 16 commercial banks, see Table 1 below.

Table 1. Sample banks

Bank classification	Sample Banks			
5 large state-owned banks	Bank of China (BoC)	Bank of Communications	Agricultural Bank of China	Industrial and Commercial Bank of China
	Construction Bank of China			
8 joint-stock banks	China CITIC Bank	Société Générale	Ping An Bank	Minsheng Bank
	China Everbright Bank	Hua Xia Bank	China Merchants Bank	Pudong Development Bank (Shanghai)
3 City Banks	Bank of Beijing	Bank of Nanjing	Bank of Ningbo	

The data used in this paper are from wind database and flush database, and the econometric analysis software is

Stata15.1.

3.1.2. Selection of variables

(1) The explanatory variables measure the profitability of commercial banks. ROA (net profit / total assets), reflecting the return on equity and debt co-financing of a commercial bank, the higher the ROA, the stronger the profitability of the commercial bank; ROE (net profit after tax / total weighted shareholders' equity), reflecting the return on shareholders' equity of a commercial bank, which is also a major indicator of the profitability of a commercial bank, the greater the ROE, the stronger the profitability of the commercial bank. The greater the ROE, the stronger the profitability of commercial banks. Since this paper needs to select the indicator to measure the overall profitability of commercial banks, it chooses ROA as the indicator of return on total assets.

(2) The explanatory variable is an indicator of interest rate marketisation. Net interest margin, is the difference between the average rate of return on interest-earning assets and the average rate of cost of interest-bearing liabilities. Demircug I Kunt and Huizinga's research shows that the net interest margin ratio is the most commonly used measure of the level of net interest income of commercial banks. In the marketised interest rate environment net interest margin not only conveys important information about the efficiency of the banking system, but also reflects the price behaviour of the bank in the process of capital transactions, reflecting the efficiency of

commercial banks themselves. Therefore, the net interest margin indicator JLC is chosen. (Net Interest Income / Total Assets)

(3) Because commercial banks have three major indicators: safety, profitability and liquidity, the control variables are mainly considered from the following four aspects: ① safety indicators: non-performing loan provision coverage ratio PC (non-performing loans / total loans). ② liquidity indicators: deposit and loan ratio (RMB) LIQUIDITY (total loans / total deposits). (iii) Other indicators: Cost-to-income ratio CBSRB (operating costs / operating income), non-interest income ratio LSZP (non-interest income / operating income), asset size INSIZE. (iv) Macro indicators: GDP growth rate (GDP_r), broad money supply growth rate (M2), GDP growth rate reflects China's degree of economic development, and commercial banks adjust their business in accordance with the country's degree of economic development, as well as their profitability. GDP growth rate reflects the degree of economic development in China, and commercial banks adjust their business according to the degree of economic development of the country, which will also affect their profitability; the growth rate of broad money supply should be matched with the economic growth, so it will also affect the profitability of commercial banks.

Table 2. Composition of variables

Variable type	Indicator category	variant	formula	notation	
explanatory variable	Profitability indicators	return on total assets	Net profit / total assets	ROA	
explanatory variable	Indicators of interest rate marketisation	net interest margin	Net interest income / total assets	JLC	
control variable	Security Indicators	Non-performing loan provision coverage ratio	Non-performing loans / total loans	PC	
	Mobility indicators	Deposit and loan ratios	Total loans / total deposits	LIQUIDITY	
	Other indicators	Cost-to-income ratio	Operating Costs / Operating Revenues		CBSRB
		Percentage of non-interest income	Non-interest income / operating income		LSZP
		asset size			INSIZE
	Macro indicators	GDP growth rate			GDP _r
		Growth rate of broad money supply			M2

3.1.3. Modelling

This paper establishes a multiple linear regression model, so the model is established as follows:

$$ROA = JLC * \beta_1 + PC * \beta_2 + LIQUIDITY * \beta_3 + LSZP * \beta_4 + CBSRB * \beta_5 + INSIZE * \beta_6 + GDP_r * \beta_7 + M2 * \beta_8 + \epsilon_{it} + \mu_i$$

where ϵ_{it} is the random perturbation term, μ_i is the intercept term for individual heterogeneity, and $\beta_1, \beta_2, \beta_3, \dots, \beta_9$ are estimated coefficients. In the analysis of the panel data, if μ_i

is correlated with an explanatory variable

It is called a fixed-effects variable-intercept model; if μ_i is not correlated with an explanatory variable, it is called a random-effects variable-intercept model.

3.2. Analysis of the empirical process

3.2.1. Descriptive analysis of panel data

Descriptive analyses of the indicators of the 16 commercial banks mentioned above for the period 2007-2022 are shown in Table 2 below.

Table 3. Descriptive analysis of commercial banks' indicators

variant	average value	(statistics) standard deviation	maximum values	minimum value
ROA	1.06	0.22	0.15	1.72
JC	2.35	0.40	1.32	3.28
PC	227.33	94.15	48.28	524.08
LIQUIDITY	72.80	11.31	47.43	113.05
LSZP	2195	9.44	-1.58	51.09
CBSRB	31.87	5.27	21.59	46.26
NSIZE	4.50	0.56	2.88	5.47
GDP _r	34.92	9.05	25.8	53.5
M2	177.62	55.90	99.6	308.04

Descriptive analysis to understand more about the level of indicators of commercial banks and to facilitate the next analyses.

3.2.2. Unit root test

In order to ensure the accuracy of the regression results of

the model and avoid the occurrence of pseudo-regression phenomenon, the panel data will be subjected to the unit root test, and Table 3 shows the test results of the unit root of the panel data.

Table 4. Results of unit root test for panel data

variant	ROA	JIC	PC	LIQUIDITY	LSZP	CBSRB	INSIZE
Differential results	-6.5380*	-5.1896*	-5.5869*	-2.4831*	-5.8860*	-7.8085*	-3.5063*

Note: *** means the variable passes the test.

As can be seen in Table 3, the panel data passes the unit root test and is ready for the next regression model analysis.

3.2.3. Regression results to determine the model

In order to increase the accuracy of the regression model, the mixed (pooled) panel data model, the fixed effects

variable intercept model, and the random effects variable intercept model are used for research and analysis respectively. After the F-test eliminates the mixed (pooled) panel data model or random effects variable intercept model, the final model of this paper is judged by the Hausman test. The results of the three models are shown in Table 4 below.

Table 4. Results of the three models

	(1)	(2)	(3)
	hybrid	fixation	stochastic
	ROA	ROA	ROA
JLC	0.2790563*	0.2538037***	0.2747508***
	(3.17)	(3.54)	(7.16)
PC	-0.0002117	-0.0006444***	-0.0004188***
	(1.22)	(4.21)	(3.11)
LIQUIDITY	-0.0005951	0.0040405	-0.0028816**
	(-0.24)	(-1.54)	(-1.97)
LSZP	-0.0054294	0.0046219	0.0011485
	(-1.42)	(1.62)	(0.52)
CBSRB	-0.104913**	-0.0191229***	-0.0142294***
	(-2.38)	(-3.83)	(-4.07)
INSIZE	0.0701047	0.4333385***	0.1284485
	(1.38)	(-3.06)	(-1.35)
GDP _r	-0.0069633	0.0101617***	-0.0072424***
	(-2.14)	(-4.43)	(-3.52)
M2	0.0007771**	0.0005487	0.0007628***
	(2.62)	(1.73)	(2.68)
Constant	0.6421087	3.323965	1.651267
	(1.52)	(4.25)	(2.96)
Observations	208	208	208
R-squared	0.3349	0.4367	
Number of id		16	16
t-statistics in parentheses			
***p<0.01, **p<0.05, *p<0.1			

According to the F-value of the fixed-effects variable intercept model, the F-statistic value is 15.92, and the p-value is 0.0000<0.05, so the pooled panel data model is rejected. Next, according to the Hausman test, the chi-square statistic is 64.97, p-value is 0.0000<0.05, so the random effect variable intercept model is rejected, and the final multiple linear regression model is the fixed effect variable intercept model, i.e., model (2) in Table 4.

3.2.4. Analysis of regression results

The multiple linear regression model of this paper is:
 $ROA = 1LC * 0.2538037$
 $IPC * 0.0006444 + LIQUIDITY * 0.0040405 + LSZP * 0.0046219$
 $- CBSRB * 0.0191229 + INSIZE * 0.4333385 + GDP_r * 0.0101617 + m2 * 0.0005487 + 3.323965$

Among the selected indicators, those that have significant

correlation with the profitability of commercial banks are: net interest margin, non-performing loan provision coverage ratio, non-interest income ratio and asset size. Deposit and loan ratio (RMB), cost-income ratio (operating cost/operating income), GDP growth rate and broad money supply growth rate do not have a significant effect on the profitability of commercial banks.

Net interest margin and commercial bank profitability is proportional to the relationship between every 1% rise in profitability, commercial bank profitability rose by 0.2538037%, net interest margin is the difference between the interest on deposits and loans of commercial banks, is the most important mode of profitability, the importance of self-evident; asset size and commercial bank profitability is proportional to the relationship between every 1% rise in profitability, commercial bank profitability rose by

0.4333385%, any Enterprises have scale effects, banks are no exception, the size of the bank can reduce marginal costs, thereby improving their profitability; non-performing loans provision coverage ratio and commercial bank profitability is inversely proportional to the relationship between every 1% rise in profitability of commercial banks, the profitability of commercial banks fell by 0.0006444%; non-interest income ratio and commercial bank profitability is a positive relationship between every 1% rise in profitability of commercial banks rose by 0.0006444%; non-interest income ratio and commercial bank profitability is a positive relationship between every 1% rise in profitability of commercial banks rose by 0.0006444%. Non-interest income ratio is positively related to the profitability of commercial banks, every 1% increase, the profitability of commercial banks rose by 0.0046219%.

The deposit to loan ratio is positively related to the profitability of commercial banks with a regression coefficient of 0.0040405, which is an extremely weak effect. In theory, the smaller the ratio of deposits to loans, the better. The smaller the ratio of deposits to loans, the smaller the ratio, indicating that a bank's deposit volume is much smaller than its loan volume, deposits belong to the interest-paying behaviour, loans belong to the interest-bearing behaviour, which will enhance the bank's profitability; cost-income ratio is inversely proportional to the profitability of the commercial bank, but also to a certain extent, reflecting that, the bigger the cost of a bank, the bigger the consuming expenses, the weaker its profitability.

Macro indicators GDP growth rate and broad money supply growth rate are both positively related to the profitability of commercial banks, but the regression coefficients are not significant. It indicates that in a good macroeconomic situation, it will promote the profitability of commercial banks, but the profitability of commercial banks themselves is still mainly dependent on their own business.

4. Research Findings and Policy Recommendations

4.1. Research findings

Interest rate marketisation has significantly weakened bank profitability, and state-owned banks are less affected than joint-stock banks. Bank size indicators show a negative relationship on bank profitability in multiple regressions, which indicates that a bigger asset does not improve its profitability. Combining chart analysis, empirical analysis and case study analysis, it can be concluded that under the background of interest rate market reform, all profitability indicators of banks have declined to varying degrees, bank profitability has been significantly impacted, and the effect of business transformation and upgrading brought about by the interest rate market has not yet appeared.

Interest income is still the main source of profitability for commercial banks, and there is no significant correlation between the proportion of non-interest income and the profitability improvement of commercial banks. Although from the data point of view, China's banking industry's non-interest business development is rapid, non-interest income ratio is in a state of increase, but empirical research did not find that the development of non-interest business on the commercial bank profitability has an upgrading effect, so it can be seen that the traditional credit business is still the main source of profitability of commercial banks, the non-interest

business needs to be further developed. At the same time, the reduction of cost-income ratio can significantly and positively affect the bank's profitability, indicating that the reduction of operating costs can improve operational efficiency, interest rate marketisation to a certain extent promotes the bank's operational efficiency, the bank in the future development should strive to reduce costs and improve efficiency.

Capital level has a significant impact on bank profitability. The higher the capital adequacy ratio the lower the bank's return on assets, but the coefficient is relatively small, indicating that the bank's risk resilience and profitability are in a state of both sides of the coin, the reason is that the traditional interest business is still the main mode of profitability, the bank's risky assets continue to increase, and at the same time the need to meet the capital adequacy ratio in line with the regulatory level must be increased capital stock, cutting the profitability. Commercial banks should therefore flexibly adjust their risk-resistant strategies and actively expand capital at all levels.

4.2. Policy recommendations

First, diversification. On the one hand, during the period of interest rate control, commercial banks have single and similar products. After the market interest rate, commercial banks have the pricing right of products and services, and become the main body of amount innovation, which can carry out a large number of product and service innovation, increase profit channels and promote diversified operation; On the other hand, before the interest rate market reform, commercial banks' main source of profit is the net profit margin, and the process of interest rate market reform is advancing, the net profit margin is narrowing, and its profitability is affected by the impact, and the downward pressure forces it to increase investment in intermediary business and vigorously develop diversification strategy to improve its long-term profitability.

Second, optimise the customer structure. Interest rate marketisation, commercial banks have lost the protection of the central bank, so they can only consider the size of credit, due to the saturation of large and medium-sized enterprise credit market, will increase the small and micro-enterprise credit market. But commercial banks will not be unrestrained to increase the size of the loan, will go into the country's strong support of the sunrise industry, such as services and high-tech industries, will gradually discard some of the traditional high energy consumption, low efficiency, excess capacity of enterprise customer groups.

Third, financial innovation. Commercial banks in the face of the dual pressure of profitability and competition, financial innovation is imminent, in order to be more competitive, attract customers, improve profitability and successfully complete the transition.

References

- [1] Liu Fang, Institutional Analysis of Interest Rate Marketisation Reform and International Experience [J]. Journal of Central University of Finance and Economics, 2002 (6) 29-33.
- [2] He Mantao, Tang Li, Interest Rate Marketisation and Financial Innovation: Reflections on the Path of Interest Rate Marketisation [J]. Development Research, 2004(3):79-81.
- [3] Li Yang. China's interest rate marketisation: what has been done and what is to be done [J]. International Financial Studies, 2003:9-13.

- [4] Yi Gang. Interest rate marketisation in China's thirty years of reform and opening up[J]. Financial Research, 2009(1):1-14.
- [5] Yin Jizhi. Discussion on Steadily Promoting China's Interest Rate Marketisation Reform [J]. Southern Finance, 2011 (7):24~29.
- [6] Dai Guohai and Chen Difei: A study on the macro effect of interest rate marketisation in China[J]. Shanghai Finance, 2011 (09): 22~26.
- [7] Jin Zhongxia, Hong Hao, Li Hongjin The impact of interest rate marketisation on monetary policy effectiveness and economic restructuring [J]. Economic Research,2013(04):69-82.
- [8] Luo Liangwen, Lei Pengfei. The impact of interest rate marketisation on the transformation of economic growth mode [J]. Economic Issues, 2011(10)20-23.
- [9] Tan Xiaofen, Wang Yaqi, Lu Bing. Exchange rate volatility_financial marketisation and export_Tan Xiaofen [J]. Financial Research, 2016(03) 15-30.
- [10] Zha Huachao, Load Ping, China's financial marketisation level and measurement [J]. Economic and Management Research, 2016 (10).