

The Impact of Interest Rate Liberalization on the Balance of Wealth --Taking Guangzhou as an Example

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Abstract: Focusing on the current economic situation in China and Guangzhou, this paper analyzes the impact of interest rate liberalization on individuals, trade and enterprises, and further compares the changes of data and economic variables in various fields at home and abroad before and after interest liberalization. It puts forward reasonable suggestions and feasible schemes in the direction of reform, and enhances public confidence in the implementation of interest rate liberalization policies.

1. Introduction

1.1 International Background:

Since the 1980s, interest rate liberalization has been a trend of international financial market. The United States, Japan and other countries have realized interest rate liberalization as early as the last century. In the development trend and change of international financial market, China's interest rate market reform will certainly create conditions for future transactions between China and international financial institutions.

1.2 Domestic Background:

Since 1996, China's interest rate liberalization reform has been initiated; the report of the 18th National Congress of the Communist Party of China pointed out that "the reform of interest rate and exchange rate liberalization should be steadily promoted" and the Third Plenary Session of the 18th CPC Central Committee proposed "accelerate interest rate liberalization"; And on August 17, 2019, in order to deepen the reform of liberalizing interest rates, improve the efficiency of interest rate transmission, and promote the reduction of financing costs of the real economy, China's interest rate liberalization reform has become the general trend.

2. Analysis of Current Situation

2.1 The Current Situation of China's Interest Rate Liberalization

The liberalization of interest rates has a beneficial effect on the SMEs' financing through the following channels: First, interest rate liberalization expands financial institutions and changes the indirect financing predicament for SMEs. Second, the liberalization of interest rates has strengthened competition among banks[1]. SMEs and banks have formed a two-way relationship. Therefore, they will provide more reasonable prices and high-quality services to attract SME customers. At the same time, however, interest rate liberalization will also have an adverse effect on the financing of small and medium-sized enterprises: the "Matthew effect" appears when credit funds flow into the real economy, and the credit cost of large enterprises with strong bargaining power is getting lower and lower. High loan interest rates of small and medium-sized enterprises have increased the financing costs and their enthusiasm in the initial stage of operation. Information asymmetry has led to a decline of banks' enthusiasm in providing loans.

2.2 Interest Rate Liberalization and Personal Behavior

2.2.1 Deposit

Under financial control, interest rates are low and lack flexibility. Under market-based interest rates, the interest rate level changes with changes of market supply and demand. Residents will follow the principle of “profit maximization” and respond more clearly to interest rates [2]. Therefore, families tend to save more. In the income effect, the real interest rate rises, the depositors become richer, and they will increase the current and future consumption.

2.2.2 Consumption, Financial Management and Investment

The liberalization of interest rates promotes the diversification of bank wealth management products, product forms are funded, product structure changes, and high returns and high risks coexist, affecting investors' investment decisions and risk costs. The high yield of financing products will reduce the attractiveness of stocks. When the liberalization of interest rates matures, the allocation of market funds will tend to be balanced, and market interest rates will decrease, resulting in lower returns on wealth management products. At this time, individuals will transfer money to the stock market.

2.2.3 Real Estate

The lower limit of bank loan interest rates is cancelled, and banks will lend out deposits obtained through high interest rates [3]. The increase in deposit interest rates will have a negative impact on stock and real estate prices to a certain extent. Since high-income earners own more stocks and real estate, the negative impact of interest rate liberalization on asset prices is mainly borne by high-income earners, which helps balance wealth between citizens[4].

2.3 Implementation of Lpr-an Important Attempt to Market Interest Rates

LPR, which is Loan Prime Rate, refers to the loan interest rate executed by a financial institution to its best customer. Bank mortgage interest rate is currently a common interest rate mechanism. It is a form of rising and falling interest rates based on the bank's benchmark interest rate. Now, the mortgage interest rate no longer refers to the central bank benchmark, but the quoted interest rate in the market. The formula is: $LPR = \text{average (18 quoting banks MLF + free addition points)}$. From the implementation of the LPR interest rate in the real estate industry, it is conducive to maintaining the stable expectations of the real estate market. From the perspective of macroeconomic control, the implementation of LPR is a key step in dredging the monetary transmission mechanism. It realizes a direct one-way link between monetary policy and the real economy.

3. Data Analysis

3.1 Factor Research

In order to consider the influence of interest rates on the market and wealth distribution, this study takes Gini coefficient as the explanatory variable. The explanatory variable includes many factors. Based on the existing literature, the influencing factors of this study are as follows:

(1) SHIBOR: Interbank offered rate refers to the short-term capital lending rate between banks. There are two kinds of interest rates. The bid rate represents the interest rate that the bank is willing to borrow, and the offer rate represents the interest rate that the bank is willing to lend. One bank's borrowing is another bank's lending. The difference between the bid and offer rates of the same bank is the bank's income. Usually, we use LIBOR (London Inter Bank Offered Rate). But in this case, we explore china and use Shanghai Interbank offer rate (SHIBOR).

(2) Der per disposable income (DPUI): DPUI is the income after deducting the personal income tax paid, the social security fee paid by the individual and the bookkeeping subsidies of the survey households. The total family income includes the sum of wage income, net operating income, property income and transfer income of all family members during the survey period, excluding the income from selling property and borrowing and lending.

(3) per GDP: the ratio of gross domestic product per capita to the permanent population of the country (or registered residence population) in a certain period. It is an effective tool for people to understand and grasp the macroeconomic operation of a country or region.

(4) Total market value of stocks (TMVS): the total market value of stocks refers to the total value of all listed companies in the stock market. For a listed company, its stock market price is multiplied by the total number of shares issued. Like the market value of a company, the total market value of the stock market can also be used as an important indicator to measure the development of a country's stock market. The common total market value of stocks is the share (TMVS), B-share and H-share. This time, A-share.

(5) Gross domestic product (GDP): refers to the value of all the final products and services produced by a country or region's economy in a certain period (a quarter or a year). It is often recognized as the best indicator to measure the economic situation of a country. It can reflect not only a country's economic performance, but also its national strength and wealth.

(6) Inflation: the ratio of the excess currency to the actual amount of money needed to reflect the degree of inflation and currency depreciation. The common inflation rate indicators are CPI, GDP deflator and PPI, and CPI is taken as the model.

(7) Money supply (M0, M1, M2): M0 refers to cash in circulation. M1 refers to M0 plus demand (check) deposits in the commercial banking system. M2 refers to M1 plus fixed deposits and savings deposits of commercial banks.

3.2 Data Processing

In this study, 9 databases from 2010 to 2019 are selected for data analysis, including EDB economic database, securities database, fixed income database, high frequency database, bulk commodity database, information database, research database, securities index database and product chain database. Part of the data comes from Oriental Fortune choice database. Macroscopic data come from the National Bureau of statistics and China monetary network. The missing data are supplemented by manual search of China's economic analysis from 2010 to 2019.

3.3 Actual Description of Macro Characteristics

Table1 : Descriptive statistics of explanatory variables					
Variabl	Average	Standard Deviation	Min	Median	Max
GIMI	0.4757	0.0163	0.4620	0.4730	0.5200
SHIBOR	4.1730	0.6619	3.1024	4.2926	4.9564
UPDI	1.5079	0.3162	1.0000	1.4969	2.0095
per GDP	1.7524	0.3137	1.2347	1.7727	2.2044
TSMV	1.5444	0.5389	0.8091	1.6386	2.2338
GDP	1.7589	0.4203	1.1783	1.6854	2.4678
inflation	0.0251	0.1180	0.0140	0.0207	0.0540
M2	1.9833	0.5443	1.1562	1.9624	2.8225
M1	1.6500	0.4320	1.1221	1.4815	2.2782
M0	1.5248	0.2168	1.1587	1.5086	1.8413
*Mantissa processing method:Rounding.					
*UPDI,per GDP,TSMV,GDP,M2,M1,M0 based on its 2010 data.					

From the macro-economic point of view and combination of table 1, the minimum GDP growth rate is 6.8%, the average value is 7.3%, and the standard deviation is 0.0898, which shows that China's GDP has maintained a relatively stable growth rate during the observation period; money supply m2 The average growth rate of urban and rural residents is 5.9%, and the standard deviation is 367370, which is consistent with the macro background of China's long-term implementation of relatively stable monetary policy; the average per capita disposable income of urban and rural residents is 23061.7, the average growth rate is 9.01%, and the maximum growth rate is 10.13%. This shows that the overall situation of per capita income of urban and rural residents in China is gradually and steadily increasing. To sum up, the above macro indicators can reflect that from 2010 to 2019, China's macro-economy shows a steady upward growth trend.

3.4 The Direct Influence Behavior of Interest Rate Liberalization

	GROCS	GODI	TWAIROPHL	DR007	MALGICL
GROCS	1				
GODI	0.693	1			
TWAIROPHL	0.466	0.626	1		
DR007	0.330	0.646	0.572	1	
MALGICL	-0.133	-0.303	-0.740	-0.194	1

*GROCS : Growth rate of consumer spending
 *GODI : Growth of disposable income
 *TWAIROPHL : The weighted average interest rate on personal housing loans
 *MALGICL : Medium - and long-term growth in consumer loans

From the data above (shown in the table 2), there is no significant negative growth between short-term interest rate and per capita consumption growth, which reflects that short-term interest rate has a weak direct interest rate effect on consumption. Secondly, dr007, medium and long-term interest rates, personal housing loan plus average interest rates, medium and long-term interest rates have weak correlation with consumption, which shows that the transmission efficiency of short-term interest rates to the real economy is low at different stages, and the direct interest rate effect of medium and long-term interest rates is relatively weak.

3.5 Relationship between Factors

In order to better understand their correlation, this study uses interpretative structural modeling method (ISM) to clarify their previous relationship. It calculates the direct binary relationship of all factors through systematic analysis, and then displays it through hierarchical directed topology. Through the hierarchical topological diagram, the causal levels of various factors are clear at glance.

i	R(Si)	Q(Si)	C(Si)
1	1	1	1
2	2	2,3,4,5,6,8,9,10	2
3	2,3,5,8,9,10	3,4,6	3
4	2,3,4,5,8,9,10	4,6	4
5	2,5,8,9,10	3,4,5,6	5
6	2,3,4,5,6,8,9,10	6	6
7	7	7	7
8	2,8	3,4,5,6,8,9,10	8
9	2,8,9	3,4,5,6,9,10	9
10	2,8,9,10	3,4,5,6,10	10

The adjacency matrix A is established according to the influence factor table, as shown in the table, that is, the value of element a (I, J) is 0 or 1, respectively indicating that the row element fi has no or direct influence on element FJ. Because the adjacency matrix A obtained from the evaluation result belongs to Boolean matrix, according to the Boolean operation rule $M = (a + I) k = (a + I) k-1 \neq (a + I) K-2 \neq$ The reachability matrix is calculated by $\neq (a + I) (K \leq n-1)$. Through the C ++ code operation, when $(a + I) n = (a + I) n + 1$, the reachability matrix $M = (a + I) n$ is obtained by the reachable matrix M. in the reachable matrix M, FI is called the antecedent set of FJ (that is, the element of reachable set of FJ is the row element fi corresponding to the position whose column value is 1). The reachable set R (Si) (Si starting from Si, the set of possible elements), the antecedent set Q (Si) (the set of all elements that may reach the set of Si) and the common set C (Si) = R (Si) \cap Q (Si). The conclusion is in table 3. According to ISM model, we could make the relational influence hierarchy diagram (show in FIG. 1)

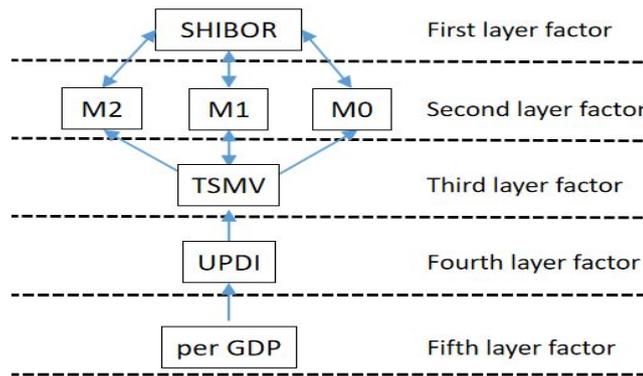


Fig.1 Relational Influence Hierarchy Diagram

Since the implementation of interest rate liberalization policy, we have found that Shanghai interbank lending rate affects M0, M1 through causal analysis, M2 three different scaling range of money, and then through the impact on the total market value of Shanghai and Shenzhen stock, and then on the per capita disposable income of urban residents, and ultimately affect the per capita GDP, we get the causal chain model from SHBOR to money to TSMV, then to UPDI and finally to per capita GDP, which is basically reversible.

4. Research Conclusion

1). In terms of income level, the increase of per capita disposable income of urban residents, the increase in investment level of the total market capitalization of The Shanghai and Shenzhen stock markets and the increase in consumption level of per capita GDP all point to the reality of improving residents' living standard. At the level of Gini coefficient, it is concluded that the interest rate liberalization has little impact on the gap between the rich and the poor. Therefore, the government and local governments can basically ignore the impact of interest rate liberalization on expanding or narrowing the gap between the wealth balance.

2). The savings behavior of Guangzhou residents tends to be rational and mature, the investment intensity is increased, and the degree of liberalization is obviously improved. During the period from 2010 to 2019, the change rate of the per capita resident's various deposit balances increased at more than 6.43 percentage points. From 2010 to 2016, the upward trend of resident loan balance was basically consistent with that of resident deposit balance. From 2016 to 2017, loan-to-deposit ratio has dropped by 6.77%. The consumption concept of residents affects the change of savings to a certain extent.

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