

Chinese Monetary Policy: Can It Make the Dragon Leap Ahead in BRICS?

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Abstract: In the wake of formation of BRICS, higher foreign capital influx in the economy and establishment of New Development Bank in Shanghai, it becomes imperative to assess the monetary policy of China vis a vis its objectives, and determine the steps needed to further ease the slower economic growth. More so, since China's economy is not only bigger than the economies of all the other BRICS members put together, but also the most influential among them all. This paper evaluates the efficacy of Chinese monetary policy over a five year time period, measures the gap between the targets and the achievements, and determines the actions to be taken in order to fill this gap. A detailed time series analysis of relevant data for the years 2010 to 2014 was performed to assess the policy and observe its weaknesses through this time period. The research shows that despite immediate effects of even slight changes in the monetary policy, the expansionary moves took a long time to be initiated in order to have the much needed impact. Although these delays initially aggravated the economic slowdown but the recent moves have made the China's monetary policy increasingly stimulatory for its economy which will have far reaching benefits for BRICS. Following an in-depth multi-dimensional analysis of the relevant data over years, some recommendations are also being made to improve the potency of the policy.

Key words: monetary policy; macroeconomics; development economics; BRICS; international economics

JEL codes: E52, E59, E60, E61, F41, F62, O53

1. Introduction

China has been in the forefront for much of the world economics due to the strong impact its domestic production and the resultant economic growth have been having on its trading partners. The position becomes even more significant due to the upcoming establishment of the New Development Bank of BRICS in Shanghai. Under such circumstances, it becomes utmost necessary to evaluate the Chinese monetary policy on the parameters determined by the central bank of China. The bank, named as People's Bank of China (PBC), declares the objectives of the monetary policy as follows:

- (1) to maintain the stability of the value of the currency and
- (2) to thereby promote economic growth.

With respect to the above, the efficacy of the Chinese monetary policy implementation depends on the stability of the money demand function (MDF) as well as the promotion of economic growth.

Efficient development and implementation of Chinese monetary policy becomes all the more significant in wake of the reduction in the 2013-2014 economic growth of all the BRICS economies, namely, Brazil, Russia,

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India, China and South Africa, the rate of economic growth in each of which, has declined to single digits.

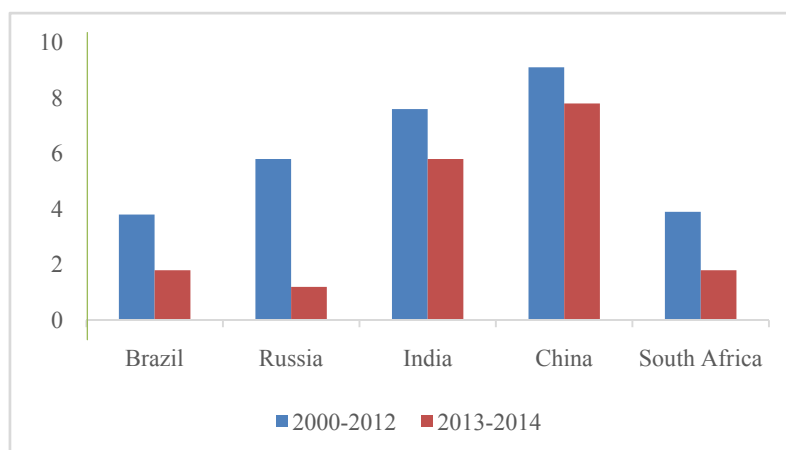


Figure 1 Real GDP Growth Rate in BRICS Economies

Source: World Economic Outlook International Monetary Fund; Penn World Table 7.1, and Author's Calculations.

To fulfill the objectives and to meet the requirement of the dynamic needs of the global economic development, China has intensified its economic and financial reforms. To this end, the country has shifted its monetary policy framework in a phased manner to become more liberal as well as innovative. PBC has adopted various conventional as well as non-standard instruments for effective implementation of monetary policy. It has already increased the flexibility of the renminbi (RMB) exchange rate and increased efforts are being made to enhance the interest rate liberalization. Apart from these, PBC is also adopting market-based monetary policy tools at an ever increased rate.

With an aim to assess the realization of the monetary policy objectives of China, in this paper, we analyze the stability of money demand in the country over past five years and also evaluate the consequent growth in economy measured by the growth in real gross domestic product (GDP). The study does not stop at just measuring the stability of MDF and the economic growth in the economy, but also goes ahead in evaluating the impact of various steps being taken by PBC to modify the monetary policy of China. Suggestions on the further development of the monetary policy modifications are also made on the basis of the findings and the discussions.

The main results of this study are as stated. We find that though China made a sloppy start, but the current financial liberalization and innovation are showing good results on the overall growth of the economy. Also since the country currently employs M2 as an intermediate monetary target, our results show that China will need to shift toward more price-based tools, such as interest rates, as an intermediate target for its monetary control. This is due to the effectiveness of M2 depending strongly on the stability of the MDF.

Currently, the PBC faces new challenges in choosing the tools apt for the most effective monetary policy. Drawing advantage from the usual double surplus in the international balance of payments, the PBC has been recently using a combination of tools, such as open market operations and central bank lending, which resulted in monetary policy getting efficacious. But in order to maintain pace with the impact, the intensity as well as the orientation of tools should be modified accordingly.

This paper is organized as follows. Section II provides a brief review of the theoretical studies undertaken to discuss the monetary policy implications in China over the years. It also presents an overview of the empirical literature on the stability of the money demand function and the economic growth in China. Section III estimates a

model for the stability of MDF and discusses the details about the data employed in order to carry the present research. Section IV uses the empirical model to evaluate the monetary policy on the basis of the adopted parameters. Additionally, it makes an assessment of the tools adopted by PBC as instruments of its changing monetary policy developments and implications. Section V presents the conclusion on the basis of the findings and discussions made.

2. Literature Review

Much has been written about little impact of People's Bank of China (PBC) on the real economy of the country's economy, for example, by Geiger (2006) and Laurens and Maino (2007) and the general inadequacy of the Bank to control the economy in the 1990s through market-based monetary policy instruments such as interest rates and reserve requirement changes. Studies such as those of Burdekin and Siklos' (2008) investigate the PBC monetary policies during this period and find that the monetary authority pursued a simple money growth rule. Dickinson and Liu (2007) suggest that by the end of 1990s, the impact of interest rates monetary policy increased on the real side of the Chinese economy.

Zhang (2009) gives evidence that an interest rate targeting rule employed by the PBC would likely be more effective than a money supply targeting rule in stabilizing China's economy. Chen et al. (2011) demonstrate that the impact of unconventional monetary policy, such as "window guidance" for commercial bank lending levels, are likely to reduce with the reduction in distortion of financial markets. Similarly, Fukumoto et al. (2010) argue that though window guidance has been successful in the past in China, its success will diminish with the development in Chinese financial sector. Fernald et al. (2014) employ a FAVAR approach to demonstrate that the institutional changes in China may have led its monetary policy transmission mechanism to become more similar to that in the western market economies.

Thus the literature about Chinese monetary policy abounds with the analysis regarding the instruments most effective for its best implementation targeting the money demand. As a general outcome, maintaining the stability of money demand function can be termed as the prime monetary target of monetary policy of China.

Several papers have made analyses about the determinants of the stability of the MDF by estimating a long-run relationship between money holdings, income, and interest rates. Sharma and Ericsson (1998); Pradhan and Subramanian (2003); and Choi and Oh (2003) found financial innovation to be an essential factor impacting the MDF. McPhail (1991); Haug (1999); Caporale and Gil-Alana (2005); and Maki and Kitasaka (2006) focus on financial liberalization as the prime determinant. Carstensen (2006); Boone and van den Noord (2008); and Dreger and Wolters (2010) found impact of wealth on MDF while Choi and Oh (2003) also highlighted macroeconomic uncertainty as a determinant of the MDF.

Regarding the effectiveness of the Chinese monetary policy instruments, Sun Guofeng (2014) discussed at large about the Chinese Monetary Policy tools. Further, study conducted by Wei Liao and Sampawende J. A. Tapsoba (2014) focuses on how financial sector liberalization impacted the monetary policy environment and how the central bank responded to the changing environment.

This paper builds upon the knowledgebase provided by these studies and moves further in the direction of making suggestions on the basis of the evaluation made.

3. Empirical Methodology and Data

The paper relies heavily on the empirical methodology employed and the data used.

3.1 Empirical Methodology

To find out money demand function, we use the measure of M2 since the PBC refers to its value as of prime significance. As identified in macroeconomic literature, an MDF is stable only if there is an integrated movement between real income, money, and its opportunity cost. On the basis of this argument, money demand function can be expressed as

$$\frac{M}{P} = f(R, Y) \quad (1)$$

Where M, P, R and Y denote money demand, price level, interest rate and national income, respectively. Putting the log values, except for the interest rate¹, Equation (1) can be specified as –

$$RM2_t = \alpha_t + \beta_t IR_t + \gamma_t RGDP_t + \varepsilon_t \quad (2)$$

Where RM2 = M2/P denotes real money demand, IR is the interest rate and RGDP is the real gross domestic product (a proxy for the scale variable–income), respectively. ε is the residual.

Now since Equation (2) can only be relevant as a money demand model for effective policy making if the relationship amongst the variables holds over a fairly long period of time. Therefore, we focus on the short-run correlation here. This would also have an impact on the effectiveness of monetary policy. For the short term, we use a modified version of the representation of correction of error such that it capturing the short-run dynamic of the MDF:

$$\Delta RM2_t = \rho_t \Delta IR_t + \delta_t \Delta GDP_t + \varphi_t \varepsilon_{t-1} + \varepsilon_t \quad (3)$$

Where ε_{t-1} is the error correction derived from Equation (2) and is equal to $RM2_{t-1} - (\alpha_{t-1} + \beta_{t-1} IR_{t-1} + \gamma_{t-1} RGDP_{t-1})$. The term φ_t is the convergence rate toward the long-term equilibrium.

The second part of the study includes research on and evaluation of the economic growth due to the various monetary policy implications. We have measured the economic growth by the increases in China's per capita gross domestic product (GDP per capita). The primary research depends on the time series analysis of the data over the most recent years, i.e., 2010 through 2014.

3.2 Data

Data set of five years, i.e., from 2010 to 2014 was chosen to research the recent trends.

The variables namely GDP per capita, M2 and short-term interest rates are collected from CEIC, the IMF's International Financial Statistics, OECD databases and Trading Economics Statistics subject to their availability. The money balance and income are taken in real terms.

4. Discussion

This section evaluates the fulfillment of both the objectives of monetary policy of China.

Focusing on the first goal, it assesses the stability of the MDF in the country by using the model developed. It is noticed that China had a relatively stable MDF towards the end of the sample period.

The analysis of the correlation between the M2 and its determinants, eventually leads to an understanding of how the changes in monetary policy have been able to impact the growth of the Chinese economy. Figure 2 shows

¹ As per the general convention.

the scatter plot exhibiting the relationship between money demanded and corresponding interest rates.

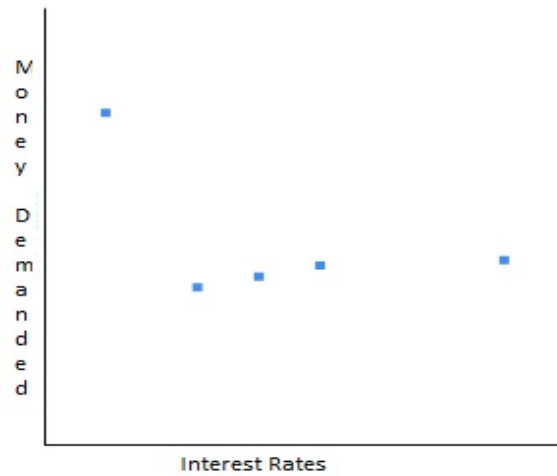


Figure 2 Relationship between Money Demanded and Interest Rate (2010-2014)

Source: OECD Data, World Economic Database and Author’s calculation

Further, Table 1 states the result of Pearson’s Correlation Analysis and shows that the money demand function has been moderately sensitive to the interest rates.

Table 1 Pearson’s Correlation Coefficient

| S.No. | Variable 1 | Variable 2 | Correlation Co-efficient |
|-------|----------------|---------------|--------------------------|
| 1 | Money Demanded | Interest Rate | -0.5341 |
| 2 | Real GDP | Interest Rate | -0.7591 |

Source: OECD database, CEIC data and Author’s calculations

The scatter plot illustrated by Figure 3 explains the relationship between real gross domestic product and interest rates in China. Further, Pearson’s Correlation Analysis showed that there has been a strong negative correlation between both variables.

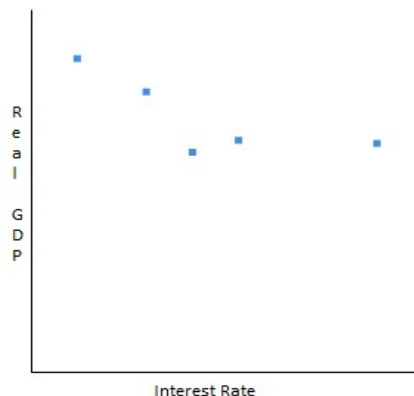


Figure 3 Relationship between Real Gross Domestic Product and Interest Rate (2010-2014)

Source: OECD Data, World Economic Database and Author’s calculation

The section also evaluates the consequent growth of Chinese economy. Our sample comprises of the data through 2010 to 2014. We use M2 since it is the PBC’s intermediate monetary policy target.

Figures 4, 5 and 6 exhibit the point estimates of M2, IR and GDP per capita during 2010-2014 with the 95 percent confidence bands. An interrelation of these figures clearly highlights the benchmark rate sensitivity tends to be not too significant for M2. During the whole sample period, we see significantly time-varying income sensitivity. Nevertheless, it is interesting to notice that M2 getting nearly stable around the last quarter of 2014.



Figure 4 Money Supply (M2) in China

Source: Trading Economy

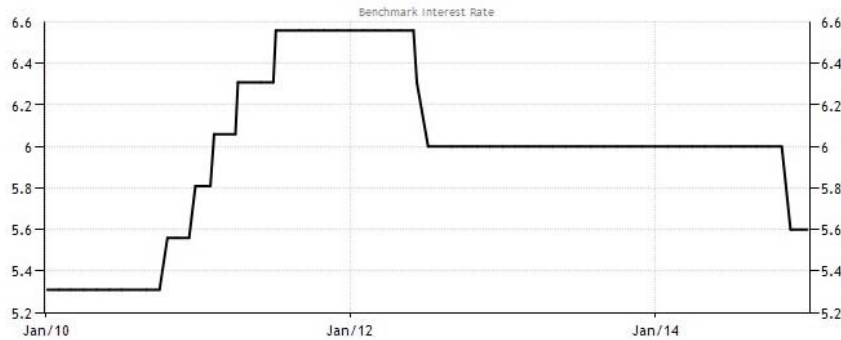


Figure 5 Interest Rate in China

Source: Trading Economics

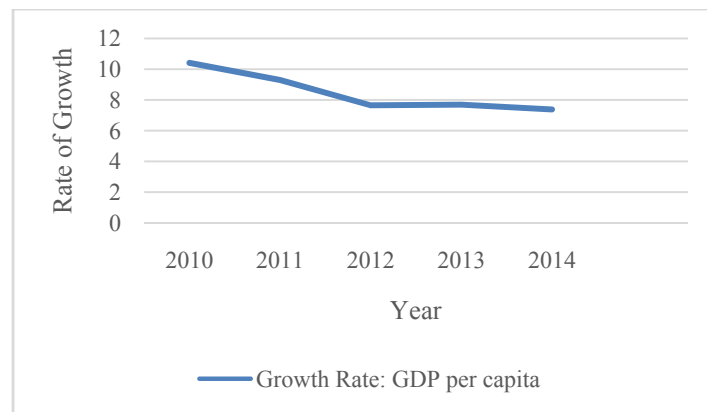


Figure 6 GDP per Capita – Growth Rate in China

Source: World Economic Outlook Database and Trend Calculation by Author

The second aim of the Chinese monetary policy seems to be the main point of concern right now. Though the GDP is increasing, and the rate of growth shows a significant decline over the sample period.

PBC is employing a prudent approach by employing hitherto missing or rarely used tools. From being increased five times in a span of one year during 2010-2011 and keeping it constant for a long time, the reforming attitude of the policy makers has incorporated two significant cuts in the interest rates during past couple of years. The reduction is justified by the correlation coefficient of -0.7591 between the real GDP of China and the interest rate prevailing in the economy is producing desired results.

In order to stabilize the demand for and supply of short-term liquidity in the banking system, PBC introduced Standing Lending facility (SLF) and Short Term Liquidity Operations (SLO) in 2013. SLF is aimed at addressing the demand for longer-term liquidity of financial institutions, and get matured in one to three months. SLOs can be understood as primarily repurchase operations with maturities of up to seven days. The bank has also started categorizing the central bank lending into liquidity lending, credit policy support lending, financial stability lending, and special-purpose policy lending.

Paying heed to the popular need, the PBC is becoming increasingly transparent. It also publishes China Monetary Policy Report every quarter to review previous monetary policies, analyze current macroeconomic and financial situation, and present insight into the next stage of policy making. The bank also exchanges relevant information with various financial institutions so as to have a more effective financial system.

5. Conclusions

In this paper we evaluate the success of the monetary policy of China in achieving its objectives of maintaining stability in currency value and driving the economy towards growth. In order to fulfill the purpose, People's Bank of China has started shifting the framework of Chinese monetary policy from one managed directly to an increasingly indirectly managed one.

Over the past five years, and more significantly during past couple of years, PBC has been adopting hitherto less used monetary policy tools leading to an effectual evolution and diversification of monetary policy instruments.

From a significantly unstable MDF, the Chinese economy seems to be moving towards relatively stable money demand function. Evidence suggests that the parameters of the MDF seem to be changing with the ongoing financial reforms and innovations. This takes attention towards the significance of market-based instruments, such as interest rates, as intermediate targets for monetary control. The changes in the interest rates have a fast influence on the money demanded and the national income and thus, are one of the most essential factors in transmitting the desired effects of the monetary policy to the economy. Consequently, the reduction in the benchmark rates seems to be producing positive results for the economy.

Additionally, the PBC has been successful in making the Chinese monetary policy getting proactive employing a combination of tools, such as open market operations and central bank lending. Thus, there is direct positive impact of the macro prudential policy regulation being adopted suggesting towards the maintenance of timely orientation and adoption of required standard as well as non-standard policy instruments.

Nevertheless, the monetary policy of China faces certain challenges, especially due to the changing economic environment. To start with, though the PBC seems to have hit the right chord with the requirements, and is behaving proactive at the moment, it should not get complacent at any time. The bank, hence should move towards increased transparency. Secondly, most of the economy is relying on the traditional instruments of credit expansion. Thirdly, the PBC has a challenge of creating a balance between standard and non-standard policy tools.

Finally, the policymaking has to be focused on the fact that the regulations that bear directly on the conduct of monetary policy include reserve requirements, interest rate ceilings, discount window mechanisms, and different types of balance sheet constraints such as lending limits and capital ratios. So the PBC needs to plan proactively and react promptly according to the changing the financial conditions of the economies across the globe and the relationship of Chinese economy with them.

Hence it can be inferred that after witnessing the current success and in order to nurture the recovery, the PBC should continue its ongoing easy and effective monetary regulation. Firstly, the bank should carry on with the combined usage of varied monetary policy instruments to manage money demand. Second, it should continue the interest rate reforms. Thirdly, it should pay further heed towards financial liberalization and innovation. Fourthly, though the country may have positive balance of payments, bank should pay attention towards efficient financing for economic restructuring. Further, the bank should keep on the current approach of prioritizing balance over pace.

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