

Research on the Information Spillover Effect of Fintech Policy on China's Money Market

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Abstract: In recent years, China's money market has been increasingly opened to the outside world and accelerated speed, which makes it more vulnerable to external financial shocks and external risk contagion. This paper chooses a micro perspective to study the information spillover effect of monetary policy on China's monetary market from the perspective of theoretical modeling, which is of great significance for the central bank to prevent and defuse financial risks, maintain the independence of domestic monetary policy, and for investors to effectively allocate resources and improve the return rate.

Keywords: Money Market; Fintech; Policy; Information Overflow

1. Introduction

In recent years, China's money market opening up has been accelerated and strengthened. Specifically, it is the relaxation of policy system, the connection with the international money market, and the increase of external investment demand. Rey (2013) put forward the concept of global financial cycle for the first time: the fintech monetary policy overflows to other countries through credit channels, risk taking channels and other ways, making the global risk asset price, capital flow, the credit growth and the leverage ratio highly active. the fintech monetary policy has an important impact on the international financial market, but its impact on China's money market is rarely studied. To choose China, it is of great significance to study the spillover effect of the fintech monetary policy on China from the micro perspective. First, we can have a deeper understanding of the fluctuation characteristics and laws of China's money market in the process of gradually integrating with the international market, so as to provide the policy basis for risk prevention and resolution in the process of opening up. Second, the money market is an important intermediary of monetary policy transmission, and also an important intermediary related to money market and capital market. The research perspective of money market can more directly and quickly reflect the linkage and spillover mechanism between financial markets. Third, the interest rate variable contains rich information. The empirical test of the interest rates in the two countries can more accurately measure the information spillover effect of monetary policy. Fourth, the global financial cycle is a challenge to the ternary paradox based on the non-selling interest rate parity. To test the following degree of China's interest rate to the US interest rate, we can judge the independence of China's monetary policy under the financial globalization.

2. The current situation of information spillover from fintech policies to China's money market

As the world's second largest economy, China has continuously promoted the comprehensive financial opening through the opening of the financial industry, capital account, the reform of exchange rate formation mechanism and the internationalization of RMB, and improved the efficiency of the Chinese economy through the optimal allocation of resources on the global scope. Although the cross-border market linkage and financial opening up enhances the international competitiveness of China's financial market, improve the service level of the financial industry, and promote the strategy of RMB internationalization, they also make China more vulnerable to external financial shocks and external risk contagion. In recent years, the opening up of China's money market has been

accelerated, which is reflected in the access system, international market connection and external investment demand. From the perspective of access system, President Xi Jinping at the Boao Forum for Asia in April 2018, President Xi Jinping proposed four major measures for China to further open up to the outside world, involving the complete abolition of the restriction on the shareholding ratio of financial institutions. On November 7, 2018, the Ministry of Finance issued the Notice on the Enterprise Income Tax VAT Policy of Foreign Institutions investing in the Domestic Money Market. The notice said that from November 7, 2018 to November 6, 2021, the bond interest income obtained from foreign institutions investing in the domestic money market is temporarily exempted from corporate income tax and value-added tax. On September 21, 2020, the People's Bank of China and the State Administration of Foreign Exchange issued the Regulations on the Management of Foreign Institutional Investors' Investment in China's Money Market (Draft), lifting a variety of restrictions on the settlement and sale of foreign exchange to facilitate overseas institutions' investment in China's money market. In the past three years, relevant policies have increased rapidly, and the opening of China's money market is ready to begin. In terms of the connection with the international market, on May 16, 2017, the People's Bank of China and the Hong Kong Monetary Authority issued a joint announcement to launch the connectivity cooperation between Hong Kong and the mainland (the "Bond Connect"). From October 29, 2021, Chinese Treasury bonds were included in the FTSE Russell Global Government Bond Index, completed in 36 months. That means the world's three major bond indexes include Chinese bonds, with passive inflows of hundreds of billions of dollars. This shows that China's money market has a large space to open to the outside world. Third, the market prospect of the RMB exchange rate is positive. After the outbreak of COVID-19, major economies have resumed their quantitative easing monetary policy, and the low interest rate will continue.

3. Analysis of the information spillover effect of China's money market

In the past two decades, a large number of new Keynesian dynamic stochastic general equilibrium model (NKDSGE) studies has emerged, which has driven the development of structural monetary policy modeling. Christiano et al. (2005) proposed a nominally rigid DSGE model to study the response of the US economy to monetary policy. The results show that after the monetary impact, the inflation shows the reaction of inertia, and the actual variables such as output, consumption and investment also react to the monetary impact. Their study found that nominal wage showed outstanding in the model, while price stickiness showed little effect. In the context of the global financial crisis, the NKDSGE model highlights the role of financial market friction in the transmission of monetary policy impact, which makes the subsequent research focus on the policy impact of the financial market. Faia (2001) established a two-country model of credit friction, compared the functions of different exchange rate systems, and found that under the fixed exchange rate system, the effect of exchange rate adjustment on the net assets and investment of enterprises through the interest rate is more lasting than under the floating exchange rate system. Gertler and Karadi (2011) include financial intermediaries in the DSGE model, and this financial intermediary has endogenous balance sheet constraints. They used the model to simulate the effectiveness of central banks' unconventional monetary policies in the face of the impact of a financial crisis. The study found that when the cost of quantitative easing is small, the policy benefits are considerable. In the financial crisis, even if the interest rate does not reach the zero interest rate floor, the quantitative easing monetary policy can also achieve better benefits. When interest rates reach the zero floors, the benefits of quantitative easing monetary policy further strengthen. Christiano (2014) expands the standard dynamic general equilibrium model including the financial accelerator mechanism, fits the American data, so that the cross-sectional heterogeneous uncertainty fluctuations change with time, and takes the change as a measure of risk. The study found that risk volatility is the most important impact of the economic cycle.

The NKDSGE model has become the standard theoretical model for macroeconomics research. In particular, the central bank uses the NKDSGE model as a reference model for formulating monetary policy. For example, to determine what shocks drive the fluctuations of the current economic cycle, the central bank can adopt corresponding policies to respond to different types of shocks. In the context of increasing global financial integration, cross-border bank balance sheet risks, mortgage constraints and currency mismatch have all been included in the NKDSGE model to study the role of financial market friction in the cross-border transmission of monetary policy. In such a mechanism, loan losses within a country will cause a global economic decline. Kollmann (2012) constructed a two-country model using Bayesian methods using US-European data. The model assumes that the economic sector of each country includes representative workers, entrepreneurs, governments, and global banks. The global bank collects deposits from

working families in both countries and loans it to businesses in both countries. According to regulatory requirements, banks must have a certain proportion of their own capital, which means that deposit and loan spreads are a function of the bank capital (because the marginal return of bank capital is a function of the bank capital). Model assumes that there are demand and supply shocks in the two economies, random loan losses, and the policy impact of bank capital ratio requirements (the impact called bank impact or financial impact), and focus on the spread of the international financial impact mechanism, the model can well fit the actual fluctuation of the economy.

4. The significance of information spillover of fintech policies to China's money market

First, the traditional international spillover research of monetary policy is based on the macro perspective. The spillover channels mainly include interest rate channels, exchange rate channels, trade channels, etc. These channels overflow a country's monetary policy to the macro economy of other countries through transnational economic activities. With the development of global financial integration and the breakthrough of information technology, a country's monetary policy may also have a spillover effect on the financial markets of other countries and affect the financial stability of other countries. The influence of monetary policy information on investors' trading behavior is an important channel for policy spillover at the micro level, but there is little literature on this. Exploring the information spillover effect of monetary policy based on the micro perspective enriches the international spillover theory of monetary policy.

Second, the fintech monetary policy drives the global financial cycle, making the asset prices and capital flows of various countries show a certain degree of linkage, which makes the ternary prisoner theory into a binary paradox. Only capital control can maintain the independence of the domestic monetary policy. The existing research is mainly from credit channels, risk taking channels, valuation channels and other macro channels. This paper takes the term structure of Chinese national bond interest rate as the starting point, tests the validity of the ternary paradox from the perspective of micro market information spillover, and supplements the research on the global financial cycle theory.

Third, both the traditional interest rate maturity structure theory based on qualitative research and the modern interest rate maturity structure theory depicting random interest rate fluctuations with mathematical models explains the relationship between the bond yield to maturity and maturity from the perspective of domestic economic fundamentals, public expectation and the market supply and demand. ,and China's short-term and long-term interest rate can expand the maturity structure theory of interest rate, and provide a new research perspective for the risk pricing of Treasury bonds.

Fourth, the information overflow of monetary policy has the characteristics of fast and efficient, no matter through the central bank goods hemp policy statement, meeting minutes, leaders speak this way of direct information transmission, or through financial market asset prices or volatility linkage of indirect transmission, a country's monetary policy may quickly overflow to other countries of micro financial markets, affect traders yield expectations and the portfolio choice.

Fifth, unlike countries that have a typical single exchange rate system or capital control system, China has a special foreign exchange system reform and capital control process, and in the context of the global financial cycle, the method of isolating external financial shocks is different from the traditional approach.

Sixth, the research focus of monetary policy spillover effect is the choice of policy impact measurement index, conclusion often because of the index selection of differences, in particular, the implementation of unconventional monetary policy in developed countries, make the measure of monetary policy impact index is no longer limited to price or quantitative monetary policy tools, and turn to the shadow interest rates, interest rate futures prices, the money market yields more rich information content.

Conclusion

In terms of overall content, based on the theory of rational expectation, the paper constructs a theoretical model to analyze the influence of monetary policy information on Chinese monetary market transactions under signal channel and maturity premium channels; takes the monetary policy statement as the source of monetary policy adjustment and the spillover effect of Chinese monetary market to test and analyze the spillover channel of monetary policy information on China's monetary market. Finally, to provide specific suggestions for central banks and bond investors to deal with the impact of monetary policy information.

References

- [1] Jiang YX, Zheng LY, Wang JZ. Research on external financial risk measurement of China real estate[J]. International Journal of Finance & Economics,2020,26(4).
- [2] Su Z, Liu P, Fang T. Uncertainty matters in US financial information spillovers: Evidence from a directed acyclic graph approach[J]. Quarterly Review of Economics and Finance, 2022, 84.
- [3] Wang GJ, Yi SY, Xie C, Stanley H. Eugene. Multilayer information spillover networks: measuring interconnectedness of financial institutions[J]. Quantitative Finance,2021,21(7).
- [4] Long W, Guo Y, Wang Y. Information spillover features in global financial markets: a systematic analysis[J]. Research in International Business and Finance, 2021.
- [5] Byoung-Hyoun Hwang, José María Liberti, Jason Sturgess. Information Sharing and Spillovers: Evidence from Financial Analysts[J]. Management Science, 2019, 65(8).