Research Progress on the Transmission Mechanism of the Fed's Interest Rate Cuts to the Chinese Economy

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Abstract

This paper aims to systematically review the current research status on the transmission mechanism of the Federal Reserve's interest rate cuts to the Chinese economy, analyze the existing research deficiencies, and provide references for future research and suggestions for responding to the Federal Reserve's interest rate cuts. The research shows that the Federal Reserve's interest rate cuts affect the Chinese economy through seven channels: trade (co-directional changes in trade surplus and false arbitrage, "petrodollar" effect), capital flows (capital inflows and outflows and asset price fluctuations caused by interest rate differentials, constrained by capital controls), exchange rates (depending on the relative performance of the Chinese and US economies, with variable impacts on inflation and exports), commodity prices (increasing manufacturing costs and passing on to prices), asset prices (A-share valuation repair and bond market interest rate fluctuations), financial frictions (amplifying the "export decline - financing difficulty" cycle), and monetary policy (passive adjustment and space compression). Existing research has problems such as insufficient method accuracy, lack of research in emerging fields and micro-level, and lack of quantification of channel interaction. In the future, research needs to be improved, and China can balance stable growth and risk prevention through "policy coordination + expectation management".

Keywords：Fed Rate Cuts; Chinese Economy; Transmission Mechanisms; Monetary Policy

1. Introduction

In 2024, the Federal Reserve announced interest rate cuts on September 18th, November 7th, and December 18th. As the world's largest economy and the issuer of the international reserve currency, U.S. interest rate decisions can impact China's economic system through various channels, triggering a series of chain reactions such as fluctuations in the domestic financial market and economic restructuring, which has attracted significant attention from the academic community and policymakers. Delving into these transmission mechanisms is crucial for China to formulate more effective macroeconomic policies and maintain economic and financial stability and sustainable development amid a complex and volatile international economic environment. This paper aims to systematically review the current research status on the transmission mechanisms of the Federal Reserve’s interest rate cuts to the Chinese economy, analyze the shortcomings of existing research, and provide references for future studies.

2. Current Research Status on the Transmission Mechanisms of Fed Rate Cuts to the Chinese Economy

2.1 Impact via the Trade Channel

The trade channel is an important transmission path through which the Federal Reserve's interest rate cuts affect the Chinese economy. This impact is reflected not only in the changes in the actual scale of trade but also in the capital arbitrage behavior triggered by false trade, as well as the special linkage effect on energy trade. Tai Jinyi and Wu Tao (2022)[16] pointed out that the Federal Reserve's interest rate cuts are transmitted through the chain of "changes in the Federal Reserve's monetary policy → changes in the US dollar exchange rate (depreciation during expansion and appreciation during tightening) → changes in China's trade environment (increase in external demand during expansion and decrease during tightening) → changes in China's trade surplus", which makes China's trade surplus change in the same direction as the Federal Reserve's loose policy. A typical example is that China's trade surplus increased tenfold during the quantitative easing period in 2008. However, this transmission has a time lag of about 3 to 6 periods and can only be fully manifested after the recovery of US consumption and investment demand, the signing of orders, and the delivery of production.

At the same time, the expansion of carry trade profits caused by interest rate cuts may also give rise to capital arbitrage in false trade. Li Ziruo and other scholars (2024) [17] based on the trade data from 2004 to 2013 at the HS6-digit product level from the Chinese mainland to Hong Kong Special Administrative Region found that after the Federal Reserve's interest rate cuts pushed up carry trade profits, the export volume, the proportion of false exports, and the re-import volume of high-value weight ratio products (such as silk and precious metals) all significantly increased. Moreover, this phenomenon was more prominent in industries with a higher proportion of processing trade, foreign-funded enterprises, and intermediate goods trade, reflecting the obvious industry and subject heterogeneity of capital arbitrage behavior in false trade.

From the demand side, the Federal Reserve's interest rate cuts directly expand the import demand for Chinese consumer goods (such as home appliances and electronic products) and intermediate goods (such as mechanical parts) by reducing the financing costs of US enterprises and enhancing the consumption capacity of residents. This change directly benefits export-oriented manufacturing clusters in the Yangtze River Delta and Pearl River Delta. Tan Xiaofen and Wang Xinkang (2024) [18] also provided an indirect logical argument, that is, the gradual recovery of the US economy with interest rate cuts will drive the recovery of global supply chain demand, and as the "world factory", China's export growth rate may further increase under this background.

In addition, the Federal Reserve's interest rate cuts also affect China's energy trade through the "petrodollar" effect: on the one hand, interest rate cuts push down the US dollar and increase market risk appetite, driving up international oil prices. As a major oil importer, China's import costs may rise, squeezing the profits of energy-intensive industries such as chemicals and transportation. On the other hand, in the "petrodollar" cycle adjustment triggered by rising oil prices, the proportion of RMB settlement in trade between China and Middle East oil-exporting countries may increase, indirectly providing support for the internationalization of the RMB (Guo Dong, 2022) [19].

2.2 Impact via the Capital Flow Channel

The capital flow channel is also critical in the process of transmitting the effects of Fed interest rate cuts to the Chinese economy. Liu Weiping and Ma Yongjian (2020) [7] found that during the period when the Federal Reserve implemented quantitative easing policies, the interest rate cuts by the Federal Reserve increased the interest rate gap between China and the US, attracting international funds to flow into China. A large amount of capital flooded into China's stock market and real estate market, pushing up the prices of these assets. However, when the Federal Reserve began to implement tightening policies (monetary policy normalization), first raising interest rates and then cutting them, the direction of capital flow might reverse, leading to capital outflows from China and exacerbating fluctuations in China's domestic financial market. Li Tianfeng (2011) [14] further investigated this phenomenon, noting that the U.S. second round of quantitative easing coupled with zero interest rates significantly widened the Sino-U.S. interest rate differential. This attracted substantial short-term speculative capital (hot money) into China. Hot money inflows compelled the People's Bank of China (PBOC) to increase base money supply through foreign exchange purchases, accelerating the growth of China's overall money supply (M2), pushing up asset prices like real estate and stocks, and consequently increasing financial market risks. Fortunately, the Federal Reserve's interest rate cuts have limited the ability to attract capital inflows into China by lowering interest rates. Xiao Weiguo and Lan Xiaomei (2017) [8] pointed out that this ability is restricted by China's capital control (regulation of capital inflows and outflows) and the flexibility of the RMB exchange rate (degree of exchange rate fluctuation). Capital controls and exchange rate flexibility can alter the sensitivity of capital flows to interest rate changes, thereby influencing the ultimate scale of funds flowing into China. Concurrently, the characteristics of capital flows vary across different Fed easing cycles; sometimes, the interest rate differential shifts in China's favor even after a rate cut. Guan Tao and Wang Che (2024) [2] found that during 2001-2004, due to the significant interest rate cuts by the Federal Reserve after the September 11th attacks, funds flowed back to China, and China's foreign exchange reserves accumulated at an accelerated pace.

2.3 Impact via the Exchange Rate Channel

The exchange rate channel is an important link through which the Federal Reserve's interest rate cuts affect the Chinese economy. Qi Xiaonan et al. (2013) [12] found through a mathematical model that when the Federal Reserve purchases more treasury bonds (part of quantitative easing), the real effective exchange rate of the RMB (a comprehensive exchange rate indicator) rises, and the pressure for the RMB to appreciate increases significantly. This is because the Federal Reserve's interest rate cuts lead to the depreciation of the US dollar, and at the same time, international funds flow into China, jointly pushing up the value of the RMB. However, Xiao Lisheng et al. (2024) [1] found that past experience shows that the Federal

Reserve's interest rate cuts do not necessarily lead to a stronger RMB. For instance, during the interest rate cut cycle from 1995 to 1998, the US dollar index actually appreciated by 23.9%, putting depreciation pressure on the RMB. The RMB exchange rate ultimately depends on the relative performance of the Chinese and US economies: if the US economy performs better than the Chinese economy, even if the Federal Reserve cuts interest rates, the US dollar may appreciate, and the RMB will face depreciation pressure; conversely, if China's economic fundamentals are strong, the RMB may appreciate during the Federal Reserve's interest rate cut cycle.

Some scholars have conducted more detailed research on how interest rate cuts affect exchange rates and, subsequently impact imports and exports. Li Zilei and Zhang Yun (2013) [11] indicated that the Federal Reserve's interest rate cuts (quantitative easing) lead to the depreciation of the US dollar, causing the nominal effective exchange rate of the RMB to rise. In the short term, the appreciation of the RMB may push up domestic prices (inflation) due to the inflow of hot money; but in the long term, the appreciation of the RMB will suppress exports, leading to a decline in total demand, which in turn exerts downward pressure on prices, creating an impact of first pushing up prices and then pulling them down. Sun Yanlin and Zhang Qianting (2016) [10] further discovered that the impact of the Federal Reserve's interest rate cuts on exports through the exchange rate channel varies in different periods. During the interest rate cut cycles in 1999 and 2004, the depreciation of the RMB (or stable exchange rate) had a significant stimulating effect on exports; but after 2015, with the weakening of global demand, the impact of exchange rate changes on exports has decreased, and the relative appreciation of the RMB has been difficult to effectively stimulate export growth. This precisely corroborates the views of Li Zilei et al.

2.4 Impact via the Commodity Price Channel

The commodity price channel is also an important path through which the Federal Reserve's interest rate cuts affect the Chinese economy. Hu Xiaopeng and Li Qi (2024) [3] believe that since international commodities are mainly priced in US dollars, the Federal Reserve's interest rate cuts push down the value of the US dollar, causing their prices to rise. As a major manufacturing country, China is highly dependent on imported commodities, and the increase in raw material costs has brought significant pressure to China's manufacturing industry. If the prices of oil and other commodities remain high, it will not only increase the production costs of enterprises but may also lead to changes in the global manufacturing layout, impacting the share of "Made in China" in the international market. How significant is this impact? Fang Xianming and Wang Haofei (2011) [13] found that the increase in commodity prices raises China's import costs, and this cost is transmitted through the production chain to the factory-gate prices (PPI) of domestic factories, ultimately pushing up the prices of goods purchased by consumers (CPI). Consequently, an RMB appreciation of 3%-5% could erase the profits of labor-intensive industries (reduce them to zero), while simultaneously increasing imported inflationary pressures.

2.5 Impact via the Asset Price Channel

The asset price channel is an important transmission path through which the Fed's interest rate cuts affect the Chinese economy. Its effect is reflected in the differentiated changes in stock market, bond market and metal commodity prices. Zeng Xuewen (2024) [4] pointed out that the Fed's interest rate cuts would lower the financing costs of US enterprises, driving the short-term rise of the US stock market. At the same time, it would prompt international capital to flow out of the US market and into China's A-share market. On the one hand, it would drive the overall valuation of A-shares to recover at a low level. On the other hand, the expansion expectations of US growth stocks would be transmitted to the A- share technology sector, helping to boost the valuations of related industries. However, it is necessary to be vigilant that if the Fed's interest rate cuts do not meet market expectations, it may cause the capital flow direction to reverse, thereby intensifying the short-term fluctuations of A-shares.

In the bond market, Zeng Xuewen also mentioned that the Fed's interest rate cuts would lead to a decline in US bond yields, with short-term bond yields falling more than long-term bond yields. Although China's bond market interest rates are mainly determined by domestic factors, they are affected by the downward trend of global risk-free interest rates. As a result, short-term interest rates are under pressure, while long-term interest rates are constrained by inflation expectations and the economic fundamentals, presenting an overall trend of "low at the beginning and high at the end" [4]. Su Yingrong and Wang Yilin (2022) [8] further supplemented that the Fed's interest rate cuts could also increase the liquidity of China's bond market through the "liquidity channel", improving the trading activity of bonds and thereby reducing the market liquidity premium.

2.6 The Amplifying Effect of Financial Frictions

Wang Sheng et al. (2021) [6] focused on the amplifying effect of financial frictions in the process of the Fed's interest rate cuts affecting the Chinese economy. They pointed out that the Fed's interest rate cuts amplify the impact on the Chinese economy through financial frictions (such as stricter collateral requirements for enterprises borrowing). A decline in US demand leads to a reduction in China's exports, causing a fall in the asset prices of Chinese enterprises. The assets they use as collateral lose value, making borrowing more difficult and further reducing investment. This creates a vicious cycle: export decline → asset depreciation → financing difficulties, exacerbating economic fluctuations. When financial friction exists, increased borrowing difficulty and tight cash flow mean firms might forgo good investment opportunities due to insufficient funds, further restraining economic growth.

2.7 Passive Adjustments of Monetary Policy and Compressed Space

The Fed's interest rate cuts also have a significant influence on China's own monetary policy. Tan Xiaofen (2010) [15] found that during the Fed's interest rate cuts, capital inflows led the People's Bank of China to passively increase the printing of base money, increasing domestic money supply; but when the Fed starts to raise rates (exit from loose policy), capital outflows may cause domestic liquidity to tighten. At this point, the People's Bank of China needs to take countermeasures, such as regulating the amount of money in the market through open market operations, which increases the cost of policy adjustment. At the same time, the value of China's holdings of US Treasury bonds may decline due to the Fed's rate hikes, leading to a reduction in China's foreign exchange reserves and affecting China's international payment capacity and financial stability.

On this basis, Wang Yang and Liu Tenghua (2021) [5] further pointed out that China's long-term reliance on foreign exchange purchases (foreign exchange reserves) to inject base money has limited its independence in adjusting interest rates. When the Fed cuts rates, if China follows suit, it may exacerbate domestic inflation, however, if China keeps interest rates unchanged, the widening interest rate gap between China and the US may attract more hot money inflows, making it difficult for the central bank to fully offset this external shock and reducing China's space for adjusting its own monetary policy. Consistent with the above mechanism analysis, Zeng Xuewen (2024) [4] found that the Fed's policy shift may compress China's own policy space. China needs to strike a balance between "stabilizing economic growth" and "preventing financial risks". When China's economy is under downward pressure, it needs to use loose monetary policies to stimulate the economy, but the risks such as imported inflation brought about by the Federal Reserve's interest rate cuts limit the operation of China's monetary policy. Looking back further at historical practices, Sun Yanlin and Zhang Qianting (2016) [10] found that China adjusted its strategies according to the situation in the past. For instance, in 1999 it took reverse operations (lowering interest rates to stimulate loans) to counteract the impact of capital outflows; in 2004, it followed the Federal Reserve's interest rate hikes to maintain a stable interest rate spread and curb capital outflows. All these reflect that China's monetary policy space is constrained by the Federal Reserve's policies. After 2015, with the adjustment of China's economic structure and the advancement of financial market reforms, China's monetary policy has emphasized "domestic conditions as the main factor". However, when formulating policies, it still needs to consider the expectations of the Federal Reserve's policies and the domestic and international economic situations.

3. Research Gaps

Although existing research has conducted a relatively comprehensive analysis of the transmission mechanism of the Fed's interest rate cuts to the Chinese economy, there are still some deficiencies.

From the perspective of research methods, most studies adopt qualitative analysis and simple empirical models, which are not precise enough in depicting the dynamic changes and interaction mechanisms of various transmission channels in a complex economic environment. Some empirical studies have a relatively short time span of samples, making it difficult to cover the impact characteristics of the Fed's interest rate cuts under different economic cycles, thus limiting the universality of the research conclusions. For example, in the analysis of the capital flow channel, the high-frequency data of short-term capital flows are underutilized, failing to fully capture the instantaneous changes in capital flows and their impact on the financial market.

In terms of research content, there is a lack of research on some emerging economic fields and the behavior of microeconomic entities. With the increasing proportion of emerging fields such as the digital economy and green finance in the Chinese economy, the research on the transmission mechanism of the Fed's interest rate cuts in these fields is still weak. At the micro level, the heterogeneity of the impact of the Fed's interest rate cuts on enterprises of different scales and income groups is not deeply studied, which cannot provide sufficient basis for targeted policy formulation. In the research on the trade channel, the impact on service trade is rarely analyzed, while global service trade is developing rapidly. The lack of research in this area is not conducive to a comprehensive understanding of the impact of the Fed's interest rate cuts on the Chinese economy.

In terms of comprehensive research on various channels, although it is recognized that the channels are interwoven, there are few quantitative studies on the interaction effects among the channels. The weight changes of the impact of each channel on the Chinese economy as a whole under different economic conditions have not been accurately evaluated, which makes it difficult for policymakers to precisely grasp the focus points and calibrate intervention strength when responding to shocks from Fed rate cuts.

4. Conclusions and Suggestions

In summary, the transmission mechanism of the Fed's interest rate cuts to the Chinese economy is a complex and multi-dimensional process, exerting extensive influence on the Chinese economy through multiple channels such as interest rates, exchange rates, capital flows, trade, prices, and passive adjustments in monetary policy. Existing research has achieved certain results in the mechanism and impact of each channel, but there are still deficiencies in terms of the forward-looking nature of research methods, the interaction among channels, economic cycle heterogeneity, and the impact on specific industries and microeconomic entities. Future research can build on this foundation, further improve research methods, strengthen the study of the interaction among channels and economic cycle heterogeneity, and deeply analyze the impact on specific industries and microeconomic entities, providing more comprehensive, in-depth, and targeted theoretical support and policy recommendations for China to deal with the economic fluctuations brought about by the Fed's interest rate cuts.

Given the complexity of the Federal Reserve's policy adjustments and the demands of the Chinese economy, a precise response system of "policy coordination + expectation management" can be further constructed. Drawing on Jason Furman's strategy of "maintaining the continuity and stability of monetary policy and gradually and cautiously adjusting from very loose to moderately tight" [20], when responding to the impact of the Federal Reserve's interest rate cuts or subsequent quantitative easing exits, China should avoid a "sharp turn" in its monetary policy due to external pressure. Instead, it should dynamically fine-tune based on domestic economic fundamentals such as inflation levels, export growth rates, and capital flow scales. At the same time, by referring to Furman's approach of "distinguishing the different responsibilities of monetary and fiscal policies, with monetary policy flexibly and timely adjusted based on economic data and fiscal policy focusing on medium- and long-term plans and development" [20], the "monetary + fiscal" policy coordination can be strengthened: monetary policy should focus on short-term liquidity management and risk prevention, flexibly adjusting interest rates and exchange rate flexibility in accordance with the Federal Reserve's policy pace and changes in domestic PPI and CPI; fiscal policy, on the other hand, should focus on the medium and long term, increasing research and development subsidies and tax and fee reductions for energy-intensive enterprises and emerging fields such as the digital economy that are affected by the rise in commodity prices, to offset external cost pressures. At the same time, it should stabilize total demand through new infrastructure investment, helping China to more efficiently respond to the spillover effects of Federal Reserve policies while maintaining a balance between stable growth and risk prevention.

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