The Course and Experience of Coordinated Control of Monetary Policy and Fiscal Policy in China

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Abstract

Monetary policy and fiscal policy are important means of macro-control, and the coordination and cooperation of the two show the characteristics of stages. The mutual cooperation of monetary policy and fiscal policy can effectively regulate the economic operation, so it is of great significance to study the coordination and cooperation of the two major policies for China's economic development. This paper firstly sorts out the relevant economic theories about the coordination and cooperation of monetary policy and finance, and explains the necessity and limitation of the coordination and cooperation between the two. Then combined with China's economic development process, it mainly reviews the process of coordination and cooperation between the two major policies since China entered the market economy, summarizes and analyzes the phase characteristics of the two, and finds that the two have played an important role in China's macroeconomic adjustment, effectively promoting the high-quality development of China's economy. In addition, through the construction of VAR model, it is analyzed that there is a time lag in the adjustment effect of the two major policies on the economy, and the asymmetric relationship between monetary policy and fiscal policy. This paper further summarizes the experience and enlightenment of the coordination and cooperation of the two major policies on China's economic development, and believes that monetary policy and fiscal policy should insist on promoting supply-side structural reform and pay attention to economic structural adjustment; maintain the continuity and stability of macroeconomic policies, and be cautious formulating macro-control policies; organically combining counter-cyclical and cross-cyclical control policies, taking into account both current economic issues and long-term economic development.

Keywords

Fiscal Policy; Monetary Policy; Coordinated Regulation.

1. Introduction

Fiscal policy and monetary policy, which are important means of China's macro-control, play an important role in regulating the total supply and demand of society. Monetary policy is more inclined to aggregate adjustment management, and the effect is direct and significant; fiscal policy is inclined to structural adjustment management, which can promote economic optimization by improving the expenditure structure. Fiscal policy and monetary policy have complementarity in means and interaction between transmission mechanisms, and at the same time have certain differences in focus areas, which determines the necessity of coordination and cooperation between the two in macro-control [1]. Due to different economic control objectives such as economic operation, price stabilization, and employment, the coordination and cooperation forms of fiscal policy and monetary policy are also different [2]. Since the founding of New China, the economy in China has gradually shifted from a planned economic system to a market economy, and the government's control measures have also undergone a

major change. The "counter-cyclical" macro-control method advocated by Keynes is actually the coordinated control of monetary policy and fiscal policy, and it is also the main macro-control system since China's reform and opening up [3]. At present, China's economic development has shifted to a stage of high-quality development. Fiscal policy and monetary policy are facing new challenges. The two must be further coordinated and controlled to more effectively stabilize the direction of the macro economy. Improving and implementing macro-control policies, maintaining steady economic growth, and further optimizing the economic structure are China's main tasks at present. In view of this, this paper sorts out the coordinated regulation process of China's monetary policy and fiscal policy coordination, draws experience from it, and further strengthens the coordination and linkage of fiscal policy and monetary policy in the new stage of economic development. Summarizing the practice of coordinated regulation, so as to improve the accuracy and effectiveness of macro regulation and better play the positive role of the two major policies on the high-quality development of China's economy, which is of great practical significance for China's economic transformation.

2. Literature Review

At present, scholars have abundant researches on fiscal policy and monetary policy, and it has been agreed that the coordinated control of fiscal policy and monetary policy is more effective than single policy control. Bénassy J P (2003) believes that fiscal policy has a time lag, so it is necessary to make decisions before monetary policy, and monetary policy should be more active, and the two cooperate to adjust macroeconomic operation [4]. Çebi C believes that monetary policy can effectively maintain price stability, and fiscal policy can well regulate government revenue and expenditure, and the two have little effect on regulating economic fluctuations [5]. Chen Xifeng et al. (2018) used the St. Louis equation to observe the coordination state of China's fiscal and monetary policies, and proposed that the coordinated regulation of the two should alsoconsider the behavior consistency of market micro-subjects [6]. Liu Jinquan et al.(2016), based on the MF -VAR model, analyzed that under the new normal, monetarism is more in line with China's actual national conditions, while the "discretionary" of Keynesianism still applies in the short term [7].

There are also many literatures on the optimal choice of quantitative and price-based monetary policies, but different scholars hold different views on which monetary policy is better. Bian Zhicunet al. (2019) and Yang Yuanyuan (2017) analyzed and concluded that the current Chinese monetary policy is mainly price-based regulation, which is more in line with China's economic characteristics than quantitative regulation, but price-based monetary policy will increase the crowding out effect. Therefore, fiscal policy should pay attention to the transformation of monetary policy and grasp the appropriate control intensity [8-9]. Zhang Jieping (2012), by comparing the money supply rules and interest rate rules, believes that price-based monetary policy is more effective for China's economy and more in line with China's actual national conditions [10]. Bian Zhicunet al. (2015) believe that price-based monetary policy is more effective and transparent than quantity-based monetary policy in the process of interest rate-based markets. Among them, quantitative tools have a longer period of action on the economy, and price-based tools have a significant effect on smoothing economic fluctuations in the short term [11]. Other scholars believe that the quantitative currency is better than the price-based currency for China's economic regulation. Li Chunjiet al. (2006) believed that quantitative monetary policy is more effective than price-based monetary policy in stabilizing economic growth [12]. Yue Chaoyun et al. (2014) judged the ultimate goal of the economy and believed that quantitative tools are better for China's economic regulation, and a single interest rate regulation method should not be used [13].

To sum up, the current domestic and foreign scholars' research on fiscal policy and monetary policy is relatively mature, and the research on the synergistic regulation effect of the two is gradually enriched. The comparative study of the coordinated control effect of the combination of fiscal policy and monetary policy needs to be further enriched. Therefore, this paper analyzes the relationship between the two policies and the economy quantitatively by sorting out the process of coordinated regulation of China's monetary policy and fiscal policy, and constructs a VAR model, which enriches the research on the coordinated regulation of the two policies, and studies the relationship between the two policies and the economy. The relationship has important guiding significance for China to achieve high-quality economic development.

3. The Economic Theoretical Basis of the Coordinated Control of Monetary Policy and Fiscal Policy

3.1. Tinbergen's Law

Tin Bergen's rule is a rule about the relationship between economic goals and regulatory policies put forward by economist Tin Bergen, that is, the number of policy tools or the number of control variables can't be less than the number of target variables; and these policy tools must be independent of each other [14].[14]Policy tools do not affect each other, and different adjustment policies have different economic effects. Mathematically, it is assumed that there are only two economic goals T_1, T_2 and two tools I_1, I_2, the optimal levels of the sum T_1 and T_2, pursued by policy regulation are T_1^* and T_2^*. Let the target be a linear function of the tool, namely:

$$T_1 = \alpha_1 I_1 + \alpha_2 I_2 \tag{1}$$

$$T_2 = \beta_1 I_1 + \beta_2 I_2 \tag{2}$$

If $\alpha_1/\beta_1 \neq \alpha_2/\beta_2$ is satisfied, the optimal target level T_1^* and T_2^* can be achieved through coordinated regulation of policy tools I_1 and I_2 namely:

$$I_1 = (\beta_2 T_1^* - \alpha_2 T_2^*)/(\alpha_1\beta_2 - \beta_1\alpha_2) \tag{3}$$

$$I_2 = (\alpha_1 T_2^* - \beta_1 T_1^*)/(\alpha_1\beta_2 - \beta_1\alpha_2) \tag{4}$$

When $\alpha_1/\beta_1 = \alpha_2/\beta_2$, it means that the two policy tools have no difference in impact on the two economic goals, that is, policymakers try to achieve the two goals with an independent tool, which is impossible to achieve. This conclusion has distinct policy implications. Multiple policy tools must be coordinated to achieve multiple control objectives. Therefore, the coordination of monetary policy and fiscal policy is of great significance to macroeconomic decision-making.

3.2. IS-LM Model

IS -LM model links the product market and the money market with each other, and reflects the relationship between national income and interest rates when the two markets reach equilibrium at the same time [15]. The LM curve is in the Keynesian region, that is, when the LM curve is horizontal, it is believed that when the interest rate is very low, people hold all the currency in their hands, the demand for currency speculation is infinite, they fall into the "liquidity preference trap", and the monetary policy is ineffective.In the classical region, that is, the vertical stage of the LM curve, the classical school believes that people have no speculative demand for money, people need money only for transactions, the speculative demand for

money is zero, and fiscal policy is ineffective. In the upper-right sloping stage, which is often referred to as the middle region, both monetary and fiscal policies can effectively adjust the economy. Therefore, the IS-LM model is an important method to analyze the coordinated regulation of fiscal policy and monetary policy.

When the economy is overheated, the monetary authority reduces the total social demand by recycling loans and tightening money; the Ministry of Finance implements austerity policies, raising tax rates and reducing fiscal expenditure. The reduction of social demand effectively curbs overheating of the economy and prevents hyperinflation.
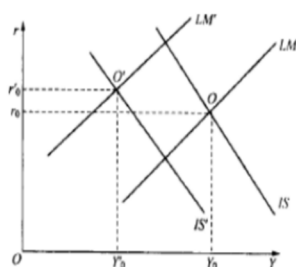

Figure 1. Double-tightening policy coordination

When the economy is initially at point O, output is Y_0, and full employment can't be achieved. In order to achieve the level of full employment, a loose fiscal policy is adopted to make the IS curve shift to the right, and the interest rate will also rise as output increases, that is, there is a "crowding-out effect". At this time, a loose monetary policy is adopted in coordination to control and reduce the "crowding out effect" through the reduction of interest rates to stimulate economic growth.
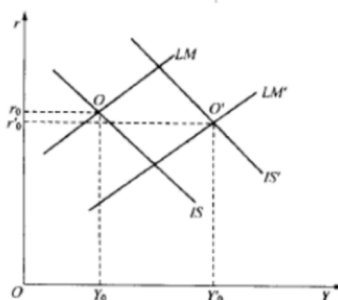

Figure 2. Double pine policy coordination

In addition to the above two collocation paradigms, there are also "elastic" models and "neutral" policies. No matter what kind of policy combination paradigm is adopted, it should pay attention to the rational control of fiscal policy and monetary policy, coordinate economic goals with various stages of economic development, and ensure stable economic growth.

3.3. The Mundell-Fleming Model

Mundell-Fleming model studies the relationship between national income and interest rates in product markets, currency markets, and international balance of payments under the condition of an open economy [16]. It explains whether capital flows freely and the impact of different exchange rate regimes on a country's macroeconomics. Its basic content is that under the assumption of complete capital flow, fiscal policy under a fixed exchange rate regime has an obvious effect on economic regulation, and a floating exchange rate regime has an obvious

effect on economic regulation. The effect of monetary policy under the control is obvious. In addition, on the basis of the Mundell-Fleming model, Krugman combined the analysis of the Asian financial crisis and proposed the "Impossible Triangle", that is, the free flow of capital, the independence of monetary policy and the economic policy of stable exchange ratecan't be achieved at the same time.

Figure 3. Impossible Triangle

These theories have been applied and practiced in western countries and achieved certain economic effects. China can appropriately learn from foreign experience, but can't copy it all. It should, in combination with China's current actual economic development, absorb the parts that are in line with China's development, and further explore the path of coordinated regulation and control of monetary and fiscal policies that are truly suitable for China's national conditions.

4. The Course of Coordinated Regulation of China's Monetary Policy and Fiscal Policy

Economic policies have the characteristics of stages. As China's economic development enters different stages, the focus of China's macro-control objectives will be different. Therefore, the "elastic and tight" matching mode of fiscal policy and monetary policy will be different [17]. In 1992, at the 14th National Congress of the Communist Party of China, China formally set the goal of reforming the socialist market economic system, which became an important milestone in the history of China's economic development. Therefore, this paper mainly reviews the process of China's coordinated control of monetary policy and coordination policy since China began to implement the socialist market economic system, and studies the stage characteristics of China's coordinated control of monetary policy and fiscal policy through policy matching paradigms and policy tools.

4.1. From "Double Loose" to Moderately Tightened Coordinated Control Policy (1993-1997)

After China clarified its socialist market economy reform, it adopted loose fiscal and monetary policies, the market enthusiasm was high, and the non-public economy developed rapidly. In addition, Deng Xiaoping's remarks in the south greatly aroused the enthusiasm of the people of the whole country and caused the overheating of national investment. In 1992, the national fixed investment growth rate was as high as 44.8%; in the first half of 1993, the investment growth rate of more than half of the regions exceeded 60%. In 1994, the GDP growth rate was 13%, and the consumer price index was 124.1. These data show that China's economic growth was too fast at that time, and it was facing great pressure from inflation and overheating of investment, and there was an economic phenomenon of "multiple overheating". In view of the huge economic pressure brought about by the "double loose" fiscal and monetary policies, the government has learned from experience and turned to adopt moderately tight fiscal and monetary policies to effectively control the economy, and economic growth has gradually declined.

Table 1. 1993-1998 Changes in China's Deposit and Loan Interest Rates (Unit: Annual Interest Rate %)

Adjust the time	1-3 yearloan rate	3-5year loan interest rate	1 year fixed deposit rate	3 year fixed deposit rate
1993/5/15	10.80	12.06	9.18	10.8
1993/07/11	12.24	13.86	10.98	12.24
1995/01/01	12.96	14.58	10.98	12.24
1995/07/01	13.50	15.12	10.98	10.24
1996/05/01	13.14	14.94	9.18	10.80
1996/08/23	10.98	11.70	7.47	8.28
1997/10/23	9.36	9.90	5.67	6.21
1998/03/25	9.00	9.72	5.22	6.21
1998/07/01	7.11	7.65	4.77	4.95
1998/12/07	6.66	7.20	3.78	4.14

Data source: Official website of the People's Bank of China

In terms of monetary policy, by raising interest rates, the scale of credit has been effectively controlled and investment enthusiasm has been reduced. As shown in Table 1, the loan interest rate for 1-3 years was raised from 10.80% in May 1993 to the highest level of 13.50% in July 1995, and the highest level of loan interest rate for 3-5 years was also adjusted to 15.12% in July 1995; one year fixed deposit rate and the three-year fixed deposit rate were lowered to 3.78% and 4.14% respectively in December 1998.In terms of fiscal policy, relevant preferential policies have been cancelled, and the tax system has been reformed by regulating the income tax system to optimize its role in regulating the economygrowth, easing inflationary pressures.

4.2. Proactive Fiscal Policy and Prudent Monetary Policy (1998-2004)

After the 1997 Asian financial crisis, the economic environment deteriorated, the economic situation was very severe, and the Chinese economy was greatly affected. In 1998 and 1999, China 's GDP growth rate was 6.88% and 6.30% respectively, indicating that China's economic growth rate slowed down and the economic situation was grim. On the one hand, China's renminbi is under pressure to depreciate, and foreign trade exports have fallen sharply, further affecting domestic demand. On the other hand, domestic overcapacity caused by blind investment, product supply exceeds demand, and prices drop. The reform of the state-owned enterprise system has caused unemployment to rise and people's incomes to fall, resulting in reduced consumer demand and a sluggish market, which has exacerbated deflation. Therefore, in order to stimulate economic growth and stimulate domestic demand, China has implemented a proactive fiscal policy and a prudent monetary policy to coordinate the economic regulation, which has effectively improved the macroeconomic operating environment.
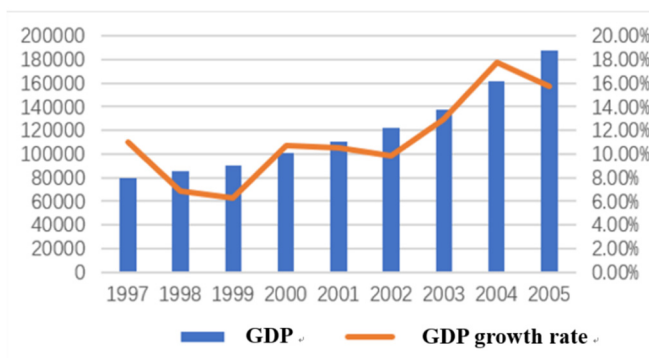

Figure 4. Changes in China's GDP and its growth rate from 1997 to 2005

In terms of monetary policy, China adopts a prudent monetary policy and strengthens the regulation of the total amount of money and credit to maintain the stable operation of the economy. In 1999, the central bank lowered deposit and lending rates, as well as the central bank's discount rate, re-lending and reserve deposit rates. The growth rate of M2 was basically the same as that of the previous year at 14.7%; in 2004, the growth rates of both M1 and M2 dropped sharply, with M1 dropping to 13.6% and M2 to 14.7%, down 5.1% and 4.9% respectively over the previous year.

Figure 5. Year-on- year growth rate of M 1 and M 2 in China from 1996 to 2004

However, the prudent monetary policy had limited effect on the economy, and China's M2 growth rate dropped sharply from 1996 to2000. In addition, the role of monetary policy in stimulating demand is not obvious, investment enthusiasm is not high, the market is still in a downturn, and the economy is still facing downward pressure. Therefore, the government can only adopt active fiscal policy to coordinate control and strengthen its role in macroeconomic control. In terms of fiscal policy, through the issuance of additional government bonds to expand government investment, the issuance of government bonds reached 331.093 billion yuan in 1998, and the total amount of government bonds issued in 2003 reached 635.5 billion yuan. From 1999 to 2004, the issuance scale of ordinary treasury bonds still maintained rapid growth, with a compound annual growth rate of 10.3%.At the same time, tax reduction, promotion of imports and exports and attracting foreign investment will stimulate economic growth. The coordinated control of the economy by active fiscal policy and prudent monetary policy has achieved remarkable results, and the economy has begun to recover gradually.

4.3.   Dual Prudent Fiscal and Monetary Policies (2005-2007)

From 1998 to 2004, China's economy was hit by the outbreak of the Asian financial crisis, and a proactive fiscal policy and a prudent monetary policy were adopted to achieve rapid economic growth. booming trend. In order to prevent overheating of the economy and curb possible inflation, a prudent fiscal policy and a prudent monetary policy have been implemented. Fiscal policy is mainly to ensure stable economic growth by changing the scale of the fiscal deficit and the issuance of treasury bonds, and adjusting the structure of fiscal expenditure. Monetary policy, through policy guidance, further guides the flow of capital and promotes economic structural adjustment. During the period from 2005 to 2007, China's economy maintained a growth rate of around 10%, realizing the smooth operation of the economy, and the dual prudent fiscal and monetary policies effectively curbed the overheating of the economy.
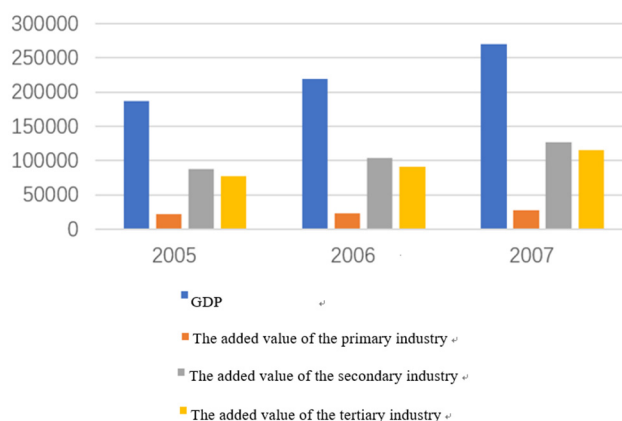
Figure 6. Changes in GDP from 2005 to 2007 (Unit: 100 million yuan)

4.4. Proactive Fiscal Policy and Moderately Loose Monetary Policy (2008-2010)

In September 2008, the subprime mortgage crisis in the United States broke out, and China faced the pressure of economic downturn. In 2000, China's GDP growth rate was 13%. In 2008 and 2009, China's GDP growth rate dropped to 9.6% and 8.7% respectively. The economy was greatly affected. At the Central Economic Work Conference in 2008, it pointed out the economic development goals of "maintaining growth, expanding domestic demand, and adjusting structure", and strived to achieve sound and rapid development. In order to prevent a serious economic downturn and promote economic development, China has adopted a proactive fiscal policy and a moderately loose monetary policy. Active fiscal policy adjusts the economy by expanding the scale of the fiscal deficit; monetary policy is mainly manifested by lowering interest rates several times, while increasing the money supply of M0, M1, and M2to maintain stable economic development, see Figure 7 for details.
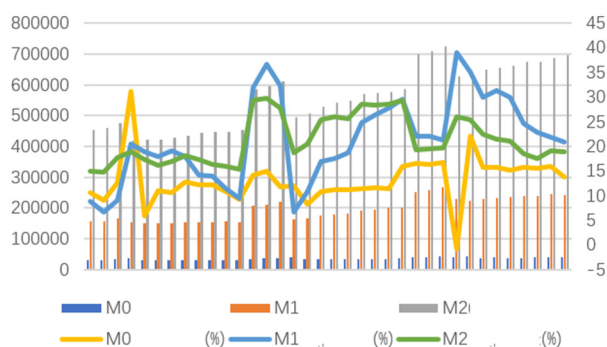

Figure 7. Changes in money supply and year-on-year growth rate from 2008 to 2010

4.5. Proactive Fiscal Policy and PrudentMonetary Policy (2011 -present)

In 2010, the Central Economic Work Conference proposed to strengthen the control of price stability. According to changes in domestic and foreign situations, to prevent excessive economic growth and maintain a good economic situation, China began to adopt a proactive fiscal policy and a prudent monetary policy, which has continued to this day. A prudent monetary policy has ensured a moderate increase in the money supply. In order to ease inflationary pressures, the growth rates of M0, M1 and M2 have declined since 2011. In addition, SLF, MLF and other structural monetary policy tools are actively used to adjust the economic structure and guide the flow of funds. China's broad money supply M2 fell from 12.9% in October 2011 to 8% in October 2018, after which the growth rate of M2was basically maintained at 8% - 11%.
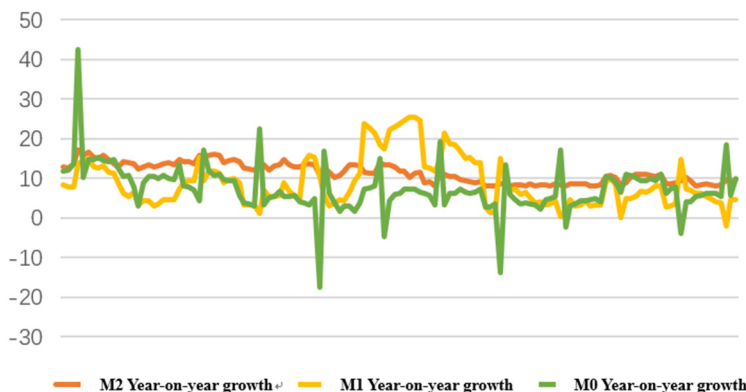
Figure 8. 2011-2022 Year - on - year growth changes of China 's M0,M1, and M2

On the basis of maintaining a stable monetary policy, the fiscal policy is mainly adjusted from the economic structure. The two major policies are coordinated and coordinated to jointly promote stable economic growth and make the economy operate in a reasonable and healthy manner. The active fiscal policy has achieved sound economic development by reducing taxes and fees, re-loaning, re-discounting, etc., prudent monetary policy using a variety of monetary policy tools, and coordinated control of the two major policies. In 2011, the GDP increased by 9.3%; the growth rate of the general consumer price level was controlled at 4.1%, and the registered urban unemployment rate was controlled at 4.1%. In 2011, the fiscal deficit and national debt scale were controlled within a reasonable range. The central fiscal deficit was 650 billion yuan, and the deficit was 150 billion yuan less than the previous year. The central debt balance was 7204.451 billion yuan. In 2015, Xi Jinping stressed the need to strengthen supply-side structural reforms. In order to promote the supply-side structural reform, the fiscal aspect promotes the structural reform of the economy by optimizing the fiscal expenditure structure; in the monetary policy aspect, measures such as optimizing the credit structure, guiding market investment, promoting inclusive finance, and developing green credit are taken. The coordinated control of active fiscal policy and prudent monetary policy has achieved remarkable results, the economic structure has been continuously optimized, and economic development has been improving.

5. The Effect of Coordinated Control of Monetary Policy and Fiscal Policy

The previous article has sorted out the coordinated control process of China's monetary policy and fiscal policy. Through qualitative analysis, it is believed that the coordination and cooperation of the two major policies can effectively adjust the macroeconomic operation and promote the stable development of the economy. In order to further analyze the adjustment effect of the two on the economy, this section will construct a VAR model to explore the adjustment effect of monetary policy and fiscal policy on the economy, and analyze the relationship between them.

5.1. Model Setting and Variable Selection

5.1.1. Model Settings

In this paper, the unconstrained VAR model is used, which can well describe the dynamic relationship between variables, and each variable performs several lag regressions on its own variables. The general form of the VAR model is:

$$Y_t = A_0 + A_1 Y_{t-1} + A_2 Y_{t-2} + \cdots + A_p Y_{t-p} + B_1 X_{t-1} + B_2 X_{t-2} + \cdots + B_q X_{t-q} + u_t \quad (5)$$

Among them, Y_t is the s-dimensional endogenous variable, X_t is the k-dimensional exogenous variable, p, q is the lag order, u_t is the random error term, $A_0, A_1,..., A_p, B_1 ... B_q$ is the coefficient matrix to be estimated [18].

5.1.2. Variable Selection

This paper draws on the practice of Chen Chunchun [19], and adopts the growth rate of GDP (GDP) as the indicator of economic growth, the growth rate of money supply (M2) as the indicator of monetary policy, and the growth rate of government fiscal expenditure (GE) as the fiscal policy index. Considering the completeness and availability of data, this paper selects quarterly data from January 1996 to April 2022, and some data are calculated from monthly data. Data source with National Bureau of Statistics and EPS Global Statistical Database.

5.2.   Model Construction

5.2.1. Stationarity Test

In this paper, the ADF test is used to test the unit root of the sample data. According to Table 2, it can be seen that according to the ADF test value of each variable is less than the critical value, and the p value is 0.0000, it can be judged that each variable is stable at the 1% significance level.

Table 2. Unit root test of variables

Variable	ADF test value	1 % threshold	5 % threshold	10% threshold	P value	Conclusion
GDP	-5.5231	-3.4970	-2.8906	-2.5823	0.0000	smooth
M2	-8.5079	-3.4970	-2.8906	-2.5823	0.0000	smooth
G E	-9.3600	-3.4970	-2.8906	-2.5823	0.0000	smooth

5.2.2. Determination of Optimal Lag Order

It is also necessary to determine the optimal lag order before building the VAR model. According to the likelihood ratio test statistic LogL, LR, FPE, AIC criterion, SC criterion and HQ, see Table 3 for details. There are 3 indicators in the above criteria to establish a VAR (5) model is reasonable, so this paper determines the optimal lag order to be 5 periods.

Table 3. Optimal lag order test results

Lag order	LogL	LR	FPE	AIC	SC	H Q
0	-113.1896	-	0.002259	2.420617	2.500753	2.453010
1	-68.79968	85.08075	0.001081	1.683327	2.003870	1.812896
2	-47.22089	40.01067	0.000832	1.421269	1.982220	1.648014
3	40.37486	156.9424	0.000162	-0.216143	0.585216	0.107779
4	179.6843	240.8892	1.08e-05	-2.930923	-1.889156	-2.509824
5	208.8609	48.62771	7.10e-06 *	-3.351269	-2.069095 *	-2.832994 *
6	212.1243	5.234971	8.05e-06	-3.231756	-1.709174	-2.616304
7	219.7282	11.72275	8.37e-06	-3.202672	-1.439682	-2.490042
8	235.8949	23.91314 *	7.29e-06	-3.351976*	-1.348579	-2.542171

Note: * Optimal value provided for the system

5.2.3. Model Stability Test

VAR model constructed in this paper is tested, and the research results show that the reciprocal values of all eigenvalues are less than 1, indicating that the VAR model is stable, see Figure 9 for details.
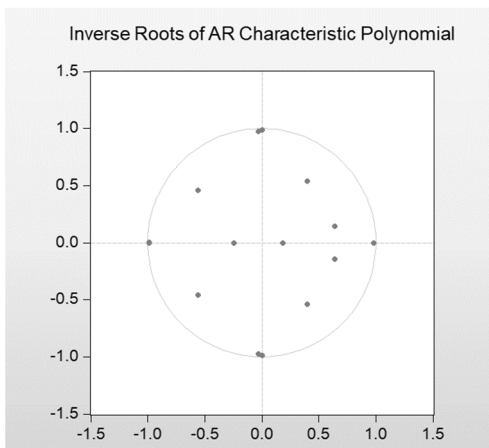
Figure 9. Characteristic root test

5.3.   Analysis of Empirical Results

5.3.1. Granger Causality Test

After building the VAR model, the Granger causality test needs to be done on the growth rate of GDP (GDP), the growth rate of money supply (M2), and the growth rate of government fiscal expenditure (GE) to test the relationship among the three. relation. According to Table 4, at the 5% level of significance, the growth rate of money supply (M2) is the Granger cause of the growth rate of GDP (GDP) and the growth rate of government fiscal expenditure (GE). This shows that China's monetary policy and fiscal policy are not independent.

Table 4. Granger causality test results

Null hypothesis	Obs	F value	P value	Conclusion
GE does not Granger Cause GDP	9 9	0.62650	0.6799	accept
GDP does not Granger Cause GE	9 9	0.88498	0.4947	accept
M $_2$ does not Granger Cause GDP	9 9	11.6216	0.0000	reject
GDP does not Granger Cause M $_2$	9 9	0.71085	0.6169	accept
M $_2$ does not Granger Cause GE	9 9	2.58815	0.0312	reject
GE does not Granger Cause M $_2$	9 9	0.56699	0.7250	accept

5.3.2. Impulse Response Function

In order to study the long-term dynamic relationship among the growth rate of GDP (GDP), the growth rate of money supply (M2), and the growth rate of government fiscal expenditure (GE), the VAR model is further analyzedfor impulse response.
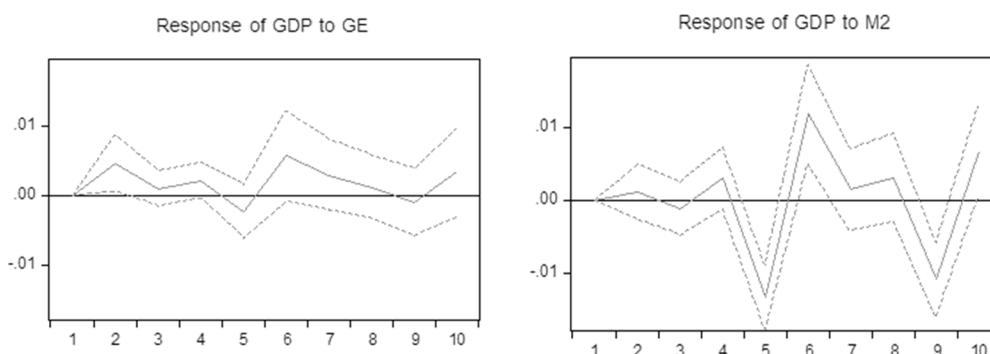

Figure 10. The impulse response curve of GE and M $_2$ to G DP

From Figure 10 that the impact of GE has a positive effect on GDP, but there is a time lag. The positive impact of GE on GDP kept decreasing until it decreased to 0 in the 5th period, and then

turned into a negative response, and in the 6th period, the response was 0, and then the positive and negative responses appeared alternately. The response of the M2shock to GDP still exhibits government alternation, and the long-term response is greater than the short-term response, and this effect has a time lag. This shows that there is a certain time lag in the adjustment of fiscal policy and monetary policy to the economy. Expansionary fiscal policy can promote economic growth in the short term, but fiscal policy will inhibit economic development in the long run due to the crowding-out effect. Expansionary currency policy has a positive effect on economic growth in the short term, but expansionary monetary policy has a significant negative impact on the economy in the long run. This may be because the implementation of expansionary monetary policy has triggered inflation and hindered economic development to a certain extent.
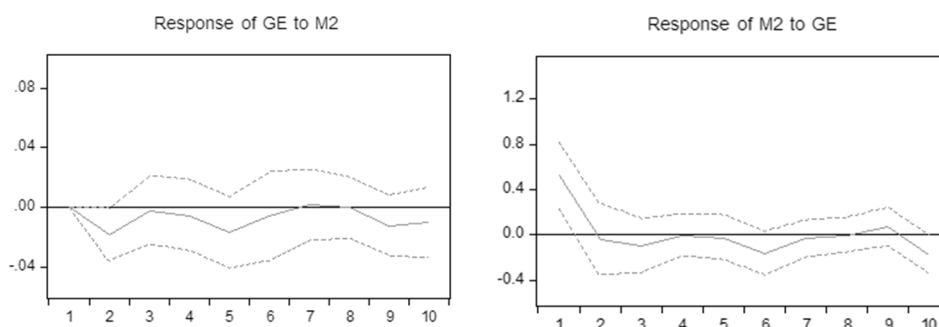

Figure 11. Impulse response curve of GE to M2 and M 2 to GE

From Figure. 11 that the shock of M2mainly shows a negative response to GE, and the impulse response of GE to M2first shows a positive response, then becomes negative, and turns positive again in 9.5 response. This shows that China's monetary policy and fiscal policy are not independent, and the two are asymmetric. Therefore, when formulating macroeconomic policies, we should seek a balance of various strategic objectives according to the economic situation.

6. Conclusion and Recommendations

At present, China's economy has entered a critical stage of high-quality development. Fiscal policy and monetary policy are important means of regulating the economy. The coordinated regulation of the two has stabilized economic fluctuations and ensured the stable and healthy development of the economy. This paper reviews the process of coordinated regulation of monetary policy and fiscal policy since China entered into a market economy. By studying the combination of the coordinated regulation of the two in different stages in China, the stage characteristics of the coordinated regulation of monetary policy and fiscal policy are further summarized, and a VAR model is constructed to discuss the regulatory effect of monetary policy and fiscal policy on the economy and the two major policies. The relationship between the two, summed up the experience and enlightenment of the two major policies coordinated regulation. In general, monetary policy and fiscal policy have made progress after long-term coordination and cooperation. The cooperation between the two has become more and more mature, effectively stabilizing China's macro economy, creating a favorable environment for China's economic development, and effectively promoting high-quality economic development. develop. Monetary policy mainly adjusts the total social demand by changing the money supply, while fiscal policy focuses on optimizing the economic structure by adjusting taxation and expenditure. Therefore, the synergy of the two can play a good role in China's economic development. The two policies complement each other and coordinate with each other, and

jointly promote the comprehensive and coordinated development of China's economy. Through quantitative analysis, it is found that there is a time lag in the macroeconomic regulation of the two major policies, and expansionary fiscal policy will have an adverse impact on the economy in the long run due to crowding out effects; expansionary monetary policy can well regulate the economy in the short term, In the long run, it may cause inflation and hinder the sustainable and healthy development of the economy. Although the two major policies have played an important role in China's economic development, there are still some problems in the coordination between the two, which need to be further improved. The transmission mechanism of the two is different, which leads to possible deviations in the coordinated regulation of the two major policies; the policy themes, adjustment objects and policy tools of monetary policy and fiscal policy are different, which makes a series of differences between the two, which may affect their coordinated regulation effect. Therefore, it is necessary to further strengthen the coordination of monetary policy and fiscal policy, so as to better play their role in regulating China's economy. According to the current situation of China's economic development, this paper puts forward the following policy recommendations:

First, under the new normal of the economy, China must persist in advancing supply-side structural reforms and strive to adjust and optimize China's economic structure. At present, the key and difficult point of China's economic development is still the unreasonable economic structure. It is necessary to speed up the optimization and upgrading of the economic structure, rationally use the two major policies to adjust the economic operation, give full play to the positive role of macro policies, strive to improve the quality of economic development, improve the market environment, and give full play to the important role in economic restructuring.

Second, China must maintain the continuity and stability of macroeconomic policies and pay attention to the asymmetry between the two major policies. At present, China's economic development is still facing great risks. Continuous and stable macro policies are conducive to the smooth operation of the economy, further optimizing the allocation of resources, and paying more attention to stabilizing prices to maintain stable economic development. In formulating fiscal policy and monetary policy, we must also consider the asymmetry between the two policies, carefully formulate macro-control policies, grasp the balance point of multiple economic operation goals, grasp the main contradictions of the economy, and accurately play the role of policies in regulating the economy.

Third, it is necessary to further improve the strategic deployment of macro-control, and organically combine counter-cyclical and cross-cyclical control policies. The current economic situation is still severe and complex, and uncertainties and risks are increasing. It is necessary to scientifically formulate macroeconomic policies to stabilize the economic fundamentals. What restricts China's economic development are long-term and structural problems. Counter-cyclical macro-control policies can effectively stabilize economic fluctuations in the short term, but they are not effective for long-term and structural adjustments. The cross-cyclical policy regulation puts stable economic growth in a more prominent position, considering both current issues and long-term economic development. Therefore, the organic combination of cross-cycle and counter-cycle can better optimize China's economic structure, boost economic development, and achieve high-quality economic development in China.

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