

Exploring the Macroeconomic Effects of Tax and Fee Reductions

-- Analysis based on the crowding out effect of active fiscal policy

Xuezheng Hu

East China University of Political Science and Law, China

Abstract: This paper combines the IS-LM model to analyze the macroeconomic effects of China's positive fiscal policy of reducing taxes and fees, including tax burden, output, tax structure, consumption and investment, in the stage of combined tax cuts and fee reductions after the "Camp Reform" in 2016. Through the analysis of specific data, in this stage, China's overall tax burden continues to decline, the level of output rises slowly, the value-added tax accounted for the proportion of tax revenue declines while the proportion of income tax accounted for tax revenue rises, the tax structure changes, the level of consumption remains rising, in terms of investment, the growth rate of private-sector investment in the post-tax cut policy has a significant decline, there is the possibility of fiscal crowding out. For the tax cut and fee reduction policy at this stage, it is proposed that while adopting tax cuts as a fiscal policy tool to act against the economic winds, it can be combined with monetary policy; combining tax cuts with economic and social development trends, and promoting the combination of tax cuts with optimization of the tax system; and upgrading the level of tax collection and management and improving the efficiency of the use of fiscal expenditure funds, and other policy recommendations.

Keywords: IS-LM model, Tax cuts and fee reductions, Macroeconomic.

1. Introduction

In recent years, China's economy is facing a slowdown in growth, increasing downward pressure, the economy needs a soft landing, quality and efficiency, the international situation is changing, anti-globalization and geopolitics lead to increased instability, especially since 2020, the economy is subject to a huge impact of the epidemic, facing the internal and external factors of the situation, how to alleviate the difficulties is an urgent issue to explore. Since the introduction of the "camp to increase" policy, China has begun to reduce the value-added tax (VAT) rate several times, and continue to reduce the tax burden on the market. Reducing taxes and fees is not only one of the ways to cope with external shocks, alleviate the business difficulties of enterprises and stimulate the enthusiasm of all parties, but also meets the requirements of China's supply-side reform.

The regulation of taxes and fees is an important means of fiscal policy, and tax cuts and fee reductions are used as a positive fiscal policy to reduce the burden on enterprises and individuals by reducing taxes, thereby expecting to promote individual consumption, expand domestic demand and stimulate the economy. Although this kind of fiscal policy can increase output to a certain extent, we should not ignore the fact that the money market will also change as a result. The role of tax cuts and fee reductions is similar to the expansion of government spending, which will lead to the crowding out of private sector investment, thus offsetting part of the increase in output. As for how big the crowding out effect is, how much the tax cut policy can ultimately play a role, and how its macroeconomic effect is, the crowding out effect and the multiplier effect shall be analyzed, and then for China's current situation, to provide a certain amount of subsequent tax reform and tax cut policy. The current situation of China will then be analyzed to provide a certain reference for the subsequent tax reform and tax reduction policies.

2. Literature Review

Tax cuts have always been a hot issue in taxation, and theoretically it can be traced back to the period of Ricardo, in whose *Principles of Political Economy and Taxation* he put forward the idea of what we later called Ricardo's Equivalence Theorem, which argued that the public debt is a delayed tax, and that the consumer is rational, so that in accordance with this theory the government will not affect the consumer's decision-making whether it is issuing the public debt or levying the tax, and so the government's issuance of the public debt will not affect the interest rate and will not crowd out private sector investment. In the 1930s, Keynesianism emerged, advocating the use of expansionary economic policies to cope with the economic recession caused by the lack of effective demand, and tax cuts as an expansionary fiscal policy means is considered to be one of the effective ways to stimulate demand. However, the "stagflation" situation that began to emerge in the 1970s challenged Keynesianism, and the supply-side school of thought, known for its advocacy of tax cuts, emphasized the supply side of the economy, and put forward the famous Laffer Curve, which argues that tax cuts can stimulate people to work more, and stimulate savings and business investment, thus greatly promoting economic growth while also able to curb inflation.

For the study of China's tax cuts and fee reduction policies, although tax cuts and fee reduction have been continuously promoted for many years, but different periods face different economic situations, the goal of tax policy is not the same, the reasons behind it are very complex, the analysis needs to be combined with the background of a specific period of time to consider the problem, part of the literature thus combed China's tax cuts and fee reduction process and development: pang fengxi, zheng clangcheng (2022) believes that China's

The process of tax cuts and fee reductions began in 2008 and can be roughly divided into three stages, the first stage from August 2008 to April 2016, the second stage from May 2016 to January 2020, and the third stage from February 2020 to the present, and the basic features of the three stages of tax reductions and fee reductions are as follows: structural tax reductions and fee reductions, large-scale and universal tax reductions and fee reductions, and contingency-type and combined tax reductions and fee reductions. Ma, Haitao, Yao, Dongmin, and Sun, Rong (2023) divided China's tax reduction policy into three stages according to different circumstances, and successively experienced the structural tax reduction stage (2008-2011), the targeted tax reduction and universal fee reduction stage (2012-2017), and the combined tax and fee reduction stage (2018 -2022) three important stages. Li Jinglu, Liu Di, and Zhan Liang (2021) argue that China's tax cuts and fee reductions have basically gone through four stages. The first stage is the tax cuts implemented in 2003, the tax cuts in this stage are small and the effect is not obvious; the second stage is the structural tax cuts in 2008, and the reform focuses on value-added tax (VAT) and income tax, although the scale of tax cuts in this stage has increased, the effect of tax cuts and fee reductions is still not obvious in terms of the reaction of enterprises; the third stage is the period of the Camp Reform and Reinforcement (CRRT), and this stage is mainly aimed at the value-added tax (VAT), with the tax cuts and fee reduction The policy has initially achieved results; the fourth stage is the larger-scale tax cuts and fee reductions since 2018, and this stage has achieved more significant results. Overall, although the division of the specific time is not quite the same, the characterization of tax and fee reductions in different periods in China is largely consistent, basically encompassing structural tax cuts, general tax and fee reductions and combined tax and fee reductions.

On the analysis of the macroeconomic effect of tax cuts and fee reductions, the focus of the study is not the same, there are focused on the impact of tax cuts and fee reductions on various economic indicators: Yan Kun, Tang Dantong (2023) found that tax cuts and fee reductions to reduce the burden of tax and fee reductions help to stimulate increased corporate investment, and through the endogenous financing capacity, exogenous financing constraints, investor attention to the triple mechanism of transmission, which enhances the capacity of endogenous financing as the The main role of tax and fee reduction to promote investment channels. Gao Songyao, Mei Dongzhou, and Ma Zhenyu (2023) believe that if a large number of rely on government debt to support, tax cuts and fee reductions may raise market interest rates, crowding out enterprise investment, and in order to slow down this crowding out effect, should be through the reduction of deposit reserves or financial institutions financial injections to reduce the cost of enterprise financing. Ma Ningning, Wang Jiayong (2022) studied the pulling effect of tax and fee reduction policies on the investment willingness of various types of enterprises. Zhang Shijing, Gao Wenliang (2022) argued that the government's implementation of the policy of tax and fee cuts boosted the enterprises' confidence in the future economic development to be good, influenced the enterprises' incentives to stockpile cash, reduced the level of their cash holdings, and increased the enterprises' investment. There focuses on the impact of tax and fee reduction on long-term development: Zhang Kaiqiang (2023) looks at tax and fee reduction from a long-term perspective, arguing that under the policy logic and design principles in

the perspective of long-term economic growth, the principle of tax law should be adhered to, the principle of unity between tax and fee reduction and tax reform, and the weakening of the tax mandatory nature. Shi Shaobin, Zhang Xiaodan (2022) argues that the impact of tax and fee reduction on the high-quality development of the economy has long-term effects and spatial spillover effects. There are studies focusing on the path of its implementation effect: Cheng Dyi and Guo Ran (2023) studied how to achieve a better implementation effect of tax and fee reduction, and the best path is to improve and strengthen the effective supervision and guarantee mechanism in parallel with optimizing the government services and implementation work.

To sum up, the impact of tax and fee reduction on China's macroeconomy exists in various aspects, and this paper reflects its economic effects by analyzing the changes in tax burden, output, consumption and investment after the "camp transformation".

3. Theoretical Analysis

3.1. Graphical and Mechanistic Analysis of Crowding Out Effects

The crowding-out effect refers to the economic benefits of crowding out some private sector investment as a result of an increase in interest rates caused by a government's fiscal policy, such as a change in government purchases or taxes. The fiscal policy multiplier, on the other hand, refers to the multiple of the change in national income caused by a change in government spending or taxation when the money market is in equilibrium. It is important to note the difference is that the fiscal policy multiplier is not the fiscal expenditure multiplier, the former is the size of the multiplier when the two markets, the product market and the money market, are in equilibrium at the same time, and measures the final fiscal policy effect, and the latter is the case when only the product market is taken into account in the simple model of national income determination. Because of the crowding out effect, the fiscal policy multiplier is smaller than the size of the corresponding multiplier in the simple national income model. As can be seen from the definition, the introduction of expansionary fiscal policy to expand output has a better policy effect if the crowding-out effect is smaller and the fiscal policy multiplier is larger.

This paper analyzes the crowding out effect through the IS-LM model, and then explains the impact that tax cuts and fee reductions will bring. It is explained below in conjunction with the graph of the IS-LM model.

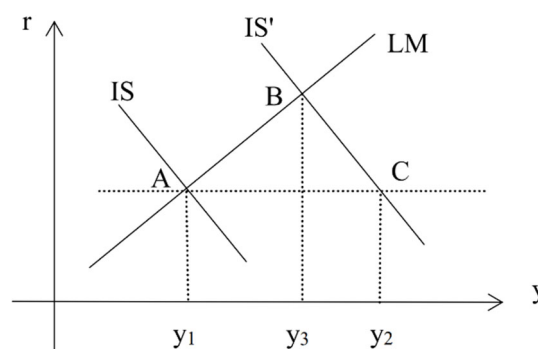


Figure 1. IS-LM model

When the government implements the policy of tax cuts and fee reductions, disposable income increases, which leads to a further increase in consumption, and at the same time,

taxes have the effect of regulating income distribution, according to the law of diminishing marginal propensity to consume, higher income groups will not reduce their consumption by too much, while the consumption of low-income groups will increase, which will favorably stimulate an increase in the overall level of consumption, and output will correspondingly increase, and the IS curve shifts to the right and upwards, and moves to the position of IS'. At this point, if the money market is not taken into account and the interest rate remains at its original level, output changes from y_1 to y_2 . If the money market is taken into account, the increase in output changes the equilibrium situation in the money market, accompanied by an increase in output, an increase in the demand for money for trading motives, and thus an increase in the total demand for money, which leads to an increase in the price of monetary assets, i.e., the interest rate, under the condition that the money supply remains unchanged. The impact of the tax cut is transmitted from the product market to the money market, so the actual equilibrium point is pointing B. The rise in interest rates brings about a reduction in private sector investment, so in fact the output just increased to y_3 , not only consider the product market so large, tax cuts and fee reductions brought about by a part of the increase in output by the reduction in investment to offset, so (y_2-y_3) for the part of the extrusion, which also reflects the size of the crowding out effect. In contrast, (y_3-y_1) from point A to point B is the increase in output resulting from the actual tax and fee cuts, reflecting the size of the fiscal policy multiplier. When the LM curve is flatter and the IS curve is steeper, the smaller (y_2-y_3) is, the smaller the crowding-out effect is and the more effective fiscal policy is.

3.2. Mathematical Derivation

First let the equilibrium in the product market satisfy the set of equations.

$$\begin{cases} y = c + i + g \\ c = \alpha + \beta(y - t_0 - ty + tr) \\ i = e - dr \end{cases}$$

From this, the IS curve equation can be solved:

$$y = \frac{1}{1-\beta(1-t)}(\alpha - \beta t_0 + \beta tr + e - dr + g) \quad (1)$$

Let the equilibrium in the money market satisfy the system of equations:

$$\begin{cases} L = ky - hr \\ m = \frac{M^s}{P} \\ L = m \end{cases}$$

From this, the LM curve equation can be solved:

$$r = \frac{ky}{h} - \frac{M^s}{ph} \quad (2)$$

Joining (1) (2) and eliminating r yields the equation for the aggregate demand function:

$$y = \frac{1}{[1-\beta(1-t)]+\frac{dk}{h}}(\alpha - \beta t_0 + \beta tr + e + g + \frac{dM^s}{ph}) \quad (3)$$

Similar to the analysis of the crowding out effect due to government purchases and the fiscal policy multiplier, the variable focused on here is taxes. When the money market is not taken into account, only the product market is considered, and the change in interest rates due to tax cuts and fee reductions is ignored, the change in revenues due to tax cuts

and fee reductions is calculated by deriving equation (1) from equation (4)(5), where equation (4) is the change in revenues due to a change in the amount of the tax and equation (5) is the change in revenues due to a change in the rate of the tax:

$$\frac{dy}{dt_0} = \frac{-\beta}{1-\beta(1-t)} \quad (4)$$

$$\frac{dy}{dt} = \frac{-\beta(\alpha - \beta t_0 + \beta tr + e - dr + g)}{[1-\beta(1-t)]^2} \quad (5)$$

And taking into account the change in interest rates in the crowding out effect, and considering both money and product markets, the change in revenue from the final tax cut is obtained by deriving (3):

$$\frac{dy}{dt_0} = \frac{-\beta}{1-\beta(1-t)+\frac{dk}{h}} \quad (6)$$

$$\frac{dy}{dt} = \frac{-\beta(\alpha - \beta t_0 + \beta tr + e + g + \frac{dM^s}{ph})}{[1-\beta(1-t)+\frac{dk}{h}]^2} \quad (7)$$

The formula and (7) formula that is the fiscal policy multiplier studied in this paper, with no consideration of interest rate changes and crowding out effect under the change in output minus consideration of the crowding out effect under the final change in output that is the size of the crowding out effect, that is, with the (4) (5) formula, respectively, subtracted from the (6) (7) formula, the size of the crowding out effect can be obtained.

4. Analysis of the Macro Effect of China's Tax Cuts and Fee Reductions

4.1. Tax and Fee Reductions in China

Since different stages of the tax reduction policy face different economic situations and hope to reach different goals, and the effect of tax reduction and fee reduction varies, this paper hopes to target one of the time periods, i.e., China's tax reduction and fee reduction after the 2016 Camp Reform to analyze the situation in a more detailed way.

In March 2016, the Ministry of Finance and the State Administration of Taxation (SAT) jointly issued the "Pilot Project on Comprehensively Promoting the Conversion of Business Tax to Value-added Tax", announcing that the conversion of business tax to value-added tax (VAT) would be fully implemented nationwide starting from May 1, 2016, and that all business taxpayers would change from business tax to value-added tax, and thus business tax would be withdrawn from the historical stage in China, and the value-added tax deduction chain would be broken. In 2018, the SAT issued the Notice on Further Implementing Measures to Better Serve Economic and Social Development by Simplifying Governance, Reducing Taxes and Lowering Burdens, which for the first time explicitly proposed tax and fee reductions, and tax and fee reductions have been the main tone of China's tax policy since then. This is a series of countermeasures taken against the background of the transformation of the mode of economic development, the increasing downward pressure on the economy and the intensifying competition for global tax reductions.

4.1.1. Specific measures and policies to reduce taxes and fees

In terms of VAT reductions: lowering the tax rates for VAT taxable sales acts or imported goods, with the two rates

reduced from 17% and 11% to 16% and 10% in 2018, and further reduced to 13% and 9% in 2019; raising the VAT starting point for small-scale taxpayers; and stipulating that the end-of-period VAT tax credit for modern manufacturing industries, such as the equipment manufacturing industry, modern service industries, such as research and development (R&D), and power grid enterprises, shall be refunded, and expanding the VAT input deduction for R&D activities carried out by manufacturing enterprises.

In terms of income tax: expanding the scope of industries previously adapted to the accelerated depreciation benefits for fixed assets to the entire manufacturing sector; reducing the portion of annual taxable income of small and micro-enterprises that exceeds 1 million yuan but does not exceed 3 million yuan by 25% of the taxable income, and paying the enterprise income tax at a rate of 20%; and increasing the number of special additional deductions for personal tax to seven, etc.

In terms of fee reductions: on April 1, 2019, the General Office of the State Council issued the Comprehensive Plan for Reducing Social Insurance Fee Rates, which stipulates that the ratio of unit contributions for basic pension insurance for urban workers (including basic pension insurance for enterprises and institutions) will be lowered from May 1, 2019, and that it will continue to reduce the fee rates for unemployment insurance and work-related injury insurance in phases, and adjust the policy on the basis of social security contributions, etc., and at the same time, it will clean up and standardize the administrative fees and government funds.

4.1.2. Policies to ease economic pressures from both the supply and demand sides

Overall, tax cuts and fee reductions have worked on both the supply and demand sides, playing the role of an active government in response to the slowdown in economic growth and the impact of the epidemic. On the supply side, the cost of enterprises has been reduced, such as reducing the burden for small and micro enterprises, reducing taxes for industries that are more affected by the epidemic with a view to relieving difficulties; revitalizing the cash flow of enterprises, allowing qualified enterprises in the industry to apply for the refund of the incremental tax credits and the tax credits of the stock, and allowing qualified SMEs in the manufacturing industry to defer the payment of part of the tax and fees, providing tax and fee benefits for normal business operations. Payment of part of the taxes and fees, to provide tax support for the normal operation of enterprises. According to Article 95 of the Regulations for the Implementation of the Enterprise Income Tax Law of the People's Republic of China and the Circular of the Ministry of Finance, the State Administration of Taxation and the Ministry of Science and Technology on the Improvement of the Policy of Adding Deductions for Research and Development Expenses before Taxation, during the period from January 1, 2018 to December 31, 2023, the actual R&D expenses incurred by enterprises in carrying out R&D activities, which are not formed into intangible assets to be included in the current period's profit and loss, will be added to the pre-tax deduction based on 75% of the actual amount incurred, in addition to the deduction based on the actual amount incurred as provided for. On the basis of the actual deduction in accordance with the regulations, 75% of the actual amount incurred shall be deducted before tax. If the R&D expenses actually incurred by an enterprise in carrying out R&D activities result in intangible assets, they shall be

amortized before tax at 175% of the cost of the intangible assets. The reducing cost of enterprises promotes R&D and innovation of enterprises, expanding the scope of deductions for R&D expenses of enterprises and increasing the proportion of deductions. On the demand side, we will give full play to the tax reduction effect of the personal income tax reform, improve the policy of special additional deduction for personal income tax, regulate the income distribution, implement and fine-tune the tax and fee support policies for employment and entrepreneurship, and stimulate the vitality of consumption.

4.2. Macroeconomic Effects of Tax and Fee Reductions

From the above IS-LM model analysis, we can know that as a positive fiscal policy of tax means, tax cuts and fee reductions can reduce the burden on enterprises and individuals, promote consumption, and stimulate output in the short term, but also make the interest rate rise, the price level rises, and in the actual tax policy, through the adjustment of tax exemptions, credits, deductions, and tax rates can also promote enterprise research and development, and investment. So how is the final economic effect of China's tax cuts and fee reduction policies, we can analyze the specific data, the data in this article are from the National Bureau of Statistics.

4.2.1. Tax burden

The National Tax Work Conference was held in Beijing on January 17, 2023, which summarized the tax work in 2022 and the effectiveness of tax modernization since the 19th CPC National Congress and the decade of the new era, and pointed out that over the past ten years, the tax department has organized a cumulative total of 140 trillion yuan of tax revenues (before deduction of the export tax rebates), and together with social security premiums and nontax revenues levied, the total amount has exceeded 187 trillion yuan; and the cumulative total of new tax cuts, fee reductions, and tax rebates and fee reprieves exceeded 13 trillion yuan. For the whole year of 2022 alone, China's new tax cuts, fee reductions and tax refunds and tax moratoriums will exceed 4.2 trillion yuan. China has promoted the policy of tax cuts and fee reductions in conjunction with the tax reform, and has adhered to the reform goal of continuously reducing the tax burden on market players.

Then in the process of tax cuts and fee reductions, how the overall tax burden changes, we can specifically analyze the data, where we use a small-caliber macro tax burden, that is, the current year's tax revenues divided by the current year's GDP to get, because the tax burden is calculated using nominal tax revenues and nominal GDP, so here at the same time to show the rate of change in the nominal GDP in order to facilitate the comparison.

From Figure 2 can be seen since the camp reform, China's tax cuts and fee reductions from the overall reduction in the level of the tax burden, in the years listed in the figure, it can be seen that the nominal GDP growth rate has changed a lot, no matter whether the growth rate of the nominal GDP is rising or declining, the tax burden is declining, in the 2020 and 2022 New Crown Pneumonia epidemic on China's economy has a greater impact on the nominal GDP growth rate has fallen significantly, the overall tax burden also maintains a decline, which may be related to China's timely introduction of corresponding tax support policies during the epidemic, adhere to the implementation of tax cuts and fee reductions, such as: for the epidemic prevention and control

of key protection materials production enterprises to expand production capacity of the newly purchased equipment related to the current cost of the current period is allowed to be credited one-time cost deducted before the enterprise income tax; by the epidemic affected by the greater difficulties of the industry enterprise (including transportation, food and beverage, enterprises in difficult industries (including the four major categories of transportation, catering, accommodation and tourism) affected by the

epidemic are allowed to extend the maximum carry-forward period for losses incurred in 2020 from five to eight years; and taxpayers are exempted from value-added tax (VAT) on income derived from the provision of public transportation services, living services and express delivery and delivery services of essential living materials for residents according to Announcement on Tax Policies to Support the Prevention and Control of the Pneumonia Epidemic Infected by a Novel Coronavirus.

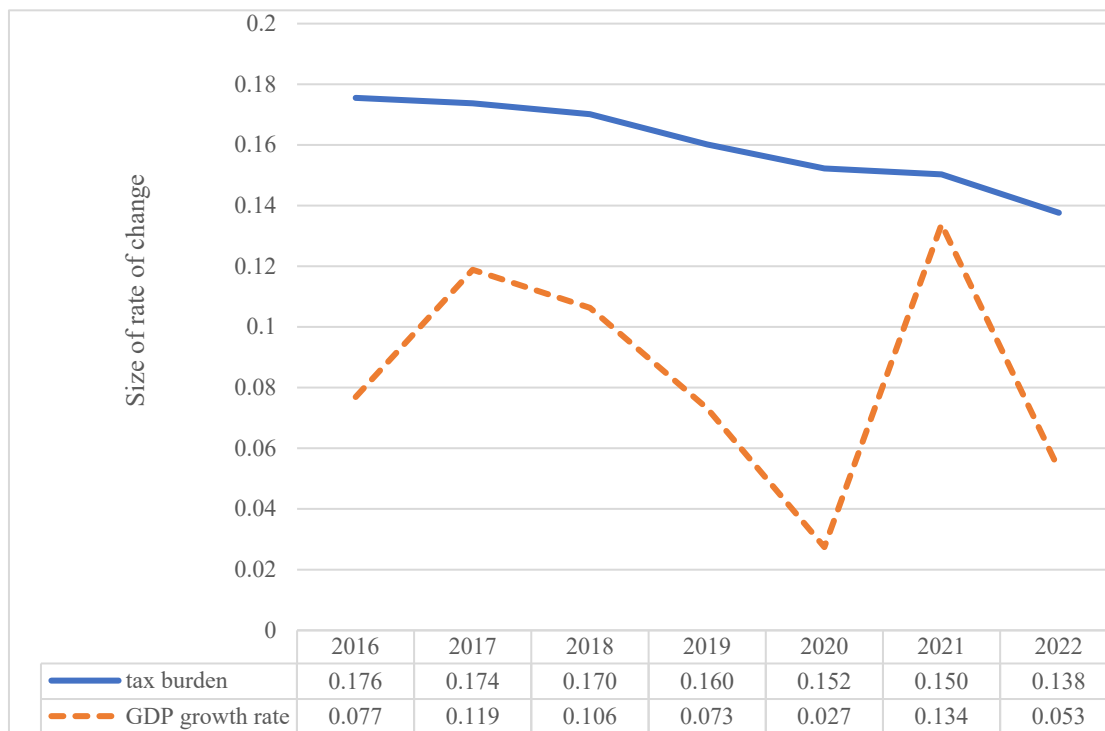


Figure 2. GDP Growth vs. Macro Tax Levels, 2016-2022

4.2.2. Outputs

Above Figure 2 shows that nominal GDP growth rates are

volatile, but changes in output should be considered not just in nominal terms, but also in real terms.

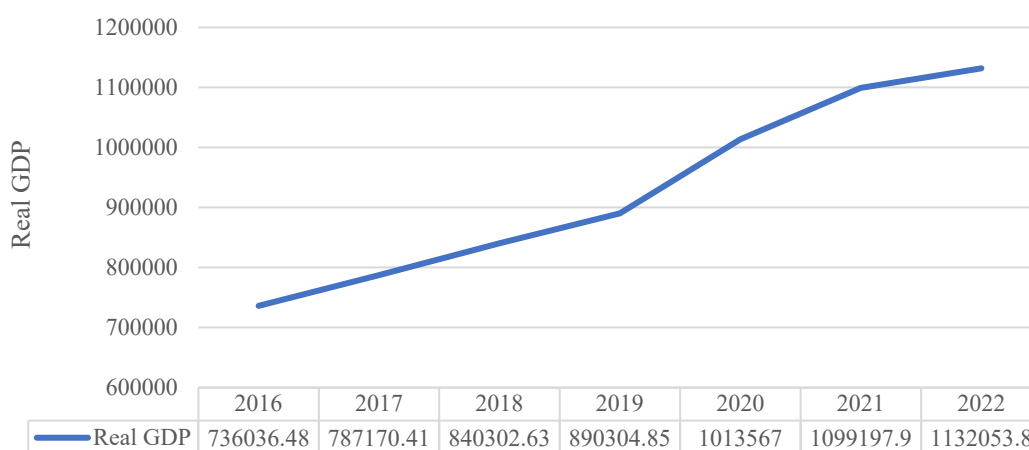


Figure 3. Level of real GDP

Figure 3 reflects the actual GDP changes, the overall growth level of the economy in the domestic and international shocks still maintain the level of growth, through the implementation of tax cuts and fee reductions policy to act against the economic winds, can directly for the enterprise to

alleviate the pressure of capital, shorten the turnover period of enterprise funds, reduce the cost of enterprises, enhance the confidence of micro and small enterprises, and stabilize the macro-economic broader market.

4.2.3. Tax structure

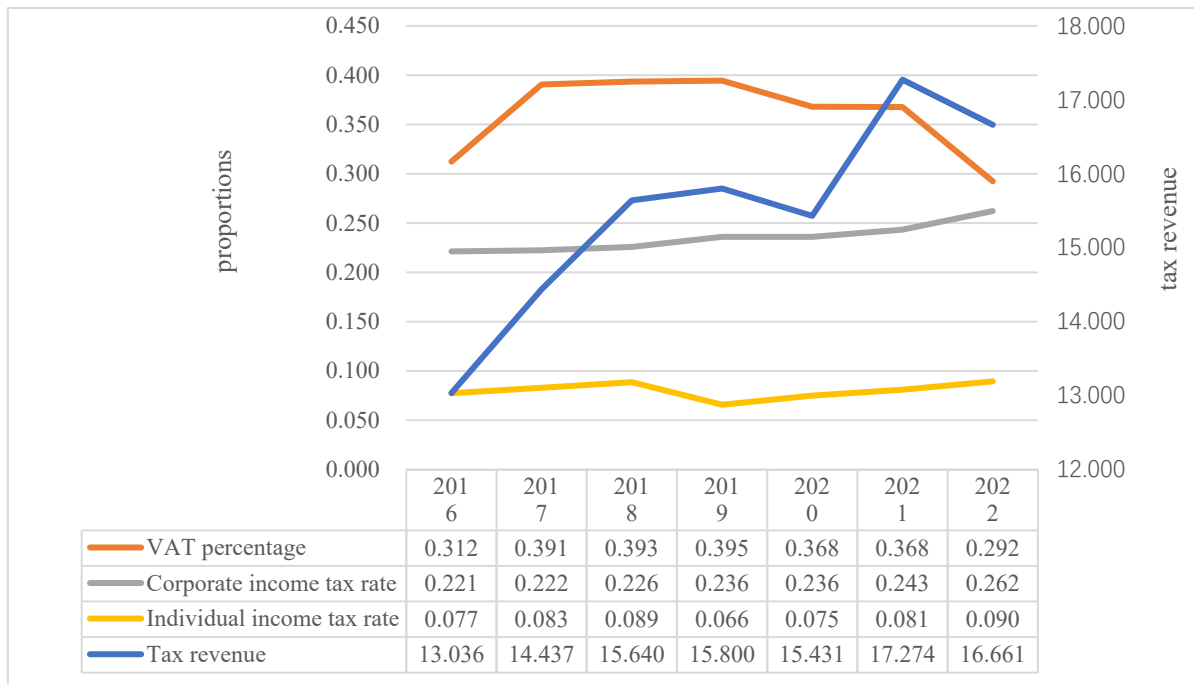


Figure 4. Proportion of VAT, corporate income tax and personal income tax

China has promoted tax and fee reduction policies such as VAT transition reform and "camp to increase" reform in conjunction with the tax reform, so tax and fee reduction will have a certain impact on the tax structure. At the same time, considering the tax types that are emphasized in tax and fee reduction and the tax types that account for a larger proportion of tax revenue, this paper lists the proportion of VAT, EIT and PIT in the tax revenue, and compares the trend of tax revenue together. The proportion of VAT in tax revenues rose briefly after the change in tax rates, after which it tended to fall gradually, and the proportion of EIT and PIT rose slightly, while the overall tax revenues were still increasing.

The value-added tax (VAT) had a significant rise in 2017 as some of the businesses that originally paid business tax were converted to pay VAT after the camp reform, but the credit chain of VAT was opened up, and at the same time, after several downward adjustments of the VAT rate and the addition of some tax concessions in the years that followed, the proportion accounted for by VAT didn't continue to rise, and began to gradually decline. While the corporate income tax has maintained a rising state before and after the epidemic, the personal income tax has implemented a comprehensive and classified personal income tax system after January 1, 2019, optimizing the tax rate structure, raising the standard of the basic exclusion fee, and increasing the six special additional deductions, and the proportion of the personal income tax has declined in 2019, but as a whole, the proportion of the personal income tax is showing a rising trend.

Figure 4 reflects the impact of tax cuts and fee reductions on the tax structure, with the share of VAT, an important source of tax revenue in China and the tax with the highest proportion of tax revenue, declining year by year, while the share of income tax is rising. Direct taxes are directly borne by taxpayers and cannot be passed on to others; indirect taxes are not consistent between taxpayers and taxpayers who are

liable for the tax and can be passed on to others. As indirect taxes are regressive, an excessive proportion will affect tax equity and is not conducive to narrowing the gap between the rich and the poor. The tax structure dominated by indirect tax is not conducive to the healthy development of the economy, reducing the proportion of indirect tax can make the allocation of resources more efficient, promote tax fairness and narrow the gap between the rich and the poor (Li Jinglu et al., 2021). Compared with other developed countries, such as the United Kingdom, the United States and France, which have a tax structure dominated by income tax and supplemented by commodity tax, it is of great significance for China to push forward the reform of personal income tax and value-added tax in order to build a modern tax system.

4.2.4. Consumption

An important way to stimulate demand is through influencing consumption, according to the curve at Figure 5 China's consumption level is steadily rising, and the growth rate of the consumption level slowed down in the two years that were severely affected by the epidemic, but maintained the growth trend. China's policy of reducing taxes and fees aims to achieve the goal of "adjusting the high, expanding the middle, and raising the low", so as to further optimize the distribution structure. For the low-income group, the increase in the exemption amount and the increase in special deductions take into account their living burdens and help to promote the upward mobility of low-income earners. For the middle-income group, the reform of comprehensive income tax is conducive to raising the actual income level of taxpayers, lowering the actual tax burden of the salaried class, and promoting tax fairness, thus laying the foundation for "expanding the middle". It is only by regulating income distribution that the overall marginal consumption of society can be raised.

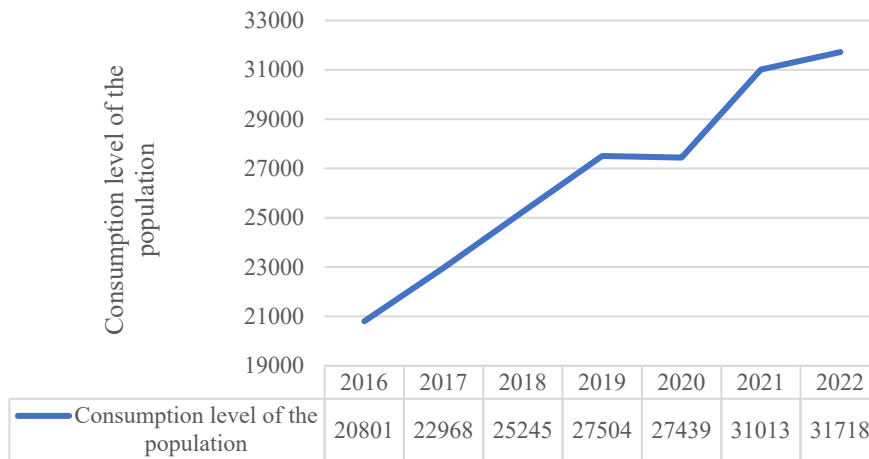


Figure 5. Consumption level of the population

In addition to this, the consumer sentiment index is also an important reference indicator that can reflect the impact of the consumption level, which can reflect the consumer's expectations of the economy, if consumers are optimistic about the future, they will be more willing to spend money on consumption, especially on durable goods, which will increase aggregate demand and thus stimulate the economy. From Figure 6 it can be seen that the general trends of the Consumer Expectations Index, the Consumer Satisfaction Index and the Consumer Confidence Index are highly consistent with each other, at the beginning of the year 2016, the indexes declined due to the lack of momentum in the economy, but then they started to rise steadily.

The index declined around October 2018 and then slowly rebounded. On August 31, 2018 the Fifth Meeting of the Standing Committee of the Thirteenth National People's Congress adopted the Decision on Amending the Individual Income Tax Law of the People's Republic of China. In the same year, it was announced that since January 1, 2019, the tax department will unify the collection of all social insurance premiums and non-tax revenues transferred first. There are concerns about the increase in the tax burden of enterprises and consumers, and the State Council held a meeting to emphasize that regulating social security levies and reducing the burden of enterprises do not go against each other in order

to alleviate such concerns. Meanwhile, the Ministry of Human Resources and Social Security, the State Administration of Taxation and other relevant officials of the four departments held a conference to say that they will grasp the opportunity to study policy measures to appropriately reduce the social security fee rate and ensure that the overall burden on enterprises does not increase. On December 13, 2018, the State Council issued the Interim Measures for Special Deductions for Individual Income Tax, fine-tuning the rules for six special additional deductions for children's education, continuing education, medical treatment for serious illnesses, interest on housing loans or housing rents, and alimony to the elderly as stipulated by the Individual Income Tax Law, and at the same time, increasing the Individual Income Tax collection and management, adjusted the declaration method, and added the way to fill in the report with software on the cell phone.

In terms of changes in the index, in the weak economic environment, the introduction of a series of policies such as tax cuts and fee reductions has overall ensured the stability of the consumer sentiment index, which has basically remained stable in the remaining moments, except for two phases when the epidemic was more severe, when the index declined significantly, which corresponds to the state of slow growth of the total volume of consumption as shown above.

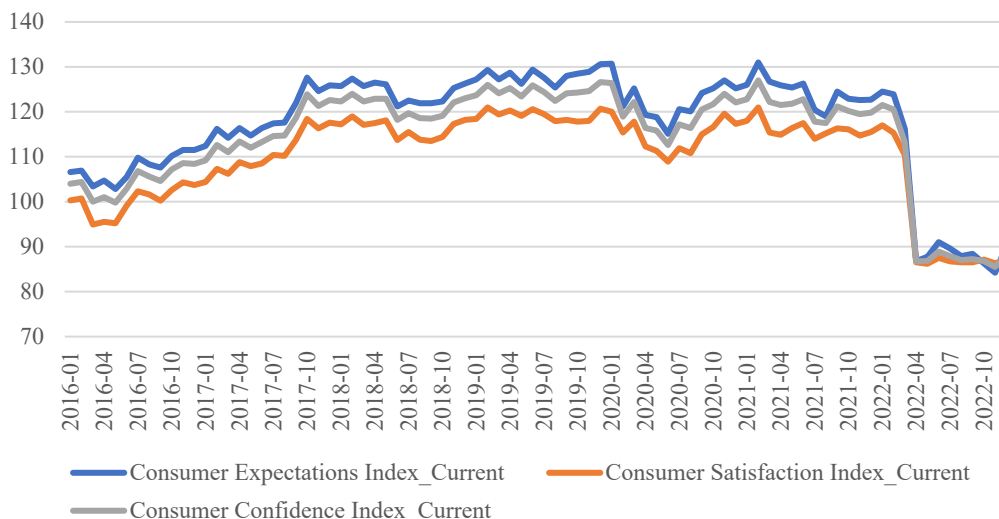


Figure 6. Consumer Sentiment Index

4.2.5. Investment and crowding out

Figure 7 reflects the overall level of investment, which remains on the rise. It should be noted that China has implemented a proactive fiscal policy in conjunction with its

monetary policy, providing assistance to enterprises in financing loans, so that investment in fixed assets for the whole society has maintained a relatively stable growth.

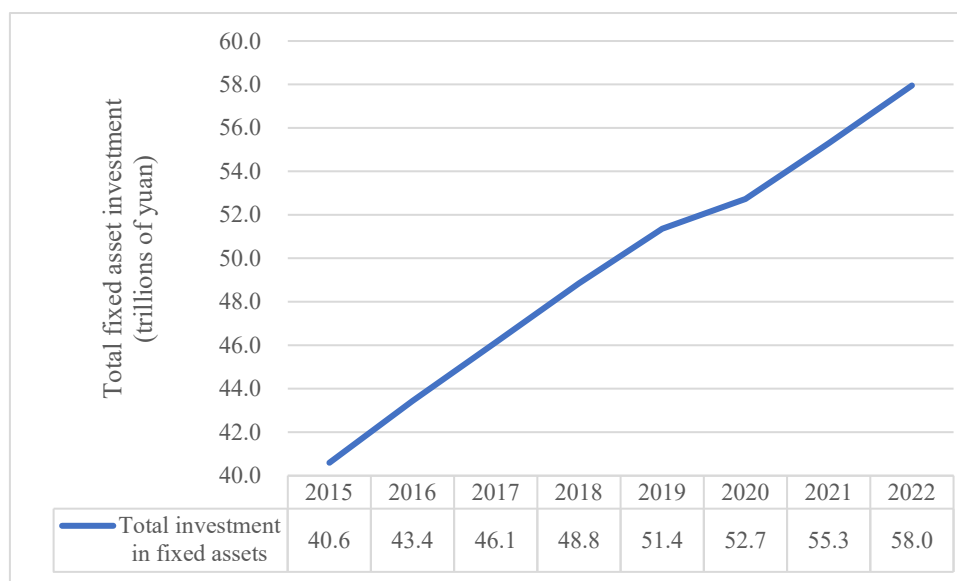


Figure 7. Total Social Fixed Asset Investment

Considering the crowding out effect, tax and fee cuts, as an expansionary fiscal policy, are likely to raise interest rates and crowd out private sector investment, as deduced from the theory above. Private sector investment, limited to data availability, is only available for some years. Since May 1, 2018, taxpayers incur VAT taxable sales behavior or imported goods, the original application of 17% and 11% tax rate, the tax rate was adjusted to 16% and 10%, respectively, and since April 1, 2019, general VAT taxpayers (hereinafter referred to as the taxpayers) incur VAT taxable sales behavior or imported goods, the original application of the 16% tax rate, the tax rate was adjusted to 13%; the original application of the If the tax rate is originally applied at 16%, the tax rate is adjusted to 13%; if the tax rate is originally applied at 10%, the tax rate is adjusted to 9%. As shown in Table 1, there is a possibility of crowding out of private sector investment when the growth rates of self-financed fixed asset investment and privately held fixed asset investment have declined sharply in the face of several VAT reductions.

Table 1. Growth of self-financed and privately held fixed asset investment

particular year	Self-financed investment in fixed assets (excluding farm households) up from previous year (%)	Investment in privately held fixed assets (excluding farm households) up from previous year (%)
2018	3.9	8.8
2019	1.7	5.7
2020	7.5	1.6
2021	5.8	14

Source: National Statistical Office

5. Conclusions and Policy Recommendations

This paper combines IS-LM model analysis and

mathematical derivation to analyze the macroeconomic effects of China's positive fiscal policy using tax cuts and fee reductions in the stage of combinatorial tax cuts and fee reductions after the 2016 "Camp Reform and Increase", including tax burdens, tax structure, output, consumption, and investment. From a theoretical point of view when taxes and fees are lowered, disposable income increases, and the level of output rises, while at the same time, the demand for money for transaction motives increases, and thus the total demand for money increases, leading to a rise in interest rates and causing a decline in the level of investment under the condition that the supply of money remains unchanged. In conjunction with China's policy of tax and fee reductions, which has been continuously implemented for many years, further analysis shows that China has reduced the burden on enterprises in terms of value-added tax, income tax and various fees to stimulate market dynamics in both the supply and demand directions.

In terms of tax burden, the policy of tax cuts and fee reductions has continued to reduce the tax burden of the market main body, which has provided a sustained and stable impetus for optimizing China's medium- and long-term tax structure and promoting the high-quality development of the economy, and the data show that China's overall tax burden has shown a decreasing trend, which has reduced the burden on enterprises, improved the profitability of enterprises, increased their competitiveness in the market, contributed to the enterprise's innovation and improved the quality of products, and stimulated the market main body's Activism. In terms of output, the reduction of taxes and fees has stabilized the economy in general, and the level of output has slowly risen. In terms of tax structure, the share of income tax in tax revenue is rising while the share of value-added tax in tax revenue is declining, the proportion of indirect tax is declining and the proportion of direct tax is rising, which makes resource allocation more efficient, promotes tax fairness and narrows the gap between the rich and the poor. In terms of consumption, the adjustment of personal income tax and the

reduction of social security fees have increased the disposable income of the residents and improved their consumption ability, and the reduction of social security fees has lowered the labor cost of enterprises, encouraging them to expand the scale of employment, and consumption has been steadily rising. In terms of investment, the growth rate of private sector investment declined markedly after the tax reduction policy, and there is a possibility of fiscal crowding out.

Overall, these tax and fee reduction policies have injected vitality into economic development, raised the income levels of enterprises and residents, and promoted growth in consumption, which in turn has contributed to the stabilization of the economy and the optimization of its structure. The tax and fee reduction policies have also helped to improve the business environment, promoting enterprise development and industrial upgrading.

Of course, the tax and fee reduction policy may also have an impact on other aspects of the economy, such as promoting innovation and scientific and technological development, the tax and fee reduction policy provides more financial support and economic incentives, encourages enterprises to increase their investment in research and development and innovation, and promotes scientific and technological progress and technological upgrading; promoting the balance of the regional economy, the tax and fee reduction policy helps to narrow the tax gap between regions, promotes the balanced development of the regional economy, and It reduces competitive imbalance between regions; and enhances people's welfare. The tax and fee reduction policy reduces the tax burden and social security contribution pressure on residents, raises their income level, and improves people's welfare.

Based on the analysis of the effects of tax cuts and fee reductions, this paper puts forward some policy suggestions for reference. First, while using tax cuts as a fiscal policy tool to act against the economic winds, monetary policy can be combined with a concerted effort to prevent interest rates from rising and leading to the crowding out of a portion of private-sector investment, thus bringing about greater output effects to a greater extent. In recent years, in response to internal and external shocks, a package of monetary and financial policies, in accordance with the overall idea of "stabilizing the stock, expanding the incremental volume, lowering the cost, and promoting openness", has strengthened the policy guidance, given play to the role of the market, and promptly and accurately benefited the stricken groups and key areas, and helped to stabilize the economy in a broader context. Focusing on market players, we encourage loans to micro, small and medium-sized enterprises and individual businessmen, truck drivers, as well as individual housing and consumer loans affected by the epidemic, and innovate and optimize commercial bills of exchange, accounts receivable financing, financing guarantees, and other means to increase support for micro and medium-sized enterprise financing; focusing on effective investment, we will continue to guide financial institutions to enhance the stability of the total growth of credit, and through the establishment of the government-bank-enterprise docking mechanism; focusing on lowering the cost of financing, financing costs. The effective combination of monetary and fiscal policies can play a better role.

Secondly, although the policy of reducing taxes and fees has a positive stimulating effect on the economy in the short term, it may also have a certain impact on fiscal revenues, and

there is a need to balance fiscal revenues and expenditures. Ongoing large-scale tax cuts and fee reductions have led to a reduction in the policy space for tax cuts and fee reductions, and there is limited space for the decline in the tax burden, coupled with the impact of multiple factors such as epidemics and other factors, a tight fiscal balance has been the norm, and the risk of fiscal operations in some localities is increasing, and subject to the pressures of economic operations as well as the contradictory constraints on fiscal revenues and expenditures, there is limited space for tax cuts and fee reductions to move forward and the need to be careful to prevent debt risks. In addition, there may be differences in the degree of benefit for different industries and regions, and the government needs to further improve its policies to ensure that the effect of tax and fee reduction policies is maximized, combine tax and fee reduction with economic and social development trends, and promote the combination of tax and fee reduction and optimization of the tax system under the premise of adhering to the stability of the general economic situation, improving the scientific nature of the tax system, optimizing the structure of the tax burden, and realizing the tax burden has both increases and reductions.

Finally, promote tax and fee reductions while upgrading the level of tax collection and administration, improve the efficiency of the use of fiscal expenditure funds, and deepen fiscal budget performance reform. Establish a standardized and efficient tax collection and management system and a fair environment for the rule of law in taxation. Scientific tax types, tax structure, and perfect tax collection and management system can prevent all kinds of tax-related illegal and unlawful phenomena and guarantee the legalization of tax collection and management, while deepening the supervision and management of tax evasion and leakage phenomena, and improving the reward and punishment system of the tax department to improve the enthusiasm and initiative of the tax department and ensure that all the revenues should be collected, which can help to maintain the fairness of tax payment and reduce the loss of fiscal revenues receivable, thus narrowing the decline in fiscal power brought about by the reduction of taxes and fees. Reducing fees and charges brings about a decline in fiscal power, reducing fiscal pressure and avoiding higher debt risks. It ensures that fiscal funds serve to maximize social utility and reduce system and coordination costs.

References

- [1] Zhang Yan. The "crowding out effect" of China's fiscal policy--an empirical analysis based on China's annual data from 1952 to 2008 [J]. *Financial Research*, 2010, No.355(01):58-66.
- [2] Chen Shixing. An empirical study on the crowding-in and crowding-out effects of government investment on private investment--Based on Chinese data from 1980-2010 [J]. *China Soft Science*, 2012, No.262(10):169-176.
- [3] MA Haitao, YAO Dongmin, SUN Rong. Theoretical Connotation, Evolutionary Logic and Basic Characteristics of Tax and Fee Reduction in China [J]. *Research on Financial Issues*, 2023, (02):14-24.
- [4] Yan Kun, Tang Dantong. Research on the transmission mechanism of tax reduction and enterprise investment: based on the perspective of capital supply [J]. *Journal of Central University of Finance and Economics*, 2023, (05):16-34.
- [5] CHENG Dy, GUO Ran. How to Achieve Better Implementation Effect of Tax and Fee Reduction Policies--

- Based on the Case Analysis of Thirteen Cities in Province H [J]. Theoretical Discussion, 2023, (01):70-77.
- [6] Ma Ningning, Wang Jiayong. Tax and Fee Reduction, Enterprise Investment Willingness and Industry High Quality Development-A Survey and Analysis Based on Dalian [J]. Local Finance Research, 2022, (11):60-66.
- [7] Zhang Kaiqiang. Theoretical Logic of Tax and Fee Reduction Policies from the Perspective of Long-Term Economic Growth [J]. Contemporary Economic Management, 2023, 45(02):82-88.
- [8] SHI Shaobin, ZHANG Xiaodan. The Economic Effect of Tax and Fee Reduction--Analysis Based on the Dimension of High-Quality Development [J]. Journal of Shanxi University (Philosophy and Social Science Edition), 2022, 45(05):51-61.