

Research on the Consumption Promotion Effect of Tax Reduction and Fee Reduction under the New Development Pattern of Double Cycle

-- Based on Panel Quantile Model Analysis

Zhiming Zhang^{a,*}, Zimeng Zhang^b and Jiasheng Zhu^c

Anhui University of Finance and Economics, Bengbu, China

^{a,*}2139232557@qq.com, ^b1359167098@qq.com, ^c1270513989@qq.com

Abstract

Based on the panel data of 31 provincial administrative regions in my country from 2014 to 2019, the panel regression model and panel quantile regression model are used to empirically analyze the impact of tax reduction and fee reduction measures on the effect of consumption promotion, which will help promote the consumption level of Chinese residents. Expanding and upgrading, optimizing my country's tax and fee reduction policies, and improving my country's new dual-cycle development pattern. This research attempts to rely on the analysis of the effect of consumption promotion, integrate resources to implement policy linkage, and coordinate the promotion of the tax system reform process and the country's macroeconomic development and transformation, which has far-reaching significance for achieving sustainable development.

Keywords

Resident Consumption; Panel Regression Model; Tax Reduction and Fee Reduction; Capacity Expansion and Upgrade; Double Cycle.

1. Introduction

They have a very important impact on our country's economic development and are related to the direction of our country's economic development in the future. Realize the great rejuvenation of the Chinese nation. Transformation and upgrading are most obvious in two aspects. First, the economic structure has been continuously adjusted, the economic composition has become healthier, and it can be more effective. The concept of sustainable development and the idea of harmonious coexistence between man and nature; secondly, the driving force of my country's economic development has gradually transitioned from the original external demand-driven growth to the current domestic demand-driven growth, and the domestic performance is a gradual transition from the original investment growth to the current consumption Drive growth. For the first time, our country is at the key to dual-cycle development. Actively exploring the law of dual-cycle development is crucial to promoting the healthy and orderly development of our economy [1-3].

We are now facing unprecedented major changes, and major changes have taken place in the international and domestic situations. "Take the domestic cycle as the main body, the domestic and foreign double cycles promote each other, and accelerate the development of a new pattern" is a major decision of my country's central government, which will guide my country's macroeconomic development in a long time [4]. The core significance of this major decision is to give full play to the advantages of the domestic super-large economic market and the potential of domestic demand, and to further rationalize the domestic cycle to promote and

optimize the international cycle to prosper the domestic economy and promote the mutual promotion of the domestic and foreign dual cycles.

Selecting the macro statistical data and relevant research data of more than 30 provinces and cities since 2014, based on the development background of the two major economic cycles in foreign and domestic countries, through empirical test whether "tax reduction and fee reduction" can significantly promote the expansion and consumption of Chinese resident's upgrade. The verification results show that tax reduction measures can significantly promote consumption expansion and consumption upgrading, and its marginal impact on consumption expansion and upgrading will continue to change with the development of consumption expansion and upgrading process; and the obvious effect of tax reduction measures on consumption expansion and upgrading. Compared with the promotion effect, the impact of fee reduction measures on consumption expansion and upgrading is not significant [5].

2. Literature Review

Before conducting this research, the author carefully reviewed and evaluated domestic and foreign literature, analyzed domestic and foreign related research on the consumption promotion effect of tax reduction and fee reduction, and used the research results of predecessors to make a basic theory for the research of this project. analysis. Through sorting out and analyzing relevant references, the author found that the research related to "reduction of taxes and fees" to promote the consumption of Chinese residents has the following laws. First, although the promotion of consumption promotion strategy and tax reduction and fee reduction measures have been implemented for many years, there are few relevant studies on the empirical analysis of the effect of tax reduction and fee reduction on consumption promotion. Second, many studies have shown that the effect of taxation on consumption is inconsistent. However, its effect on consumption is also restricted by factors such as the structure of the tax system and residents' marginal propensity to consume; again, the large differences in the impact of tax and fee reduction measures on consumption may be related to the heterogeneous impact of different taxes on residents' income.

From the relevant literature, scholars have achieved certain results in the consumption promotion effect of tax reduction and fee reduction, but their research perspectives are still different, mainly including the following: China Quarterly Macroeconomic Model (CQMM) Task Force Through policy simulations, the impact of the "tax reduction and fee reduction" policy on consumption is predicted, and the results show that large-scale tax and fee reductions have relatively limited promotion effects on consumption. The current tax and fee reduction measures focus on the tax cost of the corporate sector, which has little impact on the tax cost of households, and the sharp increase in the debt ratio of the household sector has weakened the consumption potential of residents (China Quarterly Macroeconomic Model (CQMM) Task Force, 2019) [6]; The rising income distribution gap of residents also limits the promotion of tax cuts and fee reductions to the expansion of residents' consumption (Z.Y Lin et al., 2020) [7]. From the perspective of the taxation system, if the consumption tax is reformed around production mitigation, the consumption tax is changed from "in-price tax" to "out-of-price tax", and a stepped tax rate is set, the effect of tax reduction and fee reduction measures on consumption expansion and upgrading will be more effective. The current tax and fee reduction measures are more obvious (K Yan et al., 2019) [8].

However, the empirical test results found that the effect of taxation on consumption is not consistent: S P Li (2019) found that the decline in tax growth rate can significantly promote the increase of household consumption expenditure [9]; but W F Yang (2010) believes that indirect tax has a significant impact on household consumption rate. Inhibition [10]; X Wang et al. (2011) believe that the impact of taxation policies on different types of consumer expenditures is also

significantly different. Secondly, foreign scholar Bailey (1971) believes that from the perspective of government fiscal expenditure, government expenditure has a crowding-in effect or crowding-out effect on household consumption. However, Barro and other scholars (1974) pointed out that government expenditure influences household consumption expenditure based on the Ricardo equivalence theorem. There is no impact [11].

Domestic scholars have also conducted extensive empirical evaluations on the relationship between tax revenue-based fiscal revenue and residents' income. H Y Cai et al. (2016) believe that tax reduction and fee reduction measures reduce the burden on enterprises, and at the same time expand the investment demand of enterprises by increasing the after-tax income of workers [12]. C M Yang (2017) believes that on the Laffer curve, although the tax rate level has been reduced through tax and fee reduction measures, the expansion of the long-term tax base and the increase in income level can also maintain the scale of fiscal revenue before the implementation of tax and fee reduction measures. At a similar level. In different empirical analysis results, the reason for the large differences in the impact of tax and fee reduction measures on income and consumption may be the heterogeneous impact of different types of taxes on residents' income. Among them, personal income tax is a direct tax, and the tax burden is not easy to pass on.

3. Theoretical Mechanism

The report of the 19th National Congress of the Communist Party of China pointed out that it is necessary to improve the system and mechanism to promote consumption and strengthen the basic role of consumption in economic development. In other words, in the process of the current economic transition from a high-speed growth stage to a high-quality development stage, it is necessary to cultivate new economic growth points through mid-to-high-end consumption and form a new driving force for a sustainable economy. Realize development by expanding consumption and upgrading, and enhance the contribution of consumption to sustainable economic development. In other words, my country should concentrate its energy and financial resources on the domestic market during economic construction at this stage.

The domestic market is the main driving force of my country's economic development, the source of vitality for my country's economic development in the next few years, and the cornerstone and stability of my country's economic construction. The fundamental guarantee. Resident consumption is the foundation of domestic demand and a key link in realizing the value of total social products. It maintains the smooth progress of the production and reproduction of social total products. The healthy development and continuous improvement of domestic consumer consumption is the basis and prerequisite for smoothly advancing the "dual cycle". The consumption promotion effect of the "tax reduction and fee reduction" policy in the context of the new dual-cycle development. The specific promotion effect includes increasing consumption capacity and improving the quality of residents' consumption.

In-depth analysis of its mechanism of action can be found: the impact of tax and fee reduction measures on private consumption is related to the marginal income effect of income on consumption. The specific mechanism of action includes the following three transmission paths. First of all, tax reduction and fee reduction measures can reduce the burden of tax expenditures in the household sector to increase the direct channel of household disposable income, and reduce the cost of corporate sector tax expenditures to increase the indirect channel of household income to affect consumption; second, China's personal tax The reform pays more attention to reducing the tax burdens of middle-income groups and low-income groups. Therefore, middle-income groups and low-income groups will accelerate the pace of consumption expansion and upgrading due to higher marginal propensity to consume; again, tax and fee reduction measures can be reduced the direct costs of production and operation of

enterprises, such as taxation and administrative fees, increase the gross profit margin of production and operation of enterprises. The performance income allocated by the household sector from corporate profits can also increase, and the rise in consumer demand for residents will also increase.

4. Establishment and Analysis of the Model

4.1. Variable Selection and Data Description

4.1.1. Variable Selection and Processing

Among the explanatory variables, all indicators of household consumption expenditure come from the provincial macro annual database of China Economic Net, and all other indicators come from the provincial annual database of the National Bureau of Statistics. Since the National Bureau of Statistics adjusted the household income and expenditure survey plan in 2014, the new and old survey indicators are different, so the statistical data and sample survey data of 31 provincial administrative regions after the two sessions in 2014 were selected to construct the balanced panel data.

4.1.2. Data Shows

The first level indicator of the explained variable is the consumption promotion effect, which specifically includes the "consumption expansion effect" and the "consumption upgrade effect". Among them: the measurement index of "consumption expansion effect" is the average propensity to consume, which represents the proportion of the unit disposable income used for final consumption; the measurement index of "consumption upgrade effect" is the proportion of consumption of non-basic daily necessities in final consumption expenditure.

The explanatory variables are "tax reduction" and "fee reduction". "Tax reduction" specifically refers to measures to reduce the taxpayer's tax burden, such as tax rate adjustments, adjustments to the scope of collection, and adjustment of tax rate levels. The ratio of tax revenue to the sum of added value of all industries is used as a measure of tax burden. The actual decrease in tax burden represents a "tax cut"; the non-tax revenue of administrative fee income relative to the sum of added value of all industries the ratio is used as a measure of the burden of administrative and institutional expenses, and the actual decrease in the burden of administrative and institutional expenses represents a "fee reduction".

4.2. Build Panel Quantile Regression Model

This part builds a panel quantile regression model to conduct an empirical analysis of the consumption promotion effect of tax cuts and fee reductions in the context of the new dual-cycle development. The panel quantile regression model is also a weighted minimization residual error that modifies the traditional linear panel model. The regression estimation method of the sum of absolute values, in the form of:

$$Y_{it}(T | X_{it}, D_{it}) = \alpha_i + \beta_T X_{it} + \theta_T D_{it} + \varepsilon_{T,it} . \quad (1)$$

Among them: Y_{it} is the explained variable, X_{it} is the explanatory variable, D_{it} is the control variable, β_T and θ_T are the marginal effect parameters at the T th quantile, and $\varepsilon_{T,it}$ is the unobserved random item.

In the traditional mean linear model, all sample points are given the same weight in the estimation procedure, so the relative importance of the sample points has nothing to do with the position of the sample points in the sequence; and in the quantile represented by equation (1) In the numerical model, the relative importance of the sample points is constrained by the

weight of the sample points in the sequence. The sample points within a given quantile level are given a higher weight.

Therefore, the parameters β_T , θ_T and ε_T , it is conditional estimates under the conditions of a given quantile and a sample set $\{Y_{it}, X_{it}, D_{it}\}$. In the estimation procedure, the panel quantile model described by equation (1) is estimated by minimizing the conditional loss function in equation (2):

$$\min_{\alpha_T, \beta_T} \sum_{T=1}^{T=M} \sum_{i=1}^{i=N} \sum_{t=1}^{t=T} |W_T L_T| \quad (2)$$

Among them: W_T is the weight of the quantile of $T \in (1, 2, \dots, M-1, M)$; L_T is the loss function of the panel quantile model parameter estimation, L_T is expressed by equation (3):

$$L_T = Y_{it}(T | X, D_{it}) - (\alpha_i + \beta_T X_{it} + \theta_T D_{it}) + \lambda \left(\sum_{i=1}^{i=N} |\alpha_{T,i}| \right) \quad (3)$$

The panel quantile model can not only effectively eliminate the normal distribution assumption based on the minimum residual square sum panel model for the unobserved residual items; it can also analyze the heterogeneity and adjustment of the parameter values at different locations in the sample interval. Direction to better reflect the rich information in the sample data set. Therefore, this study chooses the panel quantile model for empirical analysis to improve the value and accuracy of the research.

4.3. Descriptive Statistical Analysis

First, according to the results of the model operation, analyze the average propensity to consume and the average proportion of consumption of non-necessities to determine the room for consumption improvement in my country; then, analyze the proportion of tax revenue and administrative fees to the total value of all industry income; Finally, analyze the quantity and proportional relationship of each control variable. Specifically, the average propensity to consume and the average proportion of consumption of non-essential goods are 0.72 and 0.39, respectively, indicating that my country's consumption expansion space is limited but consumption upgrade space is large. Secondly, tax revenue accounted for an average of 12% of the total value-added of all industries, and administrative fee income accounted for an average of 9% of the total value-added of all industries. In addition, in terms of income, the logarithm of urban per capita salary is 4.82, and the per capita income of urban residents is 2.59 times that of rural villagers; in terms of price, the RPI is 0.96; in terms of urban population, the urbanization rate is 58%, and the regional permanent population the logarithm is 3.53, and the urban population density logarithm is 3.42. In terms of urban transportation, the number of public transportation per capita and the number of private cars per capita are 1.10 and 0.12, respectively. In terms of urban employment structure, the proportion of urban manufacturing employment is, the proportion of employees in the urban financial industry, the proportion of employees in the urban information and communications industry, and the proportion of employees in the urban science and technology R&D industry were 21%, 2%, 4%, and 2% respectively; in terms of new consumption patterns, the per capita express delivery volume was 19.91, But the difference between the samples is large. The minimum value of the sample is only 0.99, the maximum value is 176.23, and the standard deviation is 31.80. In terms of R&D expenditure, the log value of R&D full-time equivalent is 4.55.

5. Research Conclusions and Policy Implications

5.1. Analysis Conclusion

In the current macro-control framework with supply-side structural reform as the main line, the main measure of the proactive fiscal policy is to "cut taxes and fees." In addition, unlike the traditional development method that relies on the expansion of investment demand to drive aggregate demand growth, the fundamental role of consumption on economic development is one of the main characteristics of the current high-quality macroeconomic development. In this context, this paper uses the panel quantile model to empirically test the impact of tax and fee reduction measures on the expansion and upgrading of consumption in my country based on micro-survey data and macro-statistical data since the full implementation of the 'tax and fee reduction' measures in 2013. The results of panel quantile model estimation of the relationship between tax cuts and consumption expansion and upgrade show that when the average propensity to consume is within the range of 0.6898 to 0.7888, tax cuts have a significant effect on consumption expansion, and tax cuts have a significant effect on consumption expansion. When the average propensity to consume reaches 0.7209, the marginal promotion effect rises to the highest level; when the ratio of non-basic daily necessities to the total household consumption exceeds 0.3492, tax reduction measures have a significant promotion effect on consumption upgrade, and tax reduction measures have a significant effect on consumption upgrade. The marginal promotion utility of consumption upgrading increases with the improvement of the quality of consumption structure. The results of panel quantile model estimation of the relationship between fee reduction measures and consumption expansion and upgrading show that when the average propensity to consume is within the range of 0.6898 to 0.7529, the fee reduction measures have a significant inhibitory effect on consumption expansion, and its marginal effect is when the average propensity to consume reaches Increased to the strongest at 0.7209; however, no matter how the ratio of non-basic daily necessities to the total household consumption changes and adjusts, the fee reduction measures have no significant impact on consumption upgrades.

5.2. Policy Implications

Based on the micro-survey data and macro-statistical data since the "tax reduction and fee reduction" measures were fully implemented, the panel quantile model was used to empirically test the consumption promotion effect of tax reduction and fee reduction measures, and the effects of tax reduction measures and fee reduction measures were analyzed separately. The impact of consumption promotion effect. Based on the above qualitative and quantitative analysis results, after gaining an objective understanding of the consumption promotion effect of tax reduction and fee reduction in the context of the new dual-cycle development, based on China's macroeconomic policies and fiscal and taxation systems, and learning from the practice of domestic and foreign economic policy reforms, this project believes that reforms should be carried out in the following aspects to give full play to the role of tax reduction measures in promoting consumption; improve the administrative fee system; enhance the supply of basic public services Improve the production quality of goods and services; insist on supply-side structural reforms; further liberalize the duty-free goods market and reduce the tax burden on imported goods to guide the return of consumption; introduce tax incentives for tourism and other service industries as soon as possible and propose policies Suggestions in order to effectively promote the high-quality development of China's economy.

6. Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

References

- [1] "China Quarterly Macroeconomic Model (CQMM)" project group. Simulation of the macroeconomic effects of large-scale tax and fee reduction policies-2019-2020 China's macroeconomic outlook [J]. Journal of Xiamen University (Philosophy and Social Sciences) Edition, 2019, 256(6): 98-106.
- [2] K.Yan, Z.Jiang. The main focus and policy recommendations for implementing strategic tax and fee reduction [J]. Tax Research, 2019, 414(7): 3-7.
- [3] X.J. Li , L. Z. Zhou. Research on the Tax Policy of Expanding Resident Consumption in my country -- Based on the Empirical Analysis of the Impact of Taxation on Consumption[J]. Finance and Trade Economics, 2013, 375(2): 18-27.
- [4] Xiamen University CQMM Research Group, Z. Y. Lin, Y.W.Wang, et al. Research on the effectiveness of China's tax and fee reduction policies [Z]: Southeast Academic, 2020.
- [5] C.L.Liu. Analysis of Structural Tax Reduction Policy under the Constraint of Multiple Objectives[J]. Tax Research, 2009, 295(12): 14-18.
- [6] Z.Y.Lin, Z.J.Deng. From the perspective of stabilizing the economy, my country's tax structure adjustment [J]. Tax Research, 2007, 261(2): 41-44.
- [7] S.P.Li, Z.W.Bai. Comparison of the efficiency and effectiveness of tax cuts and expansion of government expenditures on economic growth and expansion of domestic demand--An analysis based on the SVAR model[J]. Collected Essays on Finance and Economics, 2009(5): 19-25.
- [8] W. f. Yang, Q. Y. Fang. Fiscal revenue, fiscal expenditure and household consumption rate[J]. Contemporary Finance and Economics, 2010, 303(2): 43-50.
- [9] H.Y.Cai. The supply school's debate and evaluation on tax reduction policies [J]. Tax Research, 2016, 380 (9): 62-67.
- [10] C.M.Yang. Reducing taxes and fees: effectiveness, problems and path selection[J]. Finance and Trade Economics, 2017, 38(9): 5-17.
- [11] T.F,An,Z.Jiang. Adjusting the distribution pattern of national income and increasing the proportion of residents' distribution[J]. Finance and Trade Economics, 2009(7): 50-55.
- [12] T .F. An, Current world tax reduction trends and China's tax policy orientation [J]. Economic Research, 2002 (2): 17-22, 91-92.