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A Study on the Impact of Fiscal Pressure on the Deviation of Local Government Budget Revenues

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Abstract: This paper examines the impact of fiscal pressure on the degree of deviation from budgetary revenue based on provincial panel data from 2011 to 2020. The results show that fiscal pressure has a positive impact on the deviation of local government budget revenues, with the impact of fiscal pressure on the deviation of non-tax revenues significantly higher than that of tax revenues; the positive impact of fiscal pressure on the deviation of local government budget revenues is more obvious in regions with higher reliance on land finance; the proportion of tax revenues in fiscal revenues negatively moderates the impact of fiscal pressure on the deviation of local government budget revenues. The impact of fiscal pressure on the degree of deviation of local government budgetary revenue is negatively moderated by the share of tax revenue in fiscal revenue.

Keywords: Budget Revenue Deviation; Fiscal Pressure; Modern Budgetary System

1. Introduction

Since 2020, due to the dual impact of downward pressure on the economy and the intensification of policies to reduce taxes and fees, the nation's fiscal balance has become "tight", and the pressure on local fiscal balance has gradually increased. In addition, the impact of the new pneumonia epidemic has further reduced fiscal revenues, and the contradiction between local government revenues and expenditures has become more prominent. This, coupled with insufficient budget coordination and management, the government has not yet firmly established a sense of living a tight life, the budget is not binding enough, the efficiency of resource allocation and use needs to be improved, and the budget is still not open and transparent enough, has affected the coordination and sustainability of financial resources. It is crucial for local governments to accurately forecast economic growth trends and prepare budgets in a scientific manner, while coordinating the balance between fiscal revenue and governance objectives. This is a huge test for local governments' budgetary capacity.

As an important tool of financial management, the budget is a central reflection of the government's activities, and the country's ability to govern depends to a large extent on its budgetary capacity. The report of the 19th Party Congress clearly points out the establishment of a "modern budget system that is comprehensive, standardized, transparent, scientific and strong in restraint", and the report of the 20th Party Congress also mentions "improving the modern budget system". The modern budget system requires that budget preparation and budget execution should be consistent,

but the reality is that since the reform of the tax sharing system, the gap between the Chinese government's budget and final revenue has been gradually widening, and this gap is reflected in the deviation between the budget voted by the local people's congresses at the beginning of the year and the final budget executed by local governments at the end of the year. This deviation is referred to as the budget deviation and is mainly based on the over-recovery of revenues.

Based on the above realistic background, it is of certain theoretical value and practical significance to study the impact of financial pressure on the deviation of income from the budget and accounts.

2. Review of the Literature

2.1. Studies Related to Financial Stress

Research on the measurement of fiscal stress: most scholars use the fiscal gap to measure fiscal stress, such as those who use the ratio of general budget gap to regional GDP (Wang Zhuhua et al., 2017) [1], some use the ratio of general budget gap to general budget revenue to measure (Shouwei Qi et al., 2020) [2], and a few scholars measure local governments' fiscal pressure (Zhu Jun, 2018) [3]. In addition to this, some scholars use fiscal stress shocks to measure, for example, some scholars use the abolition of agricultural tax reform to measure the change in fiscal stress (Yu Jingwen et al., 2018) [4] , or the income tax sharing reform as a quasi-natural experiment, using the relative loss of local government income tax before and after the reform as a measure of the amount of change in fiscal stress (Xu Chao et al., 2020) [5].

Research on the impact of fiscal pressure on local government behavior: most of the current literature examining local government behavior under fiscal pressure focuses on local governments' strategies to increase revenue and reduce pressure. Fiscal pressure usually induces local governments to increase tax effort and strengthen tax regulation (Chen, 2016; Chen, 2017; Gao, Zhengbin et al. 2019; Zhao, Y. et al. 2019; Li, Guangzhong et al. 2020) [6], while fiscal pressure also intensifies local governments' debt raising behavior, which leads to higher local debt risk (Hong, Yuan et al. 2018; Mao, Jie et al. 2020) [7]. Fiscal pressure also induces local governments' preference for "land finance" (Luo Biliang 2010; Wang Jian et al. 2019; Huang Lingxiang et al. 2020; Huang Siming et al. 2020) [8].

2.2. Studies Related to Budget Deviations

Research on the impact of fiscal transparency on budget deviations: scholars have shown that increased fiscal transparency significantly reduces deviations in local budget revenues and increases deviations in local budget expenditures, and that it has a significantly stronger inhibitory effect on deviations in non-tax revenues than tax revenues (Xiao, Peng and Fan, 2021) [9]; some scholars have assessed the impact of the new Budget Law on deviations in local government budgets and found that Some scholars assessed the impact of the new Budget Law on the deviation of the budget of local governments, and found that the new Budget Law reduces the deviation of budget revenues and expenditures by strengthening the scientific nature of revenue budgeting and strengthening the constraints of budget execution (Li and Liu, 2020) [10], while some scholars further investigated whether there are differences in the impact of the new Budget Law on the deviation of the budget under different budget environments. Some scholars have shown that state audit supervision enhances fiscal transparency through hard constraints and strong accountability mechanisms, thus

affecting the deviation of fiscal expenditure from the budget and that fiscal transparency has a mediating effect on the deviation of expenditure from the budget forecast (Yang Zaiting and Wang Jinxiu, 2020) [11].

Research on the influence of political incentives on budget deviations: scholars have shown that local officials are strongly incentivized by finance and promotion and may achieve GDP over planned growth, but there is a positive correlation between GDP over planned growth and budget deviations, while in the budget execution process taxation departments will increase their taxation efforts under the pressure of taxation task assessment, thus achieving fiscal over-collection (Feng Hui and Shen Zhaozhang, 2015) [12], on the basis of which some scholars found that local governments would strategically underestimate the planned GDP used in budget preparation due to political incentives, while continuously over-recovering in the budget year to stimulate local economic development, resulting in high actual GDP in the final accounts, making a positive correlation between over-planned GDP growth rate and non-tax revenue pre-final deviation (Ma Haitao et al., 2017) [13]; there are also scholars point out that the relationship between tax planning and budget deviation is not a simple linear one, but an inverted U-shaped one, with tax planning exceeding a certain standard creating a reverse incentive for tax authorities (Feng Hui and Shen Zhaozhang, 2015) [14].

2.3. Study on the Impact of Financial Pressure on Budget Deviations

It has been shown in the literature that since the tax sharing reform, fiscal power has gradually been concentrated to the central government, while the service power has gradually shifted down to the local level, and local governments will try to improve the efficiency of tax collection and management to ensure fiscal revenue under fiscal pressure, with fiscal over-revenue positively correlated with the hand captured by the central government (Feng Hui and Shen Zhaozhang, 2015) [12]. Under a fiscal decentralization system, vertical fiscal imbalances of local governments have a positive effect on the degree of local revenue deviation, while promotion incentives amplify the extent of this effect (Xi Yu and Sun Yudong, 2021) [15]. If fiscal revenues are subdivided into tax and non-tax revenues, the fiscal expenditure gap rate is similarly positively related to the degree of non-tax revenue budget deviation (Ma et al., 2017) [13]. In addition to the above influencing factors, fiscal competition will force local governments to undergo greater fiscal pressure, and local governments may use land concessions to pursue fiscal over-recovery and adjust their beginning budgets, resulting in a negative correlation between fiscal pressure and budget deviation within a budget year, but expenditure pressure across budget years does not involve budget adjustments, hence a positive correlation between the two (Feng Hui, 2017) [16].

In summary, the existing literature is rich in theoretical studies and attribution analysis on fiscal pressure and budget deviations, but there are fewer empirical studies on deviations in local government budget revenues from the perspective of fiscal pressure. Secondly, we investigate the different effects of fiscal pressure on the deviation of tax revenue and non-tax revenue, as well as the effects on the deviation of budget revenue under different degrees of dependence on land finance; Thirdly, we find that optimizing the structure of fiscal revenue can help local governments to correct the mechanism of budget deviation.

3. Theoretical Analysis and Research Hypothesis

Since the 1994 tax-sharing reform, the central government has gradually established its central position in the allocation of financial resources with the continuous upward shift of financial powers and the gradual devolution of ministry powers, and the central government's ability to macro-control the economy has been enhanced. This reform has led to a year-on-year increase in the proportion of the central government's revenue in the total national fiscal revenue, but the corresponding ministry powers are still concentrated in local governments, which makes local governments bear an excessively heavy expenditure responsibility and triggers enormous financial pressure.

Local governments, as suppliers of public goods, are also responsible for economic development. Faced with enormous financial pressure, local governments are naturally motivated to increase their revenues to meet their expenditure needs. In order to attract capital inflows and promote regional economic growth, local governments may increase their fiscal revenues through land concessions, which, unlike tax revenues, lack statutory bases and constraints and are less difficult to realize. In addition, after the financial crisis in 2008, there was a proliferation of financing platforms set up by local governments, through which local governments issued urban investment bonds to raise large-scale debts. At the same time, local governments enjoy considerable discretionary power over non-tax revenues, and the "high degree of freedom" in the collection and management of such revenues is a powerful incentive for local governments to pursue extra-budgetary revenues. Prior to the enactment of the new Budget Law, local governments enjoyed discretionary power over over-recovery of revenue, which was outside the supervision of the National People's Congress and could easily exacerbate deviations from the budget. The above-mentioned behaviors of local governments in the face of financial pressure have further increased the extent of budget deviations. This has led to a lack of supervision and restraint in budget execution by local governments, resulting in widespread budget deviations. Accordingly, this paper proposes the hypothesis that fiscal pressure exacerbates the extent of deviations in local government budget revenues.

4. Model, Data and Variable Selection

4.1. Model Setting

This paper uses Chinese provincial panel data for the period 2011-2020, and the following model is constructed to explore the relationship between fiscal pressure and deviations from budgetary revenue.

$$\text{Budget}_{it} = \alpha_0 + \alpha_1 \text{Fispressure}_{it} + \beta X_{it} + \mu_i + \delta_t + \varepsilon_{it} \tag{1}$$

where Budget_{it} denotes the fiscal budget revenue deviation in province i in year t; Fispressure_{it} denotes local government fiscal pressure; X_{it} is a control variable; μ_i is an individual effect; δ_t is a time effect; and ε_{it} is a random disturbance term.

The issue of endogeneity is an important issue that must be considered in the empirical model. Based on the Hausman test results, this paper uses a panel fixed effects model, which can overcome the omitted variable bias to a certain extent. However, using the fixed effects model alone is not sufficient, and this paper further uses a systematic GMM model to address the endogeneity problem.

4.2. Selection of Variables

4.2.1. Explained and Explanatory Variables

The core explanatory variable in this paper is Fispressure, which is commonly used in academia to measure the fiscal pressure faced by local governments, either by the fiscal gap or by fiscal dependency. The explanatory variable Budget is the difference between the final revenue and the budgeted revenue. It is worth noting that the budgeted revenue is the adjusted budgeted revenue of the local government, not the budgeted revenue that was approved by the National People's Congress at the beginning of the year. See Table 1 for the calculation formula.

4.2.2. Other Variables

In addition to fiscal pressure, there are several factors that can affect the extent of deviation from the budget. The control variables selected in this paper include: regional GDP per capita (Lpgdp), unemployment rate (Unemployment), urbanization rate (Urban) and the timing of the enactment of the new Budget Law. In addition, the paper also chooses to use land transfer revenue (LTF) and fiscal revenue structure (structure) as the threshold and moderating variables respectively. The names and meanings of the variables are shown in Table 1.

Table 1. Name and meaning of each variable.

Name of the variable	Implication	Symbols
Deviation of income from the financial budget	Degree of deviation from budgeted revenue = (|fiscal final revenue - fiscal budget revenue|) / fiscal budget revenue	Budget
Financial pressures	Fiscal pressure = (general public budget expenditure - general public budget revenue) / general public budget revenue	Fispressure
Regional GDP per capita	Natural logarithm of regional GDP per capita	Lpgdp
Unemployment rate	--	Unemployment
Urbanization rate	Urbanization rate = year-end urban population/total population	Urban
When the new budget law was enacted	0 prior to 2015, 1 in 2015 and thereafter	Budget Law
Revenue from land concessions	Land premium income/general public accounts income	LLR
Structure of fiscal revenue	Local government tax revenue / local government revenue	Structure

4.3. Data Sources

In view of the uniformity of data caliber and availability, this paper selects panel data of 31 Chinese provinces from 2011 to 2020 to empirically analyze the impact of fiscal pressure on the deviation of budgetary revenue. Data on the main variables are obtained from the China Statistical Yearbook and the China Finance Yearbook, the moderating variables from the China Fiscal Transparency Assessment, and the threshold variables from the China Land and Resources Yearbook.

4.4. Descriptive Statistics

Table 2 shows the descriptive statistics for each variable for the years 2011-2020.The data of each variable are normally distributed.

Table 2. Descriptive statistics.

Name of the variable	Observations	Average	Standard deviation	Minimum value	Maximum value
Deviation of income from the financial budget	310	0.03	0.06	0.00	0.48
Financial pressures	310	0.49	0.20	0.10	0.93
Regional GDP per capita	310	10.78	0.45	9.69	12.01
Unemployment rate	310	3.24	0.64	1.20	4.61
Urbanization rate	310	58.05	13.14	22.81	89.60
When the new budget law was enacted	310	0.60	0.49	0.00	1.00
Revenue from land concessions	310	0.45	0.23	0.00	1.18
Structure of fiscal revenue	310	0.74	0.08	0.60	0.96

Note: The VIF values of each variable are less than 10, and there is no multicollinearity problem.

5. Analysis of Empirical Results

5.1. Baseline Regression Results

Table 3. Regression results of the effect of financial pressure on the deviation of income from the budget and accounts.

Name of the variable	（1）	（2）	（3）	（4）
Fispressure	0.2888**	0.4207***	0.4135***	0.4192***
	(0.1279)	(0.1332)	(0.1356)	(0.1343)
Lpgdp	--	-0.0066	--	-0.0119
		(0.0505)		(0.0542)
Unemployment	--	-0.0056	--	-0.0059
		(0.0092)		(0.0093)
Urban	--	-0.0042*	--	-0.0045*
		(0.0024)		(0.0024)
Budget Law	--	--	-0.0044***	0.0062
			(0.0010)	(0.0068)
Constant term	-0.0939	0.1739	0.0981	0.2479
	(0.0624)	(0.4375)	(0.0656)	(0.4865)
Number of observations	310	310	310	310
Adjusted R2	0.0217	0.1191	0.1238	0.1172
Individual fixed effects	Control	Control	Control	Control
Time fixed effects	Control	Control	Control	Control

Note: Robust standard errors in brackets; ***, ** and * represent significant at the 1%, 5% and 10% levels respectively.

Column (1) of Table 3 controls for year and region fixed effects only, and the coefficient of Fispressure is 0.2888, which passes the 1% significance test, indicating that fiscal pressure significantly increases the degree of deviation from pre-final revenue. In order to eliminate the influence of other possible factors on the results, columns (2)-(4) gradually add control variables to the first column. column (2), after adding the control variable of economic and social development, the coefficient of Fispressure is 0.4207, which passes the 1% significance test, and column (3), after adding only the control variable of when the new budget law was issued. The coefficient of Fispressure is 0.4135 at the 1% level of significance after adding all control variables in column (3), and 0.4192 at the 1% level of significance after adding all control variables in column (4). The results

of the benchmark regression also suggest that local governments have a "soft constraint" on budget execution under China's fiscal decentralization system.

5.2. Robustness Tests

5.2.1. Endogenous Problems

Considering that local government budgeting in China uses the base method and is often characterized by incremental budgeting in the process of budgeting, resulting in the current period budgeting being highly susceptible to the influence of the previous period's final accounts (Feng, 2017) [14], this paper uses the first- and second-order lagged terms of the explanatory variables as instrumental variables and uses a systematic GMM model for estimation to mitigate the estimation bias caused by endogeneity . Compared to differential GMM, systematic GMM can better handle the endogeneity of panel data and is also more suitable for small sample data. To avoid bias in the estimation due to excessive use of instrumental variables, the Lag and Collapse options are chosen to be added to the econometric model.

$$Budget_{it} = \alpha_0 + \alpha_1 Budget_{it-1} + \alpha_2 Budget_{it-2} + \alpha_3 Fispressure_{it} + \beta X_{it} + \mu_i + \delta_t + \varepsilon_{it} \qquad (2)$$

The regression results, as shown in Table 4, show that the deviation of pre-final revenue in the previous period has a significant positive effect on the deviation of pre-final revenue in the current period, demonstrating the asymptotic nature of local government revenue budgeting (Liu, Yuan and Li, 2022) [17]. The coefficients of the core explanatory variables remain significantly positive, further validating the robustness of the baseline regression model. The results of the AR(1) and AR(2) tests show that there is first-order serial autocorrelation but not second-order serial autocorrelation in the series of the model error terms. From the Hansen test results, the instrumental variables selected in this paper are appropriate and there is no over-identification problem in the model, and the Diff-in-Hansen test also indicates that the instrumental variables are exogenous

Table 4. Endogeneity test.

Name of the variable	SYS-GMM estimates
L1. Budget	0.1645***
	(0.0533)
L2. Budget	0.0303
	(0.0405)
Fispressure	0.1108**
	(0.0481)
AR(1)	0.0070
AR(2)	0.5300
Hansen test	0.9330
Diff-in-Hansen test	0.9360
Control variables	Yes
Individual fixed effects	Control
Time fixed effects	Control
Number of observations	248

Note: Robust standard errors in parentheses; ***, **, * represent significant at the 1%, 5% and 10% levels respectively; Hansen's test and AR(1) and AR(2) are reported as statistical P-values.

5.2.2. Different Measures of Financial Stress

At present, it is generally accepted in China's academic circles that fiscal pressure refers to the gap between fiscal revenue and expenditure, and fiscal pressure is usually measured by the scale of fiscal expenditure exceeding fiscal revenue, but in practice, scholars will adopt different measurement methods according to their own research perspectives, so there is no completely uniform standard. Theoretically, the fiscal pressure of local governments can be measured by the degree of dependence on the central government's transfer payments on the one hand, while on the other hand, the local governments' own fiscal revenue and expenditure gap can also reflect the fiscal pressure situation. Based on this, this paper draws on the method of Wang Jhuhua et al. (2017) [1] and uses the on-budget fiscal revenue and expenditure gap/GDP (Deficit) method to re-measure the fiscal pressure of local governments in order to test the robustness of the baseline regression results.

The regression results are shown in Table 5. The coefficient of the core explanatory variable Deficit remains significantly positive, indicating that fiscal pressure can significantly increase the degree of fiscal budget revenue deviation, once again validating the robustness of the benchmark regression results.

Table 5. Tests for substitution of explanatory variables.

Name of the variable	Deviation of income from pre-final accounts
Deficit	0.1255***
	(0.0208)
Control variables	Yes
Individual fixed effects	Control
Time fixed effects	Control
Number of observations	310
R2	0.0508

5.2.3. Other Robustness Tests

Table 6. Other robustness tests.

Name of the variable	Considering the impact of the new crown pneumonia outbreak in 2020	Exclusion of municipalities from the sample
Fispressure	0.4409***	0.3545***
	(0.1522)	(0.0986)
Control variables	Yes	Yes
Individual fixed effects	Control	Control
Time fixed effects	Control	Control
Number of observations	279	270
Adjusted R2	0.1176	0.1024

Note: ***, **, * indicate significant at the 1%, 5% and 10% levels respectively.

First, excluding the impact of the New Crown Pneumonia epidemic in 2020, which suddenly broke out on a large scale in 2020 and had a significant impact on the production and livelihood of the regions, local governments may not be able to adjust their budgets in a timely and effective manner in the face of the sudden epidemic, considering the uncertainty of the impact of the epidemic on economic activities. In this paper, we exclude the sample data of 2020 and re-run the baseline regression, the results are shown in column (1) of Table 6. Fiscal pressure still has a significant positive effect on the deviation of budget revenue, indicating that the sample selection does not affect the

research results of this paper. Secondly, the influence of municipalities directly under the central government is considered. Considering the special administrative status of the municipality, which may have an impact on the benchmark regression, this paper excludes the municipality from the sample and re-runs the benchmark regression. The results are shown in column (2) of Table 6, and the coefficient of Fispressure is still significantly positive after excluding part of the sample, indicating that the findings of this paper are robust.

5.3. Heterogeneity Analysis

5.3.1. Deviation of Income from Pre-final Accounts

When local governments are under financial pressure, they tend to increase non-tax revenue to relieve the pressure. The reason is that if local governments simply increase tax revenue, it will lead to a higher tax burden in the region and thus discourage the inflow of capital, which is not conducive to long-term economic development. In addition, because non-tax revenues are not subject to the same statutory requirements as tax revenues, local governments have considerable autonomy in their collection and management, and thus have a greater incentive to deviate from the budgeted revenues. The results of this paper are shown in Table 7, which shows that for every unit increase in fiscal pressure, the deviation from the budget of tax revenue increases by 11.24%, while that of non-tax revenue increases by 21.49%, with the degree of deviation from the budget of non-tax revenue being significantly higher than that of tax revenue. This also confirms the tendency of local governments to behave in the face of fiscal pressure as explained in the previous section.

Table 7. Heterogeneity analysis of tax revenue and non-tax revenue.

Name of the variable	Tax revenue	Non-tax revenue
Fispressure	0.1124***	0.2149*
	(0.0426)	(0.1217)
Control variables	Yes	Yes
Individual fixed effects	Control	Control
Time fixed effects	Control	Control
Number of observations	310	310
R2	0.0312	0.0159

Note: ***, **, * indicate significant at the 1%, 5% and 10% levels respectively.

In order to further explore the impact of financial pressure on positive and negative deviations of budgetary revenue, this paper considers deviations of budgetary revenue greater than zero as positive deviations and deviations of budgetary revenue less than zero as negative deviations, and thus identifies the over- and under-recovery behavior in fiscal revenue.

Table 8. Heterogeneity test for over-collection and short-collection behavior.

Name of the variable	Overcharging	Short collection behaviour
Fispressure	0.3427*	0.9799**
	(0.1796)	(0.4244)
Control variables	Yes	Yes
Individual fixed effects	Control	Control
Time fixed effects	Control	Control
Number of observations	243	67
Adjusted R2	0.1146	0.4139

Note: ***, **, * indicate significant at the 1%, 5% and 10% levels respectively.

The empirical results are shown in Table 8. The coefficients of Fispressure in columns (1) and (2) are both significantly positive, implying that fiscal pressure triggers over-revenue behavior of most local governments while also inducing short-revenue behavior of some local governments. It is worth noting that the degree of impact on short-revenue behavior of local governments is greater than that on over-revenue behavior, possibly because when facing fiscal pressure, due to the greater rigidity of fiscal expenditure Local governments may take into account the growth in expenditure when preparing their revenue budgets and thus increase their revenue budgets, but the actual revenue in the following year often fails to meet expectations, instead increasing the degree of deviation from the budget and accounts.

5.3.2. Land Finance

Since the reform of the taxation system, there has been a serious mismatch between the central government and local governments in terms of financial and administrative powers, and the budgetary pressure faced by local governments has been increasing. As a result, land revenue has become the main source of non-tax revenue for local governments in recent years, while this part of the funds is at the "free disposal" of local governments, and governments at all levels naturally favor land finance, but this has to a certain extent increased the degree of deviation from the budget revenue. The high dependence on land finance means that local governments tend to become inertially dependent on land finance, and given the switching costs associated with adjusting the revenue structure, local governments tend to draw more heavily on land finance when they are under financial pressure, as it is easier to obtain revenue through the sale of land, but this practice exacerbates the degree of deviation from budget revenue.

Based on this, this paper uses land concession revenue as the threshold variable to test the threshold effect on the deviation of pre-determined revenue, and the results are shown in Table 9. From the F-statistic and P-value, we can see that the single threshold passes the 10% significance test, and the threshold value of land concession revenue is 0.3122. The effect of fiscal pressure on the deviation of pre-determined revenue differs at different levels of land concession revenue: compared to the effect of fiscal pressure on the deviation of budget revenue differs across different levels of land concession revenue: compared to regions with lower land concession revenue, regions with higher land concession revenue have a higher degree of influence on the deviation of budget revenue.

Table 9. Threshold effect test.

					Threshold values		
--	**Models**	**F-value**	**P-value**	**Number of BS**	**1%**	**5%**	**10%**
Deviation of income from the pre-account	**Single threshold**	11.69*	0.0967	300	21.5707	14.4066	11.6555
	Double Threshold	3.82	0.3900	300	13.3301	9.6961	7.7646
	Three-fold threshold	0.48	0.9467	300	17.7591	11.9920	8.5288

Threshold variable：Revenue from land concessions（LLR）

Note: * indicates significant at the 10% level.

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6. Further Analysis

The previous empirical analysis has shown that fiscal pressure has increased the degree of deviation from the budget, so how to alleviate the fiscal pressure of local governments to reduce the degree of deviation from the budget. Theoretically, local governments have not yet established a main tax system, and the structure of the local tax system still needs to be improved, so it is difficult to maintain the stability and sustainability of tax revenues. This section examines the adjustment mechanism of fiscal pressure affecting the deviation of budgetary revenue from the perspective of fiscal revenue structure.

The results are shown in Table 10, where the coefficients of the Fispressure and Structure cross-multiplier variables are significantly negative, indicating that the optimization of local government revenue structure can effectively reduce the degree of deviation from the budget revenue, and that, due to the higher degree of transparency as well as standardization of tax revenue, when tax revenue accounts for a larger proportion of fiscal revenue, local governments have less room to draw on non-tax revenue, thus This effectively reduces budget deviations. The increase in the share of tax revenue in fiscal revenue not only ensures the quality of fiscal revenue, but also corrects the bias of local governments to achieve fiscal overspending through non-tax revenue.

Table 10. Tests for moderating effects.

Name of the variable	Deviation of income from the pre-account
Fispressure	1.3049***
	(0.2846)
Structure	0.8100***
	(0.1427)
Fispressure * Structure	-1.6789***
	(0.3510)
Control variables	Yes
Individual fixed effects	Control
Time fixed effects	Control
Number of observations	310
Adjusted R2	0.2969

Note: ***, **, * indicate significant at the 1%, 5% and 10% levels respectively.

7. Conclusions and Policy Recommendations

This paper finds the influence of fiscal pressure on the deviation degree of local government budget revenue through empirical analysis, and draws the following conclusions: first, fiscal pressure shows a positive influence on the deviation degree of local government budget revenue, among which the influence of fiscal pressure on the deviation degree of non-tax revenue budget is significantly higher than that of tax revenue, probably because it is a common practice for local governments to expand non-tax revenue when facing fiscal pressure; second, the positive influence of fiscal pressure on the deviation degree of local government budget revenue is more obvious in The positive effect of fiscal pressure on the degree of deviation of local government's budget revenue is more obvious in areas with higher land grant revenue, further illustrating the dependence of local governments on land finance; thirdly, the proportion of tax revenue to fiscal revenue will negatively adjust the effect of fiscal pressure on the degree of deviation of local government's budget revenue, and the optimization of fiscal revenue structure can effectively alleviate the degree of deviation of budget revenue.

The findings of this paper have certain practical significance in further reducing the degree of revenue deviation from the budget and accounts, improving the scientific nature of revenue budgeting and effectively constraining budget execution. First, the financial and administrative powers between the central government and local governments should be clarified. We can try to build a local tax system with property tax as the main body, give local governments more autonomy in real estate tax collection by "fully authorizing" them, actively and steadily promote real estate tax reform and improve the taxation system of grassroots governments, and combine the "fee-to-tax" reform with the "fee-to-tax" reform by clearing fees and establishing taxes. The reform should be combined with the "fee to tax" reform to expand the scope of local taxes by clearing fees and establishing taxes, helping local governments to obtain stable tax revenues, appropriately decentralizing financial powers while appropriately delegating ministerial powers, and establishing a decentralization structure that matches financial and ministerial powers. Second, enhance the binding force of budget execution. Focus on enhancing the status of the budget department in the finance sector, gradually improve the standards and norms of budget preparation, while focusing on the scientific and seriousness of budget preparation, so that every expenditure has to have a budget in the first place, and strictly prohibit over-budget and no-budget arrangements for expenditure; attempts can be made to add budget execution efficiency to the appraisal system of local government officials to help local governments improve their budget execution. Third, strengthen the supervision of budget management. Strengthen the NPC's budget review and supervision function, establish an all-round and whole-process supervision mechanism, strictly audit budget adjustments, not adopt any unscientific and unreasonable budget adjustments, strictly implement the budget approved by the NPC, and once the budget is approved, no adjustment is allowed except for amendments through legal procedures, improve the audit supervision and audit scope of the budget, further improve financial transparency, and give full play to social supervision in local The role of social supervision in local government budget management is further enhanced, and power is fully exposed to the sun.

Conflicts of Interest: The author declares no conflict of interest.

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