

Fiscal Transparency and Fiscal Resilience—Evidence from the Normalized Fiscal and Accounting Supervision Policy

Yingxuan Liu

School of Public Finance and Taxation, Central University of Finance and Economics, Beijing, China

2025310005@email.cufe.edu.cn

Abstract. Fiscal matters are the foundation and important pillar of national governance, and enhancing local fiscal resilience is one of the important handles for responding to the 'soft landing' of economic growth. Based on panel data at the prefecture-level-city level from 2013 to 2023, this paper takes the normalized fiscal and accounting supervision reform implemented by the Ministry of Finance in 2020 as an exogenous policy shock, and uses the difference-in-differences method to analyze the effect of fiscal transparency on urban fiscal resilience. The research shows that the normalized fiscal and accounting supervision policy can reduce the government debt ratio, optimize the fiscal expenditure structure, and drive local consumption, thereby effectively improving local fiscal resilience. This effect is more pronounced in cities with high resource allocation efficiency and balanced fiscal execution. Starting from the perspective of fiscal supervision, this study provides a useful reference for resolving local fiscal pressure and preventing local fiscal risks.

Keywords: fiscal transparency, fiscal resilience, normalized fiscal and accounting supervision

1. Introduction

The report of the 20th National Congress of the Party points out: 'At present, the great changes of the world unseen in a century are evolving at an accelerating pace, a new round of scientific and technological revolution and industrial transformation is developing in depth, the international balance of power is undergoing profound adjustment, and China's development is facing new strategic opportunities.' The direction of government expenditure leads the direction of industrial development efforts. The Opinions on Further Strengthening Fiscal and Accounting Supervision points out that governments at all levels should establish a coordination mechanism for fiscal and accounting supervision, clarify work tasks, improve mechanisms, perfect institutions, and strengthen the supervision and guidance of fiscal and accounting supervision work at lower levels. Under the current situation of great local fiscal pressure and prominent risks, local finance, as a booster of regional economic development, plays a decisive role in the sustainable development of the regional economy and society [1]. At present, the fiscal and accounting supervision model in force places more emphasis on ex-post supervision, while the attention to ex-ante and in-process supervision is clearly insufficient [2]. Under the guidance of the normalized fiscal and accounting supervision

policy, the normalized fiscal and accounting supervision reform can strengthen the supervision and management of local government fiscal expenditure, enhance local fiscal transparency, promote the reasonable and full use of funds, can effectively improve government fiscal resilience, and promote the modernization of the local governance system and governance capacity.

This paper aims to study how government fiscal expenditure is affected by increasingly transparent fiscal information under the new normalized fiscal and accounting supervision policy, and then its effect on fiscal resilience. At present, local fiscal pressure is high, institutional norms are imperfect, and fund allocation is chaotic, while under the changing world economic development is especially important, and the reform of the fiscal system brooks no delay. The fiscal and accounting supervision policy aims to enhance the transparency of fiscal information and optimize resource allocation by strengthening the supervision of the capital flows of enterprises and the government. Its impact and mechanism on fiscal resilience are not yet clear, which should arouse our continuous attention and in-depth discussion. Using panel data at the prefecture-level-city level from 2013 to 2023, this paper takes the normalized fiscal and accounting supervision reform implemented by the Ministry of Finance in 2020 as an exogenous policy shock, and uses the difference-in-differences method to analyze the impact of fiscal transparency on urban fiscal resilience.

For the measurement of fiscal resilience, existing literature is mainly divided into two categories. One is single-indicator measurement. Early studies used the fiscal balance rate indicator to measure fiscal resilience, but this indicator has the shortcomings of being static, one-sided, and lacking dynamics; it does not reflect the changes in revenue and expenditure between years, ignores debt risk, and cannot reflect the recovery and adjustment ability after a shock [3]. The other is the multi-dimensional indicator system measurement method, which constructs the measurement indicators of fiscal resilience through objective weighting methods such as the entropy weight method [4, 5]. From the four dimensions of fiscal growth capacity, fiscal recovery capacity, fiscal resistance capacity, and public governance capacity, this paper selects 11 tertiary indicators and constructs a local fiscal resilience evaluation system, which measures the fiscal governance capacity of local governments in a relatively comprehensive and complete manner. The results show that the normalized fiscal and accounting supervision reform can effectively improve local fiscal resilience, and this effect is realized through reducing the government debt ratio, optimizing the fiscal expenditure structure, and driving local consumption. For cities with higher resource allocation efficiency and more even fiscal execution rhythm, the positive impact brought by the normalized fiscal and accounting supervision reform is more significant.

The possible marginal contributions of this study are as follows. First, in terms of research method, this paper constructs a complete set of local fiscal resilience evaluation indicator system from the perspectives of fiscal growth capacity, fiscal recovery capacity, fiscal resistance capacity, and public governance capacity, and uses the difference-in-differences model to discuss the effect of fiscal transparency on local fiscal resilience. Second, in terms of research content, taking the series of reforms that strengthen the construction of the fiscal and accounting supervision system as the entry point, this paper focuses on the three dimensions of local government debt resolution, fiscal expenditure structure optimization, and local consumption vitality enhancement, and innovatively takes market distortion and 'year-end rush spending' as moderating variables to explore the policy impact path, expanding the series of research on fiscal resilience. Third, in terms of policy implications, this paper examines the heterogeneity of the effect of the fiscal and accounting supervision system reform from multiple perspectives such as city size, fiscal transparency, business environment, and the city's leading industry, analyzes the key question of 'for whom the fiscal and accounting supervision is more effective,' and provides empirical reference for promoting fiscal

transparentization and standardization and precisely implementing policies to ease local fiscal pressure.

2. Institutional background and literature review

In recent years, China's real estate market has remained sluggish, and the debt risks of real estate enterprises have continued to be exposed. The existing supervision mechanism places more emphasis on ex-post supervision, while the attention to ex-ante and in-process supervision is clearly insufficient [6]. In this context, the government's ability to repay the increasing debt is naturally insufficient, causing a serious fiscal and debt dilemma. To help local governments ease fiscal difficulties and improve the efficiency of fiscal fund use, the Supervision and Evaluation Bureau of the Ministry of Finance launched pilots to strengthen fiscal and accounting supervision in 11 regions (including Shanghai, Xiamen, Ningbo, Qingdao, Shenzhen, Dalian, Jiangsu Province, Zhejiang Province, Shandong Province, Guizhou Province, Anhui Province, etc.) starting from December 2020, exploring the reform direction of the normalized fiscal and accounting supervision path. The pilot adopts a 'key-object list system,' aiming to regulate corporate tax payment and financial behavior, which is conducive to stabilizing government tax sources, consolidating the tax base, and enhancing the city's fiscal resilience in the face of risks and challenges. For governments with sufficient fiscals, the fiscal and accounting supervision system also regulates the flow of government funds, prompting them to reduce unnecessary expenditures and truly use funds where they are critically needed. This reform starts from local enterprises, enables the taxes that enterprises should pay to fully enter the government fiscal system, and plays an important role in strengthening the supervision of government expenditure and enhancing the risk response capacity of local governments.

There are relatively few discussions on this fiscal and accounting supervision reform in the existing literature. Ye Yongwei et al. [2] started from the perspective of corporate violations and examined the risk prevention effect of the fiscal and accounting supervision reform on corporate violations, and their another paper considered the impact of the reform on curbing corporate tax avoidance from a fiscal perspective [6]. However, there is still a gap in the existing research on the analysis of the impact of this policy on fiscal resilience.

In the context of coordinating development and security and responding to external shocks, 'fiscal resilience,' as the core representation of the state's governance capacity, has increasingly become the focus of academic attention. Early studies mostly started from the perspective of emergency governance; for example, Xu Yujiu et al. [7] built an 'income—expenditure—system' analysis framework based on the full-cycle process of fiscal emergency governance, and initially revealed the resilience mechanism of the fiscal system in maintaining functions, rapidly recovering, and achieving adaptive adjustment in crises. Subsequently, the research perspective gradually expanded: Ma Shaojie et al. [4] discussed that public data opening can effectively improve local fiscal resilience by means of technological innovation and improving government governance efficiency. Zhang Jingjing et al. [8] found that green fiscal policy can improve urban ecological resilience. However, this part of the research mainly discusses policy effects, not the impact of supervision. The literature most similar in topic to this paper is Luo Chunhua et al. [9], who confirmed that state auditing not only significantly enhances regional fiscal resilience, but also produces positive spatial spillover effects. But they mainly study the direct audit of government departments, while this paper takes the fiscal and accounting supervision reform as the entry point, analyzes how micro-level enterprise fiscal and accounting supervision strengthens the supervision of fiscal fund flows, and

discusses the impact of this enterprise-level supervision on the fiscal transparentization of city governments.

3. Data

The explained variable is local fiscal resilience (Fre). Regarding the measurement of local fiscal resilience, the academic community has not yet formed a unified standard. To reflect the connotation of fiscal resilience more fully, this paper adopts the multi-dimensional indicator measurement method, draws on the research of Ma Shaojie et al. [4] and Zhang Youwen and Wang Jinxiu [5], and selects 11 tertiary indicators from the four dimensions of fiscal growth capacity, fiscal recovery capacity, fiscal resistance capacity, and public governance capacity to construct a local fiscal resilience evaluation system, with the indicators and their meanings shown in Table 1. In the baseline regression, the entropy method is used to weight and measure each indicator as a whole.

Table 1. Evaluation indicator system for local fiscal resilience

	Indicator Name	Indicator Meaning / Description
	Fiscal Expenditure Scale	General Public Budget Expenditure / GDP
Fiscal Growth Capacity	Fiscal Expenditure Structure	(Expenditure on Medical Care + Education + Science + Social Security and Employment) / Fiscal Expenditure
	Fiscal Expenditure Elasticity	Growth Rate of General Public Budget Expenditure / GDP Growth Rate
Fiscal Recovery Capacity	Fiscal Revenue Structure	Tax Revenue / General Public Budget Revenue
	Fiscal Revenue Elasticity	Growth Rate of General Public Budget Revenue / GDP Growth Rate
	Fiscal Revenue-Expenditure Gap	General Public Budget Expenditure - General Public Budget Revenue
Fiscal Resistance Capacity	Fiscal Self-Sufficiency Rate	General Public Budget Revenue / General Public Budget Expenditure
	Government Debt Balance	Local Government Debt Balance
	Regional Income Gap	Regional Theil Index
Public Governance Capacity	Unemployment Insurance Participation Rate	Unemployment Insurance Participants / Population
	Social Consumption Capacity	Total Social Consumption / GDP

To evaluate the policy effect of the normalized fiscal and accounting supervision reform policy, the core explanatory variable of this paper is the interaction term (DID). Among them, the treatment group is the 11 regions that implemented the fiscal and accounting supervision reform pilot. Since

the normalized fiscal and accounting supervision reform started in December 2020, following the setting method of Ye Yongwei et al. [6], this paper sets 2021 as the policy current period and 2020 as the base period.

Following the existing literature, this paper selects other urban control variables that may affect local fiscal resilience. These include: industrial structure, the logarithm of per capita GDP, the logarithm of the balance of various loans of financial institutions at year-end, social consumption capacity, fiscal revenue-expenditure ratio, the logarithm of the balance of local government debt, the Theil index, the logarithm of medical and health expenditure, and the unemployment insurance participation rate. Among them, the industrial structure is measured by the ratio of the added value of the secondary industry to the added value of the tertiary industry, and the social consumption capacity is defined as the ratio of the total retail sales of consumer goods to urban GDP. To control for the interference of the COVID-19 epidemic, this paper also controls the total number of confirmed COVID-19 cases in the city for 2020-2022.

To explore the impact path of the normalized fiscal and accounting supervision reform policy on local fiscal resilience, this paper discusses a variety of possible policy impact mechanisms, including government debt relief, fiscal expenditure structure optimization, social consumption vitality, resource allocation, and the year-end rush spending mechanism. On the one hand, a sound fiscal and accounting supervision system effectively monitors the government's revenue and expenditure, urges enterprises to pay taxes on time to secure government revenue [9], reduces their debt ratio, and ensures the payment of employee wages, strengthens their consumption capacity, drives economic growth [10], and can promote the government to spend every penny of taxpayers well. On the other hand, strengthening the supervision reform also makes resource information more transparent, and resources naturally flow into efficient enterprises [11], and also makes the government's expenditure speed tend to be smoothed within the year. The specific theoretical analysis will be discussed in depth in the mechanism analysis of Section 5.

This paper takes 286 prefecture-level cities in China from 2013 to 2023 as samples. The fiscal transparency data come from the Government Fiscal Transparency Research Report released by the 21st Century Development Research Institute of Tsinghua University, and the business environment data come from the China Urban Business Environment Database developed by Peking University and Wuhan University. The rest of the data are all from the China City Statistical Yearbook. Table 2 summarizes the sample characteristics of the key variables.

Table 2. Descriptive statistics

Variable Name	Sample Size	Mean	Std. Dev.	Min	Max
Fiscal Resilience (Entropy Method)	3146	0.252	0.046	0.12	0.58
Industrial Structure	3132	0.980	0.436	0.16	4.83
ln(Per Capita GDP)	3146	10.825	0.575	9.07	12.68
ln(Balance of Year-End Financial Institution Loans)	3144	16.777	1.166	13.95	20.81

Table 2. (continued)

Social Consumption Capacity	3135	0.402	0.119	0.11	1.01
Fiscal Revenue-Expenditure Ratio	3144	0.434	0.215	0.06	1.54
ln(Local Government Debt Balance, 100 million yuan)	3023	5.419	1.581	0.47	9.67
Theil Index	3146	0.381	0.163	0.00	0.84
ln(Medical and Health Expenditure)	3095	12.741	0.763	9.45	16.39
Unemployment Insurance Participation Rate	3139	0.119	0.116	0.00	1.17
Confirmed Cases That Day	3146	45.667	996.237	0.00	46276.00
Government Debt Ratio	3021	2.811	2.610	0.02	27.70
Fiscal Expenditure Structure	3095	0.428	0.058	0.16	0.72
ln(Total Retail Sales of Consumer Goods, 10k yuan)	3135	15.766	1.037	12.84	19.04
Total Market Distortion	3058	0.989	0.577	0.00	5.00
Resource Allocation Efficiency	3058	-0.318	0.176	-1.00	-0.00
Share of December Expenditure	2179	0.130	0.063	-0.77	0.47
Share of First-Quarter Expenditure	2242	0.211	0.062	-0.00	0.95
Fiscal Transparency	3130	46.840	19.368	0.00	92.15
Business Environment	2002	41.902	5.866	23.66	70.72

4. Empirical results and analysis

4.1. Baseline regression

To further explore the impact of the fiscal and accounting supervision policy on local fiscal resilience, this paper constructs the following difference-in-differences model:

$$Fre_{it} = \beta_0 + \beta_1 Treat_i \times Post_t + \beta_2 Control_{it} + \mu_i + \lambda_t + \epsilon_{it} \quad (1) \quad (1)$$

Among them, Fre_{it} represents the local fiscal resilience index of city i in year t . $Treat_i \times Post_t$ is the core explanatory variable of this paper. When the city is a pilot city of the normalized fiscal and accounting supervision policy, $Treat$ takes 1, otherwise 0. Since the policy was released in December 2020, following the practice of Ye Yongwei et al. [6], $Post_t$ takes 1 from 2021 onward and 0 otherwise. $Control_{it}$ is the covariate matrix, including industrial structure, the logarithm of per capita GDP, the logarithm of the balance of loans of financial institutions at year-end, social consumption capacity, fiscal revenue-expenditure ratio, the logarithm of the balance of local government debt, the Theil index, and the unemployment insurance participation rate. To exclude the interference of the COVID-19 epidemic, this paper further controls the logarithmic medical and health expenditure and the number of confirmed COVID-19 cases in the city per year. μ_i and λ_t represent city and year fixed effects respectively, and ϵ_{it} is the random error term.

Table 3 reports the baseline regression results of the impact of the normalized fiscal and accounting supervision system reform on local fiscal resilience. Among them, column (1) includes only the core explanatory variable, and column (2) further adds city-level control variables. The regression results show that the estimated coefficients are significantly positive at the 1% level. This indicates that the normalized fiscal and accounting supervision system reform has a significant positive improvement effect on local fiscal resilience. This result initially verifies the positive effect of the normalized fiscal and accounting supervision reform in enhancing local fiscal robustness.

Table 3. Baseline regression results

	(1)Fiscal Resilience	(2)Fiscal Resilience
DID	0.006*** (0.001)	0.002*** (0.000)
Industrial Structure		0.002*** (0.001)
ln(Per Capita GDP)		-0.029*** (0.001)
ln(Balance of Year-End Financial Institution Loans)		0.002*** (0.001)
Social Consumption Capacity		0.085*** (0.001)
Fiscal Revenue-Expenditure Ratio		0.094*** (0.002)
ln(Local Government Debt Balance)		-0.000**

Table 3. (continued)

		(0.000)
Theil Index		-0.047***
		(0.001)
ln(Medical and Health Expenditure)		0.013***
		(0.001)
Unemployment Insurance Participation Rate		0.249***
		(0.006)
Number of COVID-19 Confirmed Cases That Day		-0.000
		(0.000)
Constant	0.251***	0.279***
	(0.000)	(0.016)
City Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Sample Size	3146	2951
R-squared	0.917	0.993

Note: Figures in parentheses are standard errors. * p < 0.10, ** p < 0.05, *** p < 0.01

4.2. Parallel trend assumption assessment

An important assumption of the difference-in-differences model in this paper is that the treatment group and the control group should have no overall difference in the development trend of local fiscal resilience before the promulgation of the fiscal and accounting supervision policy, that is, the parallel trend assumption is satisfied. To test whether there is a parallel trend before the event, the model constructed in this paper is shown in formula (3):

$$Fre_{it} = \beta_0 + \sum_{t=2013}^{2023} \beta_t Treat_i \times Year_t + \beta_2 Control_{it} + \mu_i + \lambda_t + \epsilon_{it} \quad (2) \quad (2)$$

Among them, $Year_t$ is the dummy variable representing the t year. The settings of other variables are no different from those of the baseline regression model. Figure 2 reports the dynamic effect diagram. It can be seen that before the implementation of the reform, there is no significant difference in fiscal resilience between the treatment group cities and the control group cities, which provides evidence for the parallel trend assumption of the difference-in-differences method. The p-

value of the joint significance test is 0.78, and the null hypothesis that the pre-event coefficients are jointly zero cannot be rejected, which also supports the establishment of the parallel trend assumption. At the same time, observing the estimated coefficients for 2021-2023, it can be found that the positive effect of the reform on fiscal resilience began to appear in 2021 and has a certain persistence.

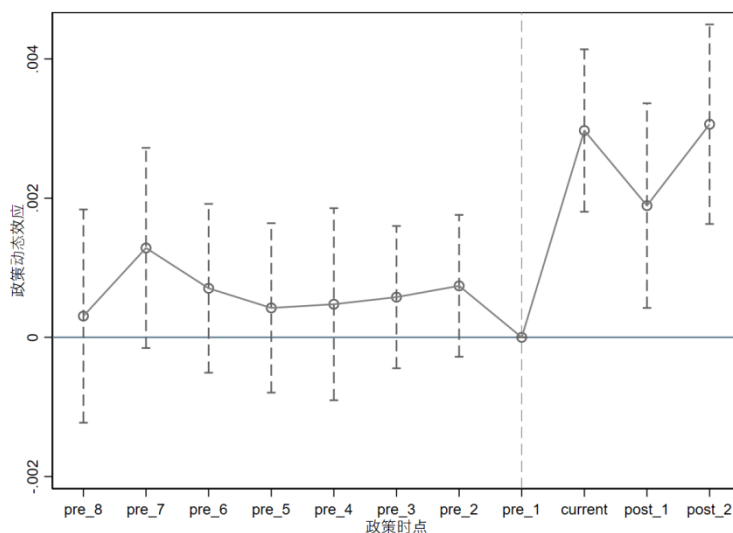


Figure 1. Dynamic effect diagram of the policy

Note: The horizontal axis pre_8 to pre_1 represent the 8th to 1st periods before the policy implementation, current is the policy implementation period, and post_1 to post_2 are the 1st and 2nd periods after the policy implementation; the vertical axis is the estimated coefficient of the dynamic effect of the policy.

5. Mechanism analysis

The baseline regression in the previous section shows that the fiscal and accounting supervision reform has a significant strengthening effect on government fiscal resilience, but its mechanism still needs to be examined. To explain how the fiscal and accounting supervision reform pilot policy affects fiscal resilience, this paper analyzes the impact path from two aspects: the mediation mechanism and the moderation effect.

5.1. Mediation mechanism

5.1.1. Government debt relief mechanism

Existing literature shows that the normalized fiscal and accounting supervision reform can regulate corporate financial accounting and tax payment behavior, reduce the space for corporate tax evasion and tax avoidance, enhance the efficiency of tax collection and management [2], help reduce the government's dependence on implicit debt financing [12], enable the government debt ratio to be effectively controlled, thereby ease fiscal pressure and enhance fiscal resilience [13]. By strengthening the supervision of corporate revenue and expenditure and earnings management, the reform reduces executive extravagance and waste [14], thereby exploring the actual amount needed by enterprises, and motivates them to use the remaining property in additional fields to increase output, improve the enterprise's income level and social contribution, give them a stronger tax

capacity, increase government tax revenue and expand government revenue sources, revitalize government funds and strengthen their liquidity, enable the government to have the ability to repay old debts, reduce the debt ratio and lighten the debt burden, thereby improving government fiscal resilience.

To test this mechanism, it is necessary to further verify the impact of the reform on the government debt burden. Following the suggestion of Jiang Ting [15], this paper tests the impact of the reform policy on the government debt ratio in the first column of Table 4. The results show that the DID coefficient is significantly negative, indicating that the fiscal and accounting supervision reform policy can effectively reduce the government debt ratio and relieve the debt pressure of local governments.

5.1.2. Fiscal expenditure structure optimization

The normalized fiscal and accounting supervision reform can prompt local governments to strengthen compliance review in links such as fiscal subsidies and project fund allocation related to enterprises, reduce inefficient subsidies, and may change the structure of government fiscal fund use [16], pushing fiscal resources toward education, medical and health care, social security and employment, science and technology, and other fields. To measure this mechanism, this paper uses the proportion of the sum of the above four expenditures in local fiscal expenditure to measure the government's fiscal expenditure structure. The fiscal and accounting supervision reform pilot optimizes the government's fiscal expenditure structure and enables fiscal funds to be invested more in people's livelihood and science-related fields, thereby improving government fiscal resilience.

The fiscal and accounting supervision system improves the examination of the actual fund use of local enterprises, reducing their use of means such as year-end rush spending and false account books for tax evasion to misappropriate government fund subsidies [17]. This policy is reducing the government's capital investment in these enterprises, and also supervises government departments to prevent unnecessary property from entering 'related enterprises,' enabling them to have more funds flowing to fields that truly concern the needs of the people, achieving governance for and by the people, and enhancing the people's willingness to pay taxes. Science and technology are the primary productive force, and the government's fiscal tilt toward this field meets the current situation of my country's economic shift to high-quality development, cultivates new momentum for local economic growth, and strengthens the government's economic burden capacity. Under the fiscal and accounting supervision system, government resources flow more to key enterprises that concern people's livelihood and have actual development needs, which promotes the optimization of the fiscal expenditure structure and improves the government's risk resistance capacity and fiscal resilience.

The second column of Table 4 tests the impact of the fiscal and accounting supervision reform policy on the fiscal expenditure structure. The results show that the DID coefficient is significantly positive, indicating that the reform can effectively promote the government's optimization and drive the healthy development of local government finance.

Table 4. Mediation mechanism regression

	(1)Government Debt Ratio	(2)Fiscal Expenditure Structure	(3)ln(Total Retail Sales of Consumer Goods)
DID	-0.473***	0.025***	0.011***

Table 4. (continued)

	(0.098)	(0.003)	(0.004)
Control Variables	Yes	Yes	Yes
City Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Sample Size	2951	2951	2951
R-squared	0.841	0.743	0.998

Note: Figures in parentheses are standard errors. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.1.3. Stimulating social consumption vitality

As an important aspect of the normalized fiscal and accounting supervision reform, the reform reduces the space for corporate tax evasion and tax avoidance by regulating corporate financial accounting and tax payment behavior [2], which provides policy benefits for improving the level of compliant corporate operation, enhancing the stability of employee salary payment, and securing residents' income expectations; at the same time, the strengthening of supervision helps enhance consumer confidence [18], thereby boosting social consumption demand, expanding the local government tax base, and enhancing local economic vitality. This paper uses the logarithm of the total retail sales of consumer goods to capture this transmission path. The results in column (3) of Table 4 show that the DID coefficient is significantly positive, indicating that the reform can effectively stimulate social consumption vitality, thereby increasing local government fiscal revenue and driving local economic development.

5.2. Moderation effect

5.2.1. The moderating role of resource allocation

By strengthening the authenticity verification of corporate fiscal and accounting information, the normalized fiscal and accounting supervision reform can reduce the misallocation of government subsidies and the misallocation of credit resources caused by information asymmetry [19], thereby pushing resources to flow to more efficient enterprises, reducing total market distortion, improving resource allocation efficiency, and indirectly enhancing the resilience of local fiscal operation.

In the first two columns of Table 5, this paper tests the moderating role of market distortion and resource allocation efficiency on the impact of the reform policy respectively. The results show that in regions with lower market distortion and higher resource allocation efficiency, the fiscal and accounting supervision reform policy can produce a greater improvement effect on government fiscal resilience.

5.2.2. The moderating role of year-end rush spending

Under the traditional model, local governments often concentrate the allocation of various subsidies and project funds to enterprises at the end of the year due to the pressure of budget execution assessment, forming a 'year-end rush spending' phenomenon, leading to low efficiency of fund use

[20]. The normalized fiscal and accounting supervision reform can promote the government to better identify compliant enterprises, urge the fiscal expenditure rhythm to be smoothed within the year, and is of great significance for reducing the waste of fiscal resources and enhancing fiscal resilience.

Table 5. Resource allocation and year-end rush spending

	(1)Fiscal Resilience	(2)Fiscal Resilience	(3)Fiscal Resilience	(4)Fiscal Resilience
DID × Moderating Variable	-0.002*** (0.001)	0.004*** (0.001)	-0.018** (0.007)	0.010** (0.004)
DID	0.004*** (0.001)	0.004*** (0.001)	0.005*** (0.001)	0.000 (0.001)
Total Market Distortion	-0.001*** (0.000)			
Resource Allocation Efficiency		0.004*** (0.001)		
Share of December Expenditure			-0.001 (0.003)	
Share of First-Quarter Expenditure				0.001 (0.002)
Control Variables	Yes	Yes	Yes	Yes
City Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Sample Size	2879	2879	2088	2156
R-squared	0.994	0.994	0.995	0.994

Note: Figures in parentheses are standard errors. * p < 0.10, ** p < 0.05, *** p < 0.01

Drawing on the measurement method of Zhang Jingkun and Fan Ziyang [21] for 'year-end rush spending,' this paper uses the proportion of expenditure in December and the proportion of expenditure in the first quarter as moderating variables for the impact of the fiscal and accounting supervision reform pilot on local fiscal resilience in the last two columns of Table 5 respectively. The results show that the fiscal and accounting supervision reform policy has a greater impact on regions where the fiscal expenditure rhythm is smoothed within the year.

6. Conclusions and discussion

6.1. Main conclusions

Based on the empirical data at the prefecture-level-city level from 2013 to 2023, this paper constructs a multi-period difference-in-differences model to explore the impact effect and mechanism of the fiscal and accounting supervision system on local fiscal resilience, and obtains the following main research conclusions. (1) The fiscal and accounting supervision system significantly improves local fiscal resilience, and this research conclusion still holds after a series of robustness tests such as parallel trend tests, heterogeneous treatment effect analysis, and placebo tests. (2) The mechanism analysis results show that the fiscal and accounting supervision mechanism improves local fiscal resilience through three paths: first, the government debt relief effect, that is, by strengthening the tax supervision of local enterprises, consolidating government revenue sources, and reducing their debt risk, thereby improving local fiscal resilience; second, the fiscal expenditure structure optimization effect, that is, by strengthening the supervision of government fund flows, reducing enterprises' misappropriation of government subsidies, and enabling funds to enter fields that truly concern people's livelihood development, thereby improving local fiscal resilience; third, the effect of stimulating social consumption capacity, that is, by stimulating social consumption to enhance local economic vitality and expand the local government tax base, thereby improving local fiscal resilience. (3) The heterogeneity analysis results show that the impact effect of the fiscal and accounting supervision policy on local fiscal resilience is more prominent in regions with a better business environment, transportation hubs, resource-based cities, non-old industrial bases, and first-tier and new first-tier cities.

6.2. Policy recommendations

First, continue to promote the implementation of the fiscal and accounting supervision system and improve the transparent supervision of government and enterprise funds. One, for regions that have not yet implemented the fiscal and accounting supervision policy, it is necessary to actively introduce and consolidate infrastructure construction to adapt to the new policy, strengthen pilot breakthroughs, introduce more economic entities, and establish a dedicated fiscal and accounting supervision department. Two, for regions that have already implemented the fiscal and accounting supervision system, it is necessary to continue to consolidate local infrastructure construction, ensure the long-term implementation of the policy, continuously and effectively guarantee government fiscal revenue, and maintain a good government-enterprise relationship. Three, improve the construction of supporting policy systems, perfect the fiscal and accounting supervision system, and provide more guarantees for the implementation of the fiscal and accounting supervision policy.

Second, implement differentiated policies according to local conditions and fully release the dividends of the fiscal and accounting supervision policy. One, local governments should accelerate the building of a good business environment and encourage enterprises to better integrate into institutional change and renewal. Two, for different types of cities, they should give play to their own inherent advantages and promote innovative development, and avoid directly copying and pasting successful cases. Three, continue to ensure the development of first-tier and new first-tier cities, thereby promoting second-tier cities to introduce new technologies and new industries, and helping third- and fourth-tier cities to develop.

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