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## Article

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# Can the county to district reform in China restrain corporate earnings management? From the perspective of regional local protection

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## ABSTRACT

Under the strategic background of regional coordinated development, the County to District can remove administrative barriers and reduce local protection. Based on the matching data of Chinese A-share listed companies from 2000 to 2018 and the County to District Reforms, this paper empirically explores the influence of County to District Reforms on earnings management. We find the County to District Reform can effectively reduce earnings management, especially in areas with high local protection. Further mechanism analysis shows the County to District Reforms reduce local protection by increasing credit availability for enterprises, and ultimately restrain earnings management. Additional analysis shows the County to District Reforms increase the bank loans of enterprises in areas with higher local protection. This paper deepens the understanding of the County to District Reforms and enriches the literature on how government actions can affect corporate governance.

## KEYWORDS

The county to district reform; earnings management; local protection; credit availability

## 1. Introduction

Implementing the regional coordinated development strategy and correctly handling the relationship between the government and the market have always been one of the major goals of the Chinese government. In November 2018, the Central Committee of the Communist Party of China and the State Council issued the *Opinions on Establishing a New Mechanism for More Effective Regional Coordinated Development*, which is a reflection of this strategic goal. Specifically, the County to District Reform in China, which arose in the 1980s, is also an administrative division adjustment to develop the regional economy, straighten hierarchical relations, and exert government functions. As part of China's governance, the County to District Reform can improve the relationship between local governments and the market, promote resource allocation efficiency, and optimise the business environment of enterprises (Peng et al., 2019). Then, can the County to District Reform affect corporate governance of micro-enterprises?

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From a micro perspective, earnings management is an important aspect of corporate governance. It internally affects the information transparency of enterprises and externally affects the market information environment. Vicious earnings management behaviour also seriously damages the interests of investors and reduces capital market allocation efficiency, which hinders capital market development (Biddle et al., 2009; Francis et al., 2009; Zhou & Chen, 2008). However, most studies focus on the effects of County District Reforms at the macro level. Few scholars have focused on corporate governance (Tang & Wang, 2015; Wang & Nie, 2010; Zhan & Zeng, 2021).

To explore how the County to District Reforms affect corporate governance, we examine the effect on earnings management. It should be pointed out the Fiscal Reform of the Province-Managed County is another administrative division adjustment in China that aims at promoting the financial level of reformed areas. Specifically, it refers to changing the financial relationship from the 'province-city-county' into 'province-city' and 'province-county', which means the financial transactions between provinces and counties are settled directly with counties instead of prefecture-level cities. However, the original intention of the County to District Reform is to achieve a higher level of market integration and regional coordinated development. Prior literature shows that the decentralisation of autonomy is an important reason for local protection. Compared with districts, county-level governments have higher autonomy in finance and administration, which causes serious local protection (Han, 2020; Xu, 2011). After County to District Reforms, powers are re-centralised to prefecture-level governments, which can eliminate administrative barriers and reduce local protection. Therefore, based on local protection, we examine how the County to District Reform affects earnings management behaviour.

Taking Chinese A-share listed companies from 2000 to 2018 as the sample, we empirically explore the effects of County to District Reforms on earnings management. The results show that (1) the County to District Reform can significantly reduce enterprise earnings management, (2) mechanism analysis shows that the County to District Reform can restrain earnings management by reducing local protection and refining channel to increase bank loan availability for enterprises, (3) cross-sectional test indicates that when enterprises belong to manufacturing industry or face serious financing constraints, the improvement effect of County to District Reforms on earnings management is more remarkable, and (4) further analysis shows that after the County to District Reform, bank loans obtained by enterprises evidently increase.

The contributions of this paper are reflected as follows. First, it enriches the literature on the policy effects of County to District Reform. As mentioned above, most scholars have investigated the consequences of the County to District Reform from a macro perspective (Tang & Wang, 2015; Wang & Nie, 2010; Zhan & Zeng, 2021). Based on corporate governance, we explore the effects of County to District Reform on earnings management, deepening the understanding of County to District Reform.

Second, based on government favouritism, Lu and Chen (2017) find the County to District Reform reduces government subsidies received by enterprises but does not consider the lending behaviour of financial market. Correspondingly, based on the market lending behaviour, we find the County to Districts Reform breaks administrative barriers between counties and districts, increases credit availability for enterprises, and helps ease

financing constraints, which ultimately reduces earnings management. Therefore, this paper complements prior studies (Lu & Chen, 2017).

Third, we also expand the studies on county governance and corporate governance. From the perspective of tax efforts, G.Z. Li and Jia (2019) find the Fiscal Reform of the Province-Managed County can reduce earnings management by enhancing the tax efforts of county-level governments. Based on local protection, we find the County to District Reform can restrain earnings management by reducing local protection and increasing access to credit resources for enterprises.

Finally, previous literature shows that governments intervene in the credit resources allocation of financial institutions, which reduces resource allocation efficiency (K. Li & Ye, 2007; Yu & Pan, 2008; Zhou, 2004). We find that by reducing administrative barriers and local protection, the County to District Reforms improves the credit allocation efficiency of financial institutions, which has certain practical guiding significance.

The rest is organised as follows. Section 2 details the institutional background, literature review, and hypotheses development. We describe data and variables in Section 3. Empirical results are presented in Section 4. Section 5 conducts additional analysis. Section 6 concludes this research.

## 2. Institution background, literature review and hypothesis development

### 2.1. Institution background

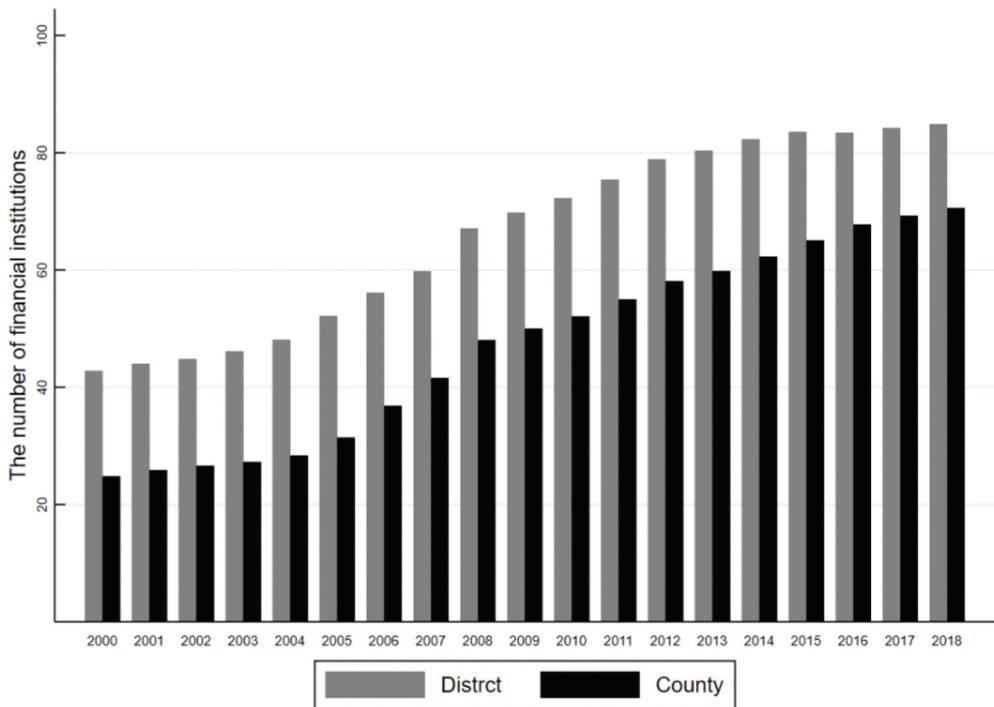
The County to District Reform refers to prefecture-level cities (or direct-administered municipalities) changing their counties into districts. According to the opinions of most scholars, motivations of County to District Reforms include the following aspects: (1) Expanding the development space of central cities and breaking through development bottleneck. (2) Alleviating the regional market segmentation caused by administrative barriers and achieving regional coordinated development (Hao et al., 2021). (3) Solving historical issues, such as 'one city and one district', and optimising the administrative structure of national land space. (4) For political promotion, the prefecture-level government also favours the County to District Reform. The reason is that higher-level governments examine the performance of lower-level governments based on economic performance. By conducting County to District Reforms, county-level resources are concentrated in prefecture-level cities and promote urban economic development (Zhan & Zeng, 2021). Additionally, the removal of counties into districts is also an adjustment to meet the requirements of improving urbanisation and administrative management. Districts adopt urban management and counties adopt rural management. In some counties, urbanisation has reached a high level and are inadaptable to rural management continuously.

The County to District Reforms also need to meet certain conditions. Main policy documents are *the Report on Adjusting the Standards for the Establishment of Cities* formulated by the Ministry of Civil Affairs in 1993 and *the Standards for the Establishment of Districts* formulated in 2003 and 2014. The above documents stipulate standards for newly established districts in population size, industrial structure, economic aggregate, and fiscal revenue. For example, as stated in *the Standards for the Establishment of Districts* (2014), counties that intend to establish districts should be

included in the central city planning and the urbanisation rate should not be less than 50%.

For counties and districts within the same prefecture-level city, there are evident differences in geographic location, affiliation, resource acquisition, economic incentives, and management authority. Considering the geographical location, districts are usually located within the scope of the central city and included in the development planning of the central city. However, counties are geographically far from central city and do not have such development advantages. As for affiliation, districts are directly managed by the prefecture-level governments, while counties have higher independence and decision-making autonomy, such as independent fiscal responsibilities and executive powers (Ji & Zou, 2019). Compared with counties, districts have more economic resources. Specifically, we manually sort the average number of financial institutions in counties and districts separately from 2000 to 2018. As shown in Figure 1, the average number of financial institutions in counties is less than that in districts, which indicates that compared with enterprises in districts, the loans that county-level enterprises can obtain from local banks are relatively scarce.

Some regional restrictions in the development of the Chinese financial market can also be observed, and these restrictions cause severe regional market segmentation, making it difficult for county-level enterprises to obtain cross-regional loans. As reported by Chinanews.com in 2012, in a regional economy, the fund demand and supply among counties are different. However, the central bank's loan is allocated directly to each



**Figure 1.** The average number of financial institutions. Depicts the average number of financial institutions in counties and districts separately.

county and stipulates it cannot be adjusted among counties, which generates the resources mismatch and restricts coordinated development.<sup>1</sup> Similarly, the China Banking and Insurance Regulatory Commission issued the *Opinions on Promoting Rural Commercial Banks to Adhere to Positioning, Strengthen Governance and Improve Financial Service Capabilities* in 2019, which emphasises that rural commercial banks should serve the local area and the new loanable funds should be used mainly for the local area in principle. Trying to reduce the effects of administrative barriers and local protectionism on factor markets, the Central Committee of the CPC and the State Council issued the *Opinions on Accelerating the Construction of a Unified National Market* in 2022, which states that local protection and regional barriers should be firmly removed, and no region can engage in a self-centred cycle of ‘small but complete’, let alone regional blockade in the name of ‘internal circulation’.

## 2.2. Literature review

### 2.2.1. County to district reform

From the macro-level, scholars have made explorations, including how the County to District Reforms affect economic growth, local public finance, population, and urbanisation (Tang & Wang, 2015; Wang & Nie, 2010; Zhan & Zeng, 2021). For example, Wang and Nie (2010) point out that administrative divisions directly affect regional economic development. Further, Zhan and Zeng (2021) find that the agglomeration effect of County to District Reforms through the expansion of urban scale can improve the quality of economic development in local cities. Some scholars examine the influence on population and urbanisation development and draw a consistent conclusion that the County to District Reform is conducive to population growth and alleviate urbanisation imbalance (Tang & Wang, 2015).

Based on the micro-level, fewer scholars have conducted related research. Fan and Zhao (2020) document that the County to District Reforms reduce the enterprises’ tax burden and promote regional economic growth. Taking Chinese industrial enterprises as the sample, Lu and Chen (2017) find that County to District Reforms reduce government subsidies and tax incentives for enterprises within the jurisdiction. While Peng et al. (2019) show that although County to District Reforms reduce subsidies and financing preferences, they strengthen product market competition and inhibit zombie enterprises.

### 2.2.2. Local protection and credit intervention

Under the Chinese-style decentralisation, a phenomenon cannot be ignored is the serious administrative barriers and local protection between different administrative regions, namely, local governments intervene, restrict, and exclude inter-regional economics for the sake of local economic interests, eventually leading to market segmentation and hindering market integration (Bai et al., 2004; H. Li & Zhou, 2005; Young, 2000; Zhou, 2004). To boost economic growth and safeguard the interests of various economic entities, local governments are particularly inclined to intervene in the local credit allocation, hoping to obtain more credit resources for the local area and restrict credit resources outflow (He et al., 2008; K. Li & Ye, 2007). Further, they also guide the local credit resources

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<sup>1</sup><https://www.chinanews.com.cn/fortune/2012/06-26/3987853.shtml>

flowing to industries or projects supported by governments. Undoubtedly, local protection causes severe financial market segmentation, leading to disorderly market competition and reducing resource allocation efficiency.

Most studies on County to District Reforms are from the macro perspective. Using Chinese industrial enterprises' sample, some scholars investigate whether the County to District Reforms affects decision-making of micro-enterprises. As a way of county governance, few scholars explore the effects on corporate governance. Taking Chinese A-share listed companies as the sample and based on the local protection, we empirically test whether the County to District Reforms affects the earnings management behaviour of enterprises.

## 2.3. Hypothesis development

### 2.3.1. County to district reform and earnings management

Earnings management motivations include capital market motivations, contracting motivations (such as lending contracts and management compensation contracts), and regulatory motivations (Fields et al., 2001; Hearly & Wahlen, 1999). We make our exploration based on lending contracts. Usually, as the debtor, the enterprise determines the creditor–debtor relationship by signing a lending contract with the creditor. Although the accounting information in debt contracts can reflect the debtor's solvency, because of inherent limitations of information, debt contracts are easily affected by earnings management (Lu et al., 2008).

As for debt financing, before lending contracts are signed, enterprises need to be evaluated by banks, bond rating agencies, or public market regulators. The evaluation criteria are based mostly on financial condition, mortgage guarantee, and profitability of enterprises (Petersen & Rajan, 1994). However, corporate financing is often limited because of market frictions, such as information asymmetry and principal–agent problems (Stiglitz & Weiss, 1981). Previous studies suggest that to obtain credit resources and reduce financing costs, enterprises would conduct earnings management to beautify financial statements (Cassar et al., 2015; DeFond & Jiambalvo, 1994; Ma et al., 2014; Sweeney, 1994). Moreover, Chinese commercial banks cannot identify earnings management when providing loans and even issue more long-term loans to enterprises with serious earnings management (Lu et al., 2008).<sup>2</sup> Therefore, under the lending contracts, enterprises have incentives to conduct earnings management to obtain scarce credit resources. We also advocate that compared with enterprises in districts, county-level enterprises face more limited credit resources and have stronger earnings management motivations.

First, influenced by Chinese fiscal decentralisation and political promotion tournament, local governments are actively committed to developing the local economy, which gives birth to local protectionism (H. Li & Zhou, 2005; Zhou, 2004). To support local enterprises and protect them from the market competition, local governments often intervene in the credit decision-making of financial institutions and place more credit resources in local

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<sup>2</sup>To protect interests, creditors add restrictive terms in lending contracts, such as requiring debtors to maintain a certain standard asset–liability ratio. If the debtor violates the terms, the creditor may raise the interest rate or require the enterprise to repay the loan in advance. Therefore, after the lending contract is signed, enterprises still have earnings management motivations (Franz et al., 2014; Lu et al., 2008).

enterprises, which distorts the resource allocation efficiency in financial market and leads to serious financial market segmentation (K. Li & Ye, 2007; Yu & Pan, 2008). Moreover, local protectionism often exists in governments of multiple levels (Hao et al., 2021).

The County to District Reform belongs to the upward transfer of management power. After the county is restructured into a district, most administrative and economic management authorities of original county-level governments are transferred to prefecture-level governments. The independence and autonomy of county-level governments have been seriously reduced, which weakens their local protection motives and results in a higher level of regional governance and business environment. First, it can alleviate regional financial market segmentation and promote the credit resources flow across regions. Second, original counties will be managed directly by prefecture-level governments, such as districts, integrated with the central urban area, and enjoy preferential policies of prefecture-level governments after the reform, which can reduce government frictions between administrative regions.

Second, the distribution of financial institutions in Chinese is uneven. Specifically, the number of financial institutions in counties is much less than that in districts and the former is dominated by rural credit cooperatives and rural commercial banks. As pointed out by Cai et al. (2020), the administrative barriers of jurisdiction and branch system of Chinese commercial banks hinder the cross-regional flow of credit resources, and thus, the location between banks and enterprises is an important factor affecting enterprises' access to credit resources.<sup>3</sup> By weakening administrative boundaries, the County to District Reforms promote regional market integration, which is conducive to the cross-regional flow of credit resources and original county-level enterprises can obtain more loans from other banks in prefecture-level cities to broaden financing channels.

Based on the above analysis, we expect the County to District Reforms can reduce local protection and increase the credit resources of enterprises, to reduce earnings management by weakening the lending contracts motivation. Therefore, we raise the hypothesis:

H1: The County to District Reform can restrain the earnings management behaviour of enterprises within the jurisdiction.

### ***2.3.2. County to district reform, local protectionism and earnings management***

The Chinese hierarchical structure includes four levels: central, provincial-level, prefecture-level, and county-level governments. Governments of different levels have different administrative and economic management authorities. Consequently, this administrative decentralisation leads to local protectionism and market segmentation.

Before the County to District Reform, county-level governments have higher independence, stronger local protectionism, and more severe market segmentation between counties and districts. Under the circumstances, companies in counties

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<sup>3</sup>The *General Rules for Loans* require financial institutions' deposit and loan business must comply with the prescribed administrative regions. Loans issued in other regions should be reported to the local branch of the People's Bank of China for the record.

could perform business activities within the local area, which makes it difficult for them to enter the market of districts. Accordingly, access to credit resources and other production factors are more restricted. After the reform, local protection declined (Han, 2020). At the macro-level, original administrative barriers are broken, which helps the prefectural-level governments to make unified decisions on the overall planning and industrial layout and promote market integration (Tang, 2019). At the micro-level, the County to District Reforms reduce local protection and increase access to credit resources for enterprises in local area, to ultimately alleviate lending contracts motivation and reduce earnings management. Further, we formulate a second hypothesis:

H2: In regions with higher local protection, the County to District Reform has a more significant improvement effect on earnings management.

### 3. Data and variables

#### 3.1. Data sources

We take Chinese A-share listed companies from 2000 to 2018 as the sample to explore the effects of County to District Reforms on earnings management. We obtain information on County to District Reforms from the website of the Ministry of Civil Affairs of China. Financial data, registered address information of enterprises and distribution information of financial institutions are from CSMAR database. Government subsidy data and market index are from Wind database. China's Annual Industrial Survey data are used to calculate EG index (Ellison & Glaeser, 1997).

The sample processing is as follows: (1) Identify the province, prefecture-level city, county, or district where firms are located according to the registered address information and match the corresponding administrative division code (specific to the county level) for each firm. (2) Given that Beijing, Tianjin, Shanghai, and Tibet have great differences in administration, enterprises registered in the above regions are dropped (Lu & Chen, 2017). (3) Exclude financial firms. (4) Drop ST, ST\*, or insolvent firms. (5) Remove observations with missing values for variables. (6) Based on the administrative division code, merge enterprises data and the County to District Reforms data. The industry classification adopted is *the Guidance on Industry Classification of Listed Companies* issued by the China Securities Regulatory Commission in 2001.

After the above sample selection, we obtained 24,213 firm-year level observations. To eliminate the effect of outliers, we winsorise all continuous variables at the upper and lower 1% levels.

#### 3.2. Variable definitions

##### 3.2.1. Earnings management (DA1)

Following Kothari et al. (2005) and G.Z. Li and Jia (2019), we adopt the cross-sectional modified-Jones model with performance-matching to measure earnings management

( $DA1_{i,t}$ ). First, we use the relevant financial data of enterprises to perform regression by industry and year employing model (1) and obtain coefficients ( $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4$ ). Next, we substitute the above coefficients into model (2) and calculate the nondiscretionary accruals ( $NDA_{i,t}$ ). Finally, we estimate discretionary accruals ( $DA1_{i,t}$ ) by model (3).

In the following models,  $TA_{i,t}$  represents total accruals, which equals to  $Nl_{i,t}$  minus  $CFO_{i,t}$ .  $Nl_{i,t}$  denotes the net profit of listed firm  $i$  in period  $t$  and  $CFO_{i,t}$  represents the net cash flow generated from operating activities.  $A_{i,t-1}$  is the lagged total asset.  $\Delta REV_{i,t}$  denotes changes in operating income.  $\Delta REC_{i,t}$  represents changes in accounts receivable.  $PPE_{i,t}$  is a net fixed asset.  $ROA_{i,t-1}$  denotes the lagged return on assets.

$$\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{A_{i,t-1}} + \alpha_4 ROA_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

$$NDA_{i,t} = \alpha_0 + \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{A_{i,t-1}} + \alpha_4 ROA_{i,t-1} \quad (2)$$

$$DA1_{i,t} = \frac{TA_{i,t}}{A_{i,t-1}} - NDA_{i,t} \quad (3)$$

### 3.2.2. County to District Reforms ( $Treat * Post$ )

The core explanatory variable is  $Treat * Post$ .  $Treat$  denotes whether enterprises are affected by the County to District Reform. If enterprises are affected by the reform during sample period,  $Treat$  equals 1 and 0 otherwise.  $Post$  denotes whether the reform is implemented, which equals 1 if the year is after the County to District Reform and 0 for other cases.

### 3.2.3. Control variables

We choose *size*, *age*, *lev*, *soe*, *growth*, *loss*, *roa*, *bdsize*, *inp*, and *audit* as control variables. Appendix A shows the specific definitions of variables.

## 4. Empirical results

### 4.1. Descriptive statistics

Table 1 reports descriptive statistics of the main variables. The average value of earnings management ( $DA1$ ) is  $-0.001$ . The average value of  $Treat * Post$  is  $0.086$ , indicating that at firm-level, about 8.6% of the sample is affected by the County to District Reforms.

### 4.2. Effect of county to district reform on earnings management

#### 4.2.1. Baseline regression

Logically, we predict that the County to District Reform contributed to restraining the earnings management behaviour of enterprises. Following Beck et al. (2010), we conduct an analysis using the time-varying differences-in-differences model as follows:

**Table 1.** Descriptive statistics.

variable	N	mean	min	p25	p50	p75	max	sd
<i>DA1</i>	24,213	-0.001	-0.281	-0.037	-0.001	0.035	0.227	0.070
<i>Treat * Post</i>	24,213	0.086	0	0	0	0	1	0.280
<i>Treat</i>	24,213	0.110	0	0	0	0	1	0.312
<i>Post</i>	24,213	0.428	0	0	0	1	1	0.495
<i>size</i>	24,213	21.81	19.22	20.94	21.67	22.51	25.82	1.202
<i>age</i>	24,213	2.698	1.386	2.485	2.773	2.996	3.497	0.421
<i>lev</i>	24,213	0.448	0.056	0.291	0.448	0.603	0.891	0.202
<i>soe</i>	24,213	0.470	0	0	0	1	1	0.499
<i>growth</i>	24,213	0.218	-0.635	-0.004	0.131	0.305	3.567	0.508
<i>loss</i>	24,213	0.093	0	0	0	0	1	0.291
<i>roa</i>	24,213	0.055	-0.175	0.029	0.052	0.0820	0.230	0.059
<i>bdsiz</i>	24,213	2.264	0	2.197	2.303	2.485	2.890	0.432
<i>inp</i>	24,213	0.339	0	0.333	0.333	0.400	0.571	0.112
<i>audit</i>	24,213	0.039	0	0	0	0	1	0.194

Reports descriptive statistics of the main variables.

$$DA1_{i,t} = \beta_0 + \beta_1 Treat * Post + \sum_j \beta_j Control_{i,t} + u_i + \tau_t + \varepsilon_{i,t}. \quad (4)$$

In specification (4),  $DA1_{i,t}$  denotes earnings management of firm  $i$  in period  $t$ ,  $Treat * Post$  denotes the County to District Reform, and  $Control_{i,t}$  is the series of control variables, which are listed in Section 3.2.  $\mu_i$  is the firm fixed effect,  $\tau_t$  is year fixed effect, and  $\varepsilon_{i,t}$  is the residual term. Considering the differences between enterprises in different counties and industries, we further control county fixed effect and industry fixed effect, and cluster the robust standard errors by county-level in all regressions.

We focus on the coefficient of  $Treat * Post$ . If  $\beta_1$  is significantly negative, it supports our hypothesis that the County to District Reform can reduce earnings management.

Table 2 reports the results. The coefficient of  $Treat * Post$  is significantly negative at the 5% level, suggesting that the County to District Reform can restrain the earnings management behaviour of enterprises within the jurisdiction, which verifies H1. From an economic perspective, the coefficient of  $Treat * Post$  is -0.010, indicating that the enterprises' earnings management level in the original counties decreased by 0.14 standard deviations (0.01/0.07) after County to District Reforms.

#### 4.2.2. Parallel trend and dynamic effect tests

Using DID analysis requires meeting the common trend assumption, that is, before the reform, the change trend of earnings management in the treatment and control groups should be consistent without a systematic difference. To check the parallel trend assumption and dynamic effect test, following Beck et al. (2010) and G.Z. Li and Jia (2019), we conduct specification (5).

$$DA1_{i,t} = \beta_0 + \beta_1 Treat \times Pre2 + \beta_2 Treat \times Pre1 + \beta_3 Treat \times current + \beta_4 Treat \times Post1 + \beta_5 Treat \times Post2 + \sum_j \beta_j Control_{i,t} + u_i + \tau_t + \varepsilon_{i,t} \quad (5)$$

**Table 2.** Effect of county to district reform on earnings management.

DependentvariableDA1	(1)
<i>Treat * Post</i>	-0.010** (-2.55)
<i>size</i>	0.000 (0.07)
<i>age</i>	0.007 (1.14)
<i>lev</i>	0.002 (0.32)
<i>soe</i>	0.004 (1.11)
<i>growth</i>	0.004*** (2.64)
<i>loss</i>	-0.026*** (-10.38)
<i>roa</i>	0.343*** (17.03)
<i>bdsiz</i>	0.002 (0.72)
<i>inp</i>	0.002 (0.20)
<i>audit</i>	-0.000 (-0.05)
<i>constant</i>	-0.047 (-1.28)
<i>IndustryFE</i>	Y
<i>YearFE</i>	Y
<i>FirmFE</i>	Y
<i>CountyFE</i>	Y
<i>N</i>	23891
<i>adj.R2</i>	0.130

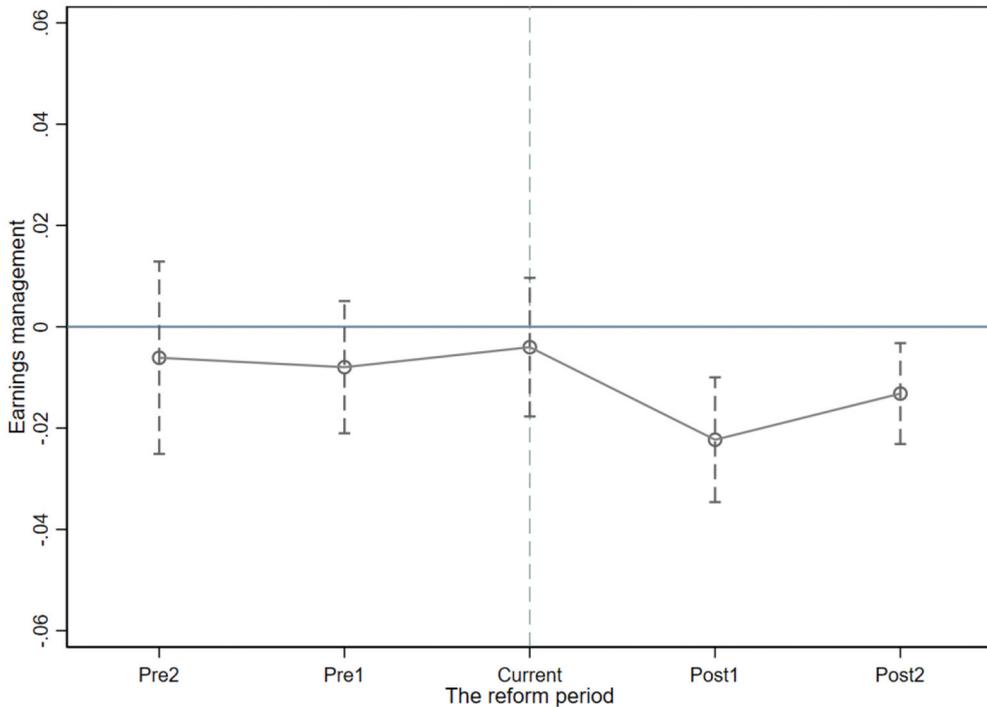
Reposts the effect of County to District Reforms on earnings management. \*, \*\*, \*\*\* denotes significance at the 10%, 5%, and 1% level, respectively. t statistics in parentheses.

where *Treat* denotes whether enterprises are affected by County to District Reforms, *current* means the treatment year of the County to District Reform, *Pre2* refers to year 2 and beyond before the treatment year. *Pre1* refers to one year before the treatment year. *Post1* indicates one year after the treatment year. *Post2* denotes year 2 and beyond after the treatment year. The list of control variables and fixed effects are the same as in specification (4).

Figure 2 depicts the result and shows that the estimations of  $Treat \times Pre2$ ,  $Treat \times Pre1$ , and  $Treat \times current$  are not significantly different from zero, thereby suggesting before the County to District Reform, no obvious difference between the treatment and control groups could be observed, meeting parallel trend assumption. Meanwhile, the estimation of  $Treat \times Post1$  and  $Treat \times Post2$  is negative and significant at the 1% level, indicating the earnings management reduces significantly after County to District Reforms.

#### 4.2.3. Robustness tests

##### (1) Using PSM-DID analysis



**Figure 2.** Parallel trend test. Depicts the result of parallel trend test. The solid line indicates the estimations of the interaction coefficients. We also mark the 95% confidence intervals of interaction coefficients.

We perform PSM-DID analysis to overcome systemic differences caused by the County to District Reform and endogeneity of sample selection.

We take enterprises affected by the County to District Reform from 2000 to 2018 as the treatment group and those not affected by the Reform are taken as control group. First, we match the control group for enterprises that have experienced the County to District Reform. The matching method is as follows: (1) To ensure similarity of characteristics, the control and treatment groups are restricted to the same prefecture-level city. (2) We take the control variables in baseline regression as covariables, perform Logit regression, and obtain propensity scores. (3) Using 1:3 proximity matching, we match control group with treatment group. (4) We conduct a balance test. The result shows that our treatment and control groups could pass the balance test.

We then use the matched sample and perform regression analysis. As shown in Column (1) of Panel A, [Table 3](#), the coefficient of  $Treat * Post$  is significantly negative, suggesting that our results are robust.

## (2) Excluding samples that are in districts all the time

Considering before the County to District Reform, quite a difference between companies in districts and companies in counties can be observed. Following [Hao et al. \(2021\)](#), we

**Table 3.** Robustness tests.

<i>Dependent variable</i> DA1	(1) Using PSM-DID	(2) Excluding the sample	(3) Interference policy
<i>Treat * Post</i>	-0.018*** (-2.86)	-0.009** (-2.08)	-0.010** (-2.56)
SZG			-0.029 (-1.29)
<i>constant</i>	-0.184 (-1.26)	-0.042 (-0.66)	-0.046 (-1.27)
CVS	Y	Y	Y
<i>IndustryFE</i>	Y	Y	Y
<i>YearFE</i>	Y	Y	Y
<i>FirmFE</i>	Y	Y	Y
<i>CountyFE</i>	Y	Y	Y
N	1486	8441	23,891
adj. R <sup>2</sup>	0.174	0.131	0.130

Presents results of robustness tests. \*, \*\*, \*\*\* denotes significance at the 10%, 5%, and 1% level, respectively. t statistics in parentheses.

eliminate enterprises that are in districts all the time. Column (2) of Panel A in Table 3 reports the result, which further supports our hypothesis.

### (3) Considering interference policy

When the County to District Reform gradually rises in China, the Fiscal Reforms of Province-Managed County are carried out simultaneously. Could the effect of the County to District Reform on earnings management be interfered with by the Fiscal Reforms of a Province-Managed County? Referring to Fan and Zhao (2020), we add the variable of Province-Managed County Reform (SZG) and conduct regression following specification (4). As shown in Column (2) of Panel A, the coefficient of *Treat \* Post* is negative, which means the improvement effect on earnings management will not be affected by the Fiscal Reforms in the Province-Managed County.

Finally, we conduct other robustness tests.<sup>4</sup> (1) To avoid measurement deviation, we use the adjusted Jones model, DD model, and McNichols model to measure earnings management (Dechow & Dichev, 2002, 2002; DeFond & Jiambalvo, 1994; McNichols, 2002). (2) We check our conclusion by taking a sample of Chinese industrial enterprises. The untabulated results show that our conclusion is robust. (3) We divide the whole sample into private enterprises, central state-owned enterprises, and local state-owned enterprises. The unreported result presents that the County to District Reform has a more remarkable improvement effect on earnings management in local state-owned enterprises.

## 4.3. Mechanism analysis

### 4.3.1. County to district reform, local protection, and earnings management

In this section, we explore the underlying mechanism. Similar to the above analysis, we expect the County to District Reforms to restrain earnings management by reducing local protection. We conduct a grouping regression to verify the mechanism. If the

<sup>4</sup>For brevity, we did not report the results.

improvement effect on earnings management is more significant in the sample with high local protection, H2 is supported.

First, we measure local protection based on administrative boundary segmentation. Under the Chinese decentralisation system, serious market segmentation among different administrative regions can be observed. The county-level governments have independent financial and administrative power, and thus, they are motivated to protect local enterprises (Hao et al., 2021; Young, 2000). Accordingly, we construct two indicators to measure local protection: (1) the number of surrounding counties, defined as the number of counties within 10 km from the border of a county and (2) the number of counties in a particular prefecture-level city plus 1. The more ‘surrounding counties’ or ‘counties in the particular prefecture-level city’, the more serious the local protection. Then, based on the average level of local protection, we divide the full sample into two groups (low and high local protection groups) and regress, respectively, by specification (4).

Panel A of Table 4 reports the results. As shown in Columns (2) and (4), the coefficient of  $Treat * Post$  is merely significant in the ‘high local protection group’, indicating that the County to District Reform could restrain earnings management behaviour by reducing local protection. Thus, H2 is verified.

Second, we use the EG index (Ellison & Glaeser, 1997) to measure local protection. The EG index is usually used to measure industrial agglomeration and local protection will reduce industrial agglomeration. Therefore, the EG index can reflect the degree of local protection, and a higher EG index means lower local protection (Bai et al., 2004). The calculations are as follows:

$$Y_{cit} = \frac{G_{cit} - [1 - \sum_c x_{ct}^2] H_{cit}}{[1 - \sum_c x_{ct}^2] 1 - H_{cit}} \quad (6)$$

$$H_{cit} = \sum_i Z_{cit}^2 \quad (7)$$

Subscript  $i$  represents industry,  $c$  represents county, and  $t$  represents year.  $G_{cit}$  is the Gini index, calculated as  $G_{cit} = \sum_c (x_{ct} - s_{cit})^2$ .  $x_{ct}$  is the proportion of staff in county  $c$  to the whole country, and  $s_{cit}$  is the proportion of staffs of industry  $i$  in county  $c$  to industry  $i$ .  $H_{cit}$  is the Herfindahl index, where  $Z_{cit}$  is the proportion of single enterprise staff to industry  $i$  of county  $c$ .  $Y_{cit}$  represents EG index. Furthermore, based on the administrative division code and year identification, we match enterprise data with EG index. Then, we calculate the median value of the EG index by year and divide the sample into the low (EG index higher than the median value) and the high local protection groups (EG index lower than the median value). Because of data limitations, the sample period in this test is 2000–2013.

Columns (1)–(2) of Panel B in Table 4 reports the grouping regression results. The table shows that in the subsample with high local protection, namely Column (2), the coefficient of  $Treat * Post$  is  $-0.049$  and significant at 1%. While in the subsample with low local protection, namely, Column (1), the  $Treat * Post$  is negative but not statistically significant. Thus, we draw a consistent conclusion based on the EG index (1997).

Finally, we use the marketisation index, which is compiled by Fan et al. to measure the marketisation of each province as a proxy for local protection. A higher marketisation means lower local protection. Columns (3)–(4) of Panel B in Table 4 reports the results. It

**Table 4.** Local protection, the county to district reform and earnings management.

<i>Dependent variable</i>	(1)	(2)	(3)	(4)
<i>DA1</i>	Low local protection group	High local protection group	Low local protection group	High local protection group
<b>Panel A Using administrative boundary division as a proxy for local protection</b>				
<i>Treat * Post</i>	-0.003 (-0.54)	-0.015*** (-2.81)	-0.010 (-1.33)	-0.008* (-1.67)
<i>size</i>	0.001 (0.31)	-0.002 (-0.54)	0.000 (0.00)	-0.000 (-0.11)
<i>age</i>	0.006 (0.79)	0.002 (0.12)	0.021** (2.04)	-0.002 (-0.20)
<i>lev</i>	0.002 (0.28)	-0.004 (-0.33)	0.004 (0.39)	0.000 (0.05)
<i>soe</i>	0.004 (1.24)	0.003 (0.47)	0.004 (0.96)	0.004 (0.77)
<i>growth</i>	0.003* (1.77)	0.006** (2.19)	0.002 (0.96)	0.005** (2.46)
<i>loss</i>	-0.025*** (-8.77)	-0.027*** (-5.37)	-0.026*** (-6.96)	-0.025*** (-7.37)
<i>roa</i>	0.340*** (13.76)	0.349*** (9.67)	0.347*** (10.90)	0.359*** (13.19)
<i>bdsiz</i>	-0.000 (-0.06)	0.007 (1.36)	0.005 (1.00)	-0.000 (-0.12)
<i>inp</i>	0.001 (0.09)	0.006 (0.25)	-0.018 (-1.18)	0.016 (1.13)
<i>audit</i>	0.001 (0.20)	-0.001 (-0.07)	-0.006 (-1.04)	0.004 (0.87)
<i>constant</i>	-0.048 (-1.12)	-0.005 (-0.07)	-0.082 (-1.50)	-0.017 (-0.34)
<i>IndustryFE</i>	Y	Y	Y	Y
<i>YearFE</i>	Y	Y	Y	Y
<i>FirmFE</i>	Y	Y	Y	Y
<i>CountyFE</i>	Y	Y	Y	Y
<i>N</i>	17261	5621	10,581	13,220
<i>adj.R2</i>	0.130	0.112	0.111	0.133
<b>Panel B Using EG index and marketisation index as proxies for local protection</b>				
<i>Treat * Post</i>	-0.006 (-0.36)	-0.049*** (-4.63)	-0.006 (-1.09)	-0.013** (-2.29)
<i>size</i>	-0.002 (-0.52)	0.006 (1.47)	-0.001 (-0.43)	0.001 (0.75)
<i>age</i>	-0.001 (-0.10)	0.013 (0.83)	-0.011 (-1.23)	0.022*** (2.80)
<i>lev</i>	0.017 (1.24)	-0.022 (-1.45)	0.006 (0.49)	0.005 (0.59)
<i>soe</i>	0.007 (1.17)	-0.000 (-0.00)	0.001 (0.17)	0.003 (0.83)
<i>growth</i>	0.005 (1.55)	0.000 (0.06)	0.004 (1.39)	0.004** (2.13)
<i>loss</i>	-0.016*** (-3.18)	-0.016*** (-2.90)	-0.033*** (-7.67)	-0.022*** (-6.93)
<i>roa</i>	0.396*** (10.16)	0.358*** (8.32)	0.379*** (11.64)	0.334*** (12.85)
<i>bdsiz</i>	0.002 (0.42)	0.001 (0.15)	0.002 (0.39)	0.002 (0.61)
<i>inp</i>	-0.022 (-1.13)	-0.001 (-0.07)	0.005 (0.30)	-0.002 (-0.17)
<i>audit</i>	0.004 (0.61)	0.002 (0.35)	0.005 (0.91)	-0.003 (-0.74)
<i>constant</i>	0.018 (0.19)	-0.160* (-1.80)	0.024 (0.39)	-0.110*** (-2.61)
<i>IndustryFE</i>	Y	Y	Y	Y
<i>YearFE</i>	Y	Y	Y	Y
<i>FirmFE</i>	Y	Y	Y	Y

(Continued)

**Table 4.** (Continued).

<i>Dependent variable</i>	(1)	(2)	(3)	(4)
	Low local protection group	High local protection group	Low local protection group	High local protection group
<i>DA1</i>				
<i>CountyFE</i>	Y	Y	Y	Y
<i>N</i>	5892	5880	9501	14,334
<i>adj.R2</i>	0.081	0.081	0.147	0.113

Presents the results of mechanism analysis. In Panel A, we take administrative boundary division as proxies for local protection. Column (1)-(2) use the number of surrounding counties. Column (3)-(4) use the number of counties in a particular prefecture-level city. In Panel B, we use EG index in Column (1)-(2) and marketisation index in Column (3)-(4) to measure local protection. \*, \*\*, \*\*\* denotes significance at the 10%, 5%, and 1% level, respectively. t statistics in parentheses.

also suggests that the effect of the County to District Reform on earnings management is merely significant in the high local protection sample.

#### 4.3.2. Further mechanism analysis from the perspective of local loan availability

The above analysis shows the County to District Reform can improve earnings management by reducing local protection. However, what benefits can be brought to enterprises by decreasing local protection? Logically, we believe the County to District Reform can reduce local protection and further increase the local loan availability, which finally reduces earnings management. To test this channel, we adopt the cross-grouping regression. First, we measure local protection by the number of surrounding counties and divide it into two subsamples: the low and the high local protection groups (the first group). Next, we divide the two subsamples into four subsamples by the local credit availability (the second group). If the improvement effect on earnings management is only evident in the subsample with high local protection and low credit availability, it can verify that the reform restrains earnings management behaviour by reducing local protection and increasing the local credit availability. Referring to Cai et al. (2020), we use the number of banks in the prefecture-level city where the enterprise is located to measure access to the local credit resources.<sup>5</sup>

Before cross-grouping, considering the lower local credit availability and the higher the local protection, we divide the entire sample into two groups based on local credit availability and perform regressions, respectively. As shown in Panel A of Table 5, the coefficient of *Treat \* Post* is merely remarkable in the 'low local credit availability group', which supports H2.

We then perform the cross-grouping regressions mentioned earlier. The results are presented in Panel B of Table 5. We find that the effect of County to District Reform reducing earnings management is only significant in the subsample with high local protection and low credit availability, which is in line with our expectations.

#### 4.4. Effect of county to district reform on enterprise loan

After County to District Reforms, we determine whether bank loans obtained by enterprises have increased. Specifically, we construct specification (6) to explore the

<sup>5</sup>We further measure credit availability by the number of financial institutions in the county where the enterprise is located and conclusions in Table 5 remain consistent.

**Table 5.** Further mechanism analysis based on local loan availability.

Dependent variable	(1)	(2)		
DA1	low local credit availability group	high local credit availability group		
<b>Panel A Grouping based on local credit availability</b>				
<i>Treat * Post</i>	-0.017*** (-3.06)	-0.002 (-0.38)		
<i>constant</i>	-0.107** (-2.00)	0.015 (0.29)		
<i>CVS</i>	Y	Y		
<i>IndustryFE</i>	Y	Y		
<i>YearFE</i>	Y	Y		
<i>FirmFE</i>	Y	Y		
<i>CountyFE</i>	Y	Y		
<i>N</i>	11390	11,641		
<i>adj.R2</i>	0.109	0.130		
Dependent variable	(1)	(2)	(3)	(4)
DA1	low local protection & low credit availability group	low local protection & low credit availability group	high local protection & low credit availability group	high local protection & low credit availability group
<b>Panel B Cross-grouping of local protection &amp; local credit availability</b>				
<i>Treat * Post</i>	-0.007 (-1.42)	0.003 (0.30)	-0.027*** (-3.69)	0.001 (0.12)
<i>constant</i>	-0.098 (-1.38)	-0.005 (-0.08)	-0.086 (-1.17)	0.122 (0.53)
<i>CVS</i>	Y	Y	Y	Y
<i>IndustryFE</i>	Y	Y	Y	Y
<i>YearFE</i>	Y	Y	Y	Y
<i>FirmFE</i>	Y	Y	Y	Y
<i>CountyFE</i>	Y	Y	Y	Y
<i>N</i>	6995	9784	3952	1329
<i>adj.R2</i>	0.102	0.139	0.101	0.076

Shows further mechanism analysis. Panel A is grouping based on local credit availability and Panel B is cross-grouping of credit availability and local protection. \*, \*\*, \*\*\* denotes significance at the 10%, 5%, and 1% level, respectively. t statistics in parentheses.

relationship between the County to District Reform and enterprise loans. As for bank loans, we refer to Zhang and Li (2012) and define it as the proportion of long-term loans to total loans. The higher the proportion and the more preference the enterprises have to obtain bank loans.

$$\text{Loan}_{i,t} = \beta_0 + \beta_1 \text{Treat}_i * \text{Post}_t + \sum_j \beta_j \text{Control}_{i,t} + u_i + \tau_t + \varepsilon_{i,t} \quad (8)$$

Similarly, the number of surrounding counties is used to measure local protection and Table 6 reports the results. Panel A is the result of grouping regression based on local protection. As Column (2) shows, the coefficient of *Treat \* Post* is 0.091, which is significant at the 1% level, meaning that for the region with high local protection, after the County to District Reform, long-term bank loans obtained by enterprises will increase by 0.31 standard deviation (0.091/0.29).

Panel B is the result of the cross-grouping regression. It suggests that the positive effect of County on District on enterprise loans is more evident in the high local protection and low credit availability group, which is also consistent with mechanism analysis.

**Table 6.** Effect of county to district reform on enterprise loan.

<i>Dependentvariable</i>	(1)	(2)		
<i>Loan</i>	Low local protection group	High local protection group		
<b>Panel A Grouping based on local protection</b>				
<i>Treat * Post</i>	-0.033 (-0.88)	0.091*** (3.76)		
<i>constant</i>	-0.567*** (-2.66)	-0.760** (-2.36)		
<i>CVS</i>	Y	Y		
<i>IndustryFE</i>	Y	Y		
<i>YearFE</i>	Y	Y		
<i>FirmFE</i>	Y	Y		
<i>CountyFE</i>	Y	Y		
<i>N</i>	14187	4671		
<i>adj.R2</i>	0.451	0.390		
<i>DependentvariableLoan</i>	(1) low local protection & low credit availability group	(2) low local protection & high credit availability group	(3) high local protection & low credit availability group	(4) high local protection & high credit availability group
<b>Panel B Cross-grouping of local protection &amp; local credit availability</b>				
<i>Treat * Post</i>	0.016 (0.35)	-0.074 (-1.19)	0.094*** (2.91)	0.039 (0.81)
<i>constant</i>	-0.596* (-1.86)	-0.666** (-2.17)	-1.006*** (-2.88)	-1.274** (-2.62)
<i>CVS</i>	Y	Y	Y	Y
<i>IndustryFE</i>	Y	Y	Y	Y
<i>YearFE</i>	Y	Y	Y	Y
<i>FirmFE</i>	Y	Y	Y	Y
<i>CountyFE</i>	Y	Y	Y	Y
<i>N</i>	5779	7991	3314	1061
<i>adj.R2</i>	0.428	0.481	0.383	0.398

Shows the effect of County to District Reform on enterprise loan. Panel A is grouping based on local protection. Panel B is Cross-grouping based on local protection and local credit availability. \*, \*\*, \*\*\* denotes significance at the 10%, 5%, and 1% level, respectively. t statistics in parentheses.

## 5. Additional analyses

### 5.1. Cross-sectional analysis

#### (1) Industry Attributes

The manufacturing industry usually has a high level of profits and taxes, which has become an important protection industry for local governments. Intuitively, we advocate that the effect of the County to District Reform on earnings management may be more evident in manufacturing industries. To test our prediction, we divide the entire sample into two groups: the non-manufacturing and the manufacturing industry groups. As presented in Columns (1)-(2) of Table 7, the coefficient of *Treat \* Post* is negative in the 'Manufacturing industry group'.

#### (2) Financing Constraints

An important reason that enterprises conduct earnings manipulation is financing constraints. Accordingly, we predict that the more serious the financing constraints faced by

**Table 7.** Cross-sectional analysis.

Dependent variable	(1)	(2)	(3)	(4)
DA1	Non-manufacturing industry group	Manufacturing industry group	Low financing constraint group	High financing constraint group
<i>Treat * Post</i>	-0.006 (-0.82)	-0.011*** (-2.60)	-0.006 (-0.62)	-0.009** (-2.15)
<i>constant</i>	-0.075 (-1.11)	-0.029 (-0.68)	-0.089 (-0.78)	-0.040 (-0.95)
<i>CVS</i>	Y	Y	Y	Y
<i>IndustryFE</i>	Y	Y	Y	Y
<i>YearFE</i>	Y	Y	Y	Y
<i>FirmFE</i>	Y	Y	Y	Y
<i>CountyFE</i>	Y	Y	Y	Y
<i>N</i>	8831	15,054	6452	17,091
<i>adj.R2</i>	0.107	0.136	0.109	0.115

Shows the cross-sectional analysis. \*, \*\*, \*\*\* denotes significance at the 10%, 5%, and 1% level, respectively. t statistics in parentheses.

enterprises, the more County to District Reform can alleviate the financing constraints to a greater extent by reducing local protection and increasing the credit resources available to enterprises, which can further reduce earnings management. Therefore, we conduct the cross-sectional analysis based on financing constraints. If the above conjecture is true, the improvement effect on earnings management will be more significant in the sample with high financing constraints.

Following Kaplan and Zingales (1997), we use KZ index to measure the financing constraints of enterprises and divide the sample into two groups with low and high financing constraints. Columns (3)-(4) of Table 7 present the results. As expected, the improvement effect of the County to District Reform on earnings management is more obvious in enterprises with high financing constraints.

## 5.2. Alternative explanations

Based on the market-oriented lending behaviour of financial institutions, we document that after the County to District Reform, the local protection decreases, administrative barriers are removed, and enterprises can obtain credit resources more easily. However, from the perspective of government behaviours, the increase in enterprise credit resources may be due to government support, that is, after the original county becomes a district, it gains more attention from prefecture-level governments, which usually takes the form of government subsidies and tax incentives. We make the following explorations to exclude alternative explanations.

First, we use the ratio of government subsidies to total operating income as a proxy for government support and divide the entire sample into two groups, one with high government subsidies and the other with low government subsidies. If the increase in credit resources is caused by government actions, the relationship between County to District Reform and earnings management will be more significant in the sample with low government subsidies. As shown in Columns (1)-(2) of Table 8, the coefficient of *Treat \* Post* is only significant in the group with high government subsidy, which is contrary to the above expectation, thereby suggesting that the increase in the enterprise credit resources is not the government action but rather market lending behaviour.

**Table 8.** Exclusion of alternative explanations.

<i>Dependentvariable</i>	(1)	(2)	(3)	(4)	(5)	(6)
	Low subsidy group	High subsidy group	Low taxes group	High taxes group	Earlier than 2002 group	Later than 2002 group
<i>DA1</i>						
<i>Treat * Post</i>	-0.014 (-1.29)	- 0.016** (-2.16)	-0.012** (-2.24)	-0.004 (-0.70)	-0.011*** (-2.75)	0.002 (0.13)
<i>constant</i>	-0.122 (-1.43)	0.092 (1.07)	-0.107** (-2.21)	-0.002 (-0.03)	-0.061 (-1.64)	-0.178 (-0.97)
<i>CVS</i>	Y	Y	Y	Y	CVS	Y
<i>IndustryFE</i>	Y	Y	Y	Y	Y	Y
<i>YearFE</i>	Y	Y	Y	Y	Y	Y
<i>FirmFE</i>	Y	Y	Y	Y	Y	Y
<i>CountyFE</i>	Y	Y	Y	Y	Y	Y
<i>N</i>	9013	9071	13,866	9113	21,169	2713
<i>adj.R2</i>	0.085	0.147	0.152	0.118	0.121	0.175

Presents the results of ruling out the alternative explanation of supported by governments. \*, \*\*, \*\*\* denotes significance at the 10%, 5%, and 1% level, respectively. t statistics in parentheses.

Second, we check whether the improvement in earnings management is caused by a change in tax efforts. G.Z. Li and Jia (2019) find that the Fiscal Reform of the Province-Managed County enhances the tax efforts of local governments and restrains earnings management. Fan and Zhao (2020) find that the County to District Reforms weaken the tax effort of county-level governments and reduce tax burden of enterprises. Based on these studies, we expect that with the decrease in local government's tax efforts, the County to District Reform would aggravate earnings management, especially for enterprises with authority from the local government to collect taxes and for enterprises with a higher tax burden. However, this expectation contradicts our finding, suggesting that our conclusion is not caused by weakening tax efforts. To test it further, we make explorations in two ways. First, we use the corporate income tax scaled by the total asset to measure enterprises' tax burden and divide the sample into low taxes group (tax burden lower than average level) and high taxes group (tax burden higher than average level). Then, we conduct grouping regressions. As shown in Columns (3)-(4) of Table 8, the coefficient of *Treat \* Post* is not significantly positive in the 'high taxes group', indicating that the County to District Reforms do not increase the earnings management of enterprises with a high tax burden. Second, by referring to G.Z. Li and Jia (2019), we divide the samples into two groups based on the tax collection authority of local governments. That is, if an enterprise was founded earlier than 2002, it indicates that the local government has the authority. If it was founded later than 2002, it means the local government has no authority. The results are presented in Columns (5)-(6) of Table 8. We find *Treat \* Post* is significantly negative rather than positive in the 'Earlier than 2002 group'. The above tests demonstrate that our conclusion cannot be explained by weakening tax efforts.

### 5.3. Does trans-regional operation affect the policy effect of county to district reform?

More enterprises have adopted the trans-regional operation with the improvement of marketisation. Enterprises can obtain various geological resources by establishing subsidiaries across regions, which is helpful in alleviating financing constraints of single region operation. The policy effect on such enterprises may be weakened if enterprises operate across regions.

**Table 9.** Does trans-regional operation affect the policy effect of county to district reform?.

Dependentvariable	(1)	(2)
DA1	Single Company	Group Company
<i>Treat * Post</i>	-0.012*** (-2.93)	-0.011 (-0.72)
<i>constant</i>	-0.031 (-0.73)	-0.052 (-0.33)
<i>CVS</i>	Y	Y
<i>IndustryFE</i>	Y	Y
<i>YearFE</i>	Y	Y
<i>FirmFE</i>	Y	Y
<i>CountyFE</i>	Y	Y
<i>N</i>	19077	2262
<i>adj.R2</i>	0.138	0.073

Presents the effect of trans-regional operation on the relationship between the County to District Reform and earnings management. \*, \*\*, \*\*\* denotes significance at the 10%, 5%, and 1% level, respectively. t statistics in parentheses.

Therefore, we attempt to examine whether the trans-regional operation affects the relationship between the County to District Reform and earnings management.

Compared with single companies, group companies are more likely to operate trans-regionally. Hence, we divide the sample into group and single companies. In prior studies, the definition of enterprise group is as follows: take the listed company as the starting point and look for the final controlling party through the control chain. If the final controlling party owns other entities in addition to the superior company, then the listed company belongs to an enterprise group and the value is 1, otherwise, it is 0 (W.J. Li & Yan, 2021). We also refer to the above study to define group companies. However, because of the limitations of the data of direct controlling shareholders in the CSMAR database, the sample period in this test is 2003–2018. Table 9 shows that the relationship between County to District Reforms and earnings management is only significant in single companies, indicating that the trans-regional operation of enterprises would weaken the policy effect of the County to District Reform.

## 6. Conclusion

Since the reform and opening up, administrative division adjustments at the county level in China have occurred frequently. However, studies on policy effects of the County to District Reform are mostly based on the macro-level. Hence, we examine the effects of County to District Reforms on corporate earnings management behaviours from the perspective of micro-enterprises.

Taking Chinese A-share listed companies from 2000 to 2018 as the sample, we find that (1) after the County to District Reforms, the degree of earnings management is significantly reduced. (2) Mechanism analysis shows that the policy of the County to District restrains earnings management by reducing local protection. In particular, we document that after the local protection decreases, local loan availability increases, which weakens their motivation for earnings management, causing the earnings management to decrease accordingly. (3) We further conduct a cross-section analysis based on the industry attributes and financing constraints. The results indicate that compared with non-manufacturing companies, the

County to District Reform has a more significant improvement effect on the earnings management of manufacturing companies. This effect is more obvious when enterprises face greater financing constraints. (4) We also investigate the relationship between the County to District Reforms and enterprise loans. The results indicate that the bank loans obtained by enterprises evidently increased after the County to District Reforms.

Our conclusions have certain significance for the government and enterprises, which reveal that the county governance policies at the macro-level can also affect the corporate governance of micro-enterprises.

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No potential conflict of interest was reported by the author(s).

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## Appendix A. Variable definition

Classification	Variable	Definitions
Dependent variable	<i>DA1</i>	Accrual-based Earnings management, calculated by adopting the cross-sectional modified-Jones model with performance-matching (Kothari et al., 2005; G.Z. Li & Jia, 2019).
Independent variable	<i>Treat * Post</i>	<i>Treat</i> is used to measure whether an enterprise is affected by the County to District Reform. If the enterprise is affected by the reform during the sample period, <i>Treat</i> equals 1 and 0 otherwise. <i>Post</i> denotes whether the reform is implemented, which equals 1 if the year is after County to District Reforms and 0 for other cases.
Control variable	<i>size</i>	Natural logarithm of total assets.
	<i>age</i>	Natural logarithm of one plus the firm's established years.
	<i>lev</i>	Ratio of liabilities to assets.
	<i>soe</i>	A dummy variable, which equals 1 if it is a state-owned enterprise, and 0 otherwise.
	<i>growth</i>	Changes in operating income and scaled by lagged operating income.
	<i>loss</i>	A dummy variable, which equals 1 if the current is unprofitable and 0 otherwise.
	<i>roa</i>	Return on assets.
	<i>bdsiz</i>	Natural logarithm of one plus the number of board members.
	<i>inp</i>	Number of independent directors scaled by the number of all directors.
	<i>audit</i>	A dummy variable, which equals 1 if the current audit opinion is non-standard audit opinion and 0 otherwise.