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Financial Flexibility and Managerial Short-Termism

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Since the financial crisis of 2008, financial flexibility has gradually become a crucial method employed by enterprises worldwide to resist external risks. Based on a sample of Chinese listed companies from 2005 to 2015, this study investigates the impacts of financial flexibility on firms' earnings management. We find that the managerial short-termism of financially flexible enterprises is significantly lower than that of financially inflexible enterprises. This conclusion holds after the endogenous problem is considered, adjusting the threshold of the definition of financial flexibility and alternative proxies of managerial short-termism. Moreover, the effect of financial flexibility significantly reduces earnings management, which is more significant in private enterprises and low-risk industries. In addition, the probability of financially flexible firms selecting one of the Big Four international accounting firms is higher, whereas that of them receiving nonstandard audit opinions and breaking the law is lower. This paper enriches the research on the economic consequences of financial flexibility from the level of corporate governance, and the conclusions have a certain practical significance for a comprehensive understanding of the current problem of deleveraging in China's enterprises.

Key Words: Financial flexibility; Low leverage; Managerial short-termism; Earnings management; Corporate governance.

JEL Classification Numbers: G32, G34, G38.

1. INTRODUCTION

The Modigliani-Miller theorem holds that in a perfect capital market, a tax shield is created as a firm's debt increases. Therefore, the higher the leverage ratio, the higher the firm's value (Pan et al., 2015). However, a high leverage ratio is also associated with a high risk of bankruptcy (Byoun, 2011). China's mounting debt has become a global concern. According to Goldman Sachs, the leverage of China's corporate sector was the highest in

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2017, accounting for 178% of the country's gross domestic product (GDP), whereas government debt and consumer debt accounted for 67% and 39% of China's GDP, respectively. Twenty credit bonds have been in default since 2018, totaling CNY 16.35 billion. Although from a macro perspective the leverage ratio of the corporate sector in China is increasing, the weight of low-leverage companies in China has also been on the rise since 2008. The emergence of low-leverage business models has become a well-established fact worldwide (Bessler et al., 2013). One such model draws on the concept of financial flexibility. This refers to the ability of a firm to reduce its current debt ratio to secure its survival and investment opportunities in the face of financial crises and other economic adversities, thereby increasing its long-term value (Marchica and Mura, 2010; Arslan et al., 2014).

In an uncertain financial market, reserving a degree of financial flexibility can guarantee a firm's investment continuity as well as help it to maintain healthy business operations and development (Graham and Harvey, 2001). Byoun (2008) indicates that a certain difference exists in the speed of capital structure adjustment for firms that adopt different directions of leverage adjustment. Several studies explore the cause of financial flexibility and its effect on future investments (Graham and Harvey, 2001; Marchica and Mura, 2010); however, few studies examine the effect of financial flexibility on corporate governance (Bonaime et al., 2016). Firms generally choose to be financially flexible for the sake of long-term development, and thus, managers of these firms are unlikely to engage in short-term earnings management. According to data from 2005-2015 on companies listed on China's A-share market, the managerial short-termism of financially flexible firms is significantly lower than that of financially inflexible firms, and this behavior is particularly pronounced in private firms and low-risk industries. In addition, financially flexible firms are more likely to choose one of the Big Four accounting firms and less likely to receive nonstandard audit opinions or violate the law.

Our study makes three contributions to the literature. First, we examine the effect of financial flexibility on corporate governance from the perspective of managerial short-termism, thereby complementing extant research that focuses only on the cause of financial flexibility and its effect on future investments and not on discussing the impact on corporate governance. Second, we examine the effects of financial flexibility on both accrual-based and real earnings management. We determine that financial flexibility reduces not only the relatively common accrual-based earnings management but also real earnings management, which is more difficult to detect and riskier; this suggests that financial flexibility can comprehensively promote managerial short-termism. Finally, we determine that financial flexibility can mitigate the direct risks of high financial leverage in the short term

as well as significantly increase the quality of corporate governance in the long term.

The remainder of the paper is organized as follows. Section 2 discusses the literature review and the hypothesis development. Section 3 describes the data and research design. The empirical results are reported in Section 4, and the last section concludes the paper.

2. LITERATURE REVIEW AND THE HYPOTHESIS DEVELOPMENT

The Modigliani-Miller theorem posits that the value of a firm is unaffected by how that firm is financed, assuming that the capital market is frictionless (Modigliani and Miller, 1958). However, all manners of friction exist in reality, and a firm's capital structure decision is best made after trading off revenues (tax avoidance) against costs (bankruptcy). Evidence shows that predictions of the trade-off, agency, and pecking order theories overestimate a firm's actual leverage ratio (Byoun, 2011); furthermore, these theories cannot explain the numerous low-leverage firms and zero-leverage firms that exist in the market, particularly when they continue to grow in number.

Regarding the low-leverage phenomenon, Graham (2000) finds that large, liquid, and profitable firms use debt conservatively. Furthermore, Minton and Wruck (2001) identify a higher percentage of low-leverage firms in industries with high financial distress costs, but low-leverage management is not an industry-specific phenomenon. Bates et al. (2009), after excluding cash holdings, find that the net debt of listed US firms decreases from 1980 to 2006 primarily because the firms' cash flows become riskier. Moreover, Gong and Ho (2017) observe a growing trend of the low-leverage phenomenon in Chinese listed companies, as well as that low-leverage companies are characterized by a small size, being newly listed, high market-to-book ratio, and high profitability. Studies exhibit a basic understanding of the low-leverage (zero-leverage) phenomenon. In contrast to financing constraints, maintaining financial flexibility is probably a more reasonable explanation for this phenomenon (Graham and Harvey, 2001; Marchica and Mura, 2010). Maintaining financial flexibility through a low-leverage policy is crucial for firms in coping with the negative impacts of financial crises. A sufficient level of financial flexibility equips firms with the ability to meet investment needs during crises and seize opportunities for high-return investments that may arise during them (Arslan et al., 2014). In fact, the adoption of a low-leverage policy reveals how a firm allocates its debt capacity over various periods and retains its existing debt capacity for future use when it lacks profitable investment opportunities or risks

are lower, thereby strengthening its ability to respond to risks and seize investment opportunities (Marchica and Mura, 2010).

Financial flexibility is a business tactic used by firms for the sake of maintaining business performance in the long term. It indicates the extent to which managers value their firm's long-term development. Managers are not likely to focus on short-term goals at the expense of the firm's long-term interests. Short-term earnings management refers to the process through which managers use their professional judgment to manipulate earnings in financial reports by manipulating accounting earnings and fabricating transactions (Healy and Wahlen, 1999). Based on this definition, short-term earnings management can assume two approaches: through accruals-based management and real management. Real earnings management, which is based on transaction fabrication, is more difficult to detect and poses more serious damage to a firm's long-term value (Cohen and Zarowin, 2010; Shirley and Sung, 2012). Managers may engage in short-term earnings management for two reasons: the first is to reduce loss of the firm's value caused by lower-than-expected earnings, and the second is to maximize their personal interests. Extant research indicates that managers are more likely to engage in short-term earnings management for personal gains. It is typically an unconventional operation conducted by managers for short-term goals. A large extent of short-earnings management signifies poor accounting quality and corporate governance (Gong and Ho, 2018). Currently, research on the low-leverage problem is mainly focused on discussing its cause and how it effects investment behaviors (Marchica and Mura, 2010; Arslan et al., 2014). Scant research examines the financial consequences of financial flexibility from a corporate governance perspective. Financial flexibility is generally derived from a manager's consideration for the firm's long-term development; hence, managers of financially flexible firms should be less likely to engage in short-term earnings management behavior. Accordingly, we propose the primary hypothesis of this study:

Hypothesis: Financial flexibility reduces managerial short-termism.

3. DATA AND SUMMARY STATISTICS

3.1. Data

Our sample comprises A-share companies listed on the Shanghai and Shenzhen markets during 2005-2015. We exclude financial firms, those with debt greater than their total assets, those whose primary business revenue is in the negative, and those with fewer than 10 industry-year observations. Finally, 17,976 firm-year observations are obtained. All variable data are from the CSMAR database, and our industry classification standards are based on the Guidelines for the Industry Classification of Listed

Companies, enforced by the China Securities Regulatory Commission in 2001. Moreover, to reduce the impact of outliers on our empirical results, we winsorize all our continuous variable data at the 1% and 99% levels.

3.2. Variables definition

3.2.1. Earnings management measures

Accrual-based earnings management refers to the process through which managers of a firm manipulate earnings by using accounting approaches such as implementing certain accounting policies and altering accounting estimates. For example, they might alter estimated lives and salvage values, choose certain approaches for calculating inventory cost and depreciation, manipulate the timing of revenues and expenses, and adopting certain accrual methods for bad debt reserves and amortization expenses. Using the modified Jones model adjusted by performance, we first use relevant data and (1) to conduct regression by year and industry, and then substitute the obtained parameters into (2) to calculate the nondiscretionary accrual (NDA). Finally, subtracting (1) from (2) yields the discretionary accrual (DA) (Kothari et al., 2005).

$$\begin{aligned} TAC_{i,t} &= b_0 \frac{1}{TA_{i,t-1}} + b_2 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}} \\ &+ b_2 \frac{PPE_{i,t}}{TA_{i,t-1}} + b_3 ROA_{i,t-1} + \varepsilon_{i,t} \qquad (1) \\ NDA_{i,t} &= \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}} \\ &+ \beta_2 \frac{PPE_{i,t}}{TA_{i,t-1}} + \beta_3 ROA_{i,t-1} \qquad (2) \end{aligned}$$

where $TAC = NI - CFO$, in which TAC represents total accruals; NI represents net income; CFO represents net cash flow from operations; NDA represents nondiscretionary accruals; ΔREV represents increase in revenue; ΔREC represents increase in account receivables; PPE represents fixed assets; ROA represents total return on assets; and TA represents total assets. Each variable is divided by total assets to eliminate the effect of firm size. DA represents the extent of accrual-based earnings management, with a high value indicating a high lagged degree of involvement in accrual-based earnings management.

Roychowdhury (2006) indicates that firms engage in real earnings management using three approaches: sales manipulation, production manipulation, and expense manipulation. Sales manipulation involves increasing product sales for the current year through excessively lowering prices and

providing discounts at the end of the year, which in turn increase business revenue in the firm's financial report, thereby raising accounting profits. Production manipulation involves overproducing goods to manipulate production costs, provided that the overall fixed cost is unchanged; thus, current cost expenditure in the financial report is reduced, thereby increasing accounting profits. Expense manipulation involves reducing discretionary expenses (e.g., R&D, advertising, and daily expenses) to lower expenses in the financial report, thereby increasing accounting profits.

These three methods of manipulation can enable firms to increase their accounting profits in the current quarter. However, manipulating sales incurs an abnormally low cash flow from operations; manipulating production output incurs abnormally high production and inventory costs; and manipulating expenses incurs abnormally low discretionary expenses. Therefore, cash flow from operations, production costs, and discretionary expenses can be calculated to measure these three methods of real earnings management. We follow Roychowdhury (2006) and Cohen et al. (2008) and calculate the normal levels of cash flow from operations, production costs, and discretionary expenses through regression. We then subtract the normal value calculated using regression from the actual value, from which we determine the abnormal value. The abnormal values are the measures of real earnings management, and the specific calculation process is described as follows.

First, cash flow from operations exhibits the following linear relationship with current sales and changes in current sales (Dechow et al., 1998). Hence, the regression in (3) yields the normal cash flow from operations.

$$\frac{CFO_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{SALES_{i,t}}{TA_{i,t-1}} + \beta_2 \frac{\Delta SALES_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t} \tag{3}$$

Second, the sum of the cost of goods sold and the change in inventory cost is the production cost. Therefore, production cost is linearly related to current sales and sales changes from previous sales. The regression in (4) yields the normal production cost for a firm.

$$\frac{PROD_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{SALES_{i,t}}{TA_{i,t-1}} + \beta_2 \frac{\Delta SALES_{i,t}}{TA_{i,t-1}} + \beta_3 \frac{\Delta SALES_{i,t-1}}{TA_{i,t-1}} + \varepsilon_{i,t} \tag{4}$$

Third, discretionary expenses include sales expenses and management expenses and exhibit a linear relationship with sales in the previous quarter. Hence, the regression in (5) yields the normal discretionary expense for a

firm.

$$\frac{DISEXP_{i,t}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_1 \frac{SALES_{i,t-1}}{TA_{i,t-1}} + \varepsilon_{i,t} \tag{5}$$

We conduct the regression in (3), (4), and (5) by year and industry, obtaining the normal levels of cash flow from operations, production costs, and discretionary expenses. The estimated normal value is subtracted from the actual value for the year to determine the abnormal value that corresponds to the extent to which sales, production, and expenses are manipulated. According to the aforementioned analysis, sales manipulation incurs an abnormally low cash flow from operations ($ABCFO$), production manipulation incurs abnormally high production costs ($ABPROD$), and expense manipulation incurs abnormally low discretionary expenses ($ABDISEXP$).

To measure real earnings management, we follow Gong and Ho (2018) and combine the three measure to create two index of real earnings management. First measure of real earnings management (RM1), we use the sum of ABPROD and negative direction of ABDISX. Second measure of real earnings management (RM2), we use the sum of negative direction of ABCFO and negative direction of ABDISX. For both real earnings management index, higher value implies more real earnings management.

3.2.2. Financial flexibility

Graham and Harvey (2001), Bancel and Mittoo (2004), and Brounen et al. (2006) indicate that firms' adoption of a low-leverage policy (or financial flexibility) is key to maintaining financial flexibility. To measure whether a firm is financially flexible, we follow Marchica and Mura (2010) and define financially flexible firms as those with a debt-to-asset ratio at least 10% less than their target for the last 3 consecutive years. Thus, the impact of contingent noise can be eliminated to ensure the accuracy of the measures as much as possible. We refer to Byoun (2008), Huang and Ritter (2009), and Faulkender et al. (2012) for our calculation of target leverage ratio and adopt the following model for measurement:

$$Lev^*_{i,t} = \beta X_{i,t-1} + \varepsilon_{i,t} \tag{6}$$

where Lev represents firm leverage ratio, which is expressed as a ratio of total debt to total assets; X represents a debt-related variable. With reference to Flannery and Rangan (2006) and Marchica and Mura (2010) as well as real-life situations in China, our debt-related variables are company size ($SIZE$), total return on assets (ROA), growth in business revenue

($GROWTH$), tangible asset ratio ($TANG$), nondebt tax shields (DEP), and median industry leverage ($INDLEV$). After we conduct the regression equation in (6) to obtain the firm's target leverage ratio, we define financial flexibility (FF) as a dummy variable. If the actual leverage ratios for the year and past 2 years are less than or equal to 90% of the target leverage, then FF equals 1, or otherwise it equals 0.

3.3. Methodology

We construct the following model (7) to test our hypothesis regarding the relationship between financial flexibility and short-earnings management:

$$EM_{i,t} = \gamma_0 + \gamma_1 FF_{i,t} + \sum \gamma_{i,t} CONTROL_{i,t} + \varepsilon_{i,t} \tag{7}$$

where EM is earnings management (including both accrual-based and real earnings management) and FF is financial flexibility. For the control variables, we consider the basic characteristics of a firm, including company size, market-to-book ratio (MTB), total return on assets (ROA), median industry leverage ($INDLEV$), tangible asset ratio ($TANG$), and firm age (AGE). Concurrently, we refer to Cohen and Zarowin (2010) and further incorporate control variables related to corporate governance, which include CEO duality ($DUAL$), top management shareholding ratio (MSH), board size ($BOARD$), and number of independent directors ($INDEP$). Table 1 illustrates a detailed description of the variables used in this study.

3.4. Summary statistics

Table 2 reports the descriptive statistics of our main variables for all sample subjects. The mean of AM is 0.0014 and those of $RM1$ and $RM2$ are -0.0330 and -0.0350, respectively, indicating that Chinese listed companies are disposed to engaging in accrual-based rather than real earnings management. Further statistical analysis of financial flexibility by year (Figure 1) reveals that the proportion of Chinese listed companies that are financially flexible remains consistent and does not exceed 25% during 2005-2011. In 2012, this proportion increases considerably, remaining at 30% or more during 2012-2014 and dropping to 26.5% in 2015. Because financial flexibility in this study reflects a firm's debt performance during the past 3 years, the structural changes in 2012 (Figure 1) may have already occurred in 2010, which suggests that Chinese firms adopt more conservative leverage policies following the financial crisis. However, the proportion of financially flexible companies drops again in 2015, which to a certain extent reflects the high leverage ratio of Chinese firms in recent years. Re-

TABLE 1.

VARIABLES DEFINITION

Variables	Definition
AM	Accrual-Based Earnings Management: The residual value of total accruals based on the cross-sectional modified Jones' model (Kothari et al., 2005).
$RM1$	Real earnings management index1, defined as ABPROD plus $(-1) * ABDISX$.
$RM2$	Real earnings management index2, defined as $(-1) * ABCFO$ plus $(-1) * ABDISX$.
FF	Financial flexibility: The dummy variable, if the enterprise debt ratio in the past three years is lower than 90% of the target debt ratio equal 1; otherwise equal 0.
$SIZE$	Firm size, Natural log of Market capitalization.
MTB	Ratio of market value of equity to book value of equity.
ROA	Net income to total assets.
$INDLEV$	Industry median leverage ratio.
$TANG$	The proportion of fixed assets to total assets.
AGE	Firm age, measuring by the natural logarithm of (1+the firm's establish period).
$DUAL$	CEO duality: a dummy variable, with 0 for a company having separate CEO and chairman, and 1 otherwise.
MSH	Top management shareholding ratio.
$BOARD$	Total number of directors.
$INDEP$	The proportion of independent directors to the total number of directors.

TABLE 2.

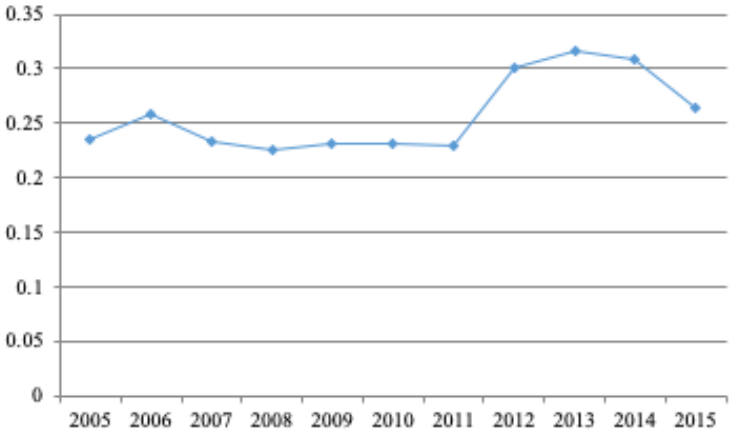
SUMMARY STATISTICS

Variable	Obs	Mean	Median	1st Quantile	3rd Quantile	STD
AM	17,906	0.0023	0.0014	−0.0405	0.0415	0.0847
$RM1$	16,744	−0.0330	−0.0379	−0.1339	0.0614	0.2217
$RM2$	16,646	−0.0350	−0.0257	−0.1137	0.0573	0.2164
FF	17,976	0.2663	0.0000	0.0000	1.0000	0.4420
$SIZE$	17,976	21.835	21.684	20.958	22.543	1.2322
MTB	17,976	2.7351	1.9192	1.0748	3.3372	2.7307
ROA	17,976	0.0461	0.0387	0.0131	0.0748	0.0664
$INDLEV$	17,976	0.4541	0.4387	0.3942	0.5202	0.0984
$TANG$	17,976	0.2507	0.2173	0.1106	0.3604	0.1780
AGE	17,976	1.9568	2.1972	1.3863	2.6391	0.8523
$DUAL$	17,976	0.2071	0.0000	0.0000	0.0000	0.4052
MSH	17,976	0.0444	0.0000	0.0000	0.0066	0.1166
$BOARD$	17,976	8.9718	9.0000	8.0000	9.0000	1.8412
$INDEP$	17,976	0.3676	0.3333	0.3333	0.4000	0.0537

garding the other variables, the mean of MTB is 2.7351, which signifies the overall growth potential of listed companies in China. The mean of ROA

is 0.0461, suggesting that Chinese listed companies are profitable overall. In addition, 20.7% of the listed companies in China appoint the same person to be CEO and chairman, and the top management shareholding ratio is 4.44%; however, more than 80% of the listed companies exhibit a top management shareholding ratio of less than 1%.

FIG. 1. FINANCIAL FLEXIBILITY COMPANY'S PROPORTION TO HEAD OFFICE



Finally, we perform a group comparison analysis on the extent of short-earnings management in financially flexible and inflexible firms. Table 3 reports the analysis results of the group comparison and shows that irrespective of type, the extent of short-earnings management is significantly lower in financially flexible firms than in financially inflexible ones. This result preliminarily verifies our hypothesis. In other words, financially flexible firms rarely engage in accrual-based and real earnings management.

4. EMPIRICAL RESULTS

4.1. Baseline regression

We conduct empirical testing on our hypothesis using model (9). Table 4 reports the baseline regression results. Column 1 presents the regression results of financial flexibility and accrual-based earnings management, and columns 2 and 3 present the regression results of financial flexibility and real earnings management. The regression coefficient of AM on FF is -0.004 and significant at the 1% level, suggesting that financial flexibility significantly reduced the adoption of accrual-based earnings management in listed companies. The regression coefficients of $RM1$ and $RM2$ on FF

TABLE 3.

GROUPING COMPARISON TEST

	FF		NON-FF		FF-NON-FF	
	Mean	Median	Mean	Median	Mean	Median
AM	−0.0002	0.0002	0.0032	0.0004	−0.0034**	−0.0002
					(2.369)	(1.829)
$RM1$	−0.0660	−0.0553	−0.0198	−0.0312	−0.0462***	−0.0241***
					(12.21)	(80.60)
$RM2$	−0.0672	−0.0433	−0.0222	−0.0184	−0.0450***	−0.0249***
					(12.16)	(109.0)

Noted: T-statistics is reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, based on year and industry fixed effects, respectively.

are −0.027 and −0.021, respectively, and are significant at the 1% level, indicating that financial flexibility significantly reduced the adoption of real earnings management in listed companies. Overall, the baseline regression results in Table 4 reveal that financial flexibility significantly reduced the adoption of both accrual-based and real earnings management. In other words, from the perspective of short-earnings management, financial flexibility increases the accounting quality of listed companies in China and significantly improves corporate governance.

Regarding control variables, the regression coefficients of MTB and ROA are significant and negative, indicating that firms with low growth and poor performance are highly involved in short-earnings management. This is in line with managers' motive to adopt short-earnings management for improving performance. The regression coefficient of real earnings management on MSH is significant and negative, whereas that of accrual-based management on MSH is positive. This phenomenon indicates that increases in the shareholding ratio can prompt managers to reduce real earnings management, which is detrimental to the value of their firm in the long term, and turn to accrual-based earnings management, which poses less damage to firms' value. In addition, board size (BOARD) significantly reduces real earnings management but does not significantly influence accrual-based earnings management.

4.2. Robustness test

4.2.1. Endogeneity

We examine the effect of financial flexibility on earnings management. Because managers of financially flexible firms are probably more conservative, we must address the problem of endogeneity. First, we adopt the

TABLE 4.

BASELINE REGRESSION

	(1)	(2)	(3)
	AM	$RM1$	$RM2$
FF	-0.004^{***}	-0.027^{***}	-0.021^{***}
	(0.001)	(0.003)	(0.003)
$SIZE$	0.003^{***}	0.004^{**}	-0.001
	(0.001)	(0.002)	(0.002)
MTB	-0.002^{***}	-0.006^{***}	-0.006^{***}
	(0.000)	(0.001)	(0.001)
ROA	-0.061^{***}	-1.244^{***}	-1.037^{***}
	(0.015)	(0.044)	(0.041)
$INDLEV$	-0.020	0.077^{*}	0.116^{***}
	(0.020)	(0.046)	(0.044)
$TANG$	-0.013^{***}	-0.281^{***}	-0.152^{***}
	(0.005)	(0.011)	(0.010)
AGE	-0.005^{***}	-0.000	0.005^{*}
	(0.001)	(0.003)	(0.003)
$DUAL$	0.000	-0.003	0.001
	(0.002)	(0.005)	(0.005)
MSH	0.011	-0.068^{***}	-0.106^{***}
	(0.007)	(0.017)	(0.018)
$BOARD$	-0.000	-0.002^{**}	-0.004^{***}
	(0.000)	(0.001)	(0.001)
$INDEP$	0.010	-0.007	-0.028
	(0.013)	(0.030)	(0.030)
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
R^2	0.039	0.232	0.234
Obs	17,906	16,744	16,646

Noted: Standard error is reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, based on year and industry fixed effects, respectively.

difference in differences (DID) test to select two groups of samples. One group is composed of firms that were financially flexible but no longer are; that is, the leverage ratios at $t-2$ and $t-1$ do not exceed 90% of the target leverage ratio but the leverage ratios at t and $t+1$ do. The other group is composed of firms that have remained financially flexible; that is, the leverage ratios at t-2 and t+1 all do not exceed 90% of the target leverage ratio. Firms that change their CEO in year t are also excluded from the samples. We compare the extent of short-earnings management

in these two samples of firms. According to Panel A test results in Table 5, the extent of accrual-based and real earnings management in firms that remain financially flexible is significantly lower than that in firms that no longer are. This result indicates that our hypothesis is still supported even after the problem of endogeneity is controlled for.

TABLE 5.

ENDOGENEITY OF FINANCIAL FLEXIBILITY

Panel A: DID			
	(1)	(2)	(3)
	AM	$RM1$	$RM2$
FF	-0.015^{***}	-0.063^{***}	-0.043^{***}
	(0.004)	(0.008)	(0.008)
Control variables	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
R^2	0.058	0.357	0.330
Obs	3,627	3,626	3,591
Panel B: PSM			
	(1)	(2)	(3)
	AM	$RM1$	$RM2$
FF	-0.005^{***}	-0.031^{***}	-0.024^{***}
	(0.002)	(0.004)	(0.004)
Control variables	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
R^2	0.039	0.254	0.260
Obs	9,544	8,770	8,715

Noted: Standard error is reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, based on year and industry fixed effects, respectively.

Our descriptive statistics reveal that 26.6% of our sample firms are financially flexible. Because the financially flexible firms we select may exhibit several systematic differences to other firms, we conduct 1:1 propensity score matching on every financially flexible firms according to firm characteristics to eliminate the effect of potential systematic differences as much as possible, and then test the matched sample. Panel B test results in Table 5 reveal that the regression coefficients of accrual-based and real earnings management on financial flexibility are negative and significant at the 1% level. Thus, our hypothesis is still supported.

4.2.2. Alternative Explanations

To minimize the impact of noise, we define financial flexibility using the criteria of whether a firm's leverage ratio is less than or equal to 10% of the target leverage ratio for the past 3 years. With reference to Marchica and Mura (2010), we adjust the 10% threshold to 5% and 20%, and redefine financial flexibility before testing our hypothesis with these new thresholds.

Panels A and B in Table 6 report the test results, which indicate that adjusting the threshold does not influence our empirical results. The regression coefficient of accrual-based and real earnings management on financial flexibility against are significant and negative. Thus, our hypothesis test results are robust.

When measuring the extent of accrual-based earnings management, we adopt the modified Jones model, which considers performance (Kothari et al., 2005). Here, we use this model to measure accrual-based earnings management in conjunction with two indices of real earnings management developed with reference to Cohen and Zarowin (2010). We directly test the effect of financial flexibility on sales manipulation, production manipulation, and expense manipulation. Panel C in Table 6 reports the test results, which indicate that the regression coefficients of the remeasured accrual-based and real earnings management on financial flexibility are also significant and negative, again indicating the robustness of our results.

4.2.3. Heterogeneity analysis

Regarding the effect of financial flexibility on short-earnings management, we examine heterogeneity in terms of the characteristics of corporate managers and risks in industries. Owners of state-owned enterprises are figureheads who impose soft budget constraint on managers. Although political pressure from outsiders reduces accrual-based earnings management, it also steers managers toward real earnings management, which is difficult to detect and more detrimental. In this subsection, we compare the effect of financial flexibility on short-earnings management in state-owned and private firms using an interaction term model design, where SOE is a dummy equal to 1 for state-owned enterprises or to 0 for private firms (Tong et al., 2015). The test results in Table 7 reveal that the effect of financial flexibility in significantly reducing earnings management is more prominent in private firms than in state-owned enterprises. In addition, the regression coefficient of SOE indicates that state-owned enterprises are

TABLE 6.

ALTERNATIVE EXPLANATIONS

Panel A: Financial flexibility threshold = 5%				
	(1)	(2)	(3)	
	AM	$RM1$	$RM2$	
FF	-0.003^{***}	-0.027^{***}	-0.021^{***}	
	(0.001)	(0.003)	(0.003)	
Control variables	Yes	Yes	Yes	
Year fixed effect	Yes	Yes	Yes	
Industry fixed effect	Yes	Yes	Yes	
R^2	0.039	0.232	0.234	
Obs	17,906	16,744	16,646	
Panel B: Financial flexibility threshold = 20%				
	(1)	(2)	(3)	
	AM	$RM1$	$RM2$	
FF	-0.004^{***}	-0.026^{***}	-0.018^{***}	
	(0.001)	(0.003)	(0.004)	
Control variables	Yes	Yes	Yes	
Year fixed effect	Yes	Yes	Yes	
Industry fixed effect	Yes	Yes	Yes	
R^2	0.039	0.231	0.233	
Obs	17,906	16,744	16,646	
Panel C: Alternative proxies of EM				
	(1)	(2)	(3)	(4)
	$AM2$	$ABCFO$	$ABPROD$	$ABDISEXP$
FF	-0.003^{**}	0.009^{***}	-0.018^{***}	0.005^{***}
	(0.001)	(0.001)	(0.002)	(0.001)
Control variables	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes
R^2	0.056	0.200	0.192	0.219
Obs	16,753	17,908	16,749	17,810

Noted: Standard error is reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, based on year and industry fixed effects, respectively.

more highly involved in real earnings management than in accrual-based earnings management, which is consistent with relevant literature.

Financial flexibility represents a firm's choice in using conservative business strategies. The aforementioned empirical results show that managers of financially flexible firms seldom engage in short-earnings management. However, external industry risks may influence this propensity. We mea-

TABLE 7.

HETEROGENEITY ANALYSIS: SOE VS. NSOE

	(1)	(2)	(3)
	AM	$RM1$	$RM2$
$FF * SOE$	0.006^{**}	0.013^{*}	0.013^{*}
	(0.003)	(0.007)	(0.007)
SOE	-0.001	0.013^{***}	0.009^{*}
	(0.002)	(0.005)	(0.005)
FF	-0.006^{***}	-0.031^{***}	-0.024^{***}
	(0.002)	(0.004)	(0.004)
Control variables	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
R^2	0.040	0.233	0.234
Obs	17,751	16,597	16,499

Noted: Standard error is reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, based on year and industry fixed effects, respectively.

sure industry risks using median industry leverage ratio (INDLEV) and the median industry cash holding ((INDCASH). High industry risk is indicated by a high median industry leverage ratio and low cash holding. Similarly, we employ an interaction term design approach. Panel A and B test results in Table 8 indicate that the higher the industry risks, the weaker the effect of financial flexibility in significantly reducing short-earnings management. This result suggests that even if managers of financially flexible firms are disposed to reducing the adoption of short-earnings management, increases in external industry risk weaken these managers' predisposition.

4.2.4. Additional test

Finally, we further examine the effect of financial flexibility on external audit opinions and rule violation behavior. This examination also represents a further test on the effect of financial flexibility on corporate governance. Specifically, we examine the effect of financial flexibility on firms' choice of the Big Four accounting firms (Audit_Big4), the types of audit opinions being issued (Audit_Opin), and the occurrence of violations (Violation). Audit_Big4, Audit_Opin, and Violation are dummy variables: Audit_Big4 equals 1 if the firm selects one of the Big Four accounting firms, and 0 if it selects another firm; Audit_Opin equals 1 if the firm is issued a nonstandard audit opinion, and 0 if it is issued a standard audit opinion; and Violation equals 1 if the firm violates the law, and 0 if it does not.

TABLE 8.

HETEROGENEITY ANALYSIS: INDUSTRY RISK

Panel A: Median debt ratio			
	(1)	(2)	(3)
	AM	$RM1$	$RM2$
$FF * INDLEV$	0.041^{***}	0.138^{***}	0.104^{***}
	(0.014)	(0.033)	(0.033)
$INDLEV$	-0.030	0.041	0.088^{**}
	(0.021)	(0.047)	(0.045)
FF	-0.022^{***}	-0.089^{***}	-0.067^{***}
	(0.006)	(0.015)	(0.016)
Control variables	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
R^2	0.040	0.232	0.234
Obs	17,906	16,744	16,646
Panel B: Median of industry cash holdings			
	(1)	(2)	(3)
	AM	$RM1$	$RM2$
$FF * INDCASH$	-0.071^{***}	-0.289^{***}	-0.244^{***}
	(0.023)	(0.055)	(0.058)
$INDCASH$	-0.052	0.085	0.105
	(0.037)	(0.095)	(0.092)
FF	0.007^{*}	0.019^{**}	0.018^{**}
	(0.004)	(0.009)	(0.009)
Control variables	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
R^2	0.040	0.233	0.235
Obs	17,906	16,744	16,646

Noted: Standard error is reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, based on year and industry fixed effects, respectively.

To ensure the robustness of our empirical results, we simultaneously adopt the Logit and Probit regression models. Table 9 presents the test results, which indicate that irrespective of the regression model used, financial flexibility significantly increases the probability of a firm selecting one of the Big Four accounting firms, as well as significantly reduces the probability of a firm being issued a nonstandard audit opinions and violating the law. Accordingly, financially flexible firms tend to select the Big Four accounting firms, which offer more meticulous audits, and show less audit

and operation problems. In other words, financially flexible firms exhibit stronger performance in terms of corporate governance.

TABLE 9.

ADDITIONAL TEST

Panel A: Logit regression			
	(1)	(2)	(3)
	Audit_Big4	Audit_Opin	Violation
FF	0.626^{***}	-0.293^{**}	-0.299^{***}
	(0.084)	(0.114)	(0.061)
Control variables	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
R^2	0.307	0.244	0.067
Obs	16,695	17,889	17,976
Panel B: Probit regression			
	(1)	(2)	(3)
	Audit_Big4	Audit_Opin	Violation
FF	0.336^{***}	-0.119^{**}	-0.147^{***}
	(0.043)	(0.051)	(0.032)
Control variables	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
R^2	0.304	0.243	0.067
Obs	16,695	17,889	17,976

Noted: Standard error is reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, based on year and industry fixed effects, respectively.

5. CONCLUSION

Financial flexibility is a key method that firms use to mitigate external risks. Several studies have examined the cause of financial flexibility and its effect on future investments. Scant research has been conducted to explore the effect of financial flexibility on corporate governance. Using sample companies listed on China's A-share market between 2005 and 2015, we empirically tested the effect of financial flexibility on firms' earnings management behavior. Our results showed that the extent of accrual-based and real earnings management in financially flexible firms was significantly lower than that in financially inflexible firms. This finding remained valid after a series of robustness test, namely considering the endogeneity prob-

lem, adjusting the defined threshold of financial flexibility, and altering the indicators of short-earnings management. The effect of financial flexibility in reducing earnings management was more prominent in private firms and low-risk industries. In addition, financially flexible firms were more likely to select one of the Big Four accounting firms and less likely to receive nonstandard audit opinions and violate laws.

We investigated the effect of financial flexibility on corporate governance from a short-earnings management perspective. Today, firms in China generally have a high leverage ratio. In the short term, reducing leverage can mitigate the direct risks of high financial leverage and reduce the occurrence of debt default. In the long term, lowering leverage can significantly strengthen the corporate governance of Chinese firms. Therefore, leverage reduction should not only serve as a contingency measure for Chinese firms with excessively high leverage but also be used to reduce firms' overdependence on debt financing in the long term.

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