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Political connections and tax-induced earnings management:

Evidence from China

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Political connections and tax-induced earnings management: Evidence from China

Abstract: We use the occasion of a change in tax policy that raised the tax rate for many of the listed companies in China to examine tax-induced earnings management (TEM) from the perspective of political connections. We find that when the tax rate increased, only those affected firms with politically connected management engaged in TEM. This suggests that, in addition to motivation for managing earnings, capability of influencing tax authorities is also an important determinant of TEM. We also find that TEM helped the firms with politically connected management to reduce their tax burden.

1. Introduction

This paper investigates tax-induced earnings management (TEM) from the perspective of political connections. It is related to two lines of the literature. The first line is TEM. The extant research shows that firms manage their earnings to reduce their tax burden when tax rates change. Dhaliwal and Wang (1992) and Manzon (1992) find that firms move earnings from the period with higher tax rates to the period with lower tax rates while Gramlich, Limpaphayom, and Rhee (2004) show that keiretsu firms strategically shift financially reported income among affiliates in order to reduce overall effective tax rates. Maydew (1997) examines the methods used by firms to move earnings over different periods when the firms engage in TEM. Researchers have also examined the relationship between firm characteristics and TEM and found that large-sized firms (Scholes, Wilson and Wolfson 1992), high-leveraged firms (Guenther 1994), and firms subject to aggressive tax policies (Lopez, Regier and Lee 1998) are more likely to engage in TEM.

There are several unsolved issues in the extant research on TEM. Most of the studies in this area are based on a major tax reform in the United States in 1986 which reduced corporate tax rates for all firms. It is not clear whether and how firms conduct TEM when tax rates are expected to increase. Another problem is that while prior studies focus on motivation, they tend to neglect that capability of achieving the goal of earnings management is also important. When the tax rate changes, although the affected firms are motivated to manage their earnings, not all of the

firms can actually do so because of the inability to reduce taxes and the punishment from the government associated with earnings management. Finally, studies mainly focus on whether TEM occurs, but it is still unknown whether firms actually lower their tax burden through earnings management.

The second line of the related literature investigates the relationship between government intervention and firm value. Studies show that rent seeking, extraction, and protection are important objectives of government intervention (Stigler 1971; Spiller 1990; Shleifer and Vishny 1998). Shleifer and Vishny (1994, 1998) find that intervention by politicians in business activities is greater when institutional constraints are weak. This finding is extremely important in China where a centrally controlled economy is moving towards a free market economy. On one hand, government intervention can decrease firm value (Shleifer and Vishny 1994, 1998). Because property rights protection in China is weak and the product and capital markets are far from liberalized, politicians are more likely to pursue social objectives or private gains at the firm's expense. Fan, Wong, and Zhang (2007) find that firms with politically connected CEOs (a measure of government intervention) perform worse after going public than do firms without politically connected CEOs. Berkman, Cole, and Fu (2012) find that block-share transfers from state-controlled entities to private entities result in improvement in corporate governance and increases in firm value. On the other hand, government intervention and political connections can also increase firm value. China's transition from a centrally controlled economy to a free market economy means that China's economy is still

relationship-based rather than market-based. Government privileges are provided to firms with politically connected management. Using survey data, He and Li (2005) show that there is a positive correlation between a firm's performance and management political connections in China. Similarly, Fisman (2001) shows that in Indonesia, a large percentage of a well-connected firm's value is derived from political connections. Johnson and Mitton (2003) also find that Malaysian firms with stronger political connections suffered more when the 1997 Asian financial crisis reduced the government's ability to provide privileges and subsidies, and benefited more when the imposition of capital controls allowed a higher level of subsidies.[1]

While the above studies have shown that political connections can benefit or hurt a firm, they have paid little attention to the underlying mechanism through which political connections affect firm value. This paper aims to examine whether TEM is such a mechanism. When the tax rate changes, all affected firms are motivated to manage earnings, but this does not mean that all firms will actually do so. As mentioned above, only if the firm has politically connected management, then paying tax based on the managed earnings is possible. In this way, the management political connections help the firm to reduce tax payments. Moreover, if the government discovers the earnings management and thus the firm may face severe punishment, political connections can reduce the probability and/or magnitude of punishment. Hence, not only can political connections help a firm to

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[1] But Lin and Bo (2012) do not find any evidence that government intervention helps in reducing the firm's financial constraints on investment.

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achieve the goal of reducing its tax burden, but they can also lower the punishment associated with TEM. If we can find empirical evidence that when the tax rate changes, the affected firms with political connections are more likely to engage in earnings management, then this can help us understand an underlying mechanism through which political connections affect firm value.

This paper examines the TEM phenomenon from the perspective of political connections using a change in tax policy in China: in 2000, the Chinese central government stipulated a rule that increased the tax rate for some listed companies starting from 2002 as detailed later. Our results show that when the tax rates changed, those affected firms with political connections were more likely to engage in earnings management. Because of the inability to reduce taxes and the punishment associated with TEM, those affected firms without political connections were less likely to engage in earnings management. We also find that those firms with political connections that engaged in earnings management achieved the goal of reducing their tax burden.

This paper makes the following contributions. First, we find that in addition to motivation, whether firms are capable (proxied by management political connections) is another important factor that a firm determines whether to engage in TEM. Second, we find that political connections reduced firms' tax burden through earnings management, which can help us understand the underlying mechanism through which political connections affect firm value. Third, the tax reform in our sample increased the tax rate, which makes this study quite different from most of the extant

studies, in which the tax rate is decreased. Hence, this study provides complementary evidence on TEM. Finally, as we examine whether TEM actually achieved the goal of lowering the firm's tax burden, our findings help us better understand the economic consequences of TEM.

The rest of the paper is organized as follows. We describe the background and develop the hypotheses in Section 2. The research design is presented in Section 3. Empirical results are discussed in Section 4, followed by robustness checks in Section 5. Section 6 concludes the paper.

2. Background and hypotheses development

The corporate income tax rate for Chinese listed firms is generally 33%, according to the *1993 Acting Regulations on Corporate Income Tax*. However, the central government provides more favorable tax incentives in various regions. For example, there are favorable tax rates of around 15% in the five special economic zones, 32 economic and technology development zones, 13 free trade zones, and 52 high-tech development zones. The central government uses these preferential tax rates to stimulate economic development in specific regions.

Although the tax rates for listed firms are set by the central government, before 2002 the taxes were mostly collected and kept by the local governments in the locations where the firms were registered. Listed firms often contribute to local economic development and bring employment opportunities in addition to large tax revenue. Therefore, the policy of first levying and then rebating taxes (FLTRT) was

introduced by local governments to attract capital investment, that is, listed firms first paid tax according to the nominal tax rate of 33%, and then would receive a 18% of reimbursement from the local government, making the actual statutory tax rate approximately 15%.

On October 11, 2000, the Ministry of Finance announced a formal ruling that prohibited local governments from providing FLTRT to listed firms after December 31, 2001. To enforce the termination of FLTRT, the central government also passed another ruling, requiring that local governments surrender 50% of their corporate income tax revenues, which previously were collected by local governments, based on the 33% standard tax rate. Then, in 2003, the percentage of corporate tax revenue given to the central government increased from 50% to 60%. Therefore, it became financially difficult for local authorities to offer companies tax rebates. The new ruling specifically subjected listed companies to the 33% corporate income tax rate. The direct effect of the termination of FLTRT was that those firms that had previously received the benefit of FLTRT had to pay tax at a higher rate starting from 2002, that is, their tax rate increased from 15% to 33%, while the tax rate for the other firms that were not covered by FLTRT remained unchanged. However, the new rule was announced in late 2000, although it did not become effective until 2002. Therefore, those firms that were affected by the new rule had sufficient time to manage their earnings in 2001 and 2002 to lower their tax burden.

Since firm performance is closely related to the ability and effort of the firm's management team, the firm's owner can use, and has been widely using, the firm's

performance to evaluate the management team (Holmstrom 1979; Ittner and Larcker 1998), and accordingly to determine the management team's compensation, promotion, and even continuation of employment. This is true for both privately-controlled and state-controlled firms. Even though in China, state-controlled firms sometimes have other goals such as increasing employment and maintaining social stability, profit maximization is always one of the most important goals for the management team. *The State-Owned Enterprises Evaluation Guidelines*, which was published by the Chinese government in 1993, 1995 and 1999 respectively, all explicitly require that the evaluation be based on the firm's economic performance. Empirical studies also find that in China, the firms' economic performance significantly affected the management's compensation (Groves et al. 1995) and their turnover (Chang and Wong 2009). Therefore, FLTRT firms had an incentive to manage their earnings to lower their tax burden.

The termination of FLTRT provided both the incentive and sufficient time for the affected firms to manage earnings. However, this does not mean that the firm would actually do so. There are two reasons. The first reason concerns whether the planned goal of reducing the amount of tax payment could be achieved. Even if the firm managed its earnings, the tax authority might not levy a tax based on the managed earnings as it had the power to levy a tax using other reasonable earnings. As a result, TEM might not achieve the intended goal. The second reason is the cost associated with earnings management. All listed companies are subject to supervision from the securities regulatory committee and tax authority. TEM violates

the information disclosure rule of securities regulations and lowers tax payment. Hence, once the TEM is discovered, the firm faces severe punishment from both the securities regulatory committee and tax authority. The punishment, or even the incident itself, dramatically damages the firm's value. Therefore, TEM might not be an optimal strategy for some listed firms. It would be optimal only for those firms with the ability to lower their tax burden and avoid punishment. Firms with politically connected management might belong to the latter category. In China, both the securities regulatory committee and tax authority are parts of the government. The CEO's political affiliation can help the firm lower its tax burden through earnings management and avoid punishment. Therefore, we propose the following hypothesis.

Hypothesis 1: FLTRT firms with politically connected management would manage earnings in response to the tax rate change, while FLTRT firms without politically connected management would not engage in tax-induced earnings management.

Firms with politically connected management would engage in TEM. Their political connections would enable these firms to pay tax based on their managed earnings, and their tax burden would be lowered as the reported earnings were lowered. For those firms that did not engage in TEM, the tax they paid was based on their true earnings. The reported earnings would be true earnings for non-earnings management firms, and managed earnings for earnings management firms. Thus, all firms (both with and without earnings management) paid tax according to their

reported earnings, so the effective tax rate calculated as the ratio of tax payment over reported earnings would not have differed between groups with and without earnings management. Hence, we propose the following hypothesis.

Hypothesis 2: The tax-induced earnings management by FLTRT firms with political connections would help the firms to lower their tax burden. The reported effective tax rate would be independent of the level of earnings management.

3. Research design

3.1. Models and variables

To facilitate our analysis, we classify the firms into four groups based on their tax and political connection status as follows.

Illustration 1

	With FLTRT	**Without FLTRT**
With PC	**Group 1 (G1)**	**Group 3 (G3)**
Without PC	**Group 2 (G2)**	**Group 4 (G4)**

G1 firms had both FLTRT and political connections and therefore had both the incentive and capability to manage earnings in response to the tax rate change. G2 firms had FLTRT but did not have political connections, that is, they had the incentive to engage in TEM, but did not have the capability to do so. Since G3 firms did not have FLTRT but had political connections, they did not have the incentive to engage in TEM, although they had the capability to do so. Finally, as G4 firms had

neither FLTRT nor political connections, they had neither the incentive nor the capability to engage in TEM. Thus, we use G4 firms as the benchmark.

To test Hypothesis 1, we examine whether the level of earnings management is significantly different from zero for G1 firms in year 2002.[2] Furthermore, we can compare earnings management among the four groups in different years, and see especially whether there is a difference between the earnings management of G1 and G4 in 2002. So we need to calculate the magnitude of earnings management for each firm. Following Dechow, Sloan and Sweeney (1995), we employ the modified Jones model to calculate discretionary total accruals (DTAC) which is the measure for earnings management. Thus, the model for nondiscretionary accruals (NDA) is

$$NDA_t = \hat{\beta}_0 + \hat{\beta}_1(1/A_{t-1}) + \hat{\beta}_2(\Delta REV_t - \Delta REC_t) + \hat{\beta}_3(PPE_t), \qquad (1)$$

where A_{t-1} is the total assets at year t-1; $\triangle REV_t$ is the revenues in year t less the revenues in year t-1 scaled by the total assets at year t-1; $\triangle REC_t$ is the net receivables in year t less the net receivables in year t-1 scaled by the total assets at year t-1; PPE_t is the gross property and equipment in year t scaled by the total assets at year t-1; and $\hat{\beta}_0, \hat{\beta}_1, \hat{\beta}_2$, and $\hat{\beta}_3$ are the parameter estimates of the following regression model:

$$TA_t = \beta_0 + \beta_1(1/A_{t-1}) + \beta_2(\Delta REV_t) + \beta_3(PPE_t) + \eta_t, \qquad (2)$$

where TA is the total accruals scaled by the lagged total assets. Total accruals are

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[2] It is true that taxable income and book income are different in China. Taxable income is based on the tax law and the book income is based on the accounting standards. However, their quantitative difference is very small because of the following reasons. (1) Both taxable income and book income are accruals-based. (2) Taxable income is based on the tax law, but the law does not give a specific definition for many incomes and the accounting standard is used to calculate the taxable income, for example, the difference between costs of finished goods inventory and costs of work-in-process inventory. (3) In reality, the taxable income is usually calculated through adjusting the book income, and the adjustment is usually small. For most of the public firms in China, there are no deferred tax assets and deferred tax liabilities in their balance sheets, and the underlying reason is that the taxable income is equal to the book income.

computed as

$$TA_t = \Delta CA_t - \Delta CL_t - \Delta Cash_t + \Delta STD_t - Dep_t, \tag{3}$$

where $\triangle CA_t$ is the change in current assets in year t scaled by the total assets at year

t-1; $\triangle CL_t$ is the change in current liabilities in year t scaled by the total assets at

year t-1; $\triangle Cash_t$ is the change in cash and cash equivalents in year t scaled by the

total assets at year t-1; $\triangle STD_t$ is the change in debt included in the current liabilities

in year t scaled by the total assets at year t-1; and Dep_t is the depreciation and

amortization expense in year t scaled by the total assets at year t-1. Combining

equations (1), (2), and (3), we can subtract the nondiscretionary accruals (*NDA*) from

the total accruals to get the discretionary accruals (*MDA*) of the modified Jones

model.

Model (2) is run using all listed company samples by year and industry. Because

approximately half of Chinese listed companies are in the manufacturing industry,

we use a two-digit code (according to the *Chinese Listed Company Classification*) to

classify manufacturing companies, while we use a one-digit code to classify firms in

other industries.

To control for other factors, we run the following ordinary least square (OLS)

regression model:

$$\begin{aligned} MDA = {} & \alpha_0 + \alpha_1 Y1 + \alpha_2 Y2 + \alpha_3 Y3 + \alpha_4 G1 + \alpha_5 G1Y1 + \alpha_6 G1Y2 + \alpha_7 G1Y3 \\ & + \alpha_8 G2 + \alpha_9 G2Y1 + \alpha_{10} G2Y2 + \alpha_{11} G2Y3 + \alpha_{12} G3 + \alpha_{13} G3Y1 \\ & + \alpha_{14} G3Y2 + \alpha_{15} G3Y3 + \sum \alpha_i Control\ Var_i + \varepsilon \end{aligned}, \tag{4}$$

where *MDA* is the level of earnings management of a firm, which is calculated above.

*G*1, *G*2, and *G*3 are the dummy variables for different groups of firms. If a firm was

an FLTRT firm and had politically connected management, then $G1$ equals 1, and 0 otherwise. If a firm was an FLTRT firm but did not have politically connected management, then $G2$ equals 1, and 0 otherwise. If a firm was not an FLTRT firm but had politically connected management, then $G3$ equals 1, and 0 otherwise. Following Fan, Wong, and Zhang (2007), politically connected management is defined as the CEO (and/or board chairman) of a firm serving as a current or former officer of the government. To determine CEOs' political connections, we collect their CVs from the sample firms' annual reports and other data sources, including the Sina Finance database. The information in these CVs includes the CEOs' gender, age, level of education, and current and previous occupations. After reading the CVs carefully, we define a firm as politically connected if its CEO is a current or former government bureaucrat of any of four types: an officer in the government, a member of the People's Congress, a member of the Chinese People's Political Consultative Conference or an officer in the military.

According to Hypothesis 1, firms with politically connected management would engage in TEM when the tax rate changes. Because the Chinese central government announced in 2000 that the termination of FLTRT would take effect in 2002, FLTRT firms knew that their tax rate would remain unchanged in 2001 and increase in 2002. From the tax rate change perspective only, one possible scenario is that FLTRT firms would move some of their earnings from 2002 to 2001 to take advantage of the lower tax rate in 2001. However, such a practice would require the firms to pay tax at an earlier time, which would constitute a cost for the firms. Furthermore,

managing earnings upward was under strict supervision from the securities regulatory committee. Even if a firm had political connections, this activity was still potentially risky for the firm. Hence, it is unclear whether there would be significant upward earnings management in 2001, but significant downward earnings management in 2002 is expected. To implement this test, we define three dummy variables to handle different years for regression model (4). If the observation year is 2001, then $Y1$ equals 1, and 0 otherwise. If the observation year is 2002, then $Y2$ equals 1, and 0 otherwise. If the observation year is after 2002, then $Y3$ equals 1, and 0 otherwise. $GiYj$ is the interaction term of Gi and Yj ($i = 1,2,3$; $j = 1,2,3$). We expect that the estimated parameter for $G1Y2$ will be significantly negative, and that all of the other parameters associated with a yearly dummy and/or group dummy will not be significant.

In addition, following previous studies, we include the following control variables in regression model (4).

$SIZE$ is the natural logarithm of the year-end total assets of the current year. There are two different views on the relationship between firm size and earnings management: (1) large firms are less likely to engage in earnings management as they are subject to more supervision from the government (Guenther 1994); and (2) large firms have greater lobbying power in the government and thus are more likely to engage in earnings management (Scholes, Wilson and Wolfson 1992). Hence, the direction of size effect on earnings management is unclear.

LEV is the year-end leverage of the current year, which is defined as the

long-term liabilities divided by the total assets. One of the important motives for firms to manage their earnings is to raise finance; therefore, firms with higher leverage are more likely to engage in earnings management (Guenther 1994). However, high leverage means that the firm has already raised finance through debt and thus does not have the motivation to manage earnings so that the performance looks better to raise debt. Hence, the sign of the parameter for leverage in the regression model is also uncertain.

ROA is the return on assets of the current year, which is defined as the earnings before tax divided by the total assets. Accruals constitute a component of earnings. Firms with a high level of earnings tend to have a high level of discretionary accruals (Dechow, Sloan and Sweeney 1995). To control for the effect of firm performance on discretionary accruals, we employ *ROA* as a control variable. Lei and Liu (2006) find a similarly positive relationship between *ROA* and earnings management, although Mitra and Cready (2005) find this relationship to be insignificant.

OCF is operation cash flow which is defined as the year-end operation cash flow divided by total assets. There are two channels through which managers manage earnings, i.e., accruals and cash flows. More cash flows means higher possibility of managing earnings through cash flows, and lower possibility of managing earnings through accruals. However, Chung and Kallapur (2003) find that the correlation between cash flow and level of earnings management can be either positive or negative.

MB is a measure of corporate investment opportunity which is measured by the

year-end market value over book value. Skinner and Sloan (2002) find that growth stocks experience a disproportionately large negative stock price response to earnings disappointments (the 'torpedo' effect). Similarly, Dechow, Richardson, and Tuna (2000) find that high growth firms have incentives to manage earnings upwards to avoid earnings disappointments. Consistent with Skinner and Sloan (2002), Dechow, Richardson, and Tuna (2000) and Koh (2007), we use *MB* to capture the 'torpedo' effect. This also controls for the relation between discretionary accruals and growth options (McNichols 2000).

AL and *AD* are two dummy variables which represent managing earnings to avoid loss and avoid earnings decreases, respectively. If *ROE* is positive but less than 0.01, then *AL* equals 1, and 0 otherwise. *ROE* is the return on equity of the current year, which is defined as net earnings divided by the year-end equity. If *DROE* is positive but less than 0.01, then *AD* equals 1, and 0 otherwise. *DROE* is the change of *ROE* of the current year. Avoiding loss and/or avoiding earnings decrease is one of the most important reasons for firms to manage their earnings (Sloan 1996; Burgstahler and Dichev 1997; Degeorge, Patel and Zeckhauser 1999). This is also true for Chinese listed companies. Wang et al. (2008) find that around 20% of listed firms manage earnings to avoid loss and 6% of listed firms to avoid earnings decrease in China.

PIND is a dummy variable for firms in protected industries. Some industries, because of strategic or other reasons, are under special protection from the government. The probability of earnings management by these firms is smaller (Aharony, Lee and Wong 2000). Based on the definition of protected industries in

Aharony, Lee, and Wong (2000), we classify the raw materials, chemistry, and energy industries as protected industries. If a firm is in a protected industry, then *PIND* equals 1, and 0 otherwise. The sign of the *PIND* parameter in the regression is expected to be negative.

AUD is a dummy variable for the type of audit firm hired by the listed company. If the audit firm is one of the Big Four, *AUD* equals 1, and 0 otherwise. Extant studies show that the type of audit firm hired by the listed company has an effect on the quality of the financial report. Becker et al. (1998) show that those firms which hired non-Big Four audit firms tend to have larger earnings management.

OPIN is a dummy variable for the type of audit opinion. If the audit opinion is unqualified, *OPIN* equals 1, and 0 otherwise. Bartov, Gul, and Tsui (2000) find that the discretionary accruals is significantly positively related to qualified audit opinion.

CROSS is a dummy variable for cross listing. If the firm has H shares, then *CROSS* equals 1, and 0 otherwise. Since cross-listed firms have better corporate governance, we expected them to have lower level of earnings management.

Regional development imbalance is an important feature in the Chinese economy, which affects the enforcement of the tax law and regional ETR difference. Therefore, we also control for region effect in model (4).

Hypothesis 2 is based on Hypothesis 1. If Hypothesis 1 holds, then FLTRT firms with politically connected management would engage in TEM in 2002, while FLTRT firms without politically connected management would not because they

could not. Hypothesis 2 examines whether earnings management can help those politically connected firms to reduce their tax burden. We cannot compare the effective tax rates of FLTRT firms with those of non-FLTRT firms because the tax rates of FLTRT firms changed. To test the hypothesis, we run the following regression model using only the observations of FLTRT firms.

$$
\begin{aligned}
ETR = {} & \gamma_0 + \gamma_1 Y1 + \gamma_2 Y2 + \gamma_3 Y3 + \gamma_4 G1 + \gamma_5 G1Y1 + \gamma_6 G1Y2 + \gamma_7 G1Y3 \\
& + \gamma_8 MDA + \sum \gamma_i Control\ Var_i + \delta
\end{aligned}
\tag{5}
$$

where *ETR* is the reported effective tax rate, a common proxy for the corporate tax burden (Porcano 1986; Shevlin and Porter 1992; Gupta and Newberry 1997). The ETR is defined as the ratio of tax expense over profit before interest and tax (Porcano 1986). Dummy variables or interaction terms *G*1, *Y*1, *Y*2, *Y*3, *G*1*Y*1, *G*1*Y*2, and *G*1*Y*3 are defined as those in equation (1). *MDA* is the discretionary accruals of a firm, which is calculated above. The tax burden of a firm is lowered as long as the reported earnings are less than the unobservable actual earnings. However, the reported ETR is calculated using the reported earnings. Hence, if G1 firms failed to reduce their tax payment, that is, they paid their tax according to a higher earnings base, then the ETR for these firms would be higher. Hypothesis 2 says that G1 firms would successfully reduce their tax; therefore, we should not observe any additional increase in ETR for G1 firms in 2002. The parameter of *G*1*Y*2 in the regression is thus expected to be insignificant. Also, Hypothesis 2 predicts that *ETR* was independent of the level of earnings management, so the parameter of *MDA* in the regression is also expected to be insignificant.

Based on previous studies, we also control for size, leverage, capital intensity, inventory intensity, profitability, and investment opportunity. *SIZE* is measured by the natural logarithm of the year-end total assets of the current year. There are two different views regarding the relationship between firm size and ETR: (1) large firms are subject to greater public scrutiny and as a result, incur a "political cost" in the form of a higher ETR (e.g., Zimmerman 1983); and (2) large firms pay less tax because they can devote more resources to tax planning and political lobbying (e.g., Siegfried 1972).

Leverage (*LEV*) is the year-end leverage of the current year, which is defined as the long-term liabilities divided by the total assets. As interest expenses are deductible for tax purposes in China, firms with higher leverage should have a lower ETR. Alternatively, a positive relation between ETR and leverage is possible if firms with high marginal tax rates are more likely to use debt financing.

Profitability (*ROA)* is defined as earnings before tax divided by the year-end total assets of the current year. *ETR* is a function of the ratio of tax privileges to pre-tax accounting income. Due to the imperfect correlation between tax privileges and pre-tax accounting income, *ROA* affects *ETR*. Specifically, when tax privileges are positive, i.e., taxable income is less than pre-tax accounting income, *ROA* and *ETR* are positively correlated (Wilkie 1988). However, tax privileges may also be negative, resulting in a negative correlation between *ROA* and *ETR*.

Capital intensity (*CAPINT*) and inventory intensity (*INVINT*) are the year-end asset mix of the current year (Gupta and Newberry 1997). *CAPINT* is defined as the

net fixed assets divided by the total assets, and *INVINT* is defined as the inventory divided by the total assets. Capital intensity may reduce a firm's ETR because of tax-deductible accelerated depreciation relative to the actual asset lives, while inventory intensity is a substitute for capital intensity and should be positively correlated with the *ETR* (Gupta and Newberry 1997).

Investment opportunity (*MB*) is defined as the ratio of the year-end market value to the book value of the current year. Growth firms may be those to which the government gives more support and levies less tax on the basis of their perceived potential for economic growth. In addition, future growth may imply high investment and operating costs that could lead to less taxable income and, consequently, a lower *ETR*.

3.2. Data and sample selection

The tax event examined in this paper is the termination of FLTRT starting in 2002, which was announced in 2000. We are interested in the TEM motivated by this event, so we use the data of listed companies from 1999 to 2005. However, for the sample from 2001 to 2005, we exclude all publicly traded firms registered in western, central, and northeast China, because the West China Development Project, launched in 2001, provided various tax incentives to attract investment to the western and central regions. This policy caused a change in the tax rates from 2001 for companies located in western and central China. The Chinese government also set more preferential tax policies for listed firms in northeast China from 2001. Hence,

our sample from 2001 to 2005 includes firms in Beijing, Tianjin, Hebei, Shandong, Jiangsu, Zhejiang, Fujian, Guangdong, Shanghai, and Hainan. Although we include less than one-third of the provinces and autonomous districts,[3] these regions play the most significant role in the Chinese economy. In addition, we delete some observations for the following reasons: (1) firms in the financial industry whose accounting standards are quite different from those for non-financial industries; (2) all observations in a year-industry group with the number of observations less than 10 as we need to run regressions on samples by year-industry when using the modified Jones model to calculate discretionary accruals accurately (model 2); (3) firms going public in the current year as we need the accounting information of the previous year; (4) observations with missing values in key variables; and (5) extreme observations. After the discretionary accruals are calculated, we consider those observations with MDAs lying outside three standard deviations as outliers.

We manually collected the political connection data from the annual reports of firms. The data source for depreciation and amortization expense is the China Stock Market and Accounting Research (CSMAR) database. All other data come from the SinoFin Financial Information Service database.

4. Empirical results

Table 1 reports the sample distribution. The total number of observations from 1999 to 2005 is 3581. Among them, the number of firm-year observations in G1, G2,

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[3] There were 27 provinces and four autonomous districts in China during the period from 1999 to 2005.

G3, and G4 are 172, 1001, 422, and 1986, respectively. The yearly distribution shows that the number of the observations increases over time. This is consistent with the growth of the Chinese stock market. The number of observations for 2001 is less than that for 2000, because we exclude firms registered in western, northeast, and central China from 2001.

Insert Table 1 Here

Table 2 presents the descriptive statistics. For the whole sample, the mean (median) of *MDA* is 0.0035 (0.0084). The mean of *SIZE* is 21.1831. There is large variation in the firm leverages (*LEV*) – the maximum is 3.0924 and the minimum is -0.1046. The average leverage is 0.0643. There is also large variation in *ROA*, from – 13.0837 to 0.4555 – which means that listed Chinese companies differ greatly in their profitability. Under government protection (*PIND*) is 25.89% of firms. More than 9% of the firms hired the Big Four audit firms (*AUD*), and about 93% of the firms got unqualified audit opinions (*OPIN*). The descriptive statistics of the four groups show that they have similar firm characteristics.

Insert Table 2 Here

In Table 3, we examine whether the MDAs are significantly different from zero for every group, and compare MDAs among the different groups. The mean and median of *MDA* for G1 firms in 2002 are -0.0525 and -0.0741, respectively. Both are significantly negative. The mean and median of *MDA* for G4 firms are 0.0029 and 0.0067, respectively, which are not significant. The mean and median of *MDA* for G1 firms in 2002 are both significantly lower than those of G4 firms. There is no

significant difference in the mean or median of *MDA* between G1 firms and G4 firms in other years. This indicates that G1 firms managed earnings downward in response to the termination of FLTRT, which took effect in 2002. Because of the increase of the tax rate, those affected firms with the ability to engage in TEM lowered their earnings in 2002 so that they would pay less tax. There is no significant difference in *MDA* between G2 firms and G4 firms in all years. This shows that G2 firms had an incentive to manage earnings downward, but they had no capability to do so. There is also no significant difference in *MDA* between G3 firms and G4 firms in all years. This shows that neither G3 firms nor G4 firms were affected by the termination of FLTRT, and that neither had an incentive to manage earnings.

Insert Table 3 Here

Table 4 reports the regression results of TEM. As expected, except for the interaction term of $G1$ and $Y2$, all of the other group dummy variables, year dummy variables, and their interaction terms are not significant. The interaction term of $G1$ and $Y2$ is significantly negative, which means that firms affected by the higher tax rate and having politically connected management engaged in earnings management to lower their earnings in 2002. G2 firms faced higher tax rates, but lacked the ability of influencing tax authorities; therefore, we cannot observe significant regression parameters of $G2Y2$. As G3 firms were not affected by the termination of FLTRT and they did not have an incentive to manage earnings, the coefficient of $G3Y2$ is also

insignificant. The above results confirm Hypothesis 1.[4] The parameter estimates for the control variables in the regression are all reasonable. The coefficient for *LEV* is significantly positive, which means that firms engage in earnings management to raise finance. As expected, the parameter of firm performance, *ROA*, is significantly positive. This is consistent with the results in Lei and Liu (2006). The coefficient for *OCF* is significantly negative, which is the same as that in Chung and Kallapur (2003).

Insert Table 4 Here

The results in Table 4 confirm that FLTRT firms with politically connected management managed earnings downward in 2002 in response to the tax rate change, while other firms did not engage in TEM. Next, we examine whether FLTRT firms with politically connected management did eventually manage to lower their tax burden. To obtain a meaningful measure of *ETR*, we refine the sample used above as follows: (1) we delete observations with a negative denominator (used as the scale for the effective tax rate, in our base case, it is profit before interest and tax); (2) we let *ETR* equal zero if it is less than zero, and let it equal one if it is larger than one, similar to Zimmerman (1983). Also, we only keep the observations of FLTRT firms because it is not possible to compare FLTRT firm ETRs with non-FLTRT firm ETRs. In the end, we have 1056 firm-year observations. The number of firm-year observations in G1 and G2 are 157 and 899, respectively. The detailed distribution is presented in Table 5.

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[4] When we divide the sample into two sub-samples by the median of *ROA*, we find that the relation between political connections and earnings management among FLTRT firms is more pronounced in firms with good performance.

Insert Table 5 Here

Table 6 presents the regression results on the economic consequences of TEM. As expected, the coefficient of $G1Y2$ is insignificant, which means there is no evidence to show that there is any additional increase in the reported ETRs for G1 firms in 2002. Also, the magnitude of earnings management (*MDA*) does not significantly affect the reported ETRs. These results suggest that G1 firms did pay their tax according to their reported earnings in 2002 when they managed earnings downward. Hence, TEM did reduce the tax burden of those firms that engaged in earnings management in 2002. The insignificant coefficients of $G1Y2$ and *MDA* support Hypothesis 2. The coefficients of $G1Y1$ and $G1Y3$ are insignificant, which means G1 firms paid tax according to the reported actual earnings in 2001 and 2003 when they did not manage earnings. The estimated parameters of $Y2$ and $Y3$ are both significantly positive, which means all firms paid more tax starting from 2002. This is because FLTRT was terminated, and the nominal tax rate was increased from 15% to 33% for G1 firms and G2 firms. The coefficient of $Y1$ is insignificant because the nominal tax rate remained unchanged in 2001. As for the control variables, the parameters for *ROA* and *INVINT* are significantly positive, a finding consistent with that reported in Gupta and Newberry (1997). The estimated coefficient of *MB* is significantly negative at the 1% level, and the coefficients of *SIZE*, *LEV* and *CAPINT* are insignificant.

Insert Table 6 Here

5. Robustness checks

To check the robustness of our results, we conduct the following additional tests.

First, we use an alternative proxy of earnings management. In Section 3, we used the sales changes net of the change in accounts receivable in the modified Jones model to calculate discretionary accruals. Here, we also follow previous studies and subtract the change in accounts receivable from the sales changes in model (2), that is, equation (2) is replaced by

$$TA_t = \beta_0 + \beta_1(1/A_{t-1}) + \beta_2(\Delta REV_t - REC_t) + \beta_3(PPE_t) + \varepsilon_t. \qquad (2')$$

The other calculations are the same as those in Section 3. In addition, following the Jones model (Jones 1991), we do not consider the change in accounts receivable, that is, we replace equation (1) using

$$NDA_t = \hat{\beta}_0 + \hat{\beta}_1(1/A_{t-1}) + \hat{\beta}_2(\Delta REV_t) + \hat{\beta}_3(PPE_t). \qquad (1')$$

The results based on these measurements of earnings management are qualitatively similar. Finally, following previous studies, we do not use the intercept term in the modified Jones model, and get similar results.

Second, we adopt alternative proxies of *ETR*. In Section 3, *ETR* was defined as tax expense/profit before interest and tax. We also use the following three measures: (1) ETR_2 = (tax expense-deferred tax expense)/profit before interest and tax (Porcano 1986); ETR_3 = (tax expense)/(profit before interest and tax-(deferred tax expense/statutory tax rate)) (Stickney and McGee 1982); ETR_4 = (tax expense-deferred tax expense)/(profit before interest and tax-(deferred tax expense/statutory tax rate)) (Shevlin 1987). All of these methods produce similar

results.

Third, we use alternative ways to deal with extreme values. In Section 3, we consider those observations with *MDA*s lying outside three standard deviations as outliers. We also try deleting the upper and lower 1% of observations according to the *MDA*s. The results are qualitatively similar. In addition, the sample used in Section 3 includes the observations with leverage (*LEV*) less than 0. We delete those observations and repeat the studies, and we get the same results.

6. Conclusion

The extant studies on TEM mainly consider the tax reform in the United States in 1986. The reform lowered the tax rate for all companies. There is no evidence whether firms engage in earnings management when tax rates are increased. Also, the studies do not consider the capability of companies to achieve the goal of earnings management. When the tax rate changes, although all affected companies are motivated to manage earnings, some firms are not capable of achieving the goal of earnings management. Furthermore, whether TEM actually helps firms to reduce their tax payment is still an open question. In this paper, we use the termination of the FLTRT policy in China, which raised the tax rate for some listed companies in China starting from 2002, to examine TEM activity. We provide evidence of the effects of capability of achieving the goal of earnings management on firms' earnings management behavior and the economic consequences of TEM. Moreover, although it provides evidence that political connections affect firm value, the extant

research pays little attention to the underlying mechanism or channel. This paper provides direct evidence that political connections reduced firm's tax burden through earnings management.

We find that when the tax rate changed, only those affected firms with politically connected management engaged in TEM. This is because their political connections could help the firms achieve the goal of reducing their tax burden and avoid being punished. We also find that TEM did actually help these firms reduce their tax burden. This finding helps us better understand TEM. It also illustrates an underlying mechanism through which political connections affect firm value.

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Table 1. Sample distribution.

	G1	G2	G3	G4	Total
1999	18	96	77	269	460
2000	25	119	93	339	576
2001	24	137	41	167	369
2002	22	147	45	220	434
2003	27	157	49	278	511
2004	28	167	55	324	574
2005	28	178	62	389	657
Total	172	1,001	422	1,986	3,581

Notes: G1 firms are firms that had both FLTRT and politically connected management. G2 firms are firms that had FLTRT, but didn't have politically connected management. G3 firms are firms that didn't have FLTRT, but had politically connected management. G4 firms are firms that had neither FLTRT nor politically connected management.

Table 2. Descriptive statistics.

	Mean	Median	Standard deviation	Maximum	Minimum
Panel A: Full sample (n=3,581)					
MDA	0.0035	0.0084	0.1143	0.4438	-0.4213
SIZE	21.1831	21.0910	0.9701	25.7343	17.0612
LEV	0.0643	0.0222	0.1302	3.0924	-0.1046
ROA	0.0246	0.0433	0.3212	0.4555	-13.0837
OCF	0.0496	0.0488	0.0870	0.7522	-0.6556
MB	3.9879	2.9849	14.3090	252.8548	-572.6531
AL	0.0639	0.0000	0.2447	1.0000	0.0000
AD	0.1667	0.0000	0.3728	1.0000	0.0000
PIND	0.2589	0.0000	0.4381	1.0000	0.0000
AUD	0.0902	0.0000	0.2865	1.0000	0.0000
OPIN	0.9277	1.0000	0.2591	1.0000	0.0000
CROSS	0.0310	0.0000	0.1733	1.0000	0.0000
Panel B: G1 firms (n=172)					
MDA	-0.0031	0.0001	0.1170	0.3518	-0.4081
SIZE	21.2149	21.1741	0.8339	23.0136	18.6019
LEV	0.0508	0.0313	0.0615	0.2974	-0.0229
ROA	0.0338	0.0392	0.0675	0.4555	-0.3172
OCF	0.0470	0.0556	0.0782	0.3626	-0.2394
MB	6.1375	2.7086	26.4540	252.8548	-14.7059
AL	0.0756	0.0000	0.2651	1.0000	0.0000
AD	0.1453	0.0000	0.3535	1.0000	0.0000
PIND	0.1163	0.0000	0.3215	1.0000	0.0000
AUD	0.0465	0.0000	0.2112	1.0000	0.0000
OPIN	0.9477	1.0000	0.2233	1.0000	0.0000
CROSS	0.0407	0.0000	0.1982	1.0000	0.0000
Panel C: G2 firms (n=1,001)					
MDA	0.0037	0.0078	0.1113	0.4026	-0.3825
SIZE	21.1756	21.1541	0.8223	23.9232	17.0612
LEV	0.0605	0.0213	0.0885	0.5804	-0.0421
ROA	0.0211	0.0412	0.3793	0.3022	-11.6742
OCF	0.0544	0.0542	0.0805	0.5627	-0.6556
MB	3.2085	2.6501	19.1273	98.6639	-572.6531
AL	0.0539	0.0000	0.2260	1.0000	0.0000
AD	0.1628	0.0000	0.3694	1.0000	0.0000
PIND	0.2747	0.0000	0.4466	1.0000	0.0000
AUD	0.0370	0.0000	0.1888	1.0000	0.0000
OPIN	0.9341	1.0000	0.2483	1.0000	0.0000
CROSS	0.0050	0.0000	0.0705	1.0000	0.0000

Panel D: G3 firms (n=422)

MDA	0.0087	0.0127	0.1172	0.3213	-0.4182
SIZE	21.4555	21.2793	1.2156	25.7343	17.9674
LEV	0.0907	0.0257	0.2178	3.0924	-0.1046
ROA	0.0386	0.0471	0.1142	0.2625	-1.7092
OCF	0.0512	0.0529	0.0974	0.7435	-0.2974
MB	3.7548	3.5109	17.6229	122.4444	-309.6296
AL	0.0521	0.0000	0.2226	1.0000	0.0000
AD	0.1825	0.0000	0.3867	1.0000	0.0000
PIND	0.1754	0.0000	0.3807	1.0000	0.0000
AUD	0.1445	0.0000	0.3521	1.0000	0.0000
OPIN	0.9265	1.0000	0.2612	1.0000	0.0000
CROSS	0.0474	0.0000	0.2127	1.0000	0.0000

Panel E: G4 firms (n=1,986)

MDA	0.0029	0.0086	0.1150	0.4438	-0.4213
SIZE	21.1262	21.0157	0.9819	25.6793	17.3894
LEV	0.0617	0.0207	0.1267	2.3233	-0.0383
ROA	0.0225	0.0443	0.3323	0.4448	-13.0837
OCF	0.0470	0.0439	0.0885	0.7522	-0.4561
MB	4.2441	3.0947	7.6172	173.5714	-54.8361
AL	0.0705	0.0000	0.2560	1.0000	0.0000
AD	0.1672	0.0000	0.3732	1.0000	0.0000
PIND	0.2810	0.0000	0.4496	1.0000	0.0000
AUD	0.1093	0.0000	0.3120	1.0000	0.0000
OPIN	0.9230	1.0000	0.2667	1.0000	0.0000
CROSS	0.0398	0.0000	0.1955	1.0000	0.0000

Notes: *MDA* is the level of earnings management, which is calculated using the modified Jones model. *SIZE* is the natural logarithm of the year-end total assets of the current year. *LEV* is the year-end leverage of the current year, which is defined as long-term liabilities divided by total assets. *ROA* is defined as earnings before tax divided by the year-end total assets. *OCF* is defined as the year-end operation cash flow divided by total assets. *MB* is the year-end market value over book value. If *ROE* is positive but less than 0.01, then *AL* equals 1, and 0 otherwise. *ROE* is net earnings divided by the year-end equity. If *DROE* is positive but less than 0.01, then *AD* equals 1, and 0 otherwise. *DROE* is the change of *ROE* of the current year. If a firm is in a protected industry, then *PIND* equals1, and 0 otherwise. If the audit firm hired by the listed company is one of the Big Four, *AUD* equals 1, and 0 otherwise. If the audit opinion is unqualified, *OPIN* equals 1, and 0 otherwise. If the firm has H shares, then *CROSS* equals 1, and 0 otherwise. G1 firms are firms that had both FLTRT and politically connected management. G2 firms are firms that had FLTRT, but didn't have politically connected management. G3 firms are firms that didn't have FLTRT, but had politically connected management. G4 firms are firms that had neither FLTRT nor politically connected management.

Table 3. Comparisons of earnings management between different groups.

	G1	G2	G3	G4	G1-G4	G2-G4	G3-G4
Panel A: Mean of *MDA*							
1999-2001	0.0203	0.0112	0.0132	0.0009	0.0194	0.0103	0.0123
	(1.26)	(1.69)	(1.54)	(0.21)	(1.21)	(1.28)	(1.26)
2001	0.0124	0.0062	-0.0057	-0.0081	0.0205	0.0143	0.0024
	(0.41)	(0.56)	(-0.27)	(-0.72)	(0.64)	(0.91)	(0.10)
2002	-0.0525	0.0070	-0.0111	0.0029	-0.0554	0.0041	-0.0140
	(-2.48)**	(0.78)	(-0.67)	(0.41)	(-2.39)**	(0.36)	(-0.81)
2003	0.0028	-0.0127	-0.0116	0.0034	-0.0006	-0.0161	-0.0150
	(0.14)	(-1.51)	(-0.60)	(0.49)	(-0.03)	(-1.47)	(-0.81)
2003-2005	-0.0088	-0.0025	0.0083	0.0044	-0.0132	-0.0069	0.0039
	(-0.77)	(-0.54)	(0.97)	(1.28)	(-1.07)	(-1.21)	(0.43)
Panel B: Median of *MDA*							
1999-2001	0.0241	0.0172	0.0122	0.0065	0.0176	0.0107	0.0057
	(266)*	(4543)**	(1642)*	(5921)	(1.40)	(1.39)	(1.22)
2001	0.0352	0.0105	-0.0033	0.0062	0.0290	0.0043	-0.0095
	(25)	(583.5)	(-19.5)	(-131)	(0.87)	(0.82)	(-0.07)
2002	-0.0741	0.0083	0.0122	0.0067	-0.0808	0.0016	0.0055
	(-71.5)**	(508)	(-22.5)	(540)	(-2.56)**	(0.44)	(0.38)
2003	-0.0041	-0.0002	0.0029	0.0093	-0.0134	-0.0095	-0.0064
	(-1)	(-490.5)	(-29.5)	(1046.5)	(-0.23)	(-1.24)	(-0.67)
2003-2005	-0.0008	0.0016	0.0154	0.0119	-0.0127	-0.0103	0.0035
	(-119)	(284.5)	(1024.5)*	(18220)**	(-1.14)	(-1.24)	(0.55)

Notes: *MDA* is the level of earnings management, which is calculated using the modified Jones model. The values in the parentheses are statistics. The first four columns test the mean or median of *MDA*s for four groups. The test method for mean is t-test. The test method for median is the nonparametric Wilcoxon signed-rank test. The other three columns test the differences in mean or median of *MDA* between groups. The significance of the differences in means is measured using t-statistics. The difference in medians is tested using the nonparametric Wilcoxon rank-sums test.

***: significant at the 1% level; **: significant at the 5% level; *: significant at the 10% level.

Table 4. The effect of FLTRT and political connection on earnings management.

	Estimate	t value
Intercept	-0.0043	-0.10
$Y1$	0.0017	0.16
$Y2$	0.0034	0.35
$Y3$	0.0017	0.23
$G1$	0.0255	1.42
$G1Y1$	-0.0161	-0.54
$G1Y2$	-0.0827***	-2.73
$G1Y3$	-0.0355	-1.63
$G2$	0.0146	1.45
$G2Y1$	-0.0085	-0.53
$G2Y2$	-0.0083	-0.54
$G2Y3$	-0.0152	-1.31
$G3$	0.0099	1.04
$G3Y1$	-0.0159	-0.75
$G3Y2$	-0.0207	-1.02
$G3Y3$	-0.0048	-0.36
$SIZE$	-0.0010	-0.46
LEV	0.0603***	4.13
ROA	0.0501***	8.34
OCF	-0.3598***	-16.67
MB	0.0000	-0.26
AL	-0.0067	-0.89
AD	0.0047	0.95
$PIND$	0.0012	0.28
AUD	0.0093	1.29
$OPIN$	0.0394***	5.26
$CROSS$	0.0121	1.04
Adj. R^2	0.091	
F value	10.94***	

Notes: The dependent variable is *MDA*, which is the level of earnings management calculated by the modified Jones model. If the observation year is 2001, then *Y1* equals 1, and 0 otherwise; If the observation year is 2002, then *Y2* equals 1, and 0 otherwise; if the observation year is during 2003-2005, then *Y3* equals 1, and 0 otherwise. If a firm was an FLTRT firm and had politically connected management, then *G1* equals 1, and 0 otherwise. If a firm was an FLTRT firm but did not have politically connected management, then *G2* equals 1, and 0 otherwise. If a firm was not an FLTRT firm but had politically connected management, then *G3* equals 1, and 0 otherwise. *GiYj* is the interaction term of *Gi* and *Yj* (*i*=1,2,3; *j*=1,2,3). *SIZE* is the natural logarithm of the year-end total asset of the current year. *LEV* is the year-end leverage of the current year, which is defined as long-term liabilities divided by total assets. *ROA* is defined as earnings before tax divided by the year-end total assets. *OCF* is defined as the year-end operation cash flow divided by total assets. *MB* is the year-end market value over book value. If *ROE* is positive but less than 0.01, then *AL* equals 1, and 0 otherwise. *ROE* is net earnings divided by the year-end equity. If *DROE* is positive but less than 0.01, then *AD* equals 1, and 0 otherwise. *DROE* is the change of *ROE* of the current year. If a firm is in a protected industry, then *PIND* equals1, and 0 otherwise. If the audit firm hired by the listed company is one of the Big Four, *AUD* equals 1, and 0 otherwise. If the audit opinion is unqualified, *OPIN* equals 1, and 0 otherwise. If the firm has H shares, then *CROSS* equals 1, and 0 otherwise.
***: significant at the 1% level; **: significant at the 5% level; *: significant at the 10% level.

Table 5. Sample for effective tax rate analysis.

	G1	G2	Total
1999	17	94	111
2000	24	111	135
2001	23	126	149
2002	20	132	152
2003	24	141	165
2005	26	148	174
2005	23	147	170
Total	157	899	1056

Notes: G1 firms are firms that had both FLTRT and politically connected management. G2 firms are firms that had FLTRT, but didn't have politically connected management.

Table 6. The economic consequences of earnings management.

	Estimate	t value
Intercept	0.0052	0.05
*Y*1	0.0027	0.21
*Y*2	0.0550***	4.26
*Y*3	0.0634***	6.23
*G*1	0.0161	0.82
*G*1*Y*1	0.0445	1.37
*G*1*Y*2	0.0091	0.27
*G*1*Y*3	0.0013	0.05
MDA	-0.0143	-0.44
SIZE	0.0037	0.73
LEV	-0.0217	-0.47
ROA	0.4561***	5.07
CAPINT	0.0340	1.46
INVINT	0.0717**	2.52
MB	-0.0010***	-2.97
Adj. R-sq	0.084	
F value	7.93***	

Notes: The dependent variable is *ETR*, which is defined as the ratio of tax expense over profit before interest and tax. If the observation year is 2001, then *Y*1 equals 1, and 0 otherwise; If the observation year is 2002, then *Y*2 equals 1, and 0 otherwise; if the observation year is after 2002, then *Y*3 equals 1, and 0 otherwise. If a firm was an FLTRT firm and had politically connected management, then *G*1 equals 1, and 0 otherwise. *G*1*Y*1 (*G*1*Y*2/*G*1*Y*3) is the interaction term of *G*1 and *Y*1 (*Y*2/*Y*3). *MDA* is the level of earnings management, which is calculated using the modified Jones model. *SIZE* is the natural logarithm of the year-end total asset of the current year. *LEV* is the year-end leverage of the current year, which is defined as long-term liabilities divided by total assets. *ROA* is the return on asset of the current year, which is defined as earnings before tax divided by total asset. *CAPINT* is defined as the year-end net fixed assets divided by total assets of the current year. *INVINT* is defined as the year-end inventory divided by total assets by the current year. *MB* is defined as the year-end market to book value of the current year.

***: significant at the 1% level; **: significant at the 5% level; *: significant at the 10% level.