

Public Governance and Tax Avoidance: Evidence from the Anti-Corruption Campaign in China

Abstract

Taking advantage of the China's anti-corruption campaign initiated in 2012, this study investigates the effects of public governance on tax avoidance. The campaign successfully curtails excessive corporate spending and governs the employment of former government officials in firms. It increases the political risk of officials who provide firms with favorable tax treatment. Thus it is hypothesized that the campaign impairs the ability of firms to practice tax avoidance. Consistent with this hypothesis, we use a sample of listed companies from 2009 to 2015 in China and alternative measures of tax avoidance, and find that firms practice less tax avoidance after the initiation of the anti-corruption campaign. Further analysis reveals that both entertainment and travel costs and their impacts on tax avoidance are reduced after the launch of the campaign, thus indicating that the effects of bribery on tax avoidance are subsequently reduced. We also demonstrate that the contribution of tax avoidance to firm value decreases after the anti-corruption campaign. This study highlights the importance of public governance in restricting tax avoidance practice and hence has meaningful implications on the tax base erosion problem for policy-makers worldwide.

Keywords: Public governance; Tax avoidance; Firm value; Entertainment and travel costs; Anti-corruption.

JEL Classifications: H26; M40; G38.

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1. Introduction

The extant literature suggests that agency conflicts play an important role in corporate tax avoidance decisions (e.g., Khan, Srinivasan and Tan 2017; Armstrong, Blouin, Jagolinzer, and Larcker 2015; Desai and Dharmapala 2006; and Crocker and Slemrod 2005). However, these studies mainly focus on the firm-level agency problem¹, and the effects of public sector governance² on tax avoidance remains unexplored. Public governance shapes the environment in which firms operate. Previous studies have demonstrated the importance of country-level institutions for economic growth and corporate operation (e.g., Doidge, Karolyi and Stulz 2007; La Porta, Lopez-de-Silanes, Shleifer and Vishny 1999, 1998). Doidge et al. (2007) distinguish between investor protection granted by the state and investor protection adopted by the firm and show that country-level dominates firm-level governance mechanism. In the context of income tax, government, as a major stakeholder, may have conflict of interests with corporations. Thus, public governance is likely to play a different role with firm-level in corporate tax avoidance decisions.

We take advantage the anti-corruption campaign launched in 2012 in China to study the causal effects of public governance on corporate tax avoidance. First, the control of corruption is an integrated dimension of public governance.³ The campaign is perceived to improve the public governance in China⁴, eliciting firms change their

¹ Stulz (2005) proposes that there are twin agency problems: the agency problem of corporate insider discretion and that of state ruler discretion.

² Governance consists of the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them. (<http://info.worldbank.org/governance/wgi/index.aspx#home>)

³ The World Bank Worldwide Governance Indicator consists of six dimensions and control of corruption is one of them (www.govindicators.org).

⁴ According to the Worldwide Governance Indicator, the Control of Corruption sub-index (ranges from -2.5 (weak) to 2.5 (strong) governance performance) of China is -0.51, -0.56 and -0.51 for 2009, 2010,

operating strategies. The second challenge to explore the effect of public governance is the insufficient variation in institutional factors resulting from institutional stability within a single country. The ongoing anti-corruption campaign serves as an exogenous shock to public governance, thereby alleviating potential endogeneity problems.

Government corruption, especially in the form of rent-seeking, is pervasive around the world. The World Bank survey indicates that, on average, 18% of firms around the world have experienced at least one bribe payment request from a public official.⁵ China has been rather anomalous as the second largest economy in the world and a growth engine, but has a corruption level that is on par with that of most developing markets. Due to an ambiguous legal system and poor legal enforcement, many firms seek benefits by bribing government officials and members of the Communist Party of China (CPC) and creating connections with them (Wu, John and Rui 2016). The severe problem of corruption has prompted the CPC to initiate an unprecedented anti-corruption campaign in November 2012, shortly after Jinping Xi became the “paramount leader” of China (i.e., General Secretary; President; and Chairman of the Central Military Commission). He vowed to eradicate the long-standing issue of political corruption in China. As of 2016, more than 100,000 people have been indicted for corruption, and 120 high-ranking officials, including five national-level leaders, have been targeted.⁶

Although the campaign targets political actors, it has spread to the corporate world and resulted in investigations launched on a large group of executives from a variety of

and 2011, while -0.36, -0.34 and -0.28 for 2013, 2014 and 2015, respectively, indicating an improvement in public governance after the campaign.

⁵ This is determined by taking the simple average of bribery incidence (% of firms that experience at least one bribe payment request) from World Bank Development Indicators. For each economy, only the latest available year of survey data and surveys posted during the years 2010-2017 are used in this computation.

⁶ See http://usa.chinadaily.com.cn/epaper/2015-03/02/content_19695097.htm

companies. Recent studies have shown that the consequences of the anti-corruption campaign in China is not consistent. The campaign may have curbed corruption, but also has significant impacts on corporate strategy, firm performance, public governance, shareholder valuations, and accounting quality. For example, Lin, Morck, Yeung and Zhao (2017) document positive market reactions, and an increase in firm performance associated with the anti-corruption campaign. Ke, Liu and Tang (2017) find that the campaign reduces the luxury-goods consumption of state-owned enterprise (SOE) firms. Hope, Yue and Zhong (2017) find that the accounting quality of firms with politically connected directors is improved after the campaign. Zhang (2018) finds that firms are less likely to commit fraud in the post-campaign period than in the pre-campaign period. Thus, one can foresee that, under the anti-corruption campaign, firms and CPC/government officials may modify their strategies and behavior. Such strategies and behavior should not be limited to those that have been already examined in existing studies. However, Griffin, Liu and Shu (2017) suggest that the campaign targets corrupt managers, appears influenced by political favoritism, and has not broadly affected Chinese corporate culture. One of the areas that have been left unexplored is the influence of Xi's anti-corruption campaign on tax planning. Therefore, we take the initiation of the anti-corruption campaign in this study as an exogenous event to examine whether anti-corruption could curb corporate tax avoidance and further affect firm value.

In China, CPC/government officials have the ability to assist firms with tax avoidance. According to the "Enterprise Income Tax Law of China" and "Regulation on the Implementation of the Enterprise Income Tax Law of China", firms are entitled income tax deductions or preferential tax discounts as long as they fulfill the stated requirements. For example, industries and projects that are encouraged by the state, or

investments made by an enterprise for specialized equipment that reduces environmental pollution, etc., can be granted preferential tax treatment. Moreover, since most of the requirements are ambiguous, officials of the tax authorities, the State Council and local governments are infused with immense discretion in their final judgment on the form of tax privilege that a firm can obtain. This policy ambiguity and authority of government officials are conducive to rent seeking in the already corrupted environment of China. Corrupted officials may exploit their discretion to provide tax privileges in exchange for personal benefits. This argument is confirmed by a recent survey in China which reveals that 56% of the companies have declared that tax collectors are the second most-frequent beneficiaries of bribes following government officials because they can decide on the amount of corporate tax bills.⁷

We hypothesize that the anti-corruption campaign is likely to mitigate tax avoidance practices for two reasons. First, the anti-corruption campaign increases the detection risk of corruption. As corruption has been prevalent in China for decades, government officials do not consider corruption as a serious crime. Prior to the launch of the campaign, managers would provide officials with pecuniary advantages in exchange for paying less taxes. However, after the anti-corruption campaign has gone into force, government officials are now under serious scrutiny and violation of relevant policies is subject to severe punishment if they are caught. Both firms and officials have less incentive to practice tax avoidance or provide assistance to avoid taxes. Therefore, officials have become less lenient in approving tax privileges to avoid scrutiny.

Second, the anti-corruption campaign has weakened political connections between CPC/government officials and firms. As China officials have the power to

⁷ See <http://www.charneyresearch.com/wp-content/uploads/2015/01/White-Paper-Corruption-in-China-FINAL-v10.pdf>.

determine the tax payment of firms, managers were motivated to establish political connections with them for their assistance in reducing tax expenses. One of the ways to facilitate political connections was to employ officials (those who had either resigned or retired from public life) as managers or independent directors. For instance, among the listed private manufacturing companies in 2012, 11% of them had at least one senior executive (chairman of board, CEO, board secretary, or chief financial officer) or actual controllers with a government background, and 42% of them had top officers with membership in the National People's Congress or the Chinese People's Political Consultative Conference (Dang and Yang 2016). The greatest benefit of employing politically connected managers is that the network of the firm will expand, especially with the government. Wu et al. (2012) observe that politically connected managers in Chinese private firms can help firms to enjoy tax benefits. In particular, enterprises employ chief financial officers (CFOs) or other accounting executives who have work experience with tax authorities to deal with tax issues. Kim and Zhang (2016) find that connected firms are more tax aggressive because they are at less risk of detection, acquire more in-depth information on future changes in tax regulations or enforcement, are subject to less capital market pressure for transparency, and suffer less political costs associated with aggressive tax planning, which results in higher risk-taking tendencies. In a recent study, Lin, Mills, Zhang and Li (2018) suggest that ties to politicians by corporate boards of directors weaken the effectiveness of tax authorities in constraining tax avoidance in China.

Nevertheless, this relationship between firms and officials is weakened or severed after the launch of the campaign. In October 2013, the CPC issued Rule 18 to regulate the employment of former government officials in firms. The CPC mandated that CPC and government officials above certain ranks, either in their current position or those

who have retired within a three year period of time, are prohibited from holding any part-time or full-time position in any enterprise. This requirement triggered an unprecedented massive wave of resignation of politically connected directors in publicly listed firms. Six months after the launch of Rule 18, 118 independent directors in listed firms who were former officials resigned from their position.⁸ Hence, this resulted in the loss of political connections of firms that previously enjoyed political connections through these directors. The following real life example further exemplifies this phenomenon. Mr. Shanda Xu and Mr. Junhui Cui, former deputy directors of the State Administration of Taxation, were employed as independent non-executive directors at the Industrial and Commercial Bank of China and China National Petroleum Corporation respectively immediately following their retirement from their

We focus on A-share firms listed on the Shanghai and Shenzhen Stock Exchanges between 2009 and 2015, and use 2009-2011 as the pre-launch period of the campaign and 2013-2015 as the post-launch period of the campaign. We find that the level of tax avoidance decreases significantly after the initiation of the anti-corruption campaign in China. This finding is robust for alternative measures of tax avoidance, the difference-in-differences (DID) method and an array of robustness tests.

We then test how the anti-corruption campaign affected tax avoidance behavior. We argue that firms achieve tax reduction through good relationships with government officials. This relationship is often facilitated in two ways: bribing government officials and/or employing former officials as managers. Prior to the implementation of the anti-corruption campaign, firms in China used to entice government officials with feasts, expensive entertainment, gifts, or even travel to establish and maintain a good

⁸ See <http://finance.huanqiu.com/data/2014-06/5022596.html>.

relationship with them. Part of the luxury consumption for relationship-building is then deducted as “entertainment and travel costs” when filing taxes. Cai, Fang and Xu (2011) suggest the use of entertainment and travel costs as a proxy for firm investment in political connections. However, after the anti-corruption campaign, CPC and government officials must practice thrift, maintain a low profile and strictly follow the relevant regulations on accommodations and use of cars, as stipulated in the Eight-point Policy. The expenses that can be listed for tax deductions are now restricted. Moreover, firms with exorbitant entertainment and travel expenses may be the recipient of further investigation. Previous studies find that the market has reacted positively to the launch of the campaign with reductions in entertainment and travel costs (Griffin et al., 2017; Lin et al., 2017). We expect that the anti-corruption campaign deters tax deductions sought by providing entertainment to government officials.

Consistent with Griffin et al. (2017) and Lin et al. (2017), we find that business entertainment costs are reduced after the initiation of the anti-corruption campaign, thus indicating a reduction in corruption. We further analyze whether the campaign has changed the role of entertainment and travel costs in tax avoidance. The empirical result demonstrates that entertainment and travel costs have less impact on reducing taxes after the launch of the anti-corruption campaign. This result suggests that entertainment and travel costs is a potential means through which the anti-corruption campaign can reduce tax avoidance.

Liu, Shu and Wei (2017) show that anti-corruption changes the expectations of investors on asset prices. Therefore, we explore next whether markets capitalize on tax avoidance differently after the launch of the anti-corruption campaign. There are two potential forces here. On the one hand, it is likely that the campaign increases the enforcement of tax laws and regulations because there is increased scrutiny on the

behavior of officials. Thus, the risk of being detected for tax avoidance may be increased, and subsequently, may reduce the contribution of tax avoidance to firm value. On the other hand, Desai and Dharmapala (2009) conclude that the effects of tax avoidance on firm value is a function of firm governance, and higher-quality firm governance leads to a greater effects of tax avoidance on firm value. The anti-corruption campaign has reduced the ability of government officials to do rent seeking and incentives for rent seeking. As a result, the campaign may improve corporate governance quality.⁹ Thus tax avoidance may contribute more to firm value after the campaign. This actually appears to be an empirical question on how the anti-corruption campaign has impacted the contribution of tax avoidance to firm value. Our empirical result supports the first argument and shows that tax avoidance contributes more to firm value after the anti-corruption campaign.

This study contributes to the literature in several ways. Primarily, we contribute to the tax avoidance literature (e.g., Khan, Srinivasan and Tan 2017; Armstrong, Blouin, Jagolinzer, and Larcker 2015; Beck, Lin, and Ma 2014; Desai and Dharmapala 2009, 2006; and Crocker and Slemrod 2005). Previous studies have investigated the determinants of tax avoidance behavior. More importantly, a stream of studies (e.g., Khan et al. 2017; Armstrong et al. 2015; Desai and Dharmapala 2006; Crocker and Slemrod 2005) explore the role of manager-shareholder agency conflicts in determining tax avoidance. However, in countries outside the U.S., firms are typically controlled by a few major shareholders (Faccio and Lang 2002; Claessens, Djankov and Lang 2000; La Porta et al. 1999) and the fundamental agency problem produces a conflict of

⁹ Actually, there is mixed evidence in whether anti-corruption measures improve corporate governance. Hope et al. (2017) find the accounting quality increases and Xu et al. (2016) show that tunneling decreases after the campaign, thus indicating an improvement in corporate governance. However, Griffin et al. (2017) suggest that the campaign targets corrupt managers, appears to be influenced by political favoritism, and has not broadly affected Chinese corporate culture.

interests between the controlling owners and the minority shareholders (Shleifer and Vishny 1997). Moreover, twin agency problems arise because rulers of sovereign states and corporate insiders pursue their own interests at the expense of outside investors (Stulz 2005). This study adds to this literature by examining the effects of public governance on tax avoidance. Tax base erosion has become an international problem and many countries are taking steps to address this issue. The findings in this study suggest that the anti-corruption reform curbs the tax avoidance behavior of firms. Therefore, this study provides important implications for policy makers in emerging economies.

Second, our study adds to the literature on firm value. Corporate tax avoidance activities represents a transfer of value from the state to shareholders. Desai and Dharmapala (2009) investigate whether such activities advance shareholder interests. They find that higher-quality firm governance leads to larger effects of tax avoidance on firm value. This study extends the literature and finds that, due to the heavy scrutiny to detect government corruption, the risk of detecting tax avoidance is increased, and hence the contribution of tax avoidance to firm value is significantly reduced after the anti-corruption reform in China was launched.

Third, our paper also contributes to a growing body of studies that examine the economic consequences of the anti-corruption campaign in China. Recent studies have explored the effects of the anti-corruption reform on firm value (Liu et al. 2017; Ke et al. 2017; Lin et al. 2017), investment decisions (Pan and Tian 2018), accounting quality (Hope et al. 2017), tunneling (Xu, Wang, Zhou and Zhou 2016) and corporate fraud (Zhang 2018). However, our study explores the externality of anti-corruption reform on tax avoidance.

The paper proceeds as follows. Section 2 provides the background information on the anti-corruption campaign in China. The data collection process and research design are discussed in Section 3. Section 4 presents the empirical results and Section 5 concludes.

2. The Anti-Corruption Campaign in China

Although China has grown into the second-largest economy in the world, there is severe political corruption. The Corruption Perception Index (CPI) developed by Transparency International ranked China 78 out of 175 in the world in 2010 on its corruptness, which fared worse than many of the emerging economies such as Brazil (69) and Malaysia (56).¹⁰

On November 14, 2012, Jinping Xi took leadership of China and stressed that corruption has threatened the survival of the CPC. Shortly after he took office, he embarked on an anti-corruption campaign. On December 4, 2012, the CPC promulgated the Eight-point Policy to regulate the conduct of CPC members (see Appendix A), which represented the official start of the anti-corruption campaign. The target of the campaign included all CPC members regardless of their rank. Following the announcement of the Eight-point Policy, various government agencies made detailed arrangements to implement the policy. Another important initiative was to curb the corruptive behavior of government officials by severing ties between government officials and firms, and imposing more severe punishment for misconducts. On October 19, 2013, the Organization Department of the CPC promulgated Rule 18 to oversee the employment of government officials in enterprises (see Appendix B). The rule poses limitations on their employment in enterprises and payment from firms for approved

¹⁰ For details, see: <http://www.transparency.org/cpi2010/results>.

cases. The rule also specifies that any breaches of the regulations must be rectified within a short period of time. This was a warning to all officials that corruption can cost them dearly.

Announced by the Central Commission for Discipline Inspection of CPC on January 15, 2016, about 336,000 officials received administrative punishment in 2015 and about 14,000 were suspected of committing crimes and referred to judicial authorities. This unprecedented anti-corruption campaign has been therefore perceived to improve public governance.

3. Data Collection and Research Design

3.1 Measuring tax avoidance and firm value

3.1.1 Measuring tax avoidance

We follow the previous literature (for e.g., Tang et al. 2017, Hanlon and Heitzman 2010, and Dyreng et al., 2008) and define tax avoidance as any activity that explicitly reduces the amount of taxes per dollar of pre-tax earnings by managing tax reporting. We use modified effective tax rates, book-tax differences and residual book-tax differences to measure tax avoidance in this study.

Modified effective tax rate (METR)

A common measure of corporate tax avoidance in previous studies is the effective tax rate (*ETR*), which is the ratio of taxes paid to pre-tax income (Chen et al. 2010; Hanlon and Slemrod 2009; Wilson 2009; Gupta and Newberry 1997). Thus, the *ETR* measures the actual tax burden as a percentage of the pre-tax income within a certain period of time.

One limitation of the *ETR* is that it does not differentiate tax savings from tax preferences and aggressive tax reporting. This issue has implications for our study because Chinese listed firms are susceptible to different applicable tax rates (*ATRs*) due to the many types of tax preferential policies that cater to specific firms, industries, etc. (Shevlin and Porter 1992). We address this issue by following Tang et al. (2017) and Chan et al. (2013), and modify our *ETR* measures by using the *ATR* of a company in a given year to formulate a modified *ETR* (*METR*; i.e., the *ETR* divided by the *ATR*). The *ATR* is a compulsory tax rate that applies to listed firms. That is, the *ATR* shows whether a firm receives favorable tax treatment and the reason that a firm has less tax burden than that stipulated by the standard tax rate from a policy perspective.

We control for the differential effects of the applicable tax rate on the *ETR* by using the *ATR* to modify the *ETR*, which detects tax avoidance that is carried out by managing tax reporting. In line with Tang et al. (2017) and Gupta and Newberry (1997), we truncate the *ETR* to [0, 1] before estimating the *METR*. A smaller (higher) *METR* points to more (less) aggressive tax planning.

Book-tax difference (BTD)

The book-tax difference (*BTD*) is estimated by subtracting the inferred taxable income from the reported pretax financial income of a firm for the book-tax gap, which is scaled by pretax financial income¹¹. Specifically, we use the following formula to calculate *BTD*.

$$BTD = \frac{Pre\text{-Tax Book Income} - \frac{Income\ Tax\ Expense}{ATR}}{Pre\text{-Tax Book Income}}$$

¹¹ When total asset is used as the deflator, we obtain consistent results, however the magnitude of the book-tax difference becomes much smaller.

Residual book-tax difference (RBTD)

Following Desai and Dharmapala (2006), we measure tax avoidance by using the residual book-tax difference (*RBTD*) which equals to the residual from the regression of the firm fixed effects of the total *BTD* on total accruals (*Accrual*). Specifically, to account for the *BTD* that is attributable to earnings management, we run the following ordinary least squares (OLS) regression:

$$BTD_{it} = \alpha_1 Accrual_{it} + \mu_i + v_{it} \quad (1)$$

where *BTD* is defined above. Total accruals (*Accrual*) equal pre-tax earnings less net cash flow from operating activities, scaled by lagged total assets. μ_i is the average value of the residual for firm *i* over the sample period, and v_{it} is the deviation in year *t* from firm *i*'s average residual u_i . Since the total *BTD* can reflect tax avoidance and accrual management, this measure intends to isolate the components of the estimated *BTD* that is not explained by accruals.

3.1.2 Measuring firm value

In emphasizing the value implications of corporate tax avoidance, this paper builds on the extensive literature in corporate finance on the determinants of firm value. Within the literature, it has become standard since Demsetz and Lehn (1985) to use *Tobin's Q* to measure firm value. Following Desai and Dharmapala (2009), we modify the standard definition of *Tobin's Q* by excluding deferred tax expenses as follows.¹²

$$Tobin's Q = \frac{Market\ Capitalization + Total\ Liability - Deferred\ Tax\ Expense}{Total\ Assets}$$

¹² Desai and Dharmapala (2009) suggest that current tax avoidance activity may result in changes to future tax liabilities and thus create a mechanical correlation between the dependent variable and the measure of tax avoidance. However, we obtain consistent results by using the standard definition of *Tobin's Q* which includes deferred taxes.

While *Tobin's Q* is the primary dependent variable used in the analysis, we also use an industry adjusted *Tobin's Q* (*Ind-adj Tobin's Q*), which equals the firm-level *Tobin's Q* minus the median of *Tobin's Q* in a 2-digit *SIC* code, to measure firm value.

3.2 Sample Selection

In this paper, the sample starts with all A-share companies listed on the Shanghai and Shenzhen Stock Exchanges from 2009 to 2015. Financial data and board characteristics are taken from The China Stock Market & Accounting Research (*CSMAR*) database. The period from 2009 to 2011 is defined as the period before the launch of the anti-corruption campaign while 2013 to 2015 is the period after launch of the anti-corruption campaign.

Following previous studies, financial firms are excluded from our sample. Firms with missing data and carrying “ST” (special treatment) or “*ST” tags, (firms that suffer losses for two consecutive years or more, and the other are stocks that enter delisting procedures) are also removed. To eliminate outliers, observations with *ETRs* are restricted within the range of 0 to 1 (Tang et al. 2017; Chen et al. 2010; Gupta and Newberry 1997). The final sample consists of 8,620 firm-year observations. Panel A of Table 1 shows the process of the sample selection. Panel B reports the distribution of the sample observations by year, and the number of firm-year observations is almost evenly distributed in the pre- and post-launch periods of the anti-corruption campaign. Other continuous variables are winsorized at the 1st and 99th percentiles in order to mitigate the effects of outliers.

3.3 Research design

To examine the effects of the anti-corruption campaign on tax avoidance, we first compared the magnitude of tax avoidance over the period of 2009-2015 (2012 is the

event year/year that the campaign was initiated and therefore excluded) by using the following regression with firm-fixed effects.

$$TaxAvoid = \beta_0 + \beta_1 Post + \beta_k Controls + \varepsilon \quad (2)$$

where *TaxAvoid* is one of the three tax avoidance measures, *METR*, *BTD* or *RBTD*, as defined above. The variable of interest is *Post*, which is a dummy variable used to test the effects of anti-corruption on tax avoidance. *Post* equals to 1 if the observations fall in the post-launch period of the campaign (2013 to 2015) and 0 in the pre-launch period of the campaign (2009 to 2011). If the anti-corruption campaign constrains the ability and incentive of managers to practice tax avoidance, we expect β_1 to be significantly positive (negative) when *METR* (*BTD* or *RBTD*) is the dependent variable.

To address the potential omitted variables that may drive our results, we also use a difference-in-differences (*DID*) method. However, the anti-corruption campaign may have effects on all government officials and listed firms. It is difficult to find a control sample in a *DID* design. We then resort to the second best and propose that firms in regions where political corruption is severe are more likely to be affected by the anti-corruption campaign. We thus partition the full sample into high and low corruption subsamples based on the median corruption index of the province where a firm is located. We use the province marketization index to proxy for the corruption level of a province. Provinces with less developed market institutions, resources and information are almost controlled by the government, and political connections are thus essential for firms to obtain favorable treatment. Thus the impacts of the anti-corruption campaign on officials would be greater in those provinces. Our regression model is as follows:

$$TaxAvoid = \beta_0 + \beta_1 Post + \beta_2 HighCRPT + \beta_3 Post * HighCRPT + \beta_k Controls + \varepsilon \quad (3)$$

As discussed above, we use the marketization index to measure region corruption. The marketization index is produced by the Wang, Fan and Yu (2017) (see Appendix C), with higher scores indicating that the market plays a more important role in the economy. *HighCRPT* is a dummy variable that equals to 1 if the average marketization index of 2009 to 2011 is smaller than the median of the average marketization index value, and 0 otherwise. By definition, *HighCRPT* equals to 1 if a firm is located in a province with higher levels of corruption. We expect a positive coefficient on *Post*HighCRPT* when *METR* is the dependent variable, and a negative coefficient on *Post*HighCRPT* when *BTD* or *RBTD* is the dependent variable.

To purge the effects of underlying business processes and other fundamental drivers of tax avoidance, we include a variety of control variables that have been shown to be associated with tax avoidance from previous studies (Shevlin et al. 2012; Tang and Firth 2011; Chan, Lin and Mo 2010). We control for return on equity (*ROE*) because previous research finds that operating performance impacts the need of a firm to avoid taxes. We control for accruals because Frank et al. (2009) find a positive association between financial and tax-reporting aggressiveness. Shevlin et al. (2012) find evidence that firms concerned with meeting minimum earnings thresholds to issue additional equities and intangible-intensive firms both engage in more tax-induced income shifting. To control for these effects, we include *Rights* and *INTAST* in our regression. *Rights* is an indicator variable that equals 1 if the firm obtains a rights offering in the next year, and 0 otherwise. *INTAST* is a measure of the intangible assets scaled by total assets. Since there are differences in dealing with the depreciation of fixed assets between accounting and taxes, we include *FXTAST* (fixed assets, scaled by total assets). China has preferential tax policies to encourage firms to invest in innovation. We thus include *R&D* (research and development expenses, scaled by total assets). Following

previous studies, we also include *LEV* (total liabilities divided by total assets), *Size* (natural logarithm of a firm's market capitalization), and *Growth* (the percentage change in sales between years) to ensure that our results are robust to these commonly used control variables. In addition, we include *SOE* and *Duality* to further control for the effect of governance. *SOE* is a dummy variable and equals to 1 if a firm is controlled by the government, and 0 otherwise. *Duality* is a dummy variable and equals to 1 if the chairman and CEO are the same person in a firm, and 0 otherwise. Lagged loss (*LagLoss*) is controlled because losses in previous years (up to five years) are allowed to offset taxable income¹³. Following Atwood et al. (2012), we include the *ATR*.

We use firm fixed effects in our main analyses. This design is essential to our study because it helps to alleviate the concerns on measurement errors in our tax avoidance proxies caused by firm specific characteristics. Standard errors are computed after clustering by firm.

To explore the impacts of the anti-corruption campaign on the contribution of tax avoidance to firm value, we estimate Eq. (4) by using an ordinary least squares regression and, as before, include firm fixed effects and clustering standard errors by firm.

$$Tobin's\ Q = \gamma_0 + \gamma_1 Post + \gamma_2 Post * BTD + \gamma_3 BTD + \gamma_k Controls + \eta \quad (4)$$

where *Tobin's Q* is defined above. Following Desai and Dharmapala (2009), we use the *BTD* to measure tax avoidance because both the *METR* and *RBTD* do not proxy the dollar amount of tax avoidance. The major variable of interest is the interaction between *Post* and *BTD* (*Post*BTD*). The coefficient on the interaction term, γ_2 , captures the incremental changes in the contribution of tax avoidance to firm value from the pre- to

¹³ Loss carryforwards are not publically reported in China and thus we use lagged loss as an alternative.

the post-launch periods. We do not have a prediction on the sign of γ_2 .

The set of control variables is taken from prior research, such as profitability (*ROE*), earnings quality (*Accrual*), leverage (*LEV*), firm size (*Size*), and *SOE*.

Table 2 lists the summary statistics of the firm characteristics for the sample. We also partition the full sample into subsamples of the pre- and post-launch periods. The mean of the *METR* is 1.099 in the pre-launch period and 1.207 in the post-launch period. The mean of the *METR* in the post-launch period is greater than that in the pre-launch period (significant at the 1% level, not shown), thus indicating that the *ETR* increases after the initiation of the anti-corruption campaign. The mean of the *BTD* is 0.789 in the pre-launch period and 0.771 in the post-launch period, thus indicating that *BTD* is reduced in the post-launch period. The mean of the *RBTD* is 0.012 in the pre-launch period and -0.009 in the post-launch period, thus indicating that tax avoidance is reduced in the post-launch period. Table 2 also shows that the *ROE* and *Accrual* decrease, while *Growth* and *R&D* increase in the post-launch period. All other variables are similar in both the pre- and post-launch periods.

Table 3 reports the correlation matrix. The correlation coefficients among the three measures of tax avoidance (*METR*, *BTD* and *RBTD*) are -0.883, -0.719 and 0.731, respectively, thus suggesting that these three measures are effective. The *METR* is positively related and the *BTD* and *RBTD* are negatively related to *Post*, which is consistent with our hypothesis that tax avoidance is reduced after the initiation of the anti-corruption campaign.

4. Empirical Results

4.1 Effects of anti-corruption campaign on tax avoidance

Table 4 presents the empirical results of Model (2). The dependent variables are

the *METR* in Columns (1) and (2), *BTD* in Columns (3) and (4), and *RBTD* in Columns (5) and (6). The coefficient on *Post* is 0.128 in Column (1) and significantly positive at the 1% level, thus indicating that the *ETR* of a firm is increased after the initiation of the anti-corruption campaign. The coefficient on *Post* is -0.027 in Column (3) and significantly negative at the 1% level, thus indicating that the *BTD* is reduced after the initiation of the anti-corruption campaign. The coefficient on *Post* is -0.025 in Column (5) and significantly negative at the 1% level, thus indicating that firms practice less tax avoidance after the initiation of the anti-corruption campaign. All the results from the three measures of tax avoidance are consistent. We then add control variables in Columns (2), (4) and (6) respectively and the coefficients on *Post* remain significant at the 1% level with the predicted signs. These findings are in line with the view that the anti-corruption campaign weakens the political connections of firms and supports our hypothesis. The results are also economically significant. For example, the result in Column (2) suggests that firms in the post-launch period have an *METR* that is 15.0% greater than that of the pre-launch period. In other words, for a firm with an *ETR* of 15% in the pre-launch period, the average *ETR* that this firm pays in the post-launch period would be 17.25% ($15.0\% \times (1+15\%) = 17.25\%$). In all six columns, firm-fixed effects are included and standard errors are computed after clustering by firm.

The signs of the coefficients on control variables are, in general, consistent with those of previous studies. For example, larger (*Size*) and more profitable (*ROE*) firms may have greater incentive to avoid taxes (Wilson 2009; Rego 2003; Gupta and Newberry 1997). Growing firms (*Growth*) practice less tax avoidance (Tang et al. 2017)

Table 5 presents the regression results by using the *DID* method. Firm fixed effects are included in Columns (1), (3) and (5) while industry and year fixed effects are included in Columns (2), (4) and (6). As predicted, the coefficient on the interaction

term, $Post*HighCRPT$, is 0.101 in Column (1), positive and significant at the 1% level, thus suggesting that the ETR of firms located in provinces with severe political corruption increases after the initiation of the anti-corruption campaign compared to those located in provinces with less political corruption. This result is robust when industry and year fixed effects are used (see Column (2)). The coefficients on $Post*HighCRPT$ are both negative and significant at the 1% level in Columns (3) and (4), thus suggesting that the BTD for firms located in provinces with severe political corruption is reduced after the initiation of the anti-corruption campaign compared to those located in provinces with less political corruption. Columns (5) and (6) present similar results when the $RBTD$ is used to proxy tax avoidance. The results in Table 5 help to alleviate the concern of omitted variables around the initiation of the anti-corruption campaign and further confirm the results in Table 4.

We next conduct several robustness tests to validate our findings and present the results in Table 6.

R&D China has a preferential tax policy to encourage firms to invest in innovation. Previous studies also confirm the effects of $R\&D$ investments on tax credit (e.g., Thomson 2017). In order to exclude the potential effects of tax preference on innovation, we exclude the firms that invest in $R\&D$ and report the results in Columns (1) to (3) of Table 6. The coefficients on $Post$ for the three measures of tax avoidance are similar to those reported in Table 4.

Constant sample Many new initial public offering (IPO) firms are high-tech companies and may have tax preferences. To exclude the effects from newly listed firms, we require that every firm must have 6-year observations. Columns (4) to (6) of Table 6 present consistent results based on the sub-sample.

Profitable firms only The *METR* is truncated to $[0, 1]$ in our main tests to remove the effects from loss firms on the tax avoidance measures. We also remove loss firms from the sample in order to control for their effects. Our previous assumption holds; see Columns (7) to (9) of Table 6.

4.2 Effects of entertainment and travel costs on tax avoidance

The main feature of the anti-corruption campaign is the issuance and enforcement of Eight-point Policy and Rule 18. Kim and Zhang (2016) and Lin et al. (2018) document that political connections increase corporate tax avoidance, indicating that Rule 18 could be a potential channel through which anti-corruption affects tax avoidance. In this section, we explore how Eight-point Policy affects tax avoidance.

Cai et al. (2011) propose entertainment and travel costs as a measure of corruption in Chinese firms. They find that entertainment and travel expenses include claims for reimbursements for bribery of government officials in the form of grease and protection money, used for managerial excess, as well as entertainment expenditures that build relational capital.

Panel A of Table 7 compares the entertainment and travel costs at the firm-level between the pre- and post-launch periods of the campaign.¹⁴ Following Cai et al. (2011), the entertainment and travel costs (*ETC*) is scaled by total sales. The *t*-test suggests that the mean of the *ETC* decreases significantly after the anti-corruption campaign. The Wilcoxon test for the median of *ETC* demonstrates the same pattern. These results are consistent with Ke et al. (2017) and Griffin et al. (2017) and indicate that the incentive of firms to bribe is likely to be constrained, and thus the ability for

¹⁴ Not all firms in China disclose their entertainment and travel costs. We obtain 6,227 firm-years that report entertainment and travel costs from the CSMAR database.

tax planning will be impaired.¹⁵

Panel B of Table 7 compares the effects of the *ETC* on tax avoidance between the pre- and post-launch periods of the campaign. The dependent variables are *METR*, *BTD* and *RBTD*, respectively. The coefficient on *ETC* is negative in Column (1) and positive in Columns (2) and (3), thus indicating that entertainment and travel costs help to reduce the *ETR* and increase tax avoidance in the pre-launch period. This result is consistent with Cai et al. (2011) in that firms use entertainment and travel costs as a tool to obtain lower tax rates. However, the coefficient on *Post_ETC* is positive in Column (1) and negative in Columns (2) and (3), which indicate that the effects of the *ETC* on tax avoidance are reduced after the anti-corruption campaign. This finding, together with the result in Panel A, indicate that after the anti-corruption campaign, on the one hand, the grease money that firms use to bribe government officials is reduced, and, on the other hand, the effects of bribery are also reduced. Overall, the results in Table 7 show the potential means through which the anti-corruption campaign can reduce tax avoidance.

4.3 Effects of anti-corruption campaign on contribution of tax avoidance to firm value

Table 8 presents the results from Model (4). The dependent variable is *Tobin's Q* in Column (1) and industry-adjusted *Tobin's Q* (*Ind-Adj Tobin's Q*) in Column (2). The tax avoidance measure is *BTD*. The coefficient on *Post*BTD* is -0.615 in Column (1) and -0.433 in Column (2), and both negative and significant, thus indicating that there is less contribution of tax avoidance to firm value after the initiation of the anti-

¹⁵ According to Article 43 of the "Regulation on the Implementation of the Enterprise Income Tax Law of the People's Republic of China" implemented in 2008, the expenses for business entertainment incurred by an enterprise related to its production activities and business operations shall be deducted to the extent of 60% of the actual incurred amount but not more than 5% of the sales revenue of the current year.

corruption campaign. This phenomenon can likely be explained by the increased risk of detection of tax avoidance following the campaign launch.

However, the *BTD* is a noisy measure of tax avoidance activity. For instance, *BTDs* may arise from the tax preferences of R&D investment or the treatment of fixed assets depreciation. We thus add R&D investment (*R&D*) and fixed assets (*FXTAST*) in Model (4). The regression results reported in Columns (3) and (4) are consistent with those in Columns (1) and (2).

5. Conclusions

China embarked on an anti-corruption campaign in 2012 to reduce political, military, and business corruption. The ongoing campaign has resulted in a series of impressive impacts on the government, society and business environment and an improvement in public governance. It has changed corporate spending behavior, business strategies and relationships with government officials. Furthermore, the campaign has brought up an intriguing question, that is, whether the campaign can lead to a reduction in tax avoidance so as to increase the revenue of the government even though the policy does not professedly include any tax regulation.

This study extends the tax literature by investigating the impact of the public governance on corporate tax avoidance. The campaign constrains the motivation of government officials to do rent seeking. It also unravels political connections. Thus, the anti-corruption campaign is likely to reduce the ability of firms to practice tax avoidance.

Using a sample between 2009 and 2015 and alternative measures of tax avoidance, we find that the level of tax avoidance is significantly reduced after the initiation of the anti-corruption campaign in China, which is consistent with our hypothesis. Further

analysis demonstrates that both the level of bribery and the effects of bribery on tax avoidance are reduced after the campaign launch. We also find that the contribution of tax avoidance to firm value is reduced after the anti-corruption campaign started, perhaps due to the increased risk of detection.

Political corruption and tax base erosion are two serious problems worldwide¹⁶ and these two problems are often mutually reinforcing. The anti-corruption reform in China provides a useful setting for us to study the causal effects of public governance on tax avoidance practices. The findings in this study have meaningful implications for policy-makers in dealing with the tax base erosion problem which is a global issue nowadays.

¹⁶ Kim and Zhang (2016) and Smith (2016) indicate that both political corruption and tax avoidance are serious even in a country such as the U.S. with a strong legal system.

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Appendix A: Eight-point Policy¹⁷

1. Leaders must keep in close contact with the grassroots. They must understand the real situation that is facing society through in-depth inspections at the grassroots level. Greater attention should be placed where social problems are more acute, and inspection tours must be carried out more thoroughly. Inspection tours that are merely formalities should be strictly prohibited. Leaders should work with and listen to the public and officials at the grassroots, and people's practical problems must be addressed. There should be no welcome banner, no red carpet, no floral arrangement or grand receptions for official visits.
2. Meetings and major events should be strictly regulated, and efficiency improved. Political Bureau members are not allowed to attend ribbon-cutting or cornerstone-laying ceremonies, or celebrations and seminars, unless they obtain approval from the CPC Central Committee. Official meetings should be short and specific and to the point, with no pointless statements and rigmarole.
3. The issuing of official documents should be reduced.
4. Visits of officials abroad should only be arranged when needed with fewer accompanying members, and on most occasions, there is no need for a reception by overseas Chinese people, institutions and students at the airport.
5. There should be fewer traffic controls when leaders travel by cars to avoid unnecessary inconvenience to the public. There should be fewer traffic controls arranged for the security of the leaders on their trips to avoid unnecessary inconvenience to the public.
6. The media must not report on stories about official events unless there is true news value. The regulations also ban worthless news reports on the work and activities of senior officials and such reports should depend on need, news value and social effects.
7. Leaders should not publish any works by themselves or issue any congratulatory letters unless an arrangement with the central leadership has been made. Official documents without substantial contents and realistic importance should be withheld. Publications regarding the work and activities of senior officials are also restricted.
8. Leaders must practice thrift and strictly follow relevant regulations on accommodations and use of cars.

¹⁷ http://cpcchina.chinadaily.com.cn/2012-12/05/content_15991171.htm

Appendix B: Rule 18

1. The leading party and government cadres who are currently in office and who do not hold office but have not gone through formalities for retirement shall not work part-time (or hold office) in enterprises.

2. The leading party and government cadres who have resigned or retired from public offices must be subject to strict management and control for their part-time working (or holding office) in enterprises. If they need to work part-time (or hold office) in enterprises due to work needs, they should be strictly examined and approved according to the cadre management authority.

Within three years after resigning from public office or retirement, the leading party and government cadres are not allowed to work part-time (or hold office) in enterprises within the jurisdiction and business scope under their original duties, nor may they engage in for-profit activities related to their original duties.

Within 3 years after resigning from public office or retirement, the leading party and government cadre who intends to work part-time (or hold office) in an enterprise that is outside of the jurisdiction and business scope under his/her original duties must report his/her intention to the Party Committee (or Party Leadership Group) of his/her former unit. The leading party and government cadre may not work part-time (or hold office) in the enterprise unless the supporting materials for reasons of part-time working (or holding office) are issued by the enterprise and approved by the Party Committee (or Party Leadership Group) of his/her former unit as specified, in addition to the consent given by the corresponding organization (personnel) department in accordance with the cadre management authority.

After 3 years since resigning from public office or retirement, the leading party and government cadre who intends to work part-time (or hold office) in any enterprise must report his/her intention to the Party Committee (or Party Leadership Group) of his/her former unit. The enterprise shall provide the supporting materials for reasons of part-time working (or holding office) to the Party Committee (or Party Leadership Group) of his/her former unit which will approve the materials as specified, and submit them to the corresponding organization and (personnel) department for filing in accordance with the cadre management authority.

3. The leading party and government cadres who have been approved to work part-time in enterprises according to regulations shall not receive remuneration (such as salary, bonuses, allowances, etc.), equities and other additional benefits from the enterprises; and shall also not work part-time in more than one enterprise. If the tenure system is adopted, the planned reappointments must be re-approved or put on record again for no more than two consecutive terms; and the age limit for part-time employment is up to 70 years old.

4. The leading party and government cadres that have been approved to serve on enterprises pursuant to regulations shall promptly transfer their administrative, wage and other relations to the enterprises, and shall no longer retain the status of civil servants and all kinds of treatment of party and government organizations. It is not allowed to transfer their administrative, wage and other relations back to the party and government organizations to handle the formalities of retirement; and if they have handled the formalities of retirement through those enterprises, it is also forbidden to

transfer their administrative, wage and other relations back to the party and government organizations.

5. The leading party and government cadres who have been approved to work part-time (or hold office) in enterprises pursuant to regulations shall strictly abide by the laws to be honest and self-disciplined, and be prohibited from using their powers and influences in their positions to seek unfair advantages for enterprises or individuals. The performance of the leading party and government cadres during their part-time employment in enterprises, and receipt of remuneration or not, position-related consumption, and reimbursement of relevant work expenses, etc., shall be reported to the Party Committee (or Party Leadership Group) of their former units at the end of each year.

6. The leading party and government cadres who violate the regulations on working part-time (or holding office) in enterprises shall be disposed within a prescribed time limit. All departments and units in all regions shall, in accordance with the Opinions, conduct a thorough investigation on the status of the leading party and government cadres working part-time (or holding office) in enterprises according to the cadre management authority, and correct the problems found within a limited period of time. All leading party and government cadres that violate the regulations must be removed or resign from their part-time (or held) duties within 3 months of the issuance of the Opinions. If it is indeed required by works and complies with relevant regulations, but the formalities for approval or filing have not been handled, the leading party and government cadres must complete the formalities within 3 months after the issuance of the Opinions. The leading party and government cadres who have violated the Opinions to receive remuneration within their term of office shall be subject to relevant regulations of the CPC Central Commission for Discipline Inspection.

7. After the thorough investigation has been completed, if any leading party and government cadre is found to have violated the Opinions of working part-time (or holding office) in enterprises, or concealing received remuneration, such leading cadre shall be disposed seriously in accordance with relevant regulations once verified. All departments and units in all regions shall, if any violation is found in the approval and review of the status of the leading party and government cadres working part-time (or holding office) in enterprises, hold the principal leader and anyone responsible accountable.

8. The leading party and government cadres who work part-time (or hold office) in other for-profit organizations shall also be subject to the Opinions.

The leading cadres of people's organizations and mass organizations under the Civil Servant Law of the People's Republic of China, and public institutions shall be subject to the Opinions; and other leading cadres shall refer to the Opinions.

9. All departments and units in all regions may, in accordance with the Opinions and the cadre management authority, formulate corresponding management and implementation measures to strengthen the standardized regulation on all types of leading cadres at all levels working part-time (or holding office) in enterprises.

10. The Opinions shall come into effect as of the date of promulgation. If there is any inconsistency with the previous provisions, the Opinions shall prevail.

Appendix C: Marketization index

The marketization index of 2001 - 2011 is obtained from Wang et al. (2017).

Province	2009	2010	2011	Average
Anhui	6.1	6.18	6.53	6.27
Beijing	7.34	7.66	7.83	7.61
Chongqing	6.02	6.14	6.28	6.15
Fujian	6.77	6.63	6.84	6.75
Gansu	3.81	3.43	3.48	3.57
Guangdong	7.62	7.73	7.91	7.75
Guangxi	5.64	5.11	5.30	5.35
Guizhou	4.39	3.55	3.63	3.86
Hainan	4.23	4.59	4.71	4.51
Hebei	5.72	5.07	5.3	5.36
Heilongjiang	4.95	4.84	5.02	4.94
Henan	6.09	6.19	6.34	6.21
Hubei	5.66	5.59	5.83	5.69
Hunan	5.34	5.49	5.74	5.52
Inner Mongolia	4.82	4.56	4.68	4.69
Jiangsu	8.17	8.58	9.18	8.64
Jiangxi	5.53	5.66	5.87	5.69
Jilin	5.87	5.49	5.64	5.67
Liaoning	6.61	6.36	6.44	6.47
Ningxia	4.36	3.92	3.99	4.09
Qinghai	2.79	2.53	2.54	2.62
Shaanxi	4.28	3.95	4.37	4.20
Shandong	7.04	6.87	7.02	6.98
Shanghai	8.33	8.74	8.83	8.63
Shanxi	4.23	4.60	4.70	4.51
Sichuan	5.86	5.8	5.86	5.84
Tianjin	6.55	6.98	7.29	6.94
Tibet	1.15	0.44	0.06	0.55
Xinjiang	3.55	2.87	2.95	3.12
Yunnan	4.52	5.01	5.18	4.90
Zhejiang	8.06	8.23	8.38	8.22
Median	5.66	5.49	5.74	5.67

Appendix D: Variable definition

Applicable tax rate is manually taken from financial reports; other data are taken from the CSMAR database.

Variable	Definition
<i>ETR</i>	Effective tax rate, calculated as taxes paid divided by pre-tax income. Cash Taxes Paid = Income Tax expenses + Changes in Delayed Tax Asset - Change in Delayed Tax Liability
<i>ATR</i>	Applicable income tax rate.
<i>METR</i>	Modified effective tax rate, calculated as the ratio of effective tax rate (<i>ETR</i>) to applicable tax rate (<i>ATR</i>). A smaller (higher) <i>METR</i> points to more (less) aggressive tax planning.
<i>BTD</i>	Book-tax differences, calculated by subtracting the inferred taxable income from the reported pretax financial income of a firm for the book-tax gap, which is scaled by pre-tax income. $BTD = \frac{Pre-Tax Book Income - \frac{Income Tax Expense}{ATR}}{Pre-Tax Book Income}$
<i>Accrual</i>	Total accrual, calculated as the difference of pre-tax income and cash flows from operating activities, scaled by total assets.
<i>RBTD</i>	Residual book-tax difference, equals to the residual from the regression of the firm fixed effects of the total <i>BTD</i> on total accruals (<i>Accrual</i>). $BTD_{it} = \alpha_1 Accrual_{it} + \mu_i + v_{it}$ μ_i is the average value of the residual for firm <i>i</i> over the sample period; and v_{it} is the deviation in year <i>t</i> from firm <i>i</i> 's average residual u_i . The greater (smaller) <i>RBTD</i> points to more (less) aggressive tax planning.
<i>Tobin's Q</i>	The ratio of market capitalization plus total liability minus delayed tax expenses over total assets. $Tobin's Q = \frac{Market Capitalization + Total Liability - Deferred Tax Expense}{Total Assets}$
<i>Ind-Adj Tobin's Q</i>	Industry-adjusted Tobin's Q is a firm's Q minus the median Q in the firm's industry in the observation year. Industry is defined based on two-digit primary SIC code.
<i>Post</i>	Anti-corruption campaign dummy, equals to 1 if the observations fall in post-launch period of the campaign (2013 to 2015) and 0 in pre-launch period of the campaign (2009 to 2011).
<i>HighCRPT</i>	An indicator of corruption at the provincial level, equals to 1 if the headquarter of a firm is located in a province where the marketization index of 2011 is lower than its median value, and 0 otherwise. A higher level of <i>HighCRPT</i> represents a higher level of corruption.

(Continued on next page.)

Appendix C (Continued)

Variable	Definition
<i>ROE</i>	Return on equity, calculated as pre-tax profit divided by total equity of shareholders.
<i>OfLeverage</i>	Leverage ratio, calculated as total liability divided by total assets
<i>Size</i>	Firm size, calculated as the natural logarithm of market capitalization.
<i>Growth</i>	Percentage change in sales between years.
<i>R&D</i>	Research and development costs, scaled by total assets.
<i>INTAST</i>	Intangible assets, scaled by total assets.
<i>FXTAST</i>	Fixed assets, scaled by total assets.
<i>SOE</i>	Dummy variable that equals to 1 if the ultimate controlling shareholder of a firm is a government agency or government-controlled enterprise, and 0 otherwise.
<i>Duality</i>	Chairman CEO duality, equals to 1 if the chairman of board of directors and the CEO are the same person, and 0 otherwise.
<i>LagLoss</i>	Dummy variable, equals to 1 if a firm suffers a loss in t-1, and 0 otherwise.
<i>Rights</i>	Dummy variable that equals 1 if the firm issues a rights offering in the next year, and 0 otherwise.
<i>ETC</i>	Entertainment and travel costs, scaled by net sales.

Table1 Sample selection and distribution

Panel A Sample selection		
Firm-year observations of all listed A-shares of non-financial firms between 2009 and 2015 (excluding 2012)		12,030
Less observations of firms with ST or *ST tags		441
Less observations with $ETR < 0$ or $ETR > 1$		2,594
Less observations with missing data		375
Final pooled sample		8,620
Panel B: Sample distribution by year		
Year	No. of firm-years (%)	
2009	1,072	12%
2010	1,204	14%
2011	1,425	17%
2013	1,641	19%
2014	1,628	19%
2015	1,650	19%
Total	8,620	100%

Table 2 Descriptive Statistics

This table provides the descriptive statistics of firm characteristics for the full sample and sub-samples partitioned by period. All of the variables are defined in Appendix D.

Variable	Full Sample (N = 8,620)					Post = 0 (N = 3,701)					Post = 1 (N = 4,919)				
	mean	p25	p50	p75	Std.	mean	p25	p50	p75	Std.	mean	p25	p50	p75	Std.
<i>METR</i>	1.161	0.773	1.054	1.360	0.766	1.099	0.736	1.031	1.294	0.702	1.207	0.805	1.075	1.419	0.808
<i>BTD</i>	0.779	0.725	0.809	0.861	0.144	0.789	0.733	0.816	0.869	0.138	0.771	0.717	0.802	0.857	0.147
<i>RBTD</i>	0.000	-0.003	0.004	0.046	0.101	0.012	-0.026	0.013	0.062	0.099	-0.009	-0.039	0.000	0.036	0.101
<i>Tobin's Q</i>	2.630	1.446	2.052	3.116	1.835	2.609	1.494	2.082	3.068	1.720	2.647	1.412	2.031	3.146	1.917
<i>Ind-Adj Tobin's Q</i>	0.390	-0.403	0.000	0.729	1.552	0.354	-0.401	0.000	0.718	1.464	0.417	-0.406	0.000	0.744	1.615
<i>ROE</i>	0.113	0.051	0.098	0.157	0.094	0.128	0.063	0.111	0.174	0.101	0.102	0.044	0.088	0.142	0.086
<i>Accrual</i>	0.019	-0.037	0.007	0.058	0.103	0.027	-0.038	0.014	0.072	0.114	0.014	-0.035	0.004	0.049	0.093
<i>Leverage</i>	0.466	0.307	0.470	0.627	0.207	0.484	0.329	0.493	0.645	0.207	0.453	0.292	0.450	0.614	0.206
<i>Size</i>	15.644	14.945	15.527	16.205	0.939	15.435	14.748	15.255	15.930	0.933	15.800	15.149	15.711	16.370	0.913
<i>Growth</i>	0.229	-0.013	0.118	0.278	0.630	0.299	0.043	0.178	0.361	0.670	0.177	-0.042	0.078	0.209	0.592
<i>R&D</i>	0.006	0.000	0.000	0.008	0.011	0.004	0.000	0.000	0.001	0.009	0.008	0.000	0.000	0.013	0.012
<i>INTAST</i>	0.049	0.015	0.034	0.059	0.063	0.047	0.013	0.031	0.058	0.063	0.050	0.017	0.035	0.060	0.063
<i>FXTAST</i>	0.241	0.105	0.207	0.343	0.176	0.249	0.109	0.215	0.360	0.179	0.235	0.102	0.202	0.334	0.173
<i>SOE</i>	0.487	0.000	0.000	1.000	0.500	0.552	0.000	1.000	1.000	0.497	0.438	0.000	0.000	1.000	0.496
<i>Duality</i>	0.209	0.000	0.000	0.000	0.407	0.179	0.000	0.000	0.000	0.384	0.232	0.000	0.000	0.000	0.422

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Table 2 (Continued)

	Full Sample (N = 8,620)					Post = 0 (N = 3,701)					Post = 1 (N = 4,919)				
<i>LagLoss</i>	0.071	0.000	0.000	0.000	0.257	0.072	0.000	0.000	0.000	0.259	0.070	0.000	0.000	0.000	0.256
<i>Rights</i>	0.156	0.000	0.000	0.000	0.363	0.096	0.000	0.000	0.000	0.295	0.200	0.000	0.000	0.000	0.400
<i>ATR</i>	0.197	0.150	0.150	0.250	0.051	0.197	0.150	0.200	0.250	0.050	0.197	0.150	0.150	0.250	0.051

Table 3: Correlation Matrix

This table details the Pearson's correlation matrix for the major variables used in the analyses.

	1.METR	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
2.BTD	-0.883																	
3.RBTD	-0.719	0.731																
4.Tobin's Q	-0.123	0.174	0.045															
5.Ind-Adj Tobin's Q	-0.115	0.120	0.032	0.887														
6.Post	0.070	-0.063	-0.105	0.010	0.020													
7.Size	-0.056	0.035	0.010	0.089	0.012	0.193												
8.Growth	-0.011	-0.013	-0.008	0.070	0.072	-0.097	0.063											
9.Leverage	0.115	-0.218	-0.032	-0.364	-0.285	-0.074	0.075	0.076										
10.ROE	-0.133	0.087	0.088	0.140	0.153	-0.136	0.320	0.209	0.084									
11.Accrual	-0.036	0.019	0.004	0.090	0.117	-0.062	0.054	0.223	-0.042	0.269								
12.R&D	-0.013	0.143	-0.015	0.186	0.120	0.181	0.055	-0.004	-0.218	0.027	0.018							
13.INTAST	0.023	-0.027	-0.003	0.040	0.028	0.024	-0.003	-0.015	-0.064	-0.023	-0.119	-0.037						
14.FXTAST	-0.053	0.060	0.015	-0.120	-0.075	-0.039	-0.051	-0.089	0.012	-0.150	-0.334	-0.100	0.089					
15.SOE	0.014	-0.080	0.002	-0.239	-0.194	-0.113	0.135	-0.037	0.262	0.011	-0.113	-0.155	0.036	0.163				
16.Duality	-0.006	0.044	-0.007	0.124	0.100	0.065	-0.063	0.006	-0.126	-0.027	0.042	0.102	-0.027	-0.073	-0.268			
17.LagLoss	-0.058	0.044	0.034	0.080	0.077	-0.004	-0.112	0.094	0.126	-0.122	-0.045	-0.060	0.043	0.110	0.030	-0.016		
18.Rights	-0.005	0.018	-0.007	0.069	0.046	0.142	0.063	0.043	0.090	0.020	0.007	0.053	0.017	0.002	-0.093	0.042	0.004	
19.ATR	-0.159	-0.239	-0.019	-0.137	-0.025	0.002	0.045	0.051	0.264	0.075	0.023	-0.333	0.038	0.024	0.191	-0.100	0.061	-0.042

Table 4 Effects of Anti-Corruption Campaign on Tax Avoidance

This table presents the regression results of the effects of the anti-corruption campaign on tax avoidance. The dependent variables are measures of tax avoidance, i.e., *METR*, *BTD* and *RBTD*. Firm fixed effects are included. Standard errors are computed after clustering by firm. The two-tailed t-statistics are reported in parentheses. All of the variables are defined in Appendix D. *, ** and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Variable	<i>METR</i>		<i>BTD</i>		<i>RBTD</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Post</i>	0.128*** (6.66)	0.150*** (6.84)	-0.027*** (-7.77)	-0.025*** (-6.31)	-0.025*** (-7.55)	-0.024*** (-6.33)
<i>Size</i>		-0.074*** (-3.85)		0.012*** (3.42)		0.012*** (3.64)
<i>Growth</i>		0.059*** (4.08)		-0.011*** (-3.75)		-0.010*** (-3.54)
<i>Leverage</i>		0.633*** (5.72)		-0.121*** (-5.69)		-0.114*** (-5.59)
<i>ROE</i>		-1.231*** (-7.42)		0.221*** (7.08)		0.216*** (7.29)
<i>Accrual</i>		-0.025 (-0.26)		0.005 (0.29)		-0.034* (-1.90)
<i>R&D</i>		1.636 (1.03)		-0.122 (-0.52)		-0.134 (-0.60)
<i>INTAST</i>		0.098 (0.24)		0.012 (0.14)		0.009 (0.11)
<i>FXTAST</i>		-0.300** (-2.28)		0.071*** (2.93)		0.069*** (2.98)
<i>SOE</i>		0.007 (0.08)		-0.000 (-0.01)		-0.001 (-0.06)
<i>Duality</i>		0.012 (0.31)		-0.004 (-0.52)		-0.005 (-0.76)
<i>LagLoss</i>		-0.187*** (-3.73)		0.034*** (3.63)		0.031*** (3.53)
<i>Rights</i>		-0.026 (-1.19)		0.003 (0.72)		0.003 (0.69)
<i>ATR</i>		-4.967*** (-9.51)		-0.225*** (-2.64)		-0.220*** (-2.73)
<i>Constant</i>	1.088*** (98.91)	3.106*** (9.79)	0.794*** (403.28)	0.667*** (11.76)	0.014*** (7.68)	-0.115** (-2.14)
Firm Fixed Effect	Y	Y	Y	Y	Y	Y
Clustered by Firm	Y	Y	Y	Y	Y	Y
R ²	0.010	0.067	0.014	0.046	0.013	0.045
N	8,620	8,620	8,620	8,620	8,620	8,620

Table 5 Effects of Anti-Corruption Campaign on Tax Avoidance (DID Method)

This table presents the regression results of the effects of the anti-corruption campaign on tax avoidance. The dependent variables are measures of tax avoidance, i.e., *METR*, *BTD* and *RBTD*. Firm fixed effects are included in Columns (1), (3) and (5), while industry and year fixed effects are included in Columns (2), (4) and (6). Standard errors are computed after clustering by firm. The two-tailed t-statistics are reported in parentheses. All of the variables are defined in Appendix D. *, ** and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Variable	<i>METR</i>		<i>BTD</i>		<i>RBTD</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Post</i>	0.097*** (3.85)	0.213*** (6.37)	-0.016*** (-3.28)	-0.042*** (-6.44)	-0.015*** (-3.24)	-0.034*** (-6.15)
<i>Post_HighCRPT</i>	0.101*** (2.75)	0.089*** (2.61)	-0.019*** (-2.79)	-0.017*** (-2.67)	-0.018*** (-2.77)	-0.015*** (-2.64)
<i>HighCRPT</i>		-0.048* (-1.78)		0.010* (1.89)		0.010*** (2.83)
<i>Size</i>	-0.071*** (-3.70)	-0.040*** (-3.30)	0.011*** (3.27)	0.008*** (3.35)	0.011*** (3.49)	0.002* (1.78)
<i>Growth</i>	0.059*** (4.09)	0.041*** (3.17)	-0.011*** (-3.76)	-0.007*** (-2.66)	-0.010*** (-3.56)	-0.006*** (-2.68)
<i>Leverage</i>	0.647*** (5.86)	0.686*** (11.32)	-0.123*** (-5.83)	-0.126*** (-10.51)	-0.117*** (-5.74)	-0.033*** (-7.34)
<i>ROE</i>	-1.216*** (-7.34)	-1.110*** (-9.16)	0.219*** (7.01)	0.199*** (8.36)	0.213*** (7.22)	0.104*** (6.80)
<i>Accrual</i>	-0.032 (-0.33)	-0.127 (-1.43)	0.007 (0.35)	0.029 (1.63)	-0.033* (-1.83)	-0.008 (-0.62)
<i>R&D</i>	1.760 (1.11)	-3.010*** (-3.36)	-0.145 (-0.62)	0.545*** (3.85)	-0.156 (-0.69)	-0.034 (-0.47)
<i>INTAST</i>	0.069 (0.17)	0.625*** (2.82)	0.017 (0.21)	-0.096** (-2.11)	0.014 (0.18)	-0.007 (-0.39)
<i>FXTAST</i>	-0.304** (-2.31)	-0.261*** (-3.44)	0.072*** (2.96)	0.056*** (3.67)	0.070*** (3.01)	0.011* (1.71)
<i>SOE</i>	0.012 (0.14)	0.030 (1.29)	-0.001 (-0.06)	-0.003 (-0.72)	-0.002 (-0.12)	-0.001 (-0.64)
<i>Duality</i>	0.009 (0.23)	-0.018 (-0.74)	-0.003 (-0.43)	0.003 (0.74)	-0.005 (-0.68)	-0.000 (-0.22)
<i>LagLoss</i>	-0.191*** (-3.80)	-0.230*** (-5.38)	0.034*** (3.70)	0.046*** (5.50)	0.032*** (3.60)	0.021*** (3.41)
<i>Rights</i>	-0.027 (-1.21)	-0.063*** (-2.99)	0.003 (0.74)	0.010** (2.52)	0.003 (0.71)	0.003 (0.79)
<i>ATR</i>	-4.951*** (-9.54)	-3.964*** (-14.50)	-0.228*** (-2.70)	-0.377*** (-7.79)	-0.223*** (-2.79)	-0.023 (-1.19)
<i>Constant</i>	3.051*** (9.64)	1.736*** (6.45)	0.677*** (11.96)	0.893*** (17.05)	-0.105** (-1.97)	0.001 (0.06)
Firm Fixed Effect	Y	N	Y	N	Y	N

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Table 5 (Continued)

	<i>METR</i>		<i>BTD</i>		<i>RBTD</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
Industry and Year Fixed Effects	N	Y	N	Y	N	Y
Clustered by Firm	Y	Y	Y	Y	Y	Y
R ²	0.068	0.128	0.047	0.158	0.047	0.032
N	8,620	8,620	8,620	8,620	8,620	8,620

Table 6 Robustness Tests

This table presents the regression results of the effects of the anti-corruption campaign on tax avoidance. The dependent variables are measures of tax avoidance, i.e., *METR*, *BTD* and *RBTD*. Firm fixed effects are included. Standard errors are computed after clustering by firm. The two-tailed t-statistics are reported in parentheses. All of the variables are defined in Appendix D. *, ** and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Variable	R&D=0			Constant Sample			Profitable Firms Only		
	<i>METR</i> (1)	<i>BTD</i> (2)	<i>RBTD</i> (3)	<i>METR</i> (4)	<i>BTD</i> (5)	<i>RBTD</i> (6)	<i>METR</i> (7)	<i>BTD</i> (8)	<i>RBTD</i> (9)
<i>Post</i>	0.132*** (4.88)	-0.023*** (-4.40)	-0.023*** (-4.53)	0.138*** (5.39)	-0.024*** (-5.05)	-0.022*** (-4.98)	0.134*** (6.16)	-0.022*** (-5.63)	-0.022*** (-5.68)
<i>Size</i>	-0.070*** (-2.70)	0.009* (1.84)	0.010** (2.02)	-0.121*** (-4.44)	0.019*** (4.02)	0.018*** (3.98)	-0.058*** (-3.04)	0.009*** (2.60)	0.009*** (2.84)
<i>Growth</i>	0.052*** (2.97)	-0.011*** (-2.86)	-0.009** (-2.52)	0.050** (2.57)	-0.008* (-1.95)	-0.006 (-1.63)	0.066*** (4.41)	-0.013*** (-4.09)	-0.011*** (-3.82)
<i>Leverage</i>	0.739*** (4.87)	-0.149*** (-4.94)	-0.144*** (-5.02)	0.681*** (5.03)	-0.130*** (-4.83)	-0.130*** (-4.97)	0.725*** (6.46)	-0.141*** (-6.51)	-0.134*** (-6.44)
<i>ROE</i>	-1.029*** (-5.30)	0.203*** (5.11)	0.195*** (5.18)	-1.277*** (-5.43)	0.236*** (5.52)	0.226*** (5.51)	-2.189*** (-11.76)	0.405*** (11.89)	0.386*** (11.87)
<i>Accrual</i>	-0.188* (-1.66)	0.033 (1.41)	-0.000 (-0.02)	0.062 (0.47)	-0.009 (-0.38)	-0.045* (-1.91)	-0.094 (-0.97)	0.018 (0.96)	-0.023 (-1.26)
<i>R&D</i>				1.749 (1.11)	-0.138 (-0.61)	-0.129 (-0.59)	1.759 (1.11)	-0.130 (-0.56)	-0.138 (-0.61)
<i>INTAST</i>	-0.386 (-0.71)	0.085 (0.70)	0.075 (0.64)	-0.147 (-0.22)	0.074 (0.55)	0.066 (0.49)	0.252 (0.64)	-0.015 (-0.19)	-0.016 (-0.21)
<i>FXTAST</i>	-0.333** (-2.16)	0.085*** (2.84)	0.081*** (2.82)	-0.417*** (-2.70)	0.091*** (3.08)	0.086*** (2.98)	-0.214* (-1.67)	0.054** (2.24)	0.053** (2.32)

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Table 6 (Continued)

	<i>METR</i>	<i>BTD</i> <i>R&D=0</i>	<i>RBTD</i>	<i>METR</i>	<i>BTD</i>	<i>RBTD</i>	<i>METR</i>	<i>BTD</i>	<i>RBTD</i>
				Constant Sample			Profitable Firms Only		
<i>SOE</i>	0.089 (0.79)	-0.017 (-0.72)	-0.020 (-0.91)	-0.112 (-0.90)	0.020 (0.84)	0.016 (0.73)	-0.036 (-0.43)	0.008 (0.48)	0.005 (0.33)
<i>Duality</i>	-0.019 (-0.37)	0.006 (0.66)	0.004 (0.39)	0.026 (0.56)	-0.007 (-0.81)	-0.007 (-0.88)	0.016 (0.41)	-0.004 (-0.58)	-0.005 (-0.79)
<i>LagLoss</i>	-0.173*** (-2.67)	0.035*** (2.87)	0.034*** (2.84)	-0.177 (-1.45)	0.028 (1.39)	0.029 (1.57)	-0.208*** (-4.05)	0.038*** (3.97)	0.035*** (3.84)
<i>Rights</i>	0.003 (0.11)	-0.004 (-0.71)	-0.004 (-0.65)	0.001 (0.04)	-0.003 (-0.57)	-0.003 (-0.55)	-0.019 (-0.88)	0.001 (0.34)	0.001 (0.30)
<i>ATR</i>	-4.507*** (-6.82)	-0.282** (-2.38)	-0.279** (-2.47)	-4.237*** (-7.57)	-0.325*** (-3.27)	-0.326*** (-3.35)	-4.823*** (-9.29)	-0.281*** (-3.35)	-0.275*** (-3.47)
<i>Constant</i>	2.905*** (6.59)	0.731*** (8.74)	-0.042 (-0.53)	3.806*** (8.21)	0.550*** (6.91)	-0.205*** (-2.71)	2.917*** (9.27)	0.709*** (12.71)	-0.074 (-1.40)
Firm Fixed Effect	Y	Y	Y	Y	Y	Y	Y	Y	Y
Clustered by Firm	Y	Y	Y	Y	Y	Y	Y	Y	Y
R ²	0.062	0.048	0.047	0.083	0.070	0.069	0.101	0.083	0.080
N	5,111	5,111	5,111	3,840	3,840	3,840	8,454	8,454	8,454

Table 7: Anti-Corruption Campaign, Entertainment and Travel Costs, and Tax Avoidance

Panel A compares the mean and median of entertainment and travel costs (*ETC*) between the pre- and post-launch periods of the campaign. Panel B compares the effects of entertainment and travel costs (*ETC*) on tax avoidance between the pre- and post-launch periods of the campaign. Firm fixed effects are included. Standard errors are computed after clustering by firm. The two-tailed t-statistics are reported in parentheses. All of the variables are defined in Appendix D. *, ** and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Panel A Comparison of entertainment and travel costs (*ETC*) in the pre-and post-launch periods of the campaign.

	Post = 0 (N=2,107)	Post = 1 (N=4,120)	Difference	t (or χ^2) value
Mean	0.0054	0.0047	0.0007	4.760***
Median	0.0035	0.0029	0.0006	33.263***

Panel B Effects of entertainment and travel costs (*ETC*) on tax avoidance between the pre- and post-launch periods of the campaign.

Variable	<i>METR</i> (1)	<i>BTD</i> (2)	<i>RBTD</i> (3)
<i>ETC</i>	-16.687*** (-3.35)	3.211*** (3.26)	3.095*** (3.23)
<i>Post_ETC</i>	7.470* (1.72)	-1.371* (-1.74)	-1.354* (-1.77)
<i>Post</i>	0.076** (2.28)	-0.010 (-1.59)	-0.009 (-1.46)
<i>Size</i>	-0.075*** (-3.34)	0.012*** (3.11)	0.012*** (3.27)
<i>Growth</i>	0.045** (2.44)	-0.008** (-2.23)	-0.008** (-2.11)
<i>Leverage</i>	0.533*** (3.91)	-0.098*** (-3.93)	-0.094*** (-3.91)
<i>ROE</i>	-1.717*** (-8.04)	0.321*** (8.12)	0.314*** (8.52)
<i>Accrual</i>	0.069 (0.59)	-0.007 (-0.33)	-0.042* (-1.95)
<i>R&D</i>	1.588 (0.55)	-0.144 (-0.34)	-0.136 (-0.34)
<i>INTAST</i>	0.368 (0.74)	-0.051 (-0.49)	-0.066 (-0.67)
<i>FXTAST</i>	-0.088 (-0.51)	0.031 (1.01)	0.033 (1.11)
<i>SOE</i>	0.030 (0.28)	-0.006 (-0.31)	-0.008 (-0.43)
<i>Duality</i>	-0.045 (-0.93)	0.005 (0.54)	0.002 (0.27)

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Table 7 (Continued)

	<i>METR</i>	<i>BTD</i>	<i>RBTD</i>
	(1)	(2)	(3)
<i>LagLoss</i>	-0.180*** (-2.73)	0.031*** (2.62)	0.028** (2.49)
<i>Rights</i>	-0.017 (-0.61)	0.001 (0.26)	0.001 (0.24)
<i>ATR</i>	-4.900*** (-8.04)	-0.266** (-2.54)	-0.260** (-2.55)
<i>Constant</i>	3.260*** (8.47)	0.637*** (9.49)	-0.141** (-2.22)
Firm Fixed Effect	Y	Y	Y
Clustered by Firm	Y	Y	Y
R ²	0.069	0.051	0.050
N	6,227	6,227	6,227

Table 8 Tax Avoidance, Firm Value and Anti-Corruption Campaign

The dependent variables are *Tobin's Q* and *Ind-Adj Tobin's Q*. Firm fixed effects are included. Standard errors are computed after clustering by firm. The two-tailed t-statistics are reported in parentheses. All of the variables are defined in Appendix D. *, ** and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Variable	<i>Tobin's Q</i> (1)	<i>Ind-Adj Tobin's Q</i> (2)	<i>Tobin's Q</i> (3)	<i>Ind-Adj Tobin's Q</i> (4)
<i>Post</i>	-0.205 (-1.14)	0.112 (0.68)	-0.216 (-1.21)	0.122 (0.74)
<i>Post_BT D</i>	-0.615*** (-2.62)	-0.466** (-2.15)	-0.586** (-2.52)	-0.489** (-2.27)
<i>BT D</i>	0.603*** (2.97)	0.399** (2.19)	0.564*** (2.79)	0.401** (2.21)
<i>Size</i>	1.372*** (28.14)	0.589*** (12.91)	1.382*** (27.91)	0.592*** (12.91)
<i>Leverage</i>	-0.437 (-1.39)	-0.870*** (-3.07)	-0.488 (-1.54)	-0.899*** (-3.17)
<i>Growth</i>	-0.142*** (-4.07)	-0.077** (-2.31)	-0.136*** (-3.97)	-0.076** (-2.31)
<i>ROE</i>	1.027*** (2.59)	2.103*** (5.47)	1.087*** (2.70)	2.125*** (5.47)
<i>Accrual</i>	0.000*** (2.98)	-0.000** (-2.16)	0.000*** (2.79)	-0.000** (-2.26)
<i>SOE</i>	-0.192 (-0.72)	-0.324 (-1.37)	-0.183 (-0.69)	-0.322 (-1.36)
<i>R&D</i>			-3.032 (-0.93)	3.113 (0.96)
<i>FXTAST</i>			0.749** (2.30)	0.423 (1.48)
<i>Constant</i>	-18.707*** (-22.95)	-8.644*** (-11.50)	-18.978*** (-22.47)	-8.799*** (-11.49)
Firm Fixed Effect	Y	Y	Y	Y
Clustered by Firm	Y	Y	Y	Y
R ²	0.330	0.128	0.332	0.129
N	8,620	8,620	8,620	8,620