The Effectiveness of China's Anti-Corruption Campaign: Firm-level Evidence

Jin-hui Luo[+]
School of Management
Xiamen University
Xiamen, Fujian 361005, P. R. China
E-mail: jinhuiluo@xmu.edu.cn
Tel: 86-182-0592-9133
Fax: 86-592-2185870

Zeyue Huang
School of Management
Xiamen University
Xiamen, Fujian 361005, P. R. China
E-mail: vickyhuangzy@163.com

Xue Li
School of Management
Xiamen University
Xiamen, Fujian 361005, P. R. China
E-mail: lixuecgrs@163.com

[+] Correspondence: Jin-hui Luo, School of Management, Xiamen University, No. 422, Siming South Road, Xiamen, Fujian, P. R. China (361005). Email: jinhuiluo@xmu.edu.cn; Tel: +86-182-0592-9133, Fax: +86-592-2185870. We acknowledge financial support from the National Natural Science Foundation of China (Grant No. 71572160). We are very grateful for the help of Huayang Chen and Wenting Xu in collecting raw data and for valuable suggestions of Chao Kevin Li and Naomi S. Soderstrom. All remaining errors are our own.

The Effectiveness of China's Anti-Corruption Campaign: Firm-level Evidence

ABSTRACT

Since 2012, China has launched an intensive and extensive anti-corruption campaign to combat against the party and government officials' corruption. In this study, we investigate the spillover effect of the campaign on curbing corporate corruption in China. Using firm-level data from 4,899 observations of Chinese listed firms between 2011 and 2014, we find that corporate corruption, as measured by entertainment and travel costs (ETC), significantly reduces after the campaign, and this reduction effect is more pronounced for alleged firms experiencing more serious corruption, i.e., for state-owned enterprises (SOEs), firms in monopoly industries, and firms in less developed regions. In addition, we further find that the anti-corruption campaign is disincentive for short-term operation performance (ROA) but is beneficial to long-term market value (Tobin's Q), indicating that the net economic effect of the anti-corruption campaign on firms is positive. Meanwhile, the value relevance of corporate corruption is found to be negative, which justifies the necessity of the campaign. Our results are robust to the change model and the Heckman selection model, and have meaningful implications for policymakers and firms in China in particular and in other economies in general.

Keywords: Anti-corruption; China; Corporate Corruption; Entertainment and Travel Costs (ETC); Institutions

The Effectiveness of China's Anti-Corruption Campaign: Firm-level Evidence

1. Introduction

Corruption has long been regarded as a huge tumor of the society (Murphy et al. 1991, 1993; Del Monte and Papagni 2001; Fisman and Svensson 2007), and it persecutes almost every country in the world. In order to eliminate corruption, many countries and regions have set up specialized commissions and developed legislations and policies.[1] Meanwhile, there are some international cooperation, such as the United Nations Convention against Corruption Preamble, to provide anti-corruption assistance for the parities. More recently, a research center on fugitive repatriation and asset recovery has been established in Beijing during 2016 G20 Hangzhou summit, to provide intelligence support for finding economic fugitives and confiscation. Keeping up with these fellows, China has launched an intensive and extensive anti-corruption campaign to combat against corruption since 2012. The purpose of this study, therefore, is to investigate the effectiveness of China's latest anti-corruption campaign, or rather, the "spillover effect" on corporate corruption.

Numerous evidence shows that emerging market countries like China suffer more from corruption, compared with developed countries. According to the 2015 Corruption Perception Index (CPI) issued by the Transparency International (TI), the most corrupt

[1] For example, Hong Kong has the Independent Commission Against Corruption (ICAC), Singapore has the Corruption Practices Investigation Bureau (CPIB), Japan has the Law of Ethic of Japanese Civil Servants, and the United States has the Ethics in Government Act and the Independent Counsel Law.

areas cluster in Asia, Africa, and Latin America (see **Fig. 1**), where there are almost developing countries with underdeveloped legal and financial institutions or being in economic transition. Among them, China, the largest emerging economy, is ranked 83 out of 168 countries/regions with a score of 37, lower than the average score of 43 in 2015,[2] thereby attracting plenty of attention.

/Insert Fig. 1 about here/

Anti-corruption is of great importance in China, as it is commonly regarded as one of the countries where corruption is rampant (Wang and You 2012; Griffin et al. 2016; Zeng et al. 2016). Corruption, far more damaging than taxation (Fisman and Svensson 2007), disperses firms' attention from daily operations and R&D activities (Murphy et al. 1993), stifles the entry of new technologies and new goods (Romer 1994), and lose heart of people, which will undermine the stability of a country. Therefore, to eliminate corruption, the Communist Party of China (CPC) announced the "Eight-point Regulation" on December 4, 2012, which provided clear guidance and standards for the party and government officials to keep away from corruption. This is considered as the start of an authentic and long-term anti-corruption campaign, and putting China under the spotlight. The democratic government of Pennsylvania is even following the steps of Chinese President Xi Jinping to fight against corruption.

However, the CPI issued by TI shows a weird and unsatisfactory remark on this anti-corruption campaign. China ranked 80 both in 2012 and 2013, when the anti-

[2] The CPI is calculated according to several indexes, including Government Defense Anti-Corruption Index (GI) and the World Justice Project (WJP) Rule of Law Index as other relevant indexes. The CPI scores from 0 to 100, with 0 referring to highly corrupting and 100 as very clean.

corruption campaign began, among 176 and 177 countries/regions respectively. Yet, the ranking of China declined to 100 among 175 countries/regions in 2014, with a score of 36, four scores lower than that of 2013, indicating a more severe corruption during the latest anti-corruption campaign. Although the ranking rises to 83 among 168 countries/regions in 2015, the index still leaves us confusing. On December 4, 2014, Hua Chunying, the Chinese Foreign Ministry Spokesperson, made a comment on the declined ranking of China in the 2014 CPI. She questioned the objectiveness and impartiality of the index, and confirmed the notable achievements of China's fight against corruption.[3] These opposite views then lead us to wonder whether the China's latest anti-corruption campaign is effective or not.

Extant literature has extensively explored the causes of corruption (e.g., Ades and Di Tella 1999; Jain 2001; Dong and Torgler 2013) as well as the strategies to fight against it (e.g., Nwabuzo 2005; Halter et al. 2009; Petkoski et al. 2009). However, the results are multifarious and mixed. In practice, we can also see that many anti-corruption campaigns had failed to accomplish significant achievements as expected, such as the anti-bribery laws adopted by most African governments (Lagu Yanga 2014) and the anti-corruption reforms in China before 2012 (Zhu 2008). In contrast to previous anti-corruption campaigns, the latest one led by President Xi Jinping is regarded as an intensive and extensive one, and has stimulated some empirical tests on its effectiveness (e.g., Griffin et al. 2016; Ke et al. 2016; Lin et al. 2016). Among these studies, they find a pleasant achievement, including the decrease of entertainment

[3] See "Foreign Ministry Spokesperson Hua Chunying's Regular Press Conference on December 3, 2014", http://www.fmprc.gov.cn/mfa_eng/xwfw_665399/s2510_665401/t1216399.shtml

expenditures and a reduction of the profitability of firms in the alcohol, catering, and hotel industries, but no significant impact on the net shareholder value. Inheriting these recent studies, in this paper, we aim to further investigate the spillover effect of China's anti-corruption campaign in curbing corporate corruption. We take entertainment and travel costs (ETC) expenditures as a measure of corporate corruption, which has been confirmed rational by Cai et al. (2011) and Griffin et al. (2016) particularly in the context of China. Institutionally, ETC expenditure is the secondary item under administration expenditure, recording and reporting entertainment and travel expenditures in daily operations. However, Chinese managers can easily and frequently take advantage of the ETC accounting category to reimburse expenditures used to entertain suppliers and clients, bribe government officials, and cover managerial excess, or perks (Cai et al. 2011; Firth et al. 2010; Zeng et al. 2016), thereby resulting in severe corporate corruption no matter for what purpose. In fact, it is a typical reflection and consequence of China's luxury eat and drink culture. Generally, these corruption costs can be reimbursed using fake or inflated entertainment or travel invoices, which can be written off in name of normal entertainment expenditure. For example, expensive gifts can be invoiced as room charges in some high-end hotels, which would be classified in this account (Cai et al. 2011). More recently, a subsidiary of *Vanke*, the real estate giant in China, was accused of bribing officials through forged invitation and itineraries. Therefore, ETC is one of the most common and visible items that can evaluate corporate corruption (Cai et al. 2011; Griffin et al. 2016; Zeng et al. 2016).

In this study, our firm-level data from 4,899 observations of Chinese listed firms

between 2011 and 2014 demonstrates that corporate ETC expenditures significantly decrease at 5.10% after the anti-corruption campaign. Furthermore, we find that the decrease is more pronounced for alleged firms experiencing more serious corruption, i.e., for state-owned enterprises (SOEs), firms in monopoly industries, and firms located in less developed regions. These results together provide consistent and systematic evidence showing that China's latest anti-corruption campaign is effective in curbing corporate corruption. Our findings are robust to the change model for tackling the endogeneity problem and to Heckman selection model for controlling for sample self-selection bias in disclosing ETC information. As the consequence of the anti-corruption campaign is of great interest to policymakers and firms, we further examine the economic effect of the campaign on firms and find a rise on firm market value (Tobin's Q) in the long run but a fall on firm operation performance (ROA) in the short term, indicating a net positive effect of the anti-corruption campaign at the firm level. However, we find that the anti-corruption campaign is detrimental to firms in eat and drink industries. In addition, the value relevance of corporate corruption is found to be negative, and the campaign can alleviate the adverse impact in the long run.

This study contributes to the literature and practice in several ways. First, this study provides new strong evidence for supporting the effectiveness of China's latest anti-corruption campaign in curbing corporate corruption. Different from the event study of extant studies and their focus on firms in specific industries or firms under corruption investigation (e.g., Griffin et al. 2016; Lin et al. 2016; Ke et al. 2016), our study takes a panel data set consisting of all firms to provide a general and systematic evidence. In

particular, we explore to investigate cross-sectional variations in the effect of the anti-corruption campaign on curbing corporate corruption and find that the effect is more pronounced for SOEs, firms in monopoly industries, and firms located in less developed regions, which reinforces the effectiveness evidence of the anti-corruption campaign. Second, this study contributes to the corruption and anti-corruption literature by examining the economic effect of the anti-corruption campaign. There is an ongoing debate regarding the value relevance of corporate corruption (Cai et al. 2011; Casciaro and Piskorski 2005; Chen et al. 2013; Serafeim 2013; Zeng et al. 2016). In this study, we find that corporate corruption, measured as ETC expenditures, would be detrimental to both operation performance (ROA) and market value (Tobin's Q), while the anti-corruption campaign will worsen the negative effect on operation performance but alleviate the negative effect on market value. In short, we find that the net economic effect of corporate corruption is negative, while the effect of the anti-corruption campaign is positive at the firm level in the long run. These findings have meaningful implications to policymakers and firms. Finally, this study shows once again that entertainment and travel costs (ETC) can largely capture corporate corruption. Given the availability of ETC information disclosed in financial statements, ETC measure can provide scholars with an alternative better method to estimate the degree of corporate corruption (Cai et al. 2011; Zeng et al. 2016). Therefore, our study also has some incremental contribution to the literature as to the measurement of corporate corruption.

In the following sections, we first briefly introduce the background of China's anti-corruption campaign. Next, we review the relevant literature and develop our

hypotheses. The fourth section presents our research methods and is followed by the empirical results. Then, we conduct some further analyses in the sixth section and finally we make our conclusion.

2. The Background of China's Anti-Corruption Campaign

Anti-corruption efforts have long been on the agenda of each Chinese leaders for decades, though the effectiveness of these campaigns varies and is even doubtful. Before 2002, the anti-corruption campaign was influenced by the personal style of the top leaders rather than institutionalized. Meanwhile, most corruption cases were non-typical and not involved in big sum of bribery violating laws. Since the 16th Party Congress in 2002, CPC has turned its attention to institutional building. However, this effort did not bring a breakthrough either, perhaps because of the unchanged cadre of local leaders and less involvement of social forces in China (Zhu, 2008).

At the 18th Party Congress in November 2012, Xi Jinping, the incoming president of China at that time, repeatedly emphasized the threat to the party's survival cast by corruption, and vowed to crack down on "tigers and flies", that is, high-ranking officials and petty civil servants alike (The New York Times 2012).[4] During this anti-corruption campaign, guidelines go hand in hand with enforcement. On the one hand, on December 4, 2012, the CPC announced the "Eight-point Regulation", urging that the leaders must maintain close contact with the masses, improve efficiency, and practice thrift. On the

[4] See Bradsher, Keith. "China's Anticorruption Commission Investigates Senior Official". The New York Times (December 5, 2012). http://www.nytimes.com/2012/12/06/world/asia/early-target-of-chinas-anti-corruption-commission-identified.html

other hand, the Central Commission for Discipline Inspection (CCDI), the highest internal-control institution of the CPC, intensively enforces party discipline, combats malfeasance, and punishes party members for committing offenses. This is coordinated by the "central inspection teams" to eliminate corruption in the provinces and SOEs as well. Until June 27, 2015, there have been 101 provincial-minister level and higher implicated officials been charged since the 18th Party Congress (Wikipedia 2015),[5] including four officials at the national level, i.e., Zhou Yongkang, Ling Jihua, Su Rong and Xu Caihou,[6] known as the "Four Big Tigers".

Although the anti-corruption campaign mainly aims at government officials, it would also have a spillover effect on business, since officials are on the demand side of corruption while firms are usually on the supply side (Zeng et al. 2016). In addition, there are many "red merchants" in China, who have close connections with officials and even can have influence on policies. Therefore, this study follows recent studies to investigate the effectiveness of China's anti-corruption campaign on curbing corporate corruption.

3. Related Literature and Hypotheses Development

3.1. Literature Review

[5] See "Distribution map of implicated officials (Provincial-Ministerial level and higher) since 18th National Congress of Communist Party of China (CPC)" https://upload.wikimedia.org/wikipedia/commons/7/76/Distribution_map_of_implicated_officials_%28Provincial-Ministerial_level_and_higher%29_since_18th_CPC_National_Congress.jpg.

[6] Zhou Yongkang, former member of the Standing Committee of the Political Bureau of CPC Central Committee, was condemned to life imprisonment for serious disciplinary violations; Ling Jihua, the former head of the party's United Front Work Department and vice chairman of the Chinese People's Political Consultative Conference; Su Rong, the former vice chairman of the Chinese People's Political Consultative Conference, received public prosecution for corruption and abuse of power; Xu Caihou, former member of the Political Bureau of CPC Central Committee and former vice president of China's Central Military Commission, was investigated for corruption.

As a widespread and harmful tumor, corruption has been urgently concerned by governments, academics, and the whole society.

In academy, corruption is defined in diverse levels. The most widely accepted one falls on the abuse of public office for private gain (Bardhan 1997; Svesson 2003). This definition, however, mainly targets political officials who improperly perform a relevant function in exchange for a financial or other advantage. In business, corruption is recognized from organizational perspectives (Luo 2005) and management perspectives (e.g., Hirsch and Watson 2010; Osuji 2011), which can be roughly regarded as outward and inward corporate corruption respectively. In organizational level, corruption is mainly embedded in offering bribery to public officials for the sake of getting more favorable policies from the government (Luo 2005). Relatively, management corruption is considered as the inclination to favor themselves, such as seeking perks, building business empires, or bred from related transactions (Chen et al. 2005). In this paper, the misuse of the ETC accounting category can help managers to bribe government officials and favor themselves (Cai et al. 2011; Firth et al. 2010; Zeng et al. 2016), we focus on both outward and inward corporate corruption by taking ETC expenditures as an integrated measure of corporate corruption, and provide firm-level evidence on the effectiveness of China's anti-corruption campaign.

Debate over corruption and development has long been heated. When corruption becomes more profitable than investment, as Murphy et al. (1993) argue, firms would be less likely to invest in R&D and equipment, which would retard the output in the economy in the long run (Mauro 1995; Svensson 2005). More intuitively, Fisman and

Svensson (2007) criticize corruption as more rigorous than taxation and causes a welfare loss (Krueger, 1974). On the contrary, Wang and You (2012) suggest that during transition periods, corruption would stimulate economic growth to some extent by helping firms circumvent cumbersome regulations and thus improve efficiency. By comparing the performance of UK firms in overseas business under UK Bribery Act, Zeume (2016) find that bribes facilitate doing business in high-corruption countries. However, these pros are constrained under specific conditions. For example, Wang and You (2012) further point out that the benefits of corruption would shrink as institutional improvements continue.

Despite of conflicting views on the consequence of corruption, there is a broad scope concerning the causes of corruption, ranging from institutional environment to personal characteristics. The most criticized one is bureaucratic discretionary power to distribute resources and the less likelihood of being caught and penalized (e.g., Jain, 2001). What is worse, this defective institutional arrangement often goes hand in hand with limited economic freedom (e.g., Ades and Di Tella 1999; Nwabuzor 2005; Acemoglu and Verdier 2016) and a weak enforcement of laws (e.g. Svensson 2005; Nwabuzor 2005), leading to severer corruption. These conditions may be easily observed during economic reforms (Bardhan 1997). Apart from the institutional causes, a large body of studies pay their attention to individuals. Many find that gender is one of the factors concerning corruption, and argue that women tend to be less corrupt (e.g., Swamy et al. 2001; Dollar et al. 2001; Dong and Torgler 2013). In terms of human recognition, Powpaka (2002), Rabl and Kühlmann (2008), and Rabl (2011) argue that

attitude, subjective norms and perceived behavior control affect one's corrupt behavior.

Aiming at each cause, strategies to eliminate corruption are put forward, which are mainly measures to ameliorate institutional environment. For instance, although increasing competition in market should reduce corruption (Ades and Di Tella 1999), Svensson (2005) points out that only deregulation under a weak institution cannot lead to satisfactory achievements. Specifically, he argues that it is more urgent to reduce the power of political officials to extract bribes, such as deregulation or increasing competition among officials (Rose-Ackerman 1978). Meanwhile, a detection and punishment mechanism should be a crucial assistant (Bishara and Schipani 2009).

In China, the anti-corruption campaign lead by President Xi attracts intense attention around the world. Using the event study method, some scholars have tested the shareholder responses of the campaign. With five corruption measures, Griffin et al. (2016) find that the improvement associated with the anti-corruption campaign seems to concentrate on business entertainment expenditures, which conspicuously and significantly decreased but other four measures had no significant change. As to firm performance, Ke et al. (2016) find that the anti-corruption campaign reduces the profitability of firms selling luxury goods and service such as firms in alcohol, cater and hotel industries, as well as the excessive perk consumption of luxuries by SOEs in regulated industries. Since these studies are the first to investigate the effect of the campaign, they have tested it in a relatively short term through the event study method or involving in limited firms by focusing on firms in specific industries or firms under corruption investigation. Therefore, it would be problematic to generalize their results.

To echo the intensiveness and extensiveness of this anti-corruption campaign, we aim to provide a more general and systematic evidence regarding the effectiveness of the campaign by including all firms in a longer period in this study.

3.2. Hypotheses Development

In order to verify the effectiveness of China's anti-corruption campaign, it is necessary to be explicit about the goal and measures of the policies. The "Eight-point Regulation", the pioneer of China's latest anti-corruption campaign, is a guideline for government officials to improve their work style and keep close connections with the mass. This regulation pinpoints to the conciseness and thrift of receptions, meetings, reports, visiting, safeguard, media, and living standards. With the regulation clearly focusing on these aspects, it is naturally for firms to rethink the rationality of their ETC expenditures.

Institutionally, ETC is the secondary item under administration expenditure, recording the normal entertainment and travel expenditures in daily operation to build up and maintain relationships with clients and suppliers (Cai et al. 2011; Zeng et al. 2016). However, it has been an open secret that there are some obscure corners within ETC. On the one hand, there is a kind of internal and implicit corruption, referring to exploiting more from firms than what they contribute to it (Yao 2002), such as luxury feasts and hotel, official cars for private use in name of working for firms. On the other hand, some "grease money" and "protection money", as Cai et al. (2011) argue, which consist of cash, luxury gifts such as fancy cars and jewelry, travel, publishing books, and so on (Huang and Li 2013), may be transformed into ETC accounting category

through normal invoices.

Associating the aim of the "Eight-point Regulation" to the components of ETC, we can naturally predict a decrease of firms' ETC expenditures after the start of the anti-corruption campaign, which in turn, can be a proxy of the effectiveness of the campaign. On the one hand, the regulation constrains the way through which firms bribe officials by monitoring the demand side of the corruption chain. Because officials may not dare receive bribery brazenly for the sake of protecting their political future when facing this intensive and extensive anti-corruption campaign, thereby reducing firms' ETC expenditures for bribing officials. On the other hand, by focusing on the living standards, the campaign makes managers difficult to enjoy perk consumption as excessively as before. That is, the anti-corruption can cut down both outward and inward corporate corruption through the misuse of ETC expenditures. Therefore, we put forward our first hypothesis as follows:

Hypothesis 1 *Ceteris paribus*, the anti-corruption campaign may lead to a decrease on corporate ETC expenditures.

One may argue that the decrease of corporate ETC expenditures is just a natural response of firms to the anti-corruption campaign. It could not verify the effectiveness of the anti-corruption only if the reduction effect of ETC expenditures could be found to be more pronounced in alleged firms experiencing severer corruption. In China, SOEs may be alleged firms experiencing severer corruption than NSOEs.

In China, publicly listed firms can be mainly classified into two kinds: SOEs controlled by the state and NSOEs controlled by non-state investors. These differences in ownership may result in significant variations in both outward and inward corruption through the misuse of ETC expenditures. First, SOE managers have more power and incentives to misuse ETC accounting category to favor themselves, resulting in severer inward corruption in SOEs than in NSOEs. Theoretically, SOEs are owned by a country's all citizens. This fact leads to the actual absence of an ultimate principal in SOEs (Clarke 2003). On the one hand, SOE managers become the sole commander and are in control of the company with the absence of a principal (Lei et al. 2013), i.e., so-called key person control phenomenon in SOEs (Tan and Wang 2007). On the other hand, SOE managers with limited ownership have much incentives to maximize their own utilities at the expense of minority shareholders. This case is particularly true in China. SOE managers have long been facing regulated monetary and ownership compensation system in China (Lei et al. 2013; Xu et al. 2014). This regulation, to a large extent, induces SOE managers to consume excess perks in exchange of lower compensation than their counterparts in NSOEs (Jain 2001; Lei et al. 2013). A lot of anecdotal evidences even indicate that managerial excess perk consumption is an open secret in Chinese SOEs, which is just one main cause for the launch of China's latest anti-corruption campaign. Second, although SOEs may have less need to bribe officials for business, SOE managers have incentives to favor superior officials for their political promotion. In China, SOEs have the state as the controlling shareholder and thus are in a more favorable position where they have more access to strategic resources controlled

and allocated by the government (Chen et al. 2010). That is, there would be less need for SOEs to bribe officials for business (Jiang and Nie 2014). However, managers face multiple targets including economic, social and political ones (Vickers and Yarrow 1988). What is more, the economic target is generally of secondary importance for managers in SOEs (Lei et al. 2013). In China, most SOE top managers are designated by the government and have corresponding administrative levels as officials (Lei et al. 2013). It means that SOE managers have much incentives to bribe their superior officials for political promotion (Shleifer and Vishny 1998). As the sole controller, therefore, SOE managers would be inclined to bribe officials through providing luxury gifts, feasts and hotel in name of corporate ETC expenditures, resulting in severe outward corruption.

Taken as a whole, since SOEs would be alleged firms experiencing severer corruption through the misuse of ETC accounting category than NSOEs, and SOE managers are quasi officials who are among main objects regulated by China's latest anti-corruption campaign, we predict that the campaign would give a heavier shock on corporate corruption in SOEs than in NSOEs. This leads to our second hypothesis:

Hypothesis 2 *Ceteris paribus*, the anti-corruption campaign may lead to a more pronounced decrease on corporate ETC expenditures in SOEs than in NSOEs.

In China, despite the great achievement in economic transition, the government still puts a heavy regulation on the economy. For example, the government still controls

entry licenses to some industries (Du et al. 2014; Sheng et al. 2011), such as transport infrastructure and energy industries, which generates monopoly industries and fosters corporate corruption in these industries (Ades and Di Tella 1999). That is, firms in monopoly industries are alleged firms experiencing severer corruption than firms in competitive industries, and thus are more affected by the latest anti-corruption campaign.

First, firms can enjoy monopoly rents in monopoly industries, which provides more resources for consuming luxury goods and services as perks (Ke et al. 2016; Rajan and Wulf 2006). The institutional barriers for market entry provide incumbent firms with discretion and special interests regardless of their operation efficiency and product quality (Broadman and Recanatini 2001). This leads to fabulous profits and cash inflow, which may breed corporate corruption (Rajan and Wulf 2006). In contrast, for firms in competitive industries, there are less remnants for them to corrupt since industry competition may reduce their bargaining power in the market and thus play a discipline mechanism for restricting managerial corruption behavior (Ades and Di Tella 1999; Barth et al. 2009). Second, with limited industry peers and high technical barriers, regulators and outside investors face severer information asymmetry when facing firms in monopoly industries (Sappington 1983), which may hinder stakeholders from effectively monitoring the management and thus facilitate corporate corruption in form of excessive perk consumption (Dunn and Mayhew 2004; Ke et al. 2016). Finally, in China, SOEs have better access to monopoly industries particularly those regulated industries (Du et al. 2014). That is, most firms in monopoly industries are SOEs, which

are alleged firms experiencing severer corruption as discussed above. For the minority of NSOEs in monopoly industries, they are still discriminated by the government and occasionally have to bribe and favor officials in the form of luxury goods and services for the sake of building and maintaining connections with the government in China (Du et al. 2014; Sheng et al. 2011), thereby also experiencing severer corruption than NSOEs in competitive industries.

As a result, since firms in monopoly industries are alleged firms experiencing severer corruption particularly through the misuse of ETC expenditures, they would be more subject to the anti-corruption campaign, which pinpoints the conciseness and thrift of receptions, meetings, reports, visiting, safeguard, media, and living standards. Therefore, we put forward our third hypothesis:

Hypothesis 3 *Ceteris paribus*, the anti-corruption campaign may lead to a more pronounced decrease on corporate ETC expenditures in monopoly industries than in competitive industries.

China demonstrates significant unbalanced development of institutions across regions (Fan et al. 2011), which may result in variations in corporate corruption between firms located in difference regions. As we all know, the choice of human beings' behavior should be a trade-off game between benefits and costs. Rational managers may commit corruption only when the benefits dominate the costs, while the costs of corruption are largely dependent on the development of legal systems. In undeveloped regions with

weak legal systems, managers would be less likely to be captured and bear lower punishment for their corruption behaviors by regulators, which results in more rampant corruption. Several undeveloped countries such as Africa, Indonesia, and Haiti have made a good example to us (Ehrlich and Liu 1999; Mauro 1995). In addition, the government generally plays a stronger role in regulating the economy in undeveloped regions than in developed regions. Therefore, firms located in undeveloped regions may have more need to favor and bribe local officials by offering advantages to them in the form of luxury goods and services for the sake of acquiring the legitimacy from the government and smoothing the running of business operations (Nwabuzor 2005; Venard and Hanafi 2008; Zeng et al. 2016). Taken as a whole, we argue that undeveloped regions within China would suffer more from corporate corruption and as a result, would be more sensitive to the anti-corruption campaign. Hence, we come to our fourth hypothesis:

Hypothesis 4 *Ceteris paribus*, the anti-corruption campaign may lead to a more pronounced decrease on corporate ETC expenditures for firms located in undeveloped regions than in developed regions.

4. Research Methods

4.1. Research Design

We examine the effectiveness of China's anti-corruption campaign on curbing corporate corruption using OLS regression on the following model:

$$ETC_{i,t} = \alpha_0 + \alpha_1 Anticorrupt_{i,t} + \sum Control_{i,t-1} + \sum firm\ indicators + \varepsilon_{i,t} \quad (1)$$

Following Cai et al. (2011), in **Eq. (1)**, we use 100 times the ratio of entertainment and travel expenditures to total sales, the dependent variable *ETC*, to measure the severity of corporate corruption. *Anticorrupt* is a dummy variable differentiating years before and after the start of the anti-corruption campaign, which equals one if the year is 2013 or after, and zero otherwise. According to Hypothesis 1, we postulate α_1 to be significantly negative since we argue that the anti-corruption campaign may play a spillover effect on curbing corporate corruption in form of excessive ETC expenditures. To go a step further, we explore to investigate the cross-section variations in the spillover effect of the campaign for testing Hypotheses 2-4 using the following model:

$$\begin{aligned} ETC_{i,t} = {} & \beta_0 + \beta_1 Anticorrupt_{i,t} + \beta_j Anticorrupt_{i,t} \times Moderator_{i,t} + \beta_{j+1} Moderator_{i,t} \\ & + \sum Control_{i,t-1} + \sum firm\ indicators + \varepsilon_{i,t} \end{aligned} \quad (2)$$

In **Eq. (2)**, the variable *Moderator* refers to *State*, *Monopoly*, and *Developed* respectively in different OLS regressions. Specifically, *State* is an indicator variable of the nature of property rights, which equals one if the ultimate controlling shareholder is the state, and zero otherwise. *Monopoly* is an indicator of monopoly industries, which equals one if the Herfindahl Index (HHI) of the industry is higher than the median HHI of all industries, where market share is calculated based on sales revenue, and zero otherwise. *Developed* is an indicator of market development, which equals one if the index of marketization of the region where focal firms locate is higher than the median index of marketization of all regions, and zero otherwise. The provincial index of marketization of China is compiled by Fan et al. (2011) and has been used in many studies (e.g., Lin et al. 2016; Zeng et al. 2016). As we argue in Hypothesis 2, we predict

the coefficient of the interaction between *Anticorrupt* and *State* is negative, that is, there is a more pronounced decrease on ETC expenditures in SOEs than in NSOEs. As Hypothesis 3 predicts that the spillover effect of the anti-corruption campaign on corporate corruption will be more remarkable in monopoly industries, we expect a negative coefficient on the interaction between *Anticorrupt* and *Monopoly*. Similarly, we postulate a significant positive coefficient on the interaction between *Anticorrupt* and *Developed* as we argue in Hypothesis 4 that firms located in undeveloped regions within China would suffer more from corporate corruption and thus would be more sensitive to the campaign.

As with prior studies (e.g., Cai et al. 2011; Chen et al. 2005; Zeng et al. 2016), we regard firm size (*Size*), firm leverage (*Leverage*), sales growth (*Growth*), cash assets (*Cash*), tax burden (*Tax*), staff size (*Staff*), firm age (*Age*), ownership concentration (*Top1*), board size (*Boardsize*), board independence (*Indboard*), management ownership (*Mshare*), management age (*Mage*), CEO duality (*Duality*), and political connections (*PC*) as control variables for controlling for their systematic effects on corporate ETC expenditures. Specifically, *Size* is measured as the natural logarithm of total assets. *Leverage* is calculated as total liabilities divided by total assets. *Growth* is calculated as the sales growth rate from year t-1 to t. *Cash* is calculated as the sum of cash and cash equivalents divided by total assets. *Tax* is measured as the sum of income tax as well as business tax and attachment divided by sales revenue. *Staff* is measured as the natural logarithm of the number of total staff. *Age* is defined as the natural logarithm of the difference between the focal year and the year when the focal firm was

established. *Top1* is measured as the ratio of stock ownership held by the largest shareholder. *Boardsize* is measured as the natural logarithm of the number of board directors. *Indboard* is calculated as the number of independent directors divided by the number of all directors. *Mshare* is measured as the ratio of stock ownership held by management team. *Mage* is calculated as the natural logarithm of the average age of management team. *Duality* is an indicator, which equals one if the CEO and the chairman are the same person and zero otherwise. *PC* is an indicator of political connections, which equals one if the CEO/Chairman of a focal firm is or was a government official, delegate of the People's Congress, or member of the political consultative conferences, and zero otherwise. Finally, we include firm dummies (*firm indicators*) to control for firm-fixed effects, which helps to alleviate the problem of endogeneity originated from omitted variables.

4.2. Data and Descriptive Statistics

We obtain the data of corporate ETC expenditures mainly from the Wind database, and complement and verify it with the China Stock Market and Accounting Research (CSMAR) database. Other relevant financial and corporate governance information are extracted from CSMAR database. Our initial sample covers all the Chinese A-share firms listed in both the Shanghai Stock Exchange and the Shenzhen Stock Exchange over the period of 2011-2014, and 9,958 firm-year observations are included. Then, we impose the following selection criteria to control for the influence of abnormal samples. Specifically, we exclude observations whose firms are under the status of special

treatment (561 observations), firms in financial industries (180 observations), firms issuing B-shares or H-shares (555 observations), firms issuing debt exceeding asset value (6 observations), and firms with missing data (3,757 observations). Finally, we get a data sample of 4,899 firm-year observations. In addition, we winsorize the top and bottom 1% of all continuous variables for tackling the influence of outliers.

Table 1 shows the descriptive statistics about our dataset. The proportion of ETC expenditures to total sales is from 0.0144% to 2.709%, with a mean of 0.325%, displaying a remarkable variation across different firms. In our sample, 42.58% of sample firms are SOEs, 33.68% are in monopoly industries, and 47.19% are located in developed regions. Moreover, the average firm size is 21.7236; average leverage is 43.12%; average sales growth rate is 20.83%; average cash ratio is 0.2157; average tax rate is 3.61%. On average, sample firms have 1698.16 employees ($e^{7.4373}$) and have been surviving for 7.09 years ($e^{1.9586}$). As for corporate governance variables, the average share held by the largest shareholder is 36.01%; the average number of board directors is 8.71 ($e^{2.1641}$) with 3.21 are independent directors ($e^{2.1641}$*0.3689); the average share held by management team is 6.55%; the average age of management team is 48.05 ($e^{3.8723}$); about 23.98% of sample firms have one person servicing as both chairman and CEO; and 54.97% of sample firms have political connections. As we have seen, all control variables have a fine value distribution.

[Insert Table 1 about here]

Table 2 displays the Pearson pairwise correlation matrix among main variables. As expected, *ETC* is significantly and negatively associated with *Anticorrupt* (r = -0.047,

$p < 0.01$), consistent with our Hypothesis 1. The correlation between *ETC* and *State* is significantly negative ($r = -0.096$, $p < 0.01$), suggesting that overall, SOEs expense less ETC than NSOEs; the positive correlation between *ETC* and *Monopoly* ($r = 0.153$, $p < 0.01$) indicates that firms in monopoly industries expense more ETC than their counterparts in competitive industries. However, we fail to find significant correlation between *ETC* and *Developed*. As for control variables, *ETC* is significantly and negatively correlated with firm size, leverage, sales growth, staff size, ownership concentration, board size, and political connections, while is significantly and positively correlated with cash assets, tax burden, management ownership, and CEO duality. These results suggest that there is a lower ETC expenditure in larger firms, firms with higher leverage, firms with less cash, firms with higher growth, firms with less tax burden, and firms with higher concentrated ownership.

[Insert Table 2 about here]

To intuitively show the change of ETC expenditure before and after the start of the anti-corruption campaign, we create a figure, i.e., **Fig. 2**, to demonstrate the change of average ETC expenditure from 2011 to 2014. In **Fig. 2(a)**, we can see a conspicuous decrease on ETC expenditure between years 2011-2012 and years 2013-2014. This provides preliminary evidence for Hypothesis 1. In **Fig. 2(b)** to **(d)**, we also can see a shaper ETC expenditure decrease in SOEs than in NSOEs, for firms in monopoly industries than in competitive industries, and for firms located in undeveloped regions than in developed regions, which are highly consistent with theoretical predictions in Hypotheses 2-4. Therefore, **Fig. 2** has given us an intuitive but raw sense of the spillover

effect of the anti-corruption campaign on corporate corruption and its cross-sectional variation characteristics.

[Insert Fig. 2 about here]

5. Regression Results

5.1. Multivariate Regression Tests

Table 3 displays the OLS regression results for testing Hypothesis 1. In Model 1, we perform a baseline model, which includes only control variables. We find that corporate ETC expenditure is significantly associated with firm size (*Size*), firm age (*Age*), and political connections (*PC*), under firm fixed-effects. Model 2 shows that *Anticorrupt* is negatively and significantly associated with *ETC* (Model 2: β = -0.0667, $p < 0.01$) without controlling for firm characteristics. Then, we include both independent variable and control variables in Model 3, and still find a negative and significant coefficient on *Anticorrupt* (Model 3: β = -0.0510, $p < 0.01$), indicating that there is a significant decrease on corporate ETC expenditures after the start of the anti-corruption campaign. This coefficient is also economically significant, implying that the anti-corruption campaign leads focal firms averagely cut ETC expenditure by 5.10%. Therefore, the spillover effect of the campaign on curbing corporate corruption in the form of excessive ETC expenditures is statistically and economically significant, thereby providing strong support for Hypothesis 1.

[Insert Table 3 about here]

Table 4 displays the OLS regression results for testing Hypotheses 2-4. Models 1

and 2 show the moderating effect of the state nature of property rights. As expected, the coefficient on the interaction *Anticorrupt*State* is -0.0707 and significant at 1% level, suggesting that relative to NSOEs, SOEs experience a more pronounced decrease on ETC expenditures after the launch of the anti-corruption campaign. This illustrates that as SOEs experience severer corruption through the misuse of ETC accounting category and SOE managers as quasi officials are main objects regulated by China's latest anti-corruption campaign, SOEs would be more sensitive to the campaign. Therefore, our Hypothesis 2 is supported. Similarly, in Models 3 and 4 of **Table 4**, we find a significant and negative coefficient on the interaction *Anticorrupt*Monopoly* (Model 4: β = -0.0397, $p < 0.05$), indicating that the decrease on ETC expenditures is much sharper for firms in monopoly industries than in competitive industries during the anti-corruption period, which is consistent with our Hypothesis 3. As for the moderating effect of marketization development, Models 5 and 6 of **Table 4** present a significant and positive coefficient on the interaction *Anticorrupt*Developed* (Model 5: $\beta = 0.0322$, $p < 0.01$). This implies that firms in developed regions cut down less on ETC expenditure in face of the anti-corruption campaign, in other words, firms located in undeveloped regions suffer more from corruption and thus are more sensitive to the regulation of the campaign. This provides support for our Hypothesis 4.

In summary, after the launch of the anti-corruption campaign at the end of year 2012, there is a conspicuous and significant decrease on corporate ETC expenditures among a wide range of Chinese listed firms. Since corporate ETC expenditure is regarded as an account convenient for concealing corruption costs (e.g., Cai et al. 2011;

Griffin et al. 2016; Huang and Li 2013; Zeng et al. 2016), its decrease can be a sign of the effectiveness of the campaign on combating corporate corruption. Furthermore, the spillover effect of the campaign shows significant cross-sectional variations, that is, the effect is more pronounced in SOEs than in NSOEs, for firms in monopoly industries than in competitive industries, and for firms located in undeveloped regions than in developed regions. Therefore, our four hypotheses are all well supported.

[Insert Table 4 about here]

5.2. Robust Test of the Change Model

In **Table 5**, we provide further evidence by using the change model. The dependent variable in the regression is $\triangle ETC$, which is defined as the change of corporate ETC expenditures divided by sales revenue from year t-1 to t. As **Table 5** shows, the coefficients of *Anticorrupt* are negative and significant at 1% level in all the six models expect for Model 2. Given that there is a decrease on ETC expenditure after the anti-corruption campaign, $\triangle ETC$ should be negative. Thus, the negative relationship between *Anticorrupt* and $\triangle ETC$ means a greater decrease over time. Furthermore, the coefficient of the interaction *Anticorrupt*State* in Model 2 is -0.0531 and significant at 1% level, indicating that SOEs are more affected by the anti-corruption campaign in terms of the change of ETC expenditures. In Model 4, we find a negative coefficient on the interaction *Anticorrupt*monopoly*, which is marginal significant at 15% level (Model 4: β = -0.0254, $p < 0.15$). Similarly, the interaction *Anticorrupt*Developed* acquires a positive and significant coefficient (Model 6: β = 0.0260, $p < 0.05$), which

means that the effect of the campaign on combating corruption is more powerful in firms located in undeveloped regions relative to their counterparts located in developed regions. Overall, these results of the change model are consistent with our basic findings in **Table 4** and thus provide additional support for our hypotheses.

[Insert Table 5 about here]

5.3. Robust Test by Using Heckman Selection Model

As we introduce above in the process of sample selection, up to 3,757 observations have been deleted for missing data. About 55.79% of them, i.e., 2,096 observations, have missing data on ETC expenditures. This case may result in the potential problem of sample self-selection bias particularly since listed firms are not mandated to disclose ETC expenditure information in China. That is, firms do not randomly select but self-select to disclose ETC information and then become our sample firms. The OLS regressions based on self-selected sample are unable to acquire the best and unbiased estimations. To deal with this concern, we perform Heckman two-stage selection model. In the first stage, we regard whether the focal firm discloses ETC information as the dependent variable and firm size (*Size*), firm leverage (*Leverage*), year and industry indicators as independent variables, and then, run a probit regression to obtain the inverse Mills ratio. After that, we include the inverse Mills ratio (*InvMills*) in the OLS regression model in the second stage to control for the potential self-selection bias. The results are shown in **Table 6**.

As **Table 6** demonstrates, the inverse Mills ratios are all significant at 1% level in

Models 1-4. This indicates that the problem of self-selection bias does exist in our sample. After controlling for the self-selection problem by including the inverse Mills ratio, we find that *ETC* is still significantly and negatively associated with *Anticorrupt* in all the four models at least at 10% level (Model 1: β = -0.0673, $p < 0.01$; Model 2: β = -0.0253, $p < 0.10$; Model 3: β = -0.0524, $p < 0.01$; Model 4: β = -0.0819, $p < 0.01$). Furthermore, the coefficients of the interaction *Anticorrupt*State* (Model 2: β = -0.0764, $p < 0.01$) and the interaction *Anticorrupt*Monopoly* (Model 3: β = -0.0415, $p < 0.01$) are significantly negative, while the interaction *Anticorrupt*Developed* obtains a positive and significant coefficient at 1% level (Model 4: β = 0.0329, $p < 0.01$). All these results are highly consistent with those in **Tables 3-4**, indicating that our results are robust after controlling for the sample self-selection bias.

[Insert Table 6 about here]

6. Further Analyses

It is of special concern to policymakers and firms whether the anti-corruption campaign would bring about an adverse impact on firm performance. In this section, we further examine the economic effect of the campaign on firms.

Specifically, we take both accounting-based ROA and market-based Tobin's Q to measure firm performance, where ROA can help to capture the short-term operation performance and Tobin's Q can capture the long-term market valuation. Considering that the anti-corruption campaign partly emphasizes on the elimination of excessive perk consumption, firm profit may be more likely to drop in eat and drink industries

(Lin et al. 2016). This is a direct shock since firms in eat and drink industries are providers of relevant luxury goods and services. Therefore, we naturally predict that there will be a more pronounced adverse impact on firms in eat and drink industries. In order to examine this special effect, we generate an indicator of eat and drink industries, denoted as *Eat_drink*, which equals one if focal firms belong to eat and/or drink industries and zero otherwise. **Table 7** demonstrates the OLS regression results of our test. Models 1-3 show that ROA decreases after the anti-corruption campaign, although the coefficients of *Anticorrupt* are not significant. However, the coefficient of the interaction *Anticorrupt*Eat_drink* is significant and negative (Model 3: β = -0.0135, p < 0.05), indicating that the anti-corruption campaign does shock firm financial performance in eat and drink industries in the short term, in line with Lin at al.'s (2016) findings. In Models 4-6, we find that the anti-corruption campaign leads to an increased Tobin's Q (Model 4: β = 0.2580, p < 0.01; Model 5: β = 0.2574, p < 0.01; Model 6: β = 0.2738, p < 0.01). However, the interaction *Anticorrupt*Eat_drink* acquires a negative and significant coefficient (Model 6: β = -0.3507, p < 0.01), which indicates that relative to firms in other industries, the campaign does have an adverse impact on firm performance in eat and drink industries in the long run. Taken as a whole, although the anti-corruption campaign may result in the decline of firm profit particularly for firms in eat and drink industries in the short term, it would contribute to firm value in the long run. However, the campaign would aggregately reduce firm value (Model 6: 0.2738-0.3507=-0.0769) in eat and drink industries, which is to some extent also a snapshot of the effectiveness of the anti-corruption campaign.

[Insert Table 7 about here]

Meanwhile, the value relevance of corporate corruption is also of great interest for policymakers and firms. Specifically, we further explore to investigate the effect of ETC expenditure on firm performance and the moderating effect of the anti-corruption campaign. **Table 8** displays the OLS regression results of our test. In Models 1-3 of **Table 8**, we can see that *ETC* is negatively and significantly associated with focal firms' ROA at 1% level. More remarkably, in Model 3 of **Table 8**, the coefficient of the interaction *ETC*Anticorrupt* is -0.0092 and significant at 1% level, suggesting that the anti-corruption campaign worsens the adverse impact of corporate ETC expenditures on focal firms' short-term operation performance (ROA). As for the long-term influence, Models 4-6 of **Table 8** show that *ETC* acquires negative coefficients significant at least at 5% level, indicating that corporate ETC expenditure also does harm to firm value in the long run. In particular, in Model 6, the interaction *ETC*Anticorrupt* is significantly and positively associated with Tobin's Q (Model 6: $\beta = 0.3217$, $p < 0.01$), which suggests that the anti-corruption campaign can attenuate the adverse impact of corporate corruption through excessive perk consumption in the long run. Overall, these results tell us that the effect of corporate corruption, measured as ETC expenditure, is negative for both ROA and Tobin's Q, which can justify the necessity of China's latest anti-corruption campaign at the firm level. More importantly, although the campaign will temporally intensify the negative effect of corporate corruption on firm operation performance, it will be able to attenuate the negative effect on firm value for long.

[Insert Table 8 about here]

7. Conclusions

Corruption has been a bothering and hazardous problem around the world, thus arouses actions fighting against it nationally and globally. China, the largest emerging economy, which is also regarded as one of the most corrupt countries, inaugurates an intensive and extensive anti-corruption campaign at the end of 2012. This attracts widespread focus, yet there are conflicted comments on the effectiveness of this campaign within and out of China. In this study, we explore to investigate whether the campaign aiming at officials and cadres has a "spillover effect" over corporate corruption. We take entertainment and travel costs (ETC) expenditure as a proxy of corporate corruption, since managers frequently use the ETC accounting category to reimburse luxury gifts and services used to bribe officials and favor themselves (Cai et al. 2011; Zeng et al. 2016). Consequently, an effective anti-corruption campaign should lead to a decrease on corporate ETC expenditure particularly in those alleged firms experiencing severer corruption through the misuse of ETC accounting category, displaying a spillover effect on combating corporate corruption.

Using firm-level data from Chinese A-share listed firms, we provide a general and systematic evidence for supporting the effectiveness of China's latest anti-corruption campaign. Specifically, we find that corporate ETC expenditure significantly decreases at 5.10% on average after the start of the anti-corruption campaign. Furthermore, the reduction effect of the campaign on ETC expenditure is found to be more pronounced in alleged firms experiencing severer corruption, i.e., in SOEs (vs. NSOEs), firms in

monopoly industries (vs. in competitive industries), and firms located in undeveloped regions (vs. in developed regions), thereby providing more persuasive evidence for the spillover effect of the anti-corruption campaign on corporate corruption. Our results are robust to the change model and to the Heckman selection model after controlling for sample self-selection bias. Finally, we conduct additional analyses to examine the value relevance of corporate corruption and the anti-corruption campaign, which would be of great concern to policymakers and firms. We find strong evidence showing that the anti-corruption campaign has some adverse impact on short-term operation performance but increases firm value in the long run, while corporate corruption through excessive perk consumption is destructive to both operation performance and firm value. For firms in eat and drink industries which are directly shocked by the campaign, we find that the campaign has more pronounced negative effects on firm operation performance but less pronounced positive effect on firm value due to a constraint of high-end goods consumption. In addition, the campaign can alleviate the adverse impact of corporate corruption on firm value in the long run.

Our findings have several meaningful implications for policymakers and firms. First, since a national anti-corruption campaign can play an effective spillover effect on corporate corruption, policymakers, especially those servicing in high corrupt countries such as China and African countries, can depend heavier on such national campaigns or policies to combat against corporate corruption. It is particularly true in modern time that more and more corruptions result from the collusion between officials and entrepreneurs. Second, guidance concerning the anti-corruption of private sectors

should also be listed in agenda. Admittedly, this anti-corruption campaign mainly aims at officials and thus have greater influence on SOEs, however, corruption in NSOEs should not just mind their own business, since they are part of fresh troops of Chinese economy. Corruption hampers the growth of NSOEs (Nguyen and Van Dijk 2012), and would eventually disturb economic order and impair the whole economy. Therefore, it is helpful to make a guideline to lead NSOEs to establish an anti-corruption system. Third, a more open and market-oriented environment should be fostered and maintained by the government and firms. Openness and competition are important mechanisms to constraint corruption (Ades and Di Tella 1999; Nwabuzor 2005). To create this kind of environment, discretionary power of resource distribution should be consciously cut down and decentralized, and depend more on the rules of market. Finally, it would be necessary for high-end catering firms to ponder for a strategic transformation, especially for those who are prospered through the culture of eat and drink. The anti-corruption campaign casts a shadow on the performance of firms in eat and drink industries no matter in the short term or in the long run. Thus, firms heavily relying on unreasonable consumption from corruption should reconsider their positions.

There are also some limitations in our study needed future research. First, due to the availability of corruption-related data, we have only included dataset until 2014 when we started to conduct this study. As this anti-corruption campaign would be long-lasting, interested scholars could follow up this practice to reinforce the test on its effectiveness by using more abundant data in the future. Second, although the measure of corporate corruption by ETC expenditures has been extensively verified to be proper

in China (Cai et al. 2011; Griffin et al. 2016; Zeng et al. 2016), it is unable to fully capture the degree of corporate corruption. That is, our measure cannot include corruption activities in other forms but not in the form of excessive perk consumption. In the future, more comprehensive measures should be developed to conduct studies regarding corporate corruptions.

References

Acemoglu, D., & Verdier, T. (2016). The choice of market failure and corruption. *The American Economic Review, 90*(1), 194-211.

Ades, A., & Di Tella, R. (1999). Rents, competition and corruption. *American Economic Review, 89,* 982-993.

Bardhan, P. (1997). Corruption and development: A review of issues. *Journal of Economic Literature, 35*(3), 1320-1346.

Barth, J. R., Lin, C., Lin, P., & Song, F. M. (2009). Corruption in bank lending to firms: Cross-country micro evidence on the beneficial role of competition and information sharing. *Journal of Financial Economics, 91*(3), 361-388.

Bishara, N. D., & Schipani, C. A. (2009). Strengthening the ties that bind: Preventing corruption in the executive suite. *Journal of Business Ethics, 88*(4), 765-780.

Broadman, H. G., & Recanatini, F. (2001). Seeds of corruption–Do market institutions matter? *MOST: Economic Policy in Transitional Economies, 11*(4), 359-392.

Cai, H., Fang, H., & Xu, L. C. (2011). *Eat, drink, firms and government: an investigation of corruption from entertainment and travel costs of Chinese firms.* NBER Working paper (No. w11592).

Casciaro, T., & Piskorski, M. J. (2005). Power imbalance, mutual dependence, and constraint absorption: A closer look at resource dependence theory. *Administrative Science Quarterly, 50*(2), 167-199.

Chen, D., Chen X., & Wan, H. (2005). Regulation and non-pecuniary compensation in Chinese SOEs. *Economic Research Journal, 2,* 92-101. (in Chinese)

Chen, H., Chen, J. Z., Lobo, G. J., & Wang, Y. (2010). Association between borrower and lender state ownership and accounting conservatism. *Journal of Accounting Research, 48*(5), 973-1014.

Chen, Y., Liu, M., & Su, J. (2013). Greasing the wheels of bank lending: Evidence from private firms in China. *Journal of Banking & Finance, 37*(7), 2533-2545.

Clarke, D. C. (2003). Corporate governance in China: An overview. *China Economic Review, 14,* 494-507.

Del Monte, A., & Papagni, E. (2001). Public expenditure, corruption, and economic growth: the case of Italy. *European Journal of Political Economy, 17,* 1-16.

Dollar, D., Fisman, R., & Gatti, R. (2001). Are women really the "fairer" sex? Corruption and women in government. *Journal of Economic Behavior & Organization, 46*(4), 423-429.

Dong, B., & Torgler, B. (2013). Causes of corruption: Evidence from China. *China Economic Review, 26,* 152-169.

Du, X., Zeng, Q., & Du, Y. (2014). Do politically connected independent directors help Chinese listed private firms enter high-barrier industries? *China Accounting and Finance Review, 16*(4): 90-146.

Dunn, K. A., & Mayhew, B. W. (2004). Audit firm industry specialization and client disclosure quality. *Review of Accounting Studies, 9*(1), 35-58.

Ehrlich, I., & Lui, F. T. (1999). Bureaucratic corruption and endogenous economic growth. *Journal of Political Economy, 107*(6), 270-293.

Fan, G., Wang, X., & Zhu, H. (2011). *NERI Index of marketization of China's provinces*.

Beijing: Economic Science Press. (in Chinese)

Firth, M., Leung, T. Y., & Rui, O. M. (2010). Justifying top management pay in a transitional economy. *Journal of Empirical Finance, 17*(5), 852-866.

Fisman, R., & Svensson, J. (2007). Are corruption and taxation really harmful to growth? Firm level evidence. *Journal of Development Economics, 83,* 63-75.

Griffin, J., Liu, C., & Shu, T. (2016). *Is the Chinese anti-corruption campaign effective?* SSRN Working paper (No. 2779429).

Halter, M. V., De Arruda, M. C. C., & Halter, R. B. (2009). Transparency to reduce corruption? *Journal of Business Ethics, 84*(3), 373-385.

Hirsch, R., & Watson, S. (2010). The link between corporate governance and corruption in New Zealand. *New Zealand Universities Law Review, 24*(1), 42.

Huang, J., & Li, K. (2013). Eat-drink, corruption and firm's purchase order (in Chinese). *Economic Research Journal (Jing Ji Yan Jiu, in Chinese), 6,* 71-84.

Jain, A. K. (2001). Corruption: A review. *Journal of Economic Surveys, 15,* 71-121.

Jiang, T., & Nie, H. (2014). The stained China miracle: Corruption, regulation, and firm performance. *Economic Letters, 123,* 366-369.

Ke, B., Liu, N., & Tang, S. (2016). *The effect of anti-corruption campaign on shareholder value in a weak institutional environment: Evidence from China.* Working paper.

Krueger, A. O. (1974). The political economy of the rent-seeking society. *The American economic review, 64*(3), 291-303.

Lagu Yanga, M. (2014). UK Bribery Act 2010: Implications for business in Africa.

International Journal of Law and Management, 56(1), 3-28.

Lei, Q., Lin, B., Wei, M. (2013). Types of agency cost, corporate governance and liquidity. *Journal of Accounting and Public Policy, 32,* 147-172.

Lin, C., Morck, R., Yeung, B., & Zhao, X. (2016). *Anti-Corruption reforms and shareholder valuations: event study evidence from China.* NBER Working paper.

Luo, Y. (2005). An organizational perspective of corruption. *Management and Organization Review, 1*(1), 119-154.

Mauro, P. (1995). Corruption and growth. *The Quarterly Journal of Economics, 110*(3), 681-712.

Murphy, K., Shleifer, A., & Vishney, R. (1991). The allocation of talent: implications for growth. *The Quarterly Journal of Economics, 106,* 503-530.

Murphy, K., Shleifer, A., & Vishney, R. (1993). Why is rent-seeking so costly to growth? *The American Economic Review, 83,* 409-414.

Nguyen, T. T., & Van Dijk, M. A. (2012). Corruption, growth, and governance: Private vs. state-owned firms in Vietnam. *Journal of Banking & Finance, 36*(11), 2935-2948.

Nwabuzor, A. (2005). Corruption and development: new initiatives in economic openness and strengthened rule of law. *Journal of Business Ethics, 59,* 121-138.

Osuji, O. (2011). Fluidity of regulation-CSR nexus: The multinational corporate corruption example. *Journal of Business Ethics, 103*(1), 31-57.

Petkoski, D., Warren, D. E., & Laufer, W. S. (2009). Collective strategies in fighting corruption: Some intuitions and counter intuitions. *Journal of Business Ethics,*

88(4), 815-822.

Powpaka, S. (2002). Factors affecting managers' decision to bribe: An empirical investigation. *Journal of Business Ethics, 40*(3), 227-246.

Rabl, T. (2011). The impact of situational influences on corruption in organizations. *Journal of Business Ethics, 100*(1), 85-101.

Rabl, T., & Kühlmann, T. M. (2008). Understanding corruption in organizations–development and empirical assessment of an action model. *Journal of Business Ethics, 82*(2), 477-495.

Rajan, R. G., & Wulf, J. (2006). Are perks purely managerial excess? *Journal of Financial Economics, 79*(1), 1-33.

Romer, P. (1994). New goods, old theory, and the welfare costs of trade restrictions. *Journal of Development Economics, 43,* 5-38.

Rose-Ackerman, S. (2013). Corruption: A study in political economy. New York: Academic Press.

Sappington, D. (1983). Optimal regulation of a multiproduct monopoly with unknown technological capabilities. *The Bell Journal of Economics, 14*(2), 453-463.

Serafeim, G. (2013). *Firm competitiveness and detection of bribery*. Harvard Business School, Working Paper.

Sheng, S., Zhou, K. Z., & Li, J. J. (2011). The effects of business and political ties on firm performance: Evidence from China. *Journal of Marketing, 75*(1), 1-15.

Shleifer, A., & Vishny, R. W. (1998). The grabbing hand: Government pathologies and their cures. Harvard University Press.

Svensson, J. (2003). Who must pay bribes and how much? Evidence from a cross section of firms. *The Quarterly Journal of Economics, 118*(1), 207-230.

Svensson, J. (2005). Eight questions about corruption. *The Journal of Economic Perspectives, 19*(3), 19-42.

Swamy, A., Knack, S., Lee, Y., & Azfar. O. (2001). Gender and corruption. *Journal of Development Economics, 6,* 22-55.

Tan, L. H., & Wang, J. (2007). Modelling an effective corporate governance system for China's listed state-owned enterprises: Issues and challenges in a transitional economy. *Journal of Corporate Law Studies, 7*(1), 143-183.

Venard, B., & Hanafi, M. (2008). Organizational isomorphism and corruption in financial institutions: Empirical research in emerging countries. *Journal of Business Ethics, 81*(2), 481-498.

Vickers, J., & Yarrow, G. (1988). Regulation of privatised firms in Britain. *European Economic Review, 32*(2-3), 465-472.

Wang, Y., & You, J. (2012). Corruption and firm growth: Evidence from China. *China Economic Review, 23,* 415-433.

Xu, N., Li, X., Yuan, Q., & Chan, K. C. (2014). Excess perks and stock price crash risk: Evidence from China. *Journal of Corporate Finance, 25,* 419-434.

Yao, S. (2002). Privilege and corruption: The problems of China's socialist market economy. *American Journal of Economics and Sociology, 61*(1), 279-299.

Zeng, Y., Lee, E., & Zhang, J. (2016). Value relevance of alleged corporate bribery expenditures implied by accounting information. *Journal of Accounting and*

Public Policy, doi: 10.1016/j.jaccpubpol.2016.06.009.

Zeume, S. (2016). *Bribes and firm value.* Ross School of Business Paper (No.1273).

Zhu, Q. (2008). Reorientation and prospect of China's combat against corruption. *Crime, Law and Social Change, 49,* 81-95.

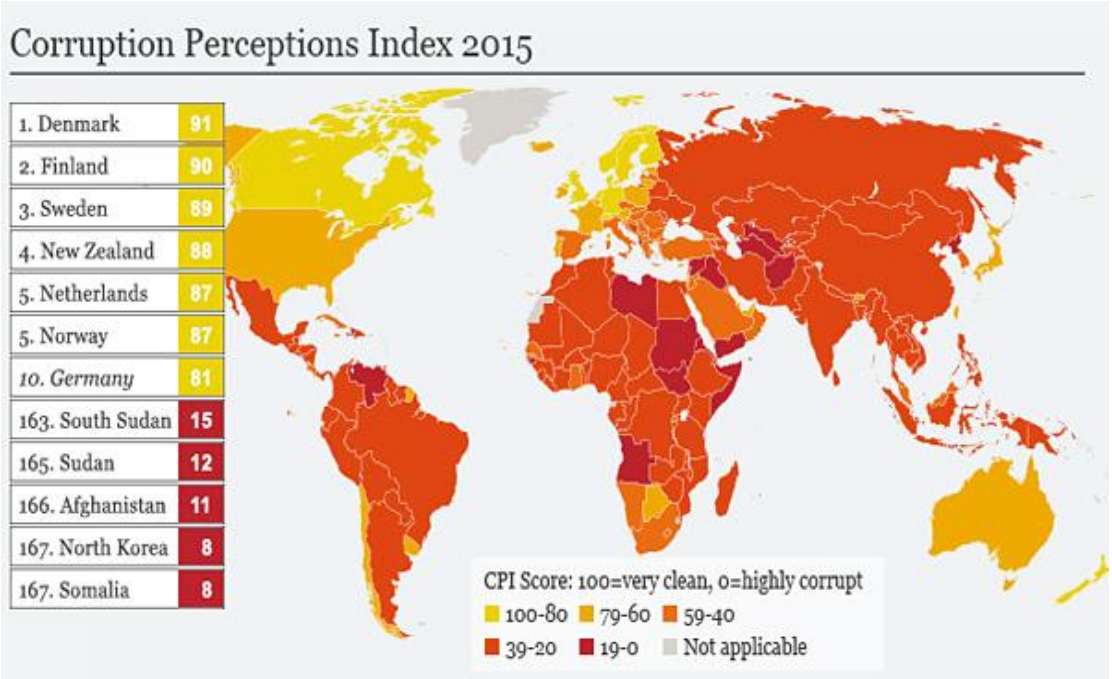

Fig. 1 Corruption Perceptions Index 2015

Note: The Corruption Perception Index (CPI) report the corruption perception among worldwide countries and religions, which includes 168 in 2015. It was calculated according to several indexes, including Government Defence Anti-Corruption Index (GI) and the World Justice Project (WJP) Rule of Law Index as other relevant indexes. The CPI scores from 0 to 100, with 0 referring to highly corrupting and 100 as very clean. The average CPI in 2015 is 43. Among them, China is ranked 83 with a score of 37, lower than the average.

Source: Transparency International, 2015

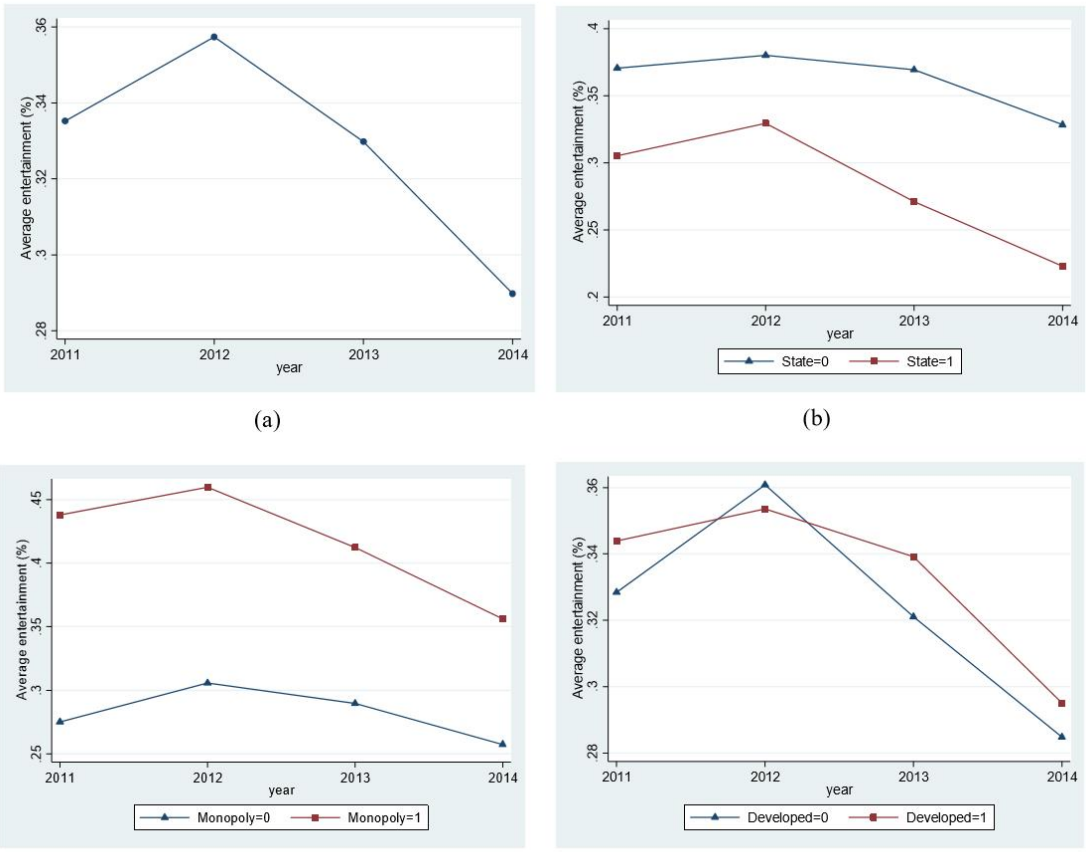

Fig. 2 Change of corporate ETC expenditure from 2011 to 2014

Note: This figure demonstrates the change of average ETC expenditure divided by sales income from 2011 to 2014. The horizontal axis represents the end of the year. Figure (a) is an overview of our sample, and figures (b) to (d) are descriptions differentiating SOEs and NSOEs, firms in monopoly industries and competitive industries, firms located in developed regions and undeveloped regions respectively.

Table 1 Descriptive statistics

Variables	N	Mean	S.D.	Min	P25	Median	P75	Max
ETC (%)	4,899	0.3250	0.4030	0.0144	0.1033	0.2030	0.3797	2.7090
Anticorrupt	4,899	0.5979	0.4904	0	0	1	1	1
State	4,899	0.4258	0.4945	0	0	0	1	1
Monopoly	4,899	0.3368	0.4727	0	0	0	1	1
Developed	4,899	0.4719	0.4993	0	0	0	1	1
Size	4,899	21.7236	1.0445	19.6172	20.9479	21.6029	22.3621	24.5618
Leverage	4,899	0.4312	0.2178	0.0424	0.2513	0.4312	0.6072	0.8692
Growth	4,899	0.2083	0.4271	-0.5284	0.0045	0.1413	0.3099	2.9393
Cash	4,899	0.2157	0.1562	0.0189	0.1011	0.1696	0.2903	0.7288
Tax	4,899	0.0361	0.0425	-0.0073	0.0107	0.0224	0.0428	0.2383
Staff	4,899	7.4373	1.1879	4.0431	6.6983	7.4230	8.2017	10.3653
Age	4,899	1.9586	0.8190	0	1.0986	2.1972	2.7081	3.0445
Top1	4,899	0.3601	0.1520	0.0880	0.2357	0.3400	0.4700	0.7500
Boardsize	4,899	2.1641	0.1929	1.6094	2.0794	2.1972	2.1972	2.7081
Indboard	4,899	0.3689	0.0497	0.3333	0.3333	0.3333	0.4000	0.5714
Mshare	4,899	0.0655	0.1403	0	0	0.0001	0.0369	0.6300
Mage	4,899	3.8723	0.0619	3.7149	3.8319	3.8758	3.91510	4.0110
Duality	4,899	0.2398	0.4270	0	0	0	0	1
PC	4,899	0.5497	0.4976	0	0	1	1	1

Notes: This table presents the descriptive statistics of main variables for the sample firms between 2011 and 2014.

Table 2 Pearson correlation matrix

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1 *ETC*	1						
2 *Anticorrupt*	-0.047***	1					
3 *State*	-0.096***	-0.102***	1				
4 *Monopoly*	0.153***	-0.022	0.141***	1			
5 *Developed*	0.011	0.022	-0.192***	0.046***	1		
6 *Size*	-0.268***	0.016	0.364***	0.095***	-0.071***	1	
7 *Leverage*	-0.172***	-0.042***	0.347***	0.180***	-0.153***	0.557***	1
8 *Growth*	-0.028**	-0.150***	-0.002	0.053***	-0.035**	0.070***	0.067***
9 *Cash*	0.130***	-0.079***	-0.227***	0.057***	0.190***	-0.304***	-0.541***
10 *Tax*	0.212***	-0.047***	0.041***	0.343***	-0.008	0.085***	-0.026*
11 *Staff*	-0.276***	-0.001	0.266***	-0.199***	-0.083***	0.633***	0.310***
12 *Age*	-0.018	0.021	0.480***	0.183***	-0.201***	0.345***	0.515***
13 *Top1*	-0.138***	-0.013	0.155***	-0.003	0.049***	0.253***	0.051***
14 *Boardsize*	-0.067***	-0.063***	0.267***	-0.017	-0.072***	0.296***	0.161***
15 *Indboard*	0.006	0.049***	-0.066***	0.035**	-0.011	-0.025*	-0.042***
16 *Mshare*	0.055***	0.050***	-0.386***	-0.103***	0.194***	-0.273***	-0.341***
17 *Mage*	-0.112***	0.092***	0.350***	-0.030**	-0.089***	0.322***	0.191***
18 *Duality*	0.038***	0.040***	-0.286***	-0.107***	0.125***	-0.185***	-0.190***
19 *PC*	-0.041***	0.002	0.009	0.056***	-0.001	0.080***	0.037***
	8	**9**	**10**	**11**	**12**	**13**	**14**
8 *Growth*	1						
9 *Cash*	0.013	1					
10 *Tax*	0.067***	0.090***	1				
11 *Staff*	0.007	-0.218***	-0.260***	1			
12 *Age*	-0.003	-0.458***	0.125***	0.186***	1		
13 *Top1*	0.046***	0.026*	0.085***	0.163***	-0.085***	1	
14 *Boardsize*	0.009	-0.073***	-0.050***	0.274***	0.110***	-0.034**	1
15 *Indboard*	-0.003	0.029**	0.055***	-0.064***	-0.033**	0.050***	-0.432***
16 *Mshare*	0.015	0.314***	-0.051***	-0.173***	-0.507***	-0.042***	-0.148***
17 *Mage*	-0.068***	-0.182***	-0.040***	0.264***	0.267***	0.071***	0.250***
18 *Duality*	0.008	0.168***	-0.042***	-0.107***	-0.262***	-0.048***	-0.159***
19 *PC*	-0.010	-0.064***	0.045***	0.026*	0.038***	-0.017	0.073***
	15	**16**	**17**	**18**	**19**		
15 *Indboard*	1						
16 *Mshare*	0.140***	1					
17 *Mage*	-0.063***	-0.267***	1				
18 *Duality*	0.116***	0.498***	-0.181***	1			
19 *PC*	-0.029**	-0.108***	0.065***	-0.062***	1		

Notes: This table reports the pairwise Pearson correlation results among main variables. ***, **, * denote significance at the 1%, 5%, and 10% level (two-sided), respectively.

Table 3 OLS regression results for testing Hypothesis 1

	Dependent variable: *ETC*					
	Model 1		Model 2		Model 3	
	Coef.	t-value	Coef.	t-value	Coef.	t-value
Anticorrupt			**-0.0667*** **	**[-11.0463]**	**-0.0510*** **	**[-5.2400]**
Size	-0.0828***	[-3.8288]			-0.0537**	[-2.4220]
Leverage	0.0425	[0.5881]			0.0189	[0.2627]
Growth	-0.0039	[-0.2204]			-0.0128	[-0.6938]
Cash	-0.0192	[-0.2817]			-0.0127	[-0.1871]
Tax	0.0160	[0.0323]			-0.0544	[-0.1106]
Staff	-0.0143	[-1.0684]			-0.0087	[-0.6377]
Age	-0.0643***	[-2.7504]			-0.0119	[-0.4996]
Top1	-0.0529	[-0.3940]			-0.0455	[-0.3415]
Boardsize	0.0266	[0.5123]			0.0281	[0.5445]
Indboard	0.2538	[1.5628]			0.2499	[1.5443]
Mshare	0.0473	[0.6565]			0.0511	[0.7284]
Mage	-0.2375	[-1.1710]			-0.0396	[-0.1956]
Duality	-0.0059	[-0.3312]			-0.0045	[-0.2549]
PC	0.6729***	[4.9249]			0.6024***	[4.0788]
Constant	2.6778***	[3.4240]	0.7277***	[7.0368]	1.2704	[1.5742]
Firm fixed-effects	Controlled		Controlled		Controlled	
Number	4,899		4,899		4,899	
F value	13.49***		13.69***		13.66***	
Adj. R^2	0.8132		0.8145		0.8153	

Notes: This table reports the OLS regression results between corporate ETC expenditure and the anti-corruption campaign. Firm-fixed effects are controlled by including firm indicators in all regression models. ***, **, and * denote significance at the 1%, 5%, and 10% level (two-sided), respectively. T-statistics, based on standard errors adjusted for Huber-White, are in parentheses.

Table 4 OLS regression results for testing Hypotheses 2-4

	Dependent variable: *ETC*					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Anticorrupt	**-0.0507*** **	**-0.0100**	**-0.0510*** **	**-0.0363*** **	**-0.0510*** **	**-0.0650*** **
	[-5.2246]	**[-0.7663]**	**[-5.2434]**	**[-4.1101]**	**[-5.2400]**	**[-5.6524]**
*Anticorrupt*State*		**-0.0707*** **				
		[-5.3368]				
*Anticorrupt*Monopoly*				**-0.0397** **		
				[-2.5589]		
*Anticorrupt*Developed*						**0.0322*** **
						[2.6950]
State	0.0261	0.0651				
	[0.6039]	[1.4795]				
Monopoly			-0.0146	0.0002		
			[-0.4364]	[0.0046]		
Developed					0.1241**	0.0929*
					[2.1657]	[1.6520]
Size	-0.0542**	-0.0439**	-0.0534**	-0.0523**	-0.0537**	-0.0500**
	[-2.4439]	[-1.9628]	[-2.3984]	[-2.3486]	[-2.4220]	[-2.2408]
Leverage	0.0188	0.0001	0.0186	0.0160	0.0189	0.0191
	[0.2613]	[0.0007]	[0.2580]	[0.2210]	[0.2627]	[0.2654]
Growth	-0.0128	-0.0149	-0.0127	-0.0123	-0.0128	-0.0133
	[-0.6954]	[-0.8068]	[-0.6925]	[-0.6730]	[-0.6938]	[-0.7255]
Cash	-0.0131	-0.0167	-0.0132	-0.0135	-0.0127	-0.0033
	[-0.1925]	[-0.2451]	[-0.1949]	[-0.1999]	[-0.1871]	[-0.0490]
Tax	-0.0522	-0.0617	-0.0554	-0.0993	-0.0544	-0.0677
	[-0.1062]	[-0.1258]	[-0.1125]	[-0.2019]	[-0.1106]	[-0.1379]
Staff	-0.0085	-0.0061	-0.0087	-0.0058	-0.0087	-0.0100
	[-0.6220]	[-0.4493]	[-0.6382]	[-0.4113]	[-0.6377]	[-0.7349]
Age	-0.0121	-0.0453*	-0.0125	-0.0196	-0.0119	-0.0167
	[-0.5086]	[-1.7509]	[-0.5211]	[-0.8233]	[-0.4996]	[-0.6960]
Top1	-0.0451	-0.0190	-0.0449	-0.0377	-0.0455	-0.0451
	[-0.3388]	[-0.1425]	[-0.3373]	[-0.2852]	[-0.3415]	[-0.3382]
Boardsize	0.0280	0.0224	0.0279	0.0342	0.0281	0.0253
	[0.5409]	[0.4363]	[0.5384]	[0.6598]	[0.5445]	[0.4883]
Indboard	0.2487	0.2385	0.2491	0.2533	0.2499	0.2494
	[1.5376]	[1.4968]	[1.5398]	[1.5700]	[1.5443]	[1.5420]
Mshare	0.0514	0.0839	0.0506	0.0449	0.0511	0.0554
	[0.7320]	[1.1812]	[0.7236]	[0.6396]	[0.7284]	[0.7901]
Mage	-0.0370	-0.0660	-0.0392	-0.0304	-0.0396	-0.0210
	[-0.1829]	[-0.3257]	[-0.1935]	[-0.1510]	[-0.1956]	[-0.1046]
Duality	-0.0044	-0.0063	-0.0046	-0.0037	-0.0045	-0.0045
	[-0.2500]	[-0.3533]	[-0.2592]	[-0.2092]	[-0.2549]	[-0.2526]
PC	0.6024***	0.7221***	0.6044***	0.6321***	0.4783***	0.5024***

	[4.0805]	[5.0273]	[4.0779]	[4.3609]	[3.1716]	[3.4235]
Constant	1.2695	1.1357	1.2628	1.1643	1.2704	1.1488
	[1.5730]	[1.4157]	[1.5624]	[1.4495]	[1.5742]	[1.4321]
Firm fixed-effects	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Number	4,899	4,899	4,899	4,899	4,899	4,899
F value	13.65***	13.80***	13.65***	13.69***	13.66***	13.68***
Adj. R^2	0.8152	0.8172	0.8152	0.8158	0.8153	0.8157

Notes: This table reports the OLS regression results for investigating cross-sectional variations in the relationship between corporate ETC expenditure and the anti-corruption campaign. Firm-fixed effects are controlled by including firm indicators in all regression models. ***, **, and * denote significance at the 1%, 5%, and 10% level (two-sided), respectively. T-statistics, based on standard errors adjusted for Huber-White, are in parentheses.

Table 5 OLS regression results of the change model

	Dependent variable: ΔETC					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Anticorrupt	**-0.0407*** **	**-0.0101**	**-0.0412*** **	**-0.0318*** **	**-0.0412*** **	**-0.0525*** **
	[-3.9266]	**[-0.7083]**	**[-3.9651]**	**[-3.0469]**	**[-3.9655]**	**[-4.4118]**
*Anticorrupt*State*		**-0.0531*** **				
		[-3.8734]				
*Anticorrupt*Monopoly*				**-0.0254**		
				[-1.6056]		
*Anticorrupt*Developed*						**0.0260** **
						[2.0275]
State	0.0484	0.0776				
	[0.9292]	[1.4771]				
Monopoly			-0.0036	0.0058		
			[-0.0999]	[0.1625]		
Developed					0.0481	0.0229
					[0.8443]	[0.3975]
Size	0.0151	0.0228	0.01600	0.0167	0.0159	0.0189
	[0.6281]	[0.9508]	[0.6659]	[0.6911]	[0.6638]	[0.7866]
Leverage	-0.1149*	-0.1290*	-0.1148*	-0.1165*	-0.1147*	-0.1146*
	[-1.7279]	[-1.9231]	[-1.7199]	[-1.7422]	[-1.7225]	[-1.7229]
Growth	0.0686***	0.0670***	0.0686***	0.0689***	0.0686***	0.0682***
	[4.5340]	[4.4105]	[4.5409]	[4.5599]	[4.5400]	[4.5059]
Cash	-0.0624	-0.0652	-0.0619	-0.0621	-0.0617	-0.0542
	[-0.9027]	[-0.9348]	[-0.8944]	[-0.8977]	[-0.8934]	[-0.7865]
Tax	0.1908	0.1837	0.1865	0.1584	0.1867	0.1760
	[0.4039]	[0.3908]	[0.3945]	[0.3347]	[0.3954]	[0.3729]
Staff	-0.0131	-0.0114	-0.0135	-0.0116	-0.0135	-0.0146
	[-1.1826]	[-1.0208]	[-1.2238]	[-1.0360]	[-1.2239]	[-1.3213]
Age	-0.0207	-0.0456	-0.0205	-0.0250	-0.0203	-0.0242
	[-0.7566]	[-1.5736]	[-0.7462]	[-0.9100]	[-0.7423]	[-0.8844]
Top1	0.0409	0.0605	0.0404	0.0450	0.0403	0.0406
	[0.3003]	[0.4417]	[0.2964]	[0.3300]	[0.2957]	[0.2980]
Boardsize	-0.0099	-0.0141	-0.0097	-0.0056	-0.0096	-0.0119
	[-0.1720]	[-0.2460]	[-0.1676]	[-0.0976]	[-0.1666]	[-0.2071]
Indboard	0.0549	0.0472	0.0570	0.0597	0.0572	0.0568
	[0.3133]	[0.2710]	[0.3252]	[0.3405]	[0.3262]	[0.3238]
Mshare	0.1224	0.1467	0.1217	0.1181	0.1219	0.1253
	[1.3087]	[1.5609]	[1.3054]	[1.2640]	[1.3042]	[1.3407]
Mage	0.0441	0.0224	0.0394	0.0450	0.0393	0.0543
	[0.2203]	[0.1116]	[0.1966]	[0.2252]	[0.1962]	[0.2720]
Duality	0.0066	0.0052	0.0064	0.0070	0.0064	0.0065
	[0.3599]	[0.2844]	[0.3499]	[0.3820]	[0.3513]	[0.3552]
PC	0.0499	0.1397	0.0504	0.0681	0.0018	0.0212

	[0.2542]	[0.7287]	[0.2561]	[0.3497]	[0.0089]	[0.1095]
Constant	-0.3459	-0.4463	-0.3462	-0.4092	-0.3443	-0.4425
	[-0.4077]	[-0.5276]	[-0.4076]	[-0.4822]	[-0.4058]	[-0.5241]
Firm fixed-effects	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Number	4,899	4,899	4,899	4,899	4,899	4,899
F value	-	-	-	-	-	-
R^2	0.3277	0.3311	0.3275	0.3282	0.3275	0.3284

Notes: This table reports OLS regression results of the change model, where the dependent variable is the change of corporate ETC expenditure from year t-1 to t (ΔETC). Firm-fixed effects are controlled by including firm indicators in all regression models. ***, **, and * denote significance at the 1%, 5%, and 10% level (two-sided), respectively. T-statistics, based on standard errors adjusted for Huber-White, are in parentheses.

Table 6 Regression results of Heckman selection model for controlling for sample self-selection bias

	Dependent variable: *ETC*			
	Model 1	Model 2	Model 3	Model 4
Anticorrupt	**-0.0673*** **	**-0.0253***	**-0.0524*** **	**-0.0819*** **
	[-6.8533]	**[-1.9301]**	**[-5.5378]**	**[-7.0337]**
*Anticorrupt*State*		**-0.0764*** **		
		[-5.8188]		
*Anticorrupt*Monopoly*			**-0.0415*** **	
			[-2.6971]	
*Anticorrupt*Developed*				**0.0329*** **
				[2.7673]
State		0.0714		
		[1.6285]		
Monopoly			0.0055	
			[0.1638]	
Developed				0.0720
				[1.2942]
InvMills	**-0.5155*** **	**-0.5894*** **	**-0.5275*** **	**-0.5211*** **
	[-3.6330]	**[-4.1953]**	**[-3.7395]**	**[-3.6764]**
Size	-0.0239	-0.0090	-0.0219	-0.0198
	[-1.0629]	[-0.3997]	[-0.9708]	[-0.8753]
Leverage	-0.1442*	-0.1880**	-0.1509**	-0.1458*
	[-1.8996]	[-2.4687]	[-1.9870]	[-1.9265]
Growth	-0.0092	-0.0110	-0.0086	-0.0097
	[-0.4906]	[-0.5858]	[-0.4644]	[-0.5204]
Cash	-0.0134	-0.0179	-0.0141	-0.0038
	[-0.1994]	[-0.2646]	[-0.2103]	[-0.0570]
Tax	-0.0740	-0.0846	-0.1211	-0.0879
	[-0.1507]	[-0.1729]	[-0.2466]	[-0.1792]
Staff	-0.0101	-0.0076	-0.0071	-0.0115
	[-0.7495]	[-0.5601]	[-0.5113]	[-0.8517]
Age	-0.0179	-0.0549**	-0.0259	-0.0229
	[-0.7592]	[-2.1508]	[-1.1002]	[-0.9649]
Top1	-0.0431	-0.0141	-0.0351	-0.0426
	[-0.3250]	[-0.1063]	[-0.2669]	[-0.3214]
Boardsize	0.0314	0.0257	0.0379	0.0285
	[0.6112]	[0.5034]	[0.7361]	[0.5540]
Indboard	0.2557	0.2441	0.2597	0.2552
	[1.5939]	[1.5495]	[1.6247]	[1.5924]
Mshare	0.0426	0.0767	0.0360	0.0468
	[0.6060]	[1.0810]	[0.5123]	[0.6679]
Mage	-0.0592	-0.0905	-0.0503	-0.0404
	[-0.2939]	[-0.4484]	[-0.2506]	[-0.2018]
Duality	-0.0056	-0.0076	-0.0047	-0.0055

	[-0.3151]	[-0.4307]	[-0.2670]	[-0.3137]
PC	0.5923***	0.7201***	0.6223***	0.5128***
	[3.9682]	[4.9953]	[4.2512]	[3.4718]
Firm fixed-effects	Controlled	Controlled	Controlled	Controlled
Constant	1.0294	0.8493	0.9157	0.9022
	[1.2657]	[1.0511]	[1.1331]	[1.1163]
Number	4,899	4,899	4,899	4,899
F value	13.74***	13.91***	13.77***	13.76***
Adj. R^2	0.8163	0.8185	0.8169	0.8167

Notes: This table reports the second-stage OLS regression results of Heckman selection model for tackling sample self-selection bias. In the first stage of Heckman selection model, we regard whether focal firms disclose ETC information as the dependent variable, and regress a probit model on it to firm size (*Size*), firm leverage (*Leverage*), year and industry indicators to obtain the inverse Mills ratio (*InvMills*). Firm-fixed effects are controlled by including firm indicators in all regression models. ***, **, and * denote significance at the 1%, 5%, and 10% level (two-sided), respectively. T-statistics, based on standard errors adjusted for Huber-White, are in parentheses.

Table 7 OLS regression results of the economic effect of the anti-corruption campaign

	Dependent variable: ROA			Dependent variable: Tobin's Q		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Anticorrupt	**-0.0011**	**-0.0011**	**-0.0005**	**0.2580*****	**0.2574*****	**0.2738*****
	[-0.7355]	**[-0.7324]**	**[-0.3162]**	**[8.5250]**	**[8.5029]**	**[8.9848]**
*Anticorrupt*Eat_drink*			**-0.0135****			**-0.3507*****
			[-2.0539]			**[-3.6177]**
Eat_drink		-0.0047	0.0007		0.3122	0.4529**
		[-0.2759]	[0.0415]		[1.6197]	[2.2576]
Size	-0.0282***	-0.0282***	-0.0283***	-0.6124***	-0.6103***	-0.6137***
	[-7.1254]	[-7.1277]	[-7.1905]	[-7.8692]	[-7.8446]	[-7.8974]
Leverage	0.0625***	0.0626***	0.0622***	0.0532	0.0470	0.0346
	[4.8673]	[4.8783]	[4.8623]	[0.2224]	[0.1965]	[0.1455]
Growth	0.0077***	0.0077***	0.0077***	0.12989***	0.1301***	0.1293***
	[4.6364]	[4.6328]	[4.6118]	[3.7223]	[3.7301]	[3.7154]
Cash	-0.0015	-0.0014	-0.0006	0.0189	0.0144	0.0356
	[-0.1503]	[-0.1440]	[-0.0635]	[0.0896]	[0.0684]	[0.1696]
Tax	0.0677	0.0676	0.0718	-0.6204	-0.6316	-0.5209
	[1.4795]	[1.4764]	[1.5746]	[-0.6281]	[-0.6394]	[-0.5289]
Staff	0.0025	0.0025	0.0024	0.0140	0.0144	0.0119
	[1.4323]	[1.4286]	[1.3673]	[0.4113]	[0.4230]	[0.3478]
Age	-0.0020	-0.0020	-0.0019	0.6062***	0.6053***	0.6075***
	[-0.5738]	[-0.5712]	[-0.5411]	[7.1569]	[7.1467]	[7.2032]
Top1	0.0377*	0.0375*	0.0378*	-0.1255	-0.1108	-0.0997
	[1.6568]	[1.6463]	[1.6688]	[-0.2713]	[-0.2392]	[-0.2164]
Boardsize	0.0142*	0.0139*	0.0144*	0.3543**	0.3627**	0.3730**
	[1.7977]	[1.7624]	[1.8208]	[2.1061]	[2.1604]	[2.2316]
Indboard	-0.0066	-0.0074	-0.0077	0.5807	0.6107	0.5907
	[-0.2684]	[-0.2979]	[-0.3116]	[1.3152]	[1.3889]	[1.3557]
Mshare	-0.0075	-0.0076	-0.0065	-0.0944	-0.0875	-0.0544
	[-0.5207]	[-0.5272]	[-0.4548]	[-0.3298]	[-0.3056]	[-0.1901]
Mage	-0.0054	-0.0056	-0.0042	0.7868	0.8064	0.8514
	[-0.1693]	[-0.1771]	[-0.1329]	[1.2213]	[1.2521]	[1.3264]
Duality	0.0017	0.0017	0.0015	0.0266	0.0280	0.0254
	[0.5441]	[0.5384]	[0.5004]	[0.5622]	[0.5909]	[0.5347]
PC	-0.0553***	-0.0555***	-0.0563***	-0.3427	-0.3306	-0.3480
	[-3.5080]	[-3.5139]	[-3.5529]	[-1.0596]	[-1.0208]	[-1.0851]
Constant	0.5967***	0.5990***	0.5955***	10.5747***	10.4203***	10.2991***
	[4.3005]	[4.3164]	[4.3016]	[3.9517]	[3.8904]	[3.8568]
Firm fixed-effects	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Number	4,899	4,899	4,899	4,759	4,759	4,759
F value	5.54***	5.53***	5.55***	11.50***	11.50***	11.54***
Adj. R^2	0.6128	0.6127	0.6135	0.7891	0.7891	0.7899

Notes: This table reports the OLS regression results of the economic effect of the anti-corruption campaign on firms

in eat and drink industries and in other industries. Firm-fixed effects are controlled by including firm indicators in all regression models. ***, **, and * denote significance at the 1%, 5%, and 10% level (two-sided), respectively. T-statistics, based on standard errors adjusted for Huber-White, are in parentheses.

Table 8 OLS regression results of the value relevance of corporate corruption

	Dependent variable: ROA			Dependent variable: Tobin's Q		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ETC	**-0.0282*** **	**-0.0288*** **	**-0.0252*** **	**-0.2095*** **	**-0.1506** **	**-0.2678*** **
	[-9.7329]	**[-9.8762]**	**[-8.2369]**	**[-3.3063]**	**[-2.3896]**	**[-4.0890]**
*ETC*Anticorrupt*			**-0.0092*** **			**0.3217*** **
			[-3.7051]			**[6.1490]**
Anticorrupt		-0.0026*	0.0005		0.2502***	0.1418***
		[-1.8340]	[0.3321]		[8.5013]	[4.1528]
Size	-0.0311***	-0.0297***	-0.0307***	-0.4811***	-0.6213***	-0.5844***
	[-10.7896]	[-9.9519]	[-10.2648]	[-7.8023]	[-9.8379]	[-9.2677]
Leverage	0.0642***	0.0631***	0.0644***	-0.0748	0.0528	0.0069
	[7.4593]	[7.3075]	[7.4712]	[-0.3997]	[0.2844]	[0.0372]
Growth	0.0078***	0.0073***	0.0076***	0.0835***	0.1279***	0.1165***
	[6.2625]	[5.7943]	[6.0379]	[3.1239]	[4.7475]	[4.3413]
Cash	-0.0022	-0.0019	-0.0029	0.0415	0.0141	0.0503
	[-0.2663]	[-0.2275]	[-0.3594]	[0.2366]	[0.0812]	[0.2919]
Tax	0.0697**	0.0661**	0.0601*	-0.9497	-0.5851	-0.4384
	[2.2414]	[2.1244]	[1.9312]	[-1.4237]	[-0.8854]	[-0.6670]
Staff	0.0019	0.0022	0.0023	0.0403	0.013	0.0101
	[1.1705]	[1.3303]	[1.3680]	[1.1417]	[0.3725]	[0.2901]
Age	-0.005	-0.0024	-0.0026	0.8620***	0.6060***	0.6137***
	[-1.5717]	[-0.6818]	[-0.7659]	[12.6777]	[8.2271]	[8.3814]
Top1	0.0360**	0.0364**	0.0359**	-0.0748	-0.1247	-0.114
	[2.3147]	[2.3375]	[2.3115]	[-0.2169]	[-0.3656]	[-0.3363]
Boardsize	0.0149*	0.0150*	0.0160**	0.3651**	0.3565**	0.3328*
	[1.8279]	[1.8398]	[1.9625]	[2.0825]	[2.0567]	[1.9314]
Indboard	0.0006	0.0006	0.0023	0.6156	0.6169	0.5837
	[0.0275]	[0.0252]	[0.1023]	[1.2676]	[1.2850]	[1.2230]
Mshare	-0.0062	-0.006	-0.0068	-0.0438	-0.0848	-0.0607
	[-0.5205]	[-0.5022]	[-0.5705]	[-0.1684]	[-0.3293]	[-0.2372]
Mage	-0.0163	-0.0065	-0.0059	1.7295***	0.7641	0.7535
	[-0.6263]	[-0.2444]	[-0.2238]	[3.0778]	[1.3476]	[1.3370]
Duality	0.0015	0.0016	0.0018	0.0328	0.0253	0.0154
	[0.5966]	[0.6237]	[0.7355]	[0.6121]	[0.4767]	[0.2922]
PC	-0.0348	-0.038	-0.0351	-0.5611	-0.2603	-0.3542
	[-0.9890]	[-1.0780]	[-0.9981]	[-0.7601]	[-0.3563]	[-0.4876]
Constant	0.7025***	0.6332***	0.6463***	4.0074*	10.8486***	10.2922***
	[6.4134]	[5.4665]	[5.5880]	[1.6959]	[4.3910]	[4.1879]
Firm fixed-effects	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Number	4,899	4,899	4,899	4,759	4,759	4,759
F value	5.76***	5.76***	5.79***	11.22***	11.51***	11.67***
Adj. R^2	0.6239	0.6241	0.6256	0.7845	0.7894	0.7919

Notes: This table reports the OLS regression results of the value relevance of corporate corruption before and after the anti-corruption campaign. Firm-fixed effects are controlled by including firm indicators in all regression models. ***, **, and * denote significance at the 1%, 5%, and 10% level (two-sided), respectively. T-statistics, based on standard errors adjusted for Huber-White, are in parentheses.