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Economic Consequences of Anti-Corruption Campaign in China: An Exploratory Study

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Abstract

This study examines the economic consequences of the anti-corruption campaign in China from the perspective of information risk. Using accruals quality as a proxy for information risk, we find that firms with terminated political connection brought about by the anti-corruption campaign, as compared to propensity-score-matched control firms, have lower information risk as represented by higher innate accruals quality. Employing a difference-in-differences approach to investigate the economic effects of the campaign, we further note that firms with resigned directors are associated with lower cost of equity. The evidence is consistent with the proposition that the anti-corruption campaign has lowered the information risk through an improvement in the operating environment of these impacted firms upon the resignation of connected officials. Further evidence suggests that, for an increase in information risk, the demand for a higher risk premium is more pronounced for firms with terminated connection due to the anti-corruption campaign than firms with no connection.

1. Introduction

Guanxi, as an essential and defining element of Chinese culture, is considered a key determinant of a firm's performance and growth in the Chinese business world (Gold et al. 2002; Luo 2020). Both local and foreign firms are bound to face the dynamics of *guanxi* in their business dealings in China. Under the changing economic, legal and institutional landscapes in China, the line between *guanxi* and corruption can be a very fine one (Dunfee and Warren 2001). As an example, JP Morgan Chase was being investigated by US authorities after media reports suggested the bank hired sons and daughters of senior Chinese officials in the hope of winning deals from major state-owned enterprises.[1] As part of the plan to raise the standard of corporate governance of local firms, the China Securities Regulatory Commission (CSRC) issued, in August 2001, the Guiding Opinions on the Establishment of an Independent Director System in Companies Listed in China.[2] All companies listed on Chinese Stock Exchanges are required to have at least one third of their board members as independent directors by 2003. However, with the widespread practice of rent-seeking behaviors via political connection, these independent directorships in listed companies were often taken up by government officials.

The economic and financial impacts of political connection have been examined extensively. In particular, politically connected firms are associated with higher firm value and performance (Claessens et al. 2008; Goldman et al. 2009; Wu et al. 2012), easier access to external finance (Leuz and Oberholzer-Gee 2006; Cleassens et al. 2008; Li et al. 2008; Houston et al. 2014; Piotroski and Zhang 2014) and enjoy a lower cost of equity capital (Boubakri et al. 2012). However, limited studies are available on the effects of the termination of political connection. In this paper, we use the anti-corruption campaign in China as a pseudo-natural

[1] *South China Morning Post*, 18 August 2013.
[2] http:// http://www.csrc.gov.cn/pub/newsite/flb/flfg/bmgf/ssgs/gszl/201012/t20101231_189696.html (original in Chinese; accessed 3 September 2020).

experiment to investigate the financial impacts and economic consequences of the campaign on political connected as well as corrupt firms. As pointed out by Pan and Tian (2020), existing studies usually focus on the comparison of economic outcomes between firms with or without political connection, and it is unclear as to how these economic outcomes respond to a change in political connections through an ousted or arrested corrupt officials. The present study aims to address this gap by utilizing the anti-corruption campaign as an exogenous shock and using a difference-in-differences (DiD) design to compare the effects of losing political connection on cost of equity for firms affected by the campaign to a propensity-score-matched (PSM) control group. Specifically, our evidence suggests that firms with political connection terminated by the anti-corruption campaign are associated with higher reporting quality as proxied by acrruals quality and a lower cost of equity arising from the consequential lower information risk, as compared to firms with no political connections.

This study is related and contributes to a growing body of literature studying the impacts of the anti-corruption campaign on politically connected or corruption-related firms. For example, studies like Chen et al. (2018), Ding et al. (2020) and Lin et al. (2020) examine how the anti-corruption campaign affects China's capital markets and document a general increase in shareholder value overall as well as a drop in stock price crash risk of local firms. Focusing exclusively on firms with politically connected directors, both Jin et al. (2019) and Wang et al. (2018) report a drop in sales and profitability of impacted firms, while Hope et al. (2020) find apparent lower accrual and real earnings management activities by firms impacted by anti-corruption campaign as compared to firms with no political connection.

Our study relates to and complements prior studies by (i) investigating the effects of the anti-corruption campaign on the business and reporting environment of the affected firms (intrinsic business factors), (ii) the (less) opaqueness in the firms' discretionary disclosure policies, and consequently (iii) the pricing effects (reduced cost of equity) due to potential

changes in the information risks that are driven by the firm-specific operating and environmental characteristics as well as discretionary managerial decisions. Similar to Francis et al. (2004; 2005) we use the firms' accruals (reporting) quality (*AQ*) as proxy for information risk as determined by both management's short-term reporting choices and long-term strategic decisions. Kim and Qi (2010) provide further evidence that *AQ* and its pricing effect vary systematically with business cycles and macroeconomics. Likewise, we find consistent evidence that firms with termination of political connection brought about by the anti-corruption campaign are associated with higher innate accruals quality, supporting the proposition that the campaign improves the operating environment of these firms upon the resignation of connected officials.

Our findings are also relevant to policymakers and regulators of anti-corruption campaign. Previous studies indicate that corruption has a negative impact on overall economic growth and firm performance (Mo 2001; Murphy et al. 1993; Shleifer and Vishny 1993). The anti-corruption campaign initiated by President Xi has led to widespread investigation of corrupt officials, and according to the Central Commission for Discipline Inspection (CCDI) of the Communist Party of China (CPC), more than one million officials have been punished for corruption between 2013 to 2016.[3] While the anti-corruption campaign may reduce the number of politically connected firms in China, our findings indicate that an economic consequence of the campaign is the investors' attachment of a penalty in the form of a higher risk premium on these impacted firms, as compared to firms with no connection, for a given decrease in the accruals quality of both types of firms.

The rest of this paper proceeds as follows. In the next section, we discuss the institutional background as well as the impact of anti-corruption campaign. In section 3, we detailed our sample identification and selection process following by an explanation of our

[3] https://www.bbc.com/news/world-asia-china-37748241 (accessed 3 September 2020).

research design. Our main findings are presented in section 4, and a conclusion is drawn in section 5.

2. Institutional background and impact of anti-corruption campaign

2.1 Institutional background

Guanxi, as a form of social capital, is referring to the concept of drawing on social connections in order to secure favors (rent-seeking) in personal relations and has been an integral part of the Chinese business world for the last few centuries (Gold et al. 2002; Luo 2020). A company possessing better *guanxi* connections with the business community and governmental authorities may gain an edge over its competitors.[4] Prior research indicates that firms with political connections in China are associated with higher amount of government subsidies (Wu et al. 2012a); more tax benefits (Wu et al. 2012b; Lin et al. 2018); easier access to external debt financing (Cull et al. 2015; Wang 2015); higher likelihood of completing cross-border M&A deals (Schweizer et al. 2019), etc. Based on statistics from the Wind financial database, politically connected directors account for 7.82% of independent directorships in the Chinese A-share market at the end of 2012.[5]

While *guanxi* is not necessarily an origin or a source of corrupt practices, studies (e.g., Luo 2008; Ngo 2008; Zhan 2012) suggest that the corruption-facilitating effects of *guanxi* network as well as the intertwining nature of rent-seeking and corruption. As an example, Zhan (2012) reckons that guanxi network provides undocumented, exclusive, and safe channels of communication for officials to disclose crucial information in exchange of benefits. Guanxi network also enables corrupt exchanges between those privileged and underprivileged in an

[4] Even though networking is also common in Western economies, Luo (2020) points out that *guanxi* is a network based on favor exchange in which nothing is specified and interests are not necessarily mutual, whereas Western networking is based on benefit exchange in which each party's commitment, contributions, and obligations are stipulated and the strategic goals of the relevant parties are compatible.

[5] http://lib.cet.com.cn/paper/szb_con/319900.html (original in Chinese; accessed on 29 August 2020).

economy that is weak in open and fair distribution and exchange of resources. Finally, guanxi network can distort officials' norms and induce them to particularistic behaviors. When such norms override the legal norms, officials may feel obliged and justified to engage in corrupt activities.

According to the Corruption Perceptions Index (CPI) published annually by Transparency International, China was ranked 80th among 176 and 177 countries with a score of 39/100 and 40/100 in 2012 and 2013 respectively. However, China's ranking on the CPI dropped to 100th out of 198 countries in 2014 with a score of 36/100.[6] In 2006, the CCDI made the combat against business bribery the main focus of anti-corruption campaign. In late 2012, Chinese President Xi Jinping took office and promised to root out graft among "tigers" and "flies". In the year 2013 alone, 51,306 officials and 37,551 cases were investigated for work-related crimes including bribery and embezzlement.[7] As part of President Xi's anti-corruption campaign, the Central Organization Department of the CPC launched "Rule 18" on October 19, 2013[8] and banned all government officials to work concurrently in enterprises. Government officials who serve as directors in enterprises with the permission of the Central Organization Department are not allowed to receive any form of remuneration. Resigned government officials are not allowed, within three years, to work in enterprises under the same jurisdiction location of the retried officials. The release of Rule 18 resulted in a wave of resignations of bureaucrat directors[9] and it provides a potential setting for us to investigate the economic impacts of reporting consequences of Rule 18 at the firm level. The rule potentially provide an exogenous shock and impacts only a group of rent-seeking firms through political connection

[6] http://www.transparency.org/cpi2014/results (accessed 3 September 2020).
[7] http://www.chinadaily.com.cn/kindle/2014-03/14/content_17347170.htm (accessed 29 August 2020).
[8] The full title of "Rule 18" is "Regarding the opinion on the regulation of Party leaders holding part- (full-) time positions in enterprises". More details of "Rule 18" can be found, in Chinese, at the official website of the Central Organization Department: http://news.12371.cn/2013/10/30/ARTI1383137348428870.shtml.
[9] http://big5.xinhuanet.com/gate/big5/jjckb.xinhuanet.com/2014-06/17/content_508963.htm (original in Chinese; accessed on 30 August 2020).

or corruption. The implementation of Rule 18 allows us to unambiguously identify treatment and control firms to develop a DiD research design to investigate the differential effects of the anti-corruption campaign on the sample firms.

2.2 Impact of anti-corruption campaign

There is a growing body of literature in recent years that examines and finds mixed reactions in firms' financial and performance to the 2012 anti-corruption campaign. Hope et al. (2020) examine the level of discretionary accruals of firms that lose official directors due to the enactment of Rule 18 and find that the earnings management behaviors of these firms are lower when compared with other firms. Additional evidence suggests that the impact of the anti-corruption campaign on earnings management is dependent on institutional factors such as the degree of development of the financial markets, judicial efficiency, state-ownership, and preferential access to financing. Empirical results from Kong et al. (2020) suggest that anti-corruption campaign substantially increases the total factor productivity of individual firms by 1.7% and that the positive impact is more pronounced in non-state owned enterprises, firms without political connections, and firms located in areas with weak legal environment. Their findings are consistent with the suggestions that both the rent-seeking and lubricant effect of corruption are relatively weak for state-owned enterprises and firms with political connections. Furthermore, the campaign increases the sensitivity of firm investment to investment opportunities and promotes firm innovation.

On the other hand, Wei et al. (2020) document that the disruption of political connections due to the release of Rule 18 is associated with higher labour costs as well as employee turnover of the affected firms. In assessing the impact of the Eight-Point Regulation[10]

[10] The Eight-Point Regulation was issued by the Central Organization Department on 4 December 2012 with the aim of reducing bureaucracy, extravagance and undesirable work practices among CPC members.

under the anti-corruption campaign, Jin et al. (2019) notice that the sales revenue of politically connected firms dropped significantly after the introduction of the rule. Using Tobin's Q as a proxy for firm value, Xu (2018) finds that the implementation of Rule 18 impedes value of firms with banned directors by 4% on average. Further tests reveal that such decrease in firm value is due to the loss of political connections and disincentive for impacted managers and government officers. Based on 29 high-level anti-corruption cases in China from 2005 to 2011, Liu et al. (2016) investigate the merger and acquisition performance of corruption-related firms before and after the arrest of corrupt bureaucrats. Their evidence shows that the post-M&A performance of corruption-related firms, as measured by the short-term cumulative abnormal returns around announcement date and long-term buy-and-hold returns, is significantly worse than that of the unrelated firms subsequent to the arrest of the corrupt government officials. Similarly, Wang et al. (2018) identifies 20 cases of politician dismissal during China's anti-corruption campaign since 2012 and observes that the termination of political connections results in a 2% decline in equity value for affiliated firms at the point of event. Such line of inqueries generally suggest negative market reactions as a result of decreased profitability of the affected firms due to the termination of political connections.

Most of the studies on the impacts of the anti-corruption campaign focus on one aspect of the firms' reporting and/or financial performance while teasing out the differential effects as regards to the firms' specific geographic, operating or governance characteristics. With the removal of corrupt officials or termination of political connection, impacted firms are no longer able to enjoy preferential treatments from governments and are likely to face higher operating costs. On the other hand, anti-corruption campaign helps to restore a level playing field amongst competitors and may lead to lower transaction costs for these firms. The overall results as reported by prevailing literature are generally inconsistent.

To buttress our understanding of the effects resulting from the implementation of Rule 18, we adopt a more holistic approach by assessing the reporting environment of the affected firms. Specifically, we evaluate firms' reporting quality as proxied by their accruals quality. Following the arguments of Easley and O'Hara (2004) and Francis, et al (2004), if a firm's reporting quality deteriorates (an increase in accruals quality), it impedes the uninformed investors' ability to hedge against private information advantage available to informed investors. Such increase in the "information risks" of the firm will consequently increase the cost of equity to compensate the uninformed investors. Investor private information includes both the firm's business model and operating environment (innate factors) as well as management's propensity to strategic (discretionary) choice of reporting policies.

3. Sample formation and research design

3.1 Sample formation

3.1.1 Sample, treatment, and control firms

Our sample includes all non-financial firms listed on the Shanghai and Shenzhen stock exchanges from 2011 to 2015. To test the effects of the anti-corruption campaign, we construct a pre-Rule 18 (2011–2012) and a post-Rule 18 (2014–2015) period. Rule-18 affects two types of "connected" firms, namely, politically connected firms with director(s) resigned due to the release of Rule 18 (the "*ConResigned* firms"), and firms with officers involved in corruption cases in the post-Rule 18 period (the "*Corrupt* firms").

Similar to prior studies on politically connected firms (e.g. Lee and Wang 2017, Wu et al. 2012b, etc.), a firm is classified as politically connected if either the CEO or any director was currently or formerly an officer, before 19 October 2013, of either: government official, member of the Chinese People's Congress, member of the Chinese People's Political Consultative Conference, or military official. *ConResigned* firms are defined as those in which

all politically connected CEOs or directors within a firm have resigned due to the release of Rule 18 and they will be included in the treatment group. For this purpose, we review the announcements of listed companies from the China Stock Market and Accounting Research (CSMAR) database to determine the reasons for their directors' resignations. Moreover, firms with independent directors from academia are not considered to be politically connected as they tend not to have any direct political influence in general. Likewise, a firm is classified as *Corrupt* when any of its officers are involved in reported corruption cases in the post-Rule 18 period. Such corruption cases are to be identified from official sources, e.g. the *Excerpts of Disciplinary Cases of the CPC* published by the CCDI, *The Law Yearbook of China*, as well as unofficial sources, e.g. newspapers and internet. Similar to Hope et al. (2020), we construct corresponding control groups with *Non-Connected* firms for the *ConResigned* and *Corrupt* treatment groups. *Non-connected* firms are classified as those in which there were no politically connected CEO or directors in both pre- and post-Rule 18 periods.

3.1.2 Propensity-score estimation and matching

The control samples are generated by the propensity-score matching (PSM) approach such that the treatment firms and control firms share, other than the test variables, similar operating, performance and governance characteristics. The matching process helps to mitigate bias due to omitted and confounding variables (Rosenbaum and Rubin 1983). Similar to Hope et al. (2020) and Xu (2018), fitted values of the annual logit regressions on the treatment groups and the *Non-connected* group provide estimates of the probability (propensity scores) of firms being affected by Rule 18 (i.e., whether a particular firm has politically connected or corrupt directors). We include a generous set of control variables in the logistic estimates. This include all independent variables in analyses to be decribed in the ensuing sections as well as other firm and governance characteristics that may influence the

appointment of independent directors with political background. The logit model and the estimated results are presented in Appendix C. Separate control firms with no political connections (*Non-connected*) are matched without replacement by year, industry and the propensity scores with firms from the two treatment groups: *ConResigned* and *Corrupt.*

3.2 Research design

3.2.1 Impact of Rule 18 on Information Risk

Theoretical research by Easley and O'Hara (2004) and Lambert et al. (2007) indicates that information risk is a non-diversifiable risk factor and conjecture a positive relation between information risk and costs of capital. Information risk concerns the uncertainty or imprecision of information that is relevant to investors for pricing securities. Following Dechow and Dichev (2002) and Francis et al. (2005), we define *AQ* as the extent to which the accrual component of earnings is able to map earnings to information about cash flows. Assuming cash flow as the primary element that investors price, accruals shift or adjust the timing of accounting recognition to match with the timing of economic impacts of business transactions, resulting in an earnings number that better measure firm performance. However, accruals are subject to assumptions and estimates, and such estimation errors and noise reduce the beneficial role of accruals. Therefore, *AQ* provides information on the mapping of accounting earnings into cash flows and is viewed as a proxy for information risk. Sources of this risk is driven by innate features of the firm's characteristics, business model and operating environment, and poor accruals quality that is subject to discretionary management choice of accounting policies, implementation decisions, and managerial error (Francis et al. 2004; 2005). Guay et al. (1996) suggests that the discretionary component of accruals quality includes 1) the performance subcomponent, which reflects management's attempts to enhance the ability of earnings to reflect performance in a reliable and timely way; 2) the opportunism subcomponent,

which are employed to hide poor performance or postpone a portion of unusually good current earnings to future years; and 3) the noise subcomponent.

As point out under Section 2.2, studies on the impact of anti-corruption campaign on individual firms have so far generated mixed results. On the one hand, one would expect a downturn in the operating environment of firms with the discontinuation of favorable government subsidies and tax benefits following the termination of political connection or the arrest of corrupt officials. With higher complexity of transactions and unpredictability of the firms' environment, estimation errors of accruals will be higher (and thus lower innate component of *AQ*) and investors will find it harder to extract precise public information about the firm performance (higher information risk). On the other hand, anti-corruption campaign tends to reduce rent-seeking opportunities, reconstruct fair market competition, correct distorted investment incentives, reduce transaction costs, and restore formal and efficient institutions (Shleifer and Vishny, 1993; Mauro, 1995; Giannetti et al., 2020). Impacted firms may face a better or more stable operating environment. With accruals being able to provide a better mapping of earnings to cash flows (higher innate component of *AQ*), investors will find the earnings number to be more precise and informative (lower information risk). Taken together, we argue that the economic impact of Rule 18 on *AQ* remains an empirical issue.

To explore the impact of Rule 18 on information risk of *ConResigned* and *Corrupt* firms, we first conduct univariate tests by comparing the mean of various innate factors and measurements of firms' operating environments that are commonly found in the literature between pre- and post-Rule 18 periods for these two treatment groups. This is followed by regression of the following multivariate empirical models for both periods:

$$AQ_{j,t} = \beta_0 + \beta_1 CONRESIGN_{j,t} + \beta_2 Size_{j,t} + \beta_3 OperCycle_{j,t} + \beta_4 NegEarn\%_{j,t} +$$
$$\beta_5 \sigma(CFO)_{j,t} + \beta_6 \sigma(Sales)_{j,t} + \beta_7 \sigma(Returns)_{j,t} + \beta_8 \sigma(Volume)_{j,t} + \beta_9 Beta_{j,t} + \quad (1)$$

$$\beta_{10}Leverage_{j,t} + \beta_{11}ROA_{j,t} + \beta_{12}Returns_{j,t} + \beta_{13}Tangibility_{j,t} + \beta_{14}GDPGrowth_{j,t} +$$

$$\beta_{15}FirmGrowth_{j,t} + \beta_{16}\,\sigma(NI)_{j,t} + \beta_{17}MarketShare_{j,t} + \beta_{18}Listing_{j,t} + \beta_{19}Analysts_{j,t} +$$

$$\beta_{20}StateHoldings_{j,t} + \beta_{21}InsiderHoldings_{j,t} + \beta_{22}MajorHoldings_{j,t} +$$

$$\beta_{23}InstituteHoldings_{j,t} + \varepsilon_{j,t.}$$

$$AQ_{j,t} = \beta_0 + \beta_1 CORRUPT_{j,t} + \beta_2 Size_{j,t} + \beta_3 OperCycle_{j,t} + \beta_4 NegEarn\%_{j,t} +$$

$$\beta_5\sigma(CFO)_{j,t} + \beta_6\sigma(Sales)_{j,t} + \beta_7\sigma(Returns)_{j,t} + \beta_8\sigma(Volume)_{j,t} + \beta_9 Beta_{j,t} +$$

$$\beta_{10}Leverage_{j,t} + \beta_{11}ROA_{j,t} + \beta_{12}Returns_{j,t} + \beta_{13}Tangibility_{j,t} + \beta_{14}GDPGrowth_{j,t} +$$

$$\beta_{15}FirmGrowth_{j,t} + \beta_{16}\,\sigma(NI)_{j,t} + \beta_{17}MarketShare_{j,t} + \beta_{18}Listing_{j,t} + \beta_{19}Analysts_{j,t} +$$

$$\beta_{20}StateHoldings_{j,t} + \beta_{21}InsiderHoldings_{j,t} + \beta_{22}MajorHoldings_{j,t} +$$

$$\beta_{23}InstituteHoldings_{j,t} + \varepsilon_{j,t.} \qquad (2)$$

We employ three sets of proxies for information risk: *AQ-DD*, *AQ-FLOS* and *AQ-MJ* which are based on firm-level *AQ* as developed in Dechow and Dichev (2002), Francis et al. (2005), and the Modified-Jones model as developed in Dechow et al. (1995) respectively. We also decompose *AQ* into the innate component (*InnateAQ*) and the discretionary component (*AbDisAQ*) for each of the *AQ* proxies.[11] In model (1), *CONRESIGN* is a dummy variable which takes on the value of one if the individual firm was politically connected and have all the chief executive officers and directors resigned due to the release of Rule-18, and zero otherwise. In model (2), *CORRUPT* is a dummy variable which takes on the value of one if an officer of the firm was involved in corruption cases after the release of Rule-18, and zero otherwise. We then include 4 sets of variables that the literature (Dechow and Dichev 2002; Francis et al. 2005; Kent et al. 2010) has shown to be associated with firms' information risk

[11] Following Dechow and Dichev (2002) and Francis et al. (2005), we identified several summary indicators of firm's operating environment or business model (firm size, standard deviation of cash flows, standard deviation of revenues, length of operating cycle, and frequency of negative earnings realizations) and apply the fitted values from annual regressions of *AQ* on these summary indicators as the measure of the innate portion of *AQ* (*InnateAQ*); the residual is used as the measure of discretionary *AQ* (*AbDisAQ*). Details of the empirical estimation model are presented under Appendix B.

as control variables: (i) innate controls: firm size (*Size*), length of operating cycle (*OperCycle*), incidence of negative earnings (*NegEarn%*), volatility of operating cash flow ($\sigma(CFO)$), and volatility of sales ($\sigma(Sales)$);[12] (ii) volatility controls: volatility of returns ($\sigma(Returns)$) and volatility of shares' trading volume ($\sigma(Volume)$); (iii) financial controls: long-term debt (*Leverage*), return on assets (*ROA*), rate of returns (*Returns*), systematic risk (*Beta*), asset tangibility (*Tangibility*), market share (*MarketShare*), effects of macroeconomic environment on firm's information risk (*GDPGrowth*), firm growth (*FirmGrowth*) and volatility of net income ($\sigma(NI)$); and (iv) governance controls: number of listing years (*Listing*), analyst following (*Analysts*), state shareholdings (*StateHoldings*), insider's shareholdings (*InsiderHoldings*), major shareholdings (*MajorHoldings*) and institute's shareholdings (*InstituteHoldings*). Our main variables of interest will be the coefficients β_1 of the term *CONRESIGN* and β_1 of the term *CORRUPT*, under model (1) and (2) respectively, which measure the main effect of anti-corruption campaign on the information risk of the treatment groups, i.e., *ConResigned* and *Corrupt* firms, for pre- and post-Rule 18 periods relative to their control groups, i.e., *Non-Connect* firms. Definitions of the variables mentioned above are included under Appendix A and the empirical models for the three information risk proxies are detailed under Appendix B. Financial data for the above variables is extracted from the CSMAR database.

3.2.2 Economic consequences of Rule 18

Francis et al. (2004; 2005) show that poorer *AQ* is associated with higher cost of equity capital and the result is consistent with the view that information risk is a priced risk factor. As explained under section 3.2.1, *AQ* is driven by innate features of the firm's business

[12] When *InnateAQ* and *AbDisAQ* are used as the dependent variable for both models (1) and (2), innate controls except *Size* will be excluded from the regression models to avoid possible multicollinearity problem.

model and operating environment, and poor accruals quality that is subject to discretionary management choice of accounting policies, implementation decisions, and managerial error. In the latter's case, managers' attempts to use discretion over accruals to improve the mapping of earnings to cash flows as a performance indicator will reduce the information asymmetry that gives rise to undiversifiable information risk, leading to lower information risk premium demanded by investors. When managerial discretion is used to reap opportunistic gains by deliberate choice of opaque reporting policies, such behaviors are expected to increase information uncertainty and, therefore, leading to higher risk premium demanded by investors. Consequently, discretionary accruals quality is expected to have cost of capital effects that reflect some mixture of performance improvement (which will offset the cost of capital increases associated with innate accruals quality factors) and opportunism plus noise (which will exacerbate these factors). Similar to Francis et al. (2005), we do not attempt to separate these effects because testing for opportunistic behaviors affecting discretionary accruals quality would require the use of targeted, idiosyncratic samples chosen to enhance the effects of specific incentives to behave opportunistically. To the extent that the anti-corruption campaign would lead to higher (lower) information risk for *ConResigned* or *Corrupt* firms, we would expect a higher (lower) risk premium demanded by investors.

Our DiD analysis on the impact of Rule 18 on the cost of equity capital (*CoE*) of treatment groups as compared to PSM control groups are based on the following regression models in both Pre- and Post-Rule 18 periods:

$$CoE_{j,t} = \beta_0 + \beta_1 AQ_{j,t} + \beta_2 CONRESIGN_{j,t} + \beta_3 CONRESIGN_{j,t} \times AQ_{j,t} +$$
$$\beta_4 Size_{j,t} + \beta_5 OperCycle_{j,t} + \beta_6 NegEarn\%_{j,t} + \beta_7 \sigma(CFO)_{j,t} + \beta_8 \sigma(Sales)_{j,t} +$$
$$\beta_9 \sigma(Returns)_{j,t} + \beta_{10} \sigma(Volume)_{j,t} + \beta_{11} Leverage_{j,t} + \beta_{12} Beta_{j,t} +$$
$$+ \beta_{13} FirmGrowth_{j,t} + \beta_{14} GDPGrowth_{j,t} + \varepsilon_{j,t} \quad (3)$$

$$CoE_{j,t} = \beta_0 + \beta_1 AQ_{j,t} + \beta_2 CORRUPT_{j,t} + \beta_3 CORRUPT_{j,t} \times AQ_{j,t} +$$
$$\beta_4 Size_{j,t} + \beta_5 OperCycle_{j,t} + \beta_6 NegEarn\%_{j,t} + \beta_7 \sigma(CFO)_{j,t} + \beta_8 \sigma(Sales)_{j,t} +$$
$$\beta_9 \sigma(Returns)_{j,t} + \beta_{10} \sigma(Volume)_{j,t} + \beta_{11} Leverage_{j,t} + \beta_{12} Beta_{j,t} +$$
$$+ \beta_{13} FirmGrowth_{j,t} + \beta_{14} GDPGrowth_{j,t} + \varepsilon_{j,t} \quad (4)$$

In both models (3) and (4), we use individual firm's industry-adjusted earnings to price ratio (*IndEP*) as a proxy for its *CoE*. The price-earnings ratio, which places a price on a dollar of earnings, is considered an inverse indicator of the cost of equity (Liu et al. 2002). A lower (higher) amount that investors are willing to pay for a dollar of earnings represents a higher (lower) cost of equity capital for firms. *IndEP* is calculated as the difference between individual firm's earnings to price ratio and that of its median industry. Similar to models (1) and (2), we employ three sets of proxies for *AQ*: *AQ-DD*, *AQ-FLOS* and *AQ-MJ* together with their *InnateAQ* and *AbDisAQ* components. In model (3), *CONRESIGN* is a dummy variable which takes on the value of one if the individual firm was politically connected and have all the CEO and directors resigned due to the release of Rule-18, and zero otherwise. In model (4), *CORRUPT* is a dummy variable which takes on the value of one if an officer of the firm was involved in corruption cases after the release of Rule-18, and zero otherwise. *POST* is a dummy variable and takes on the value of one when the year is falling under the post-Rule 18 period, and zero otherwise. Following prior literature examining *CoE*, we include 2 sets of controls: (i) innate controls:[13] *Size*, *OperCycle*, *NegEarn%*, *σ(CFO)*, *σ(Sales)*; (ii) volatility controls: *σ(Returns)*, *σ(Volume)*; and (iii) financial controls: *Leverage*, *Beta*, *FirmGrowth* and *GDPGrowth*. Definitions of the above variables are listeded under Appendix A. Financial data for the above variables is extracted from the CSMAR database.

[13] When *InnateAQ* and AbDisAQ are used as the dependent variable for both models (3) and (4), innate controls except *Size* will be excluded from the regression models to avoid possible multicollinearity problem.

In model (3) and (4), the coefficients β_2 measure the incremental change in *CoE* for the treatment groups, i.e., *ConResigned* and *Corrupt* firms, in the pre- and post-Rule 18 period relative to their control groups, i.e., *Non-Connected* firms, respectively. For a unit increase in the rank of *AQ*, the coefficient β_3 captures the incremental change in *CoE* for *ConResigned* and *Corrupt* firms in the pre- and post-Rule 18 periods relative to *Non-Connected* firms respectively.

4. Empirical results

4.1 Derivation of sample and descriptive statistics

We start with all firms listed on both the Main and SME boards of the Shanghai and Shenzhen Stock Exchanges. After excluding firms in the financial industry, we have a total of 2,051 firms on the date when Rule 18 was issued. Upon checking the background of the directors and available public records, 466 firms are found to be politically connected and 90 firms have all their connected directors subsequently resigned. 19 firms are found to have officials involved in corrupt cases after the implementation of Rule 18. After eliminating firms with missing variables and winsorizing variables at 1% and 99% levels, our final treatment group of *ConResigned* (*Corrupt*) firms includes 82 (16) firms with 243 (46) firm-years.

Table 1 reports the summary statistics for our sample firms, partitioned into pre- and post-Rule 18 periods. The various measures of *AQ*, *InnateAQ*, and *AbDisAQ* have a mean larger than their respective median and are skewed to the right in both pre- and post-Rule 18 periods. For example, the mean (median) values of *AQ-DD*, *AQ-FLOS* and AQ-MJ are 0.0442 (0.0302), 0.0425 (0.0287) and 0.1610 (0.0958) respectively in the pre-Rule 18 period, and are 0.0397 (0.0244), 0.0373 (0.0255) and 0.1504 (0.0726) respectively in the post-Rule 18 period. With their standard deviations fairly close to the mean values, the distributions of the three sets of *AQ* indicate a high level of variation. A further look into the distributions of various *AQ*

measures indicate that the estimates under the *MJ* model are distinctive from those under the *FLOS* and *DD* models. In the pre-Rule 18 period, *AQ-MJ*, *InnateAQ-MJ* and *AbDisAQ-MJ* have a mean of 0.1610, 0.3183 and 0.2318 respectively. However, *AQ-DD* (*AQ-FLOS*), *InnateAQ-DD* (*InnateAQ-FLOS*) and *AbDisAQ-DD* (*AbDisAQ-FLOS*) have a value of 0.0442 (0.0425), 0.0517 (0.0531) and 0.0332 (0.0321) respectively. Similar pattern is observed in the post-Rule 18 period. As shown under Appendix B of this paper, *AQ* measures derived from the *FLOS* and *DD* models are limited to current accruals. Under the *MJ* model, *AQ* is related to the extent to which accruals are well captured by fitted values obtained by regressing total accruals on changes in revenues and property, plant and equipment. As pointed by Francis et al. (2005), while the *MJ* model identified accruals as abnormal if they are not explained by a limited set of fundamentals, the link to information risk is less direct than in the *DD* and *FLOS* approach.

Several firm characteristics and innate controls exhibit variances between pre- and post-Rule 18 periods. *FirmGrowth* and *returns*, as an example, has a mean value of 0.1878 and -0.0021 in the pre-Rule 18 period but 0.2862 and 0.0019 in the post-Rule 18 period. *NegEarn%* has a mean of 0.0677 and 0.1050 in the pre- and post-Rule 18 periods respectively. On the other hand, variables like *Leverage* and *Tangibility* remain stable in both pre- and post-Rule 18 periods, and their values are comparable to those found in prior studies, e.g., Hu et al. (2020).

4.2 Univariate test for main variables and innate controls

Given the distributions of our main variables are skewed, we conduct a test on the differences of their medians between pre- and post-Rule 18 periods using the Wilcoxon signed-rank test and the results are reported under Table 2. For *ConResigned* firms, all *AQ* measures under the *DD* (z = 2.130), *FLOS* (z = 2.237) and *MJ* (z = 2.905) models and their innate components are found to be significantly lower in the post-Rule 18 period, meaning that the overall information risk as well as the information risk arising from innate firm characteristics

have dropped after the launch of the anti-corruption campaign. Evidence from the test of median difference on innate factors is mixed: *OperCycle* and *σ(Sales)* has a *z*-score of -2.624 and 2.720 respectively, meaning that *ConResigned* firms have experienced a longer operating cycle but lower volatility in sales. For *Corrupt* firms, only *AQ-DD, AbDisAQ-DD* and *AbDisAQ-FLOS* are found to be lower in the post-Rule 18 period, and they are associated with lower volatility in operating cash flows.

4.3 Effect of Rule 18 on Information Risk

Table 3 provides our main results on the effect of Rule 18 on information risk of *ConResigned* and *Corrupt* firms (treatment groups) as compared to *Non-Connected* firms (control group). Panel A of Table 3 presents the regression results using decile ranks[14] of *AQ* under the *FLOS*, *DD* and *MJ* models together with its two components, *InnateAQ* and *AbDisAQ*, for *ConResigned* firms as compared to *Non-Connected* firms. The coefficient for *CONRESIGN* is insignificant in both pre- and post-Rule 18 periods when *AQ* is measured under all three models. However, the coefficient for *CONRESIGN* has a significant value of -1.0986 (*t*-value = -3.09), -1.1024 (t-value = -3.05) and -0.7395 (t-value = -1.87) in the post-Rule 18 period when *InnateAQ* is measured under *FLOS*, *DD* and *MJ* models respectively. In other words, information risk of *ConResigned* firms has dropped in the post-Rule 18 period as compared to *Non-Connected* firms, and the result is consistent with the proposition that the anti-corruption campaign has lowered the information risk of *ConResigned* firms through an improvement in the operating environment of these firms upon the resignation of connected officials. For *AbDisAQ*, no significant results are noted under *FLOS* and *DD* models, but coefficient for *CONRESIGN* has a significant value of -0.8458 (t-value = -2.00) under the *MJ* model. Turning

[14] Following Francis et al. (2004) and Francis et al. (2005), we use decile ranks of the measures of *AQ* to control for outliers and non-linearities.

to (unreported) coefficients of control variables, we find that they exhibit signs that are generally consistent with prior studies, e.g., Cohen (2008), on attributes of *AQ*. Contrary to expectation, we find that *Leverage* is positively and significantly associated with *AQ* and its components across all models.

Panel B of Table 3 presents the regression results using decile ranks of *AQ* together with its two components, *InnateAQ* and *AbDisAQ*, under the *FLOS*, *DD*, and *MJ* models for *Corrupt* firms as compared to *Non-Connected* firms. No coefficient for the term *CORRUPT* is found to be significant in the post-Rule 18 period. Plausible explanations of the insignificant results include the relatively small number of observations and the measurement errors associated with corruption data. Prior studies, e.g., Fisman and Svensson (2007), Wang and You (2012), etc., have pointed out the secretive nature of corrupt transactions and it is difficult to pinpoint the exact window in which the corrupt transactions impact the firms.

4.4 Effect of Rule 18 on Cost of Equity

Panel A of Table 4 presents the regression results of model (4) for *ConResigned* vs *Non-Connected* firms. Coefficients for *CONRESIGN* in the post-Rule 18 periods have a significant value of -0.0131 (*t*-value = 2.19) and -0.0111 (*t*-value = 1.88) when *AQ* and *InnateAQ* are respectively measured under the *FLOS* model. Similarly, *CONRESIGN* has a coefficient of -0.0140 (*t*-value = -2.33) and -0.0133 (*t*-value = -2.43) when *AQ* and *InnateAQ* are respectively measured under the *DD* model. No significant value is found for coefficient of *CONRESIGN* when *AQ* and *InnateAQ* are measured under the *MJ* model or when *AbDisAQ* is measured under any one of the *FLOS*, *DD* or *MJ* models. As pointed out earlier, the link to information risk is less direct for *MJ* measures than those under the *DD* and *FLOS* approach. Overall speaking, these results indicate that *CONRESIGN* firms have a lower cost of equity as compared to *Non-Connected* firms in the post-Rule 18 period, and are consistent with the

proposition that the anti-corruption campaign helps to create a stable and better operating environment by reducing rent-seeking opportunities, reconstructing fair market competition, correcting distorted investment incentives, reducing transaction costs, and restoring formal and efficient institutions (Shleifer and Vishny, 1993; Mauro, 1995; Giannetti et al., 2020), resulting in lower risk premium as demanded by investors.

In Panel A, coefficients for the cross-term *CONRESIGN* x *AQ* has a significant value of 0.0033 (*t*-value = 2.53) and 0.0026 (*t*-value = 2.43) when *AQ* and *InnateAQ* are measured under the *FLOS* model. Similar findings for the cross-term *CONRESIGN* x *AQ* are noted when *AQ* and *InnateAQ* are measured under the *DD* and *MJ* models. In other words, for a unit increase in the rank of *AQ* or *InnateAQ*, the rise in cost of equity is more pronounced for *ConResigned* firms as compared to *Non-Connected* firms in the post-Rule 18 period. Collectively, our findings indicate that investors require a higher cost of capital for *ConResigned* firms than *Non-Connected* firms when both are facing higher information risk. Correia (2014) finds that politically connected firms, on average, are less likely to be involved in enforcement actions by government authorities and face lower penalties imposed by an enforcement action. Termination of political connection brought by anti-corruption campaign increases the likelihood of restatements by *ConResigned* firms, resulting in higher information risk (Kravet and Shevlin, 2010). Our evidence is consistent with the argument that investors attach higher penalty in terms of risk premium for Conresigned firms facing higher information risk due to termination of political connection.

As reported in Panel B of 4 Table 5, no coefficient of significance is found for the term *CORRUPT* and the cross-term *CORRUPT* x *AQ* in post-Rule 18 period. The rationale behind such finding is similar to those reported under Section 4.3.

5. Conclusion

This study addresses the economic consequences of the anti-corruption campaign in China from the perspective of information risk on impacted firms. Using *AQ* as an overall proxy for information risk, prior studies have decomposed *AQ* into innate and discretionary components. Evidence from studies on anti-corruption campaign has mixed implications on these components. On the one hand, termination of political connection signifies the end of preferential government treatments enjoyed by these firms, resulting in a more difficult operating environment. Management may also intentionally create an opaque reporting environment to avoid public or government scrutiny. In both cases, one would expect an increase in both *AQ* components. On the other hand, anti-corruption campaign helps to restore formal and efficient institutions and promote fair market competition, resulting in a stable operating environment with lower transaction costs. Moreover, management may exercise their discretion to choose accounting policies that produce a timely measure of firm performance. In both cases, one would expect lower *AQ* components.

Empirically, we find that firms with terminated political connection due to the anti-corruption campaign are associated with lower innate AQ than firms with no political connection. This finding is consistent with the proposition that anti-corruption campaign helps to curb rent-seeking activities. Further tests reveal that these impacted firms are also associated with a lower cost of equity in the post-campaign period. However, comparing with firms with no connection, investors attach a higher penalty in terms of risk premium to these impacted firms for an increase in information risk. None of the above findings are found applicable to corrupt firms.

TABLE 1
Summary Statistics for Sample Firms

	Pre-Rule 18				Post-Rule 18			
	N	**Median**	**Mean**	**S.D.**	***N***	**Median**	**Mean**	**S.D.**
Main Variables								
IndEP	248	0.0032	0.0017	0.0369	328	-0.0043	-0.0033	0.0325
AQ-DD	246	0.0302	0.0442	0.0589	327	0.0244	0.0397	0.0502
AQ-FLOS	247	0.0287	0.0425	0.0567	327	0.0255	0.0373	0.0465
AQ-MJ	247	0.0958	0.1610	0.2221	328	0.0726	0.1504	0.3048
InnateAQ-DD	248	0.0476	0.0517	0.0363	328	0.0385	0.0457	0.0435
InnateAQ-FLOS	248	0.0490	0.0531	0.0379	328	0.0378	0.0452	0.0453
InnateAQ-MJ	247	0.2541	0.3183	0.2788	328	0.2039	0.2646	0.3288
AbDisAQ-DD	248	0.0233	0.0332	0.0432	327	0.0202	0.0297	0.0335
AbDisAQ-FLOS	248	0.0227	0.0321	0.0432	327	0.0208	0.0315	0.0351
AbDisAQ-MJ	248	0.1663	0.2318	0.2247	328	0.1426	0.2112	0.2576
Control Variables								
Innate factors								
Size	248	22.2753	22.4303	1.3429	328	22.3493	22.5129	1.3506
OperCycle	248	4.8166	4.9105	1.1437	328	5.1816	5.1817	1.1887
NegEarn%	248	0.0000	0.0677	0.1403	328	0.0000	0.1050	0.1749
σ(CFO)	248	0.0603	0.0666	0.0430	328	0.0494	0.0614	0.0467
σ(Sales)	248	0.1328	0.1771	0.1534	328	0.0989	0.1419	0.1458
Financial								
Beta	248	1.1374	1.1507	0.2532	328	1.0699	1.0293	0.2428
Leverage	248	0.1977	0.2126	0.1533	328	0.1734	0.1968	0.1614
ROA	248	0.0445	0.0574	0.0737	328	0.0300	0.0361	0.0735
Returns	248	-0.0013	-0.0021	0.0230	328	0.0014	0.0019	0.0341
MarketShare	248	0.0006	0.0017	0.0039	328	0.0004	0.0010	0.0017
Tangibility	248	0.3109	0.3433	0.1936	328	0.3468	0.3689	0.2116
GDPGrowth	248	12.4400	17.5056	5.5031	328	4.9900	6.7335	1.7676
FirmGrowth	248	0.1053	0.1878	0.3314	328	0.0687	0.2862	0.7035
σ(NI)	247	0.0251	0.0408	0.0623	327	0.0212	0.0370	0.0488
Governance								
Analysts	248	8.0000	13.1884	13.1098	328	4.0000	7.6572	8.5056
InsiderHoldings	248	0.0000	0.8746	5.3502	328	0.0000	2.5135	9.4143
InstituteHoldings	248	6.765	8.4753	8.7300	328	5.5650	8.4500	9.7746
Listing	248	13.0000	12.8024	3.8088	328	15.0000	13.9207	5.5598
MajorHoldings	248	36.3100	38.5987	16.5038	328	35.6950	36.6961	15.9512
StateHoldings	248	0.0000	8.4590	17.2163	328	0.0000	4.4584	11.9199
Return Volatility								
σ(Returns)	248	0.0237	0.0242	0.0045	328	0.0351	0.0356	0.0114
σ(Volume)	248	4.2710	6.9034	12.1790	328	8.7770	18.2670	24.0487

Refer to Appendix A for variable definitions.

TABLE 2
Test of Median Differences between Pre- and Post-Rule 18 Periods

	ConResigned Firms					*Corrupt* Firms					*Non-Connected* Firms				
	Pre-Rule 18		Post-Rule 18			Pre-Rule 18		Post-Rule 18			Pre-Rule 18		Post-Rule 18		
	N	Median	*N*	Median	*z*	*N*	Median	*N*	Median	*z*	*N*	Median	*N*	Median	*z*
Main Variables															
IndEP	102	-0.0003	141	-0.0061	0.965	21	-0.0146	25	-0.0038	-0.033	123	0.0050	159	-0.0014	1.640
AQ-DD	100	0.0315	141	0.0240	2.130**	21	0.0414	25	0.0308	1.709*	123	0.0270	158	0.0238	1.329
AQ-FLOS	101	0.0311	141	0.0253	2.237**	21	0.0367	25	0.0296	0.761	123	0.0257	158	0.0232	1.706*
AQ-MJ	102	0.0983	141	0.0728	2.905***	21	0.0825	25	0.0602	1.268	122	0.0966	159	0.0731	2.353**
InnateAQ-DD	102	0.0457	141	0.0343	2.204**	21	0.0434	25	0.0519	0.739	123	0.0485	159	0.0431	1.595
InnateAQ-FLOS	102	0.0456	141	0.0323	2.319**	21	0.0502	25	0.0488	0.981	123	0.0527	159	0.0411	1.999**
InnateAQ-MJ	101	0.0242	141	0.1746	1.941*	21	0.0362	25	0.2259	1.555	123	0.0257	159	0.2273	1.803*
AbDisAQ-DD	102	0.0214	141	0.0196	0.183	21	0.0329	25	0.0179	2.922***	123	0.0243	158	0.0219	0.587
AbDisAQ-FLOS	102	0.0174	141	0.0194	-0.954	21	0.0350	25	0.0170	2.106**	123	0.0264	158	0.0232	0.022
AbDisAQ-MJ	102	0.1722	141	0.1180	1.603	21	0.2257	25	0.1312	1.158	123	0.1571	159	0.1554	0.250
Innate Factors															
Size	102	22.2162	141	22.2010	-0.117	21	22.9198	25	22.6085	0.210	123	22.3193	159	22.4561	-1.671*
OperCycle	102	4.8783	141	5.3650	-2.624***	21	4.8407	25	4.9185	-0.562	123	4.7626	159	4.9784	-1.467
NegEarn%	102	0.0000	141	0.0000	-0.602	21	0.0000	25	0.0000	-1.148	123	0.0000	159	0.0000	-2.859***
σ(CFO)	102	0.0637	141	0.0478	1.605	21	0.0619	25	0.0451	1.753*	123	0.0568	159	0.0515	0.789
σ(Sales)	102	0.1293	141	0.0948	2.720***	21	0.1296	25	0.0964	1.158	123	0.1367	159	0.1027	2.785***

*, ** and *** represent statistical significance at the 10%, 5% and 1% levels respectively. Refer to Appendix A for variable definitions.

TABLE 3
Anti-Corruption Campaign and Information Risk

Panel A: *ConResigned* vs *Non-Connected* Firms

	AQ-FLOS		*InnateAQ-FLOS*		*AbDisAQ-FLOS*	
	Pre	Post	Pre	Post	Pre	Post
CONRESIGN	-0.1882	0.3273	0.3325	-1.0986***	0.4562	-0.0745
	(-0.50)	(0.96)	(0.85)	(-3.09)	(0.79)	(-0.18)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Governance controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	203	281	204	282	204	281
R^2	0.5073	0.5170	0.4093	0.4546	0.2110	0.1521

	AQ-DD		*InnateAQ-DD*		*AbDisAQ-DD*	
	Pre	Post	Pre	Post	Pre	Post
CONRESIGN	-0.4698	0.1582	0.2524	-1.1024***	0.5094	0.0809
	(-1.32)	(0.47)	(0.63)	(-3.05)	(0.90)	(0.18)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Governance controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	202	281	204	282	204	281
R^2	0.5765	0.5524	0.4101	0.4533	0.1930	0.1436

	AQ-MJ		*InnateAQ-MJ*		*AbDisAQ-MJ*	
	Pre	Post	Pre	Post	Pre	Post
CONRESIGN	0.5043	0.1151	0.5556	-0.7395*	0.8284	-0.8458**
	(1.29)	(0.34)	(1.29)	(-1.87)	(1.58)	(-2.00)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Governance controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	203	282	203	282	204	282
R^2	0.4276	0.4709	0.2824	0.2412	0.2119	0.1149

*, ** and *** represent statistical significance at the 10%, 5% and 1% levels respectively. Refer to Appendix A for variable definitions.

TABLE 3 (continued)
Anti-Corruption Campaign and Information Risk

Panel B: *Corrupt* vs *Non-Connected* Firms

	AQ-FLOS		*InnateAQ-FLOS*		*AbDisAQ-FLOS*	
	Pre	Post	Pre	Post	Pre	Post
CORRUPT	1.1948**	0.2504	1.3767**	0.6893	2.4307**	-0.1294
	(2.57)	(0.31)	(2.28)	(0.72)	(2.52)	(-0.15)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Governance controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42	50	42	50	42	50
R^2	0.9173	0.7847	0.8734	0.6352	0.6740	0.5555

	AQ-DD		*InnateAQ-DD*		*AbDisAQ-DD*	
	Pre	Post	Pre	Post	Pre	Post
CORRUPT	0.9970	-0.0752	1.1611	0.8980	2.5276**	-0.9749
	(0.78)	(-0.13)	(1.62)	(0.92)	(2.10)	(-1.41)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Governance controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42	50	42	50	42	50
R^2	0.8092	0.8408	0.8541	0.6428	0.7426	0.6783

	AQ-MJ		*InnateAQ-MJ*		*AbDisAQ-MJ*	
	Pre	Post	Pre	Post	Pre	Post
CORRUPT	0.1540	-0.1438	1.4778*	1.2022	0.5849	0.5606
	(0.13)	(-0.26)	(2.05)	(1.08)	(0.44)	(0.35)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Governance controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42	50	42	50	42	50
R^2	0.8317	0.8700	0.7692	0.5660	0.6019	0.3775

*, ** and *** represent statistical significance at the 10%, 5% and 1% levels respectively. Refer to Appendix A for variable definitions.

TABLE 4
Anti-Corruption Campaign and Cost of Equity

Panel A: *ConResigned* vs *Non-Connected* Firms

	Dependent variable = *IndEP*					
AQ =	*AQ-FLOS*		*InnateAQ-FLOS*		*AbDisAQ-FLOS*	
	Pre	Post	Pre	Post	Pre	Post
AQ	0.0008	-0.0017	0.0004	-0.0034***	0.0007	-0.0009
	(0.66)	(-1.40)	(0.42)	(-2.73)	(0.86)	(-0.78)
CONRESIGN	-0.0019	-0.0131**	-0.0233**	-0.0111*	-0.0071	-0.0078
	(-0.23)	(-2.19)	(-2.00)	(-1.88)	(-0.96)	(-1.33)
CONRESIGN x *AQ*	-0.0011	0.0033**	0.0024	0.0026**	-0.0004	0.0020*
	(-0.62)	(2.53)	(1.43)	(2.43)	(-0.27)	(1.77)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	199	260	200	260	200	260
R^2	0.3976	0.3711	0.3229	0.2637	0.3034	0.2330

	Dependent variable = *IndEP*					
AQ =	*AQ-DD*		*InnateAQ-DD*		*AbDisAQ-DD*	
	Pre	Post	Pre	Post	Pre	Post
AQ	0.0003	-0.0023*	0.0003	-0.0039***	-0.0001	0.0002
	(0.27)	(-1.73)	(0.29)	(-3.27)	(-0.11)	(0.23)
CONRESIGN	-0.0064	-0.0140**	-0.0234**	-0.0133**	-0.0068	0.0016
	(-0.84)	(-2.33)	(-1.99)	(-2.43)	(-0.84)	(0.26)
CONRESIGN x *AQ*	-0.0002	0.0035***	0.0025	0.0031***	-0.0004	0.0002
	(-0.13)	(2.63)	(1.42)	(2.93)	(-0.27)	(0.24)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	198	260	200	260	200	259
R^2	0.3943	0.3750	0.3219	0.2727	0.3026	0.2402

	Dependent variable = *IndEP*					
AQ =	*AQ-MJ*		*InnateAQ-MJ*		*AbDisAQ-MJ*	
	Pre	Post	Pre	Post	Pre	Post
AQ	-0.0006	-0.0012	-0.0002	-0.0031***	0.0002	-0.0017
	(-0.54)	(-1.18)	(-0.20)	(-2.82)	(0.28)	(-1.47)
CONRESIGN	-0.0194**	-0.0072	-0.0264**	-0.0104	-0.0198*	-0.0054
	(-2.36)	(-1.13)	(-2.34)	(-1.57)	(-1.87)	(-0.73)
CONRESIGN x *AQ*	0.0021	0.0021**	0.0029*	0.0024**	0.0017	0.0015
	(1.65)	(1.98)	(1.82)	(2.06)	(1.16)	(1.15)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	200	260	199	260	200	259
R^2	0.4041	0.3602	0.3258	0.2644	0.3173	0.2514

TABLE 4 (continued)
Anti-Corruption Campaign and Cost of Equity

Panel B: *Corrupt* vs *Non-Connected* Firms

	Dependent variable = *IndEP*					
AQ =	*AQ-FLOS*		*InnateAQ-FLOS*		*AbDisAQ-FLOS*	
	Pre	Post	Pre	Post	Pre	Post
AQ	-0.0033	0.0071	-0.0022	-0.0066*	0.0002	0.0002
	(-0.56)	(1.45)	(-0.26)	(-1.96)	(0.03)	(0.04)
CORRUPT	-0.0459	0.0173	0.0141	0.0023	0.0187	-0.0098
	(-1.08)	(0.68)	(0.34)	(0.11)	(0.42)	(-0.28)
CORRUPT x *AQ*	0.0093	-0.0028	-0.0043	0.0012	-0.0045	0.0044*
	(1.49)	(-0.57)	(-0.48)	(0.28)	(-0.61)	(0.73)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42	54	42	54	42	54
R^2	0.6697	0.6347	0.3282	0.4663	0.3172	0.4251

	Dependent variable = *IndEP*					
AQ =	*AQ-DD*		*InnateAQ-DD*		*AbDisAQ-DD*	
	Pre	Post	Pre	Post	Pre	Post
AQ	0.0032	0.0035	-0.0010	-0.0086**	0.0048	0.0044
	(0.47)	(0.77)	(-0.12)	(-2.58)	(0.72)	(0.87)
CORRUPT	-0.0184	-0.0004	0.0166	-0.0020	0.0186	0.0124
	(-0.45)	(-0.02)	(0.41)	(-0.11)	(0.38)	(0.31)
CORRUPT x *AQ*	0.0040	0.0004	-0.0049	0.0021	-0.0046	0.0010
	(0.71)	(0.08)	(-0.56)	(0.56)	(-0.62)	(0.17)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42	54	42	54	42	54
R^2	0.6697	0.6347	0.3282	0.4663	0.3172	0.4251

	Dependent variable = *IndEP*					
AQ =	*AQ-MJ*		*InnateAQ-DD*		*AbDisAQ-DD*	
	Pre	Post	Pre	Post	Pre	Post
AQ	0.0143**	0.0059	-0.0015	-0.0015	0.0098	0.0012
	(2.73)	(1.26)	(-0.16)	(-0.39)	(1.00)	(0.38)
CORRUPT	0.0171	-0.0074	-0.0097	0.0296	0.0770	0.0440
	(0.50)	(-0.40)	(-0.15)	(0.98)	(1.16)	(1.57)
CORRUPT x *AQ*	0.0037	0.0020	0.0003	-0.0034	-0.0143	-0.0063
	(0.70)	(0.48)	(0.03)	(-0.67)	(-1.24)	(-1.26)
Innate controls	Yes	Yes	No	No	No	No
Financial controls	Yes	Yes	Yes	Yes	Yes	Yes
Return volatility controls	Yes	Yes	Yes	Yes	Yes	Yes
Ind fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42	54	42	54	42	54
R^2	0.7075	0.6366	0.3055	0.4345	0.3514	0.4392

*, ** and *** represent statistical significance at the 10%, 5% and 1% levels respectively. Refer to Appendix A for variable definitions.

APPENDIX A
Variable Definitions

Variables	Definitions
σ(CFO)	Standard deviation of firm *j*'s cash flow from operations for the past 5 years
σ(Sales)	Standard deviation of firm *j*'s sales for the past 5 years
σ(NI)	Standard deviation of firm *j*'s net income for the past 5 years
σ(Returns)	Standard deviation of firm *j*'s daily returns over all trading days of the fiscal year
σ(Volume)	Standard deviation of firm *j*'s daily trading volume over all trading days of the fiscal year
AbDisAQ-DD	Discretionary component of firm *j*'s accrual quality under the Dechow and Dichev (2002) model
AbDisAQ-FLOS	Discretionary component of firm *j*'s accrual quality under the Francis et al. (2005) model
AbDisAQ-MJ	Discretionary component of firm *j*'s accrual quality under the Modified-Jones model
Analysts	Number of analyst following
AQ-DD	Firm *j*'s accrual quality under the Dechow and Dichev (2002) model
AQ-FLOS	Firm *j*'s accrual quality under the Francis et al. (2005) model
AQ-MJ	Firm *j*'s accrual quality under the Modified-Jones model
Beta	Annual estimate of Firm *j*'s beta from the market model of its daily returns with value-weight daily market returns
CONRESIGN	An indicator variable that equals one for firms with all connected-officials resigned due to Rule-18
CORRUPT	An indicator variable that equals one for firms with officers involved in corruption cases in the post-Rule 18 period
FirmGrowth	Log of 1 + % change in firm *j*'s book value of equity
GDPGrowth	Year-to-year % change in gross domestic product of China
IndEP	Firm *j*'s earnings-price ratio less the median earnings-price ratio of firm *j*'s industry
InnateAQ-DD	Innate component of firm *j*'s accrual quality under the Dechow and Dichev (2002) model
InnateAQ-FLOS	Innate component of firm *j*'s accrual quality under the Francis et al. (2005) model
InnateAQ-MJ	Innate component of firm *j*'s accrual quality under the Modified-Jones model
InsiderHoldings	Firm *j*'s shares held by managers divided by firm *j*'s total shares outstanding
InstituteHoldings	Firm *j*'s shares held by institutional investors divided by firm *j*'s total shares outstanding
Leverage	Firm *j*'s ratio of interest-bearing debt to total assets
Listing	Number of years that firm *j* has listed on the exchange
MajorHoldings	Firm *j*'s shares held by largest shareholder divided by firm *j*'s total shares outstanding
MarketShare	Firm *j*'s sales divided by total sales of firm *j*'s industry
NegEarn	Firm *j*'s incidence (in %) of negative earnings over the past 5 years

APPENDIX A (continued)
Variable Definitions

Variables	Definitions
OperCycle	Log of (360 / (Firm *j*'s Sales / Firm *j*'s average AR) + 360 / (Firm *j*'s Cost of Goods Sold) / (Firm *j*'s Average Inventory))
Returns	Firm *j*'s annual stock return
ROA	Firm *j*'s net income divided by the average total asset
Size	Log of firm *j*'s total assets
StateHoldings	Number of firm *j*'s shares held by government agencies divided by firm *j*'s total shares outstanding
Tangibility	Firm *j*'s ratio of property, plant and equipment to toal assets

APPENDIX B
Models of Accruals Quality

Variables	Definitions
$AQ\text{-}FLOS_{j,t}$	Standard deviation of firm *j*'s residuals over years *t*–4 through *t* from annual regressions with estimated coefficients of the following annual firm-specific model benchmarked with 50 firms with similar total assets values in year *t*: $$TCA_{j,t} = \phi_0 + \phi_1 CFO_{j,t-1} + \phi_2 CFO_{j,t} + \phi_3 CFO_{j,t+1} + \phi_4 \Delta Rev_{j,t} + \phi_5 PPE_{j,t} + \upsilon_{j,t,} \quad (5)$$ where $TCA_{j,t} = \Delta CA_{j,t} - \Delta CL_{j,t} - \Delta Cash_{j,t} + STDEBT_{j,t}$ = total current accruals in year *t*, $CFO_{j,t} = NIBE_{j,t} - TA_{j,t}$ = firm *j*'s cash flow from operations in year *t*, $NIBE_{j,t}$ = firm *j*'s net income before extraordinary items in year *t*, $TA_{j,t}$ = $(\Delta CA_{j,t} - \Delta CL_{j,t} - \Delta Cash_{j,t} + \Delta STDEBT_{j,t} - DEPN_{j,t})$ = firm *j*'s total accruals in year *t*, $\Delta CA_{j,t}$ = firm *j*'s change in current assets between year *t*–1 and year *t*, $\Delta CL_{j,t}$ = firm *j*'s change in current liabilities between year *t*–1 and year *t*, $\Delta Cash_{j,t}$ = firm *j*'s change in cash between year *t*–1 and year *t*, $\Delta STDEBT_{j,t}$ = firm *j*'s change in debt in current liabilities between year *t*–1 and year *t*, $DEPN_{j,t}$ = firm *j*'s depreciation and amortization expense in year *t*, $\Delta Rev_{j,t}$ = firm *j*'s change in revenues between year *t*–1 and year *t*, $PPE_{j,t}$ = firm *j*'s gross value of property, plant and equipment in year *t*. Larger standard deviations of residuals indicate poorer accruals quality.
$AQ\text{-}DD_{j,t}$	Standard deviation of firm *j*'s residuals over years *t*–4 through *t* from annual regressions with estimated coefficients of the following annual firm-specific model benchmarked with 50 firms with similar total assets values in year *t*: $$\Delta WC_{j,t} = \gamma_0 + \gamma_1 CFO_{j,t-1} + \gamma_2 CFO_{j,t} + \gamma_3 CFO_{j,t+1} + \varepsilon_{t,} \quad (6)$$ where $\Delta WC_{j,t} = \Delta AR_{j,t} + \Delta Inventory_{j,t} - \Delta AP_{j,t} - \Delta TP_{j,t} + \Delta Other\ Assets$ (net) = change in firm *j*'s working capital between year *t*–1 and year *t*, $CFO_{j,t}$ = firm *j*'s cash flow from operations in year *t*, $\Delta AR_{j,t}$ = change in firm *j*'s account receivable between year *t*–1 and year *t*, $\Delta Inventory_{j,t}$ = change in firm *j*'s inventory between year *t*–1 and year *t*, $\Delta AP_{j,t}$ = change in firm *j*'s account payable between year *t*–1 and year *t*, $\Delta TP_{j,t}$ = change in firm *j*'s taxes payable between year *t*–1 and year *t*. All variables are scaled by average assets. Larger standard deviations of residuals indicate poorer accruals quality.
$AQ\text{-}MJ_{j,t}$	Standard deviation of firm *j*'s residuals over years *t*–4 through *t* from annual regressions with estimated coefficients of the following annual firm-specific model benchmarked with 50 firms with similar total assets values in year *t*: $$TA_{j,t} = \varphi_0 + \varphi_1 (1/A_{j,t-1}) + \varphi_2 (\Delta REV_{j,t} - \Delta REC_{j,t}) + \varphi_3 PPE_{j,t} + \varepsilon_{t,} \quad (7)$$ where $TA_{j,t}$ = firm *j*'s total accruals for year *t*, measured as the difference between net profit and operating cash flows; $A_{j,t-1}$ = firm *j*'s total assets for year *t*-1; $\Delta REV_{j,t}$ = change in firm *j*'s revenues from year *t*-1 to year *t*; $\Delta REC_{j,t}$ = change in firm *j*'s receivables from year *t*-1 to year *t*; $PPE_{j,t}$ = firm *j*'s gross property, plant and equipment in year *t*. Larger standard deviations of residuals indicate poorer accruals quality.

APPENDIX B (continued)
Models of Accruals Quality

Variables	Definitions
InnateAQ-FLOS$_{j,t}$, *InnateAQ-DD*$_{j,t}$, and *InnateAQ-MJ*$_{j,t}$	Predicted values from the following model with fitted annual estimates of coefficients under various *AQ* models (*FLOS*, *DD* and *MJ)*: $$AQ_{j,t} = \lambda_0 + \lambda_1 Size_{j,t} + \lambda_2 \sigma(CFO)_{j,t} + \lambda_3 \sigma(Sales)_{j,t} + \lambda_4 OperCycle_{j,t} + \lambda_5 NegEarn\%_{j,t} + \mu_{j,t,} \quad (8)$$ where $Size_{j,t}$ = log of firm *j*'s total assets for year *t*; $\sigma(CFO)_{j,t}$ = standard deviation of firm *j*'s cash flow from operations between year *t*–4 and year *t*; $\sigma(Sales)_{j,t}$ = standard deviation of firm *j*'s sales between year *t*–4 and year *t*; $OperCycle_{j,t}$ = log of firm *j*'s operating cycle; $NegEarn\%_{j,t}$ = percentage of firm *j*'s reported net profit below 0 between year *t*–4 and year *t*.
AbDisAQ-FLOS$_{j,t}$, *AbDisAQ-DD*$_{j,t}$, and *AbDisAQ-MJ*$_{j,t}$	Residual from (8) with fitted annual estimates of coefficients under various *AQ* models (*FLOS*, *DD* and *MJ*): $$AbDisAQ_{j,t} = \mu_{j,t}$$

APPENDIX C
Logit Models for Propensity Score Matching

	***ConResigned* Firms vs *Non-Connected* Firms**		***Corrupt* Firms vs *Non-Connected* Firms**	
	Coefficient	**Z**	**Coefficient**	**Z**
σ(CFO)	0.3916	-0.64	2.5951	0.31
σ(Sales)	1.2139	0.43	0.8907	-0.12
σ(Volume)	1.0112**	2.39	1.0156**	2.02
σ(Returns)	0.0137	-0.62	3,076.643	0.52
Size	0.8845***	-3.87	0.8213***	-2.85
OperCycle	0.9238	-1.08	0.6651***	-2.72
Beta	1.1608	0.61	0.3644*	-1.74
Leverage	1.9037	1.59	0.1427*	-1.95
Tangibility	0.4552**	-2.18	0.3545	-1.40
Firm-Growth	1.0707	0.77	0.7405	-1.41
ROA	0.9116	-0.10	0.0097*	-1.88
Book-to-market	1.0943	0.47	2.8416***	4.01
InstituteHoldings	1.0314***	3.72	0.9382*	-1.79
InsiderHoldings	0.9624***	-4.45	1.0164	0.91
MajorHoldings	1.0088**	2.21	1.0007	0.08
StateHoldings	1.0005	0.13	0.9995	-0.06
Analysts	1.0144*	1.82	1.0475***	3.11
Listing	0.9895	-0.83	1.1896***	4.98
Returns	0.1220	-1.13	0.0011*	-1.66
GDP-Growth	0.9944	-0.69	1.0344*	1.72
Industry effects	Yes		Yes	

*, ** and *** represent statistical significance at the 10, 5 and 1 percent levels respectively.

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