Enforcement and Managerial Incentives: Evidence from Discipline Inspections in China[1]

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Abstract

Policymakers have increasingly intervened in corporate operations. We show that while enforcement can achieve political objectives, it may also distort managerial behavior through incentive misalignment. Using China's discipline inspections of state-owned enterprises as a quasi-natural experiment, we find that inspections curb managerial opportunism—specifically, expenditures on entertainment and travel decline markedly—but also lead to significant reductions in capital investment, profitability, market valuation, and innovation. Our findings reveal the dual edge of enforcement, highlighting the need to balance political oversight to preserve managerial initiative and corporate dynamism.

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1. Introduction

In recent years, governments around the world have increasingly intervened in corporate decision-making in pursuit of national or strategic goals. In the United States, for instance, the Trump administration imposed export restrictions on Nvidia's advanced chips[2] and made a $9 billion equity stake in Intel to strengthen domestic semiconductor manufacturing capacity—moves that reflect a renewed centralization of state influence over private enterprise. While such interventions are often well-intentioned, they raise a familiar dilemma: when political oversight intensifies, managers may reorient decisions toward political directives rather than market signals, potentially at the expense of firm performance. This tension between discipline and initiative is particularly pronounced in state-influenced economies such as China, where state-owned enterprises (SOEs) operate under dual political and commercial mandates.

Combating corporate misconduct often requires strong enforcement, yet theory suggests that overly aggressive oversight can backfire. In Becker's (1968) classic economic model of deterrence, harsher expected punishments do discourage wrongdoing; however, if enforcement becomes too stringent or mis-targeted, it can also deter socially desirable actions. When executives fear that even legitimate decisions might be punished, they may rationally avoid valuable but risky projects. This risk of over-deterrence is particularly relevant in organizations where bureaucratic or political oversight substitutes for market discipline. SOEs exemplify this trade-off: while political monitoring mitigates corruption and agency problems, it can simultaneously misalign incentives and suppress entrepreneurial initiative.

We investigate this enforcement–enterprise trade-off in the context of China's anti-corruption campaign, where the Communist Party's discipline inspections of central SOEs created a sharp, quasi-exogenous escalation in political oversight. These surprise inspections substantially increased managers' perceived probability of punishment, offering a natural experiment to study how intensified enforcement affects managerial incentives. Since 2013, 55 central SOE business groups were inspected in waves, leading to hundreds of officials being investigated or sanctioned (especially for corruption in investment projects).

[2] "*We went from 95% market share to 0% (in China), and so I can't imagine any policymaker thinking that that's a good idea…*"
– Jensen Huang (Nvidia's CEO) in an interview with Citadel Secuirties in Octboer, 2025.

While the campaign successfully exposed entrenched graft, observers at the time also reported a bureaucratic "do-nothing" mindset taking hold – officials, fearing punishment, began avoiding initiative and delaying decisions. These contemporaneous accounts offer anecdotal support for our central hypothesis that intensified anti-corruption oversight, despite curbing wrongdoing, may inadvertently discourage managers from pursuing valuable but risky endeavors.

To establish causal evidence, we exploit the staggered rollout of SOE discipline inspections using a difference-in-differences design.[3] We construct a panel of publicly listed firms controlled by central SOEs, distinguishing those whose parent SOE was inspected (treatment group) from those not yet inspected (control group) during the campaign period.[4] This empirical strategy allows us to quantify how a sharp increase in enforcement intensity reshaped managerial decision-making.

Our results unveil a pronounced enforcement trade-off. On one hand, the crackdown achieved the government's goal: managers curtailed opportunistic, value-diverting behaviors (we document significant drops in discretionary perk consumption such as entertainment and travel expenses).[5] On the other hand, those same managers pulled back sharply on investment and growth-oriented actions. After an inspection, capital expenditures fell significantly relative to the no-inspection counterfactual, and we find no evidence that only unproductive projects were cut – managers appear to forgo even promising investments, as reflected in a decline in firm performance. Profitability drops substantially (ROA and ROE decrease by 20–30%) and market valuations deteriorate (Tobin's Q declines by about 18%). Long-term innovative effort also weakens: inspected firms see marked reductions in R&D spending and patent output compared to control firms. Rather than reallocating resources to more efficient uses, managers essentially adopted a "play-it-safe" strategy after inspections, prioritizing personal and career safety over corporate expansion.

[3] These discipline inspections serve as a powerful, plausibly exogenous political shock, as noted by Lennox and Wu (2022), offering an ideal setting for causal inference in analyzing the impact of political events on managerial behavior. For instance, leveraging this event, Kong and Qin (2021) find sizeable positive effect on entreprenership.
[4] In this case, our data sample consists of business groups in China. As Jia, Shi, and Wang (2013) point out, a business group in China refers to a parent firm controlling one or several listed firms, and this controller is typically the largest shareholder.
[5] Cai et al., (2011) study Chinese firms and propose entertainment and travel costs expenditures as a measure of corruption.

Our evidence reflects distorted managerial incentives under heightened enforcement as the mechanism behind these outcomes. Discipline inspections greatly increase each manager's perceived personal risk – not only of being caught for corruption, but also of career damage from any bold venture that might fail or draw political scrutiny. In this atmosphere, caution is a rational response. Managers are effectively responding to the incentive structure set by the campaign: avoiding bold projects minimizes the chance of a catastrophic personal penalty. This interpretation aligns with classic career-concerns theory (Holmström, 1999), which predicts that agents concerned for their future will avoid high-variance endeavors that could reveal unfavorable information about their ability. Consistent with a career-concerns mechanism, we find that younger managers – those with more to lose in terms of career length – react more strongly to inspections than their near-retirement counterparts. In short, intense oversight by the state induced an overly conservative "quiet life" mentality among SOE managers: under the threat of political sanctions, executives prioritized self-preservation over opportunity, protecting their positions but stalling firm growth.

Our study contributes to several research streams. First, our analysis sheds new light on the interaction between political oversight and managerial incentives. Empirical evidence from the United States shows that heightened compliance regimes, such as the Sarbanes–Oxley Act, have restrained corporate risk-taking and innovation (Bargeron, Lehn, and Zutter 2010; Banerjee, Humphery-Jenner, and Nanda 2015; Albuquerque and Zhu 2019). Our findings provide complementary evidence from a markedly different institutional context: whereas U.S. reforms tightened investor protection, China's campaign intensified political control, yet both produced a similar behavioral outcome—managerial caution. By integrating these strands of research, we contribute to a unified understanding of how enforcement intensity, regardless of motive, shapes managerial incentives and enterprise dynamism.

Second, our paper extends the corporate-governance literature on agency conflicts in SOEs. Prior work shows that state ownership introduces political objectives and opaque performance criteria, leading to distinctive agency problems (Du et al. 2012; Jian and Wong 2010; Bradshaw et al. 2019; Chen et al. 2021;

Wei 2021). We uncover a new agency cost—fear-driven conservatism—in which excessive enforcement discourages productive initiative, illustrating that stronger monitoring is not always efficiency-enhancing.

Finally, we advance the literature on the economic consequences of China's anti-corruption campaign. Earlier studies emphasize its governance improvements, such as reduced graft and improved transparency (Fisman and Wang 2015; Chu et al. 2021; Kong and Qin 2021), but few explore the internal behavioral distortions it created within SOEs. We show that discipline inspections amplified managerial career risk, leading to rational but value-reducing conservatism in investment and innovation. This finding challenges the conventional "benign efficiency" view that lower SOE investment automatically enhances resource allocation.

In sum, our study bridges corporate governance and political economy by highlighting an overlooked dimension of the enforcement–enterprise trade-off: while effective in curbing corruption, over-enforcement can distort managerial incentives and suppress innovation, with implications extending well beyond China's SOEs to any environment where the state wields strong influence over firms.

The policy implications extend beyond China. The experience of U.S. government interventions—such as the Trump administration's direct involvement in semiconductor firms—illustrates that even in market economies, strong-handed oversight can reshape managerial behavior. Our study suggests a cautionary parallel: just as Chinese SOE managers became overly cautious under intense political scrutiny, any firm's executives might alter their investment and innovation strategies when faced with strong-handed government oversight. Whether the policy goal is curbing corruption or safeguarding national interests, excessive centralization of control can inadvertently stifle managerial initiative. The lesson from China's discipline inspections thus resonates globally: policymakers should strive to deter malfeasance without discouraging productive risk-taking.

This paper is organized as follows. Section 2 introduces the institutional background. Section 3 describes our data and empirical methodology. Section 4 discusses the results and provides further analysis and robustness checks. Section 5 concludes the paper.

2. Institutional Background

This section provides institutional background on China's anti-corruption inspections and the corporate governance framework of central SOEs.

2.1. Anti-corruption campaign and discipline inspections in China

In late 2012, the Communist Party of China (CPC) launched an ambitious anti-corruption campaign aimed at strengthening Party governance and curbing official malfeasance. A key early step was the introduction of the "Eight-Point Regulation", which imposed strict rules against bureaucratic excess (such as lavish travel, banquets, and other perks) and threatened swift disciplinary action for violations. The campaign quickly swept across government and state sectors: according to official data, over 187,000 officials were disciplined or prosecuted for corruption between 2013 and 2016.

While these efforts demonstrated the government's resolve in rooting out graft, observers also noted unintended side effects. Media dubbed such cadres "lazy bureaucrats" and "do-nothing officials" as they avoided initiatives.[6] Fearing punishment for any misstep, many officials grew overly cautious and hesitant to act, preferring inaction over initiatives that might draw scrutiny. This climate of fear hinted at a broader enforcement trade-off: aggressive anti-graft measures deter wrongdoing (consistent with Becker's deterrence theory) but may also discourage legitimate, productive activities by risk-averse officials.

To sustain the momentum of the anti-corruption drive, the CPC soon extended its scrutiny into the corporate realm of central state-owned enterprises (SOEs). In May 2013, the Party's Central Commission for Discipline Inspection (CCDI) launched the first round of discipline inspections targeting major state entities. Discipline inspections are surprise, in-depth audits and investigations carried out by CCDI teams, often unannounced, to ferret out any misconduct within the organization. Notably, these inspections scrutinize both the enterprise and its top executives (Party secretaries, chairpersons, general managers), especially those holding high bureaucratic rank. Over 2013–2015, seven rounds of inspections were conducted, ultimately covering 55 central SOE group companies with executives holding ministerial-level

[6] See media coverage from *CNN* (Westcott 2019) and *U.S. News* (Blanchard 2019).

ranks (i.e. the largest industrial and financial conglomerates under central government control).[7] The process was sweeping in scope: CCDI investigators reviewed more than 110,000 internal documents and records, and by the campaign's end dozens of enterprise leaders had been implicated. In total, 64 senior SOE executives (group-level CEOs or chairmen) and over 100 other top managers were charged with corruption-related offenses. Notably, a majority of the cited violations (about 56%) involved investment project misallocations or financial irregularities, underscoring how capital spending and corporate investments had become a primary arena for rent-seeking and graft.[8]

From a research perspective, as noted by Lennox and Wu (2022), the discipline inspections represent a powerful and plausibly exogenous shock to firms' operating environment. The central government determined the inspection schedule based on political priorities – not in reaction to any particular firm's performance – which helps mitigate endogeneity concerns in analysis. In practice, the rollout was staggered: at any given time during 2013–2015, some SOE groups was undergoing an inspection while others had not yet been inspected. This staggered implementation creates a natural treatment and control setting for empirical study, which we exploit in our research design. Conceptually, the inspections sharply raise the perceived probability of detection and punishment for managerial misbehavior. SOE executives suddenly face intense oversight by CCDI teams, greatly increasing their personal exposure to investigation. Even for managers with nothing to hide, the specter of an inspection introduces heightened uncertainty – any bold strategic move or large investment could potentially be second-guessed by political authorities. Consistent with a career-concerns perspective (Holmström 1999), managers worried that a failed project or an ill-timed expenditure might end their careers.

In short, the discipline inspections serve as an enforcement shock to managerial incentives: they strengthen deterrence against corruption, but in doing so may unintentionally provoke managers to "play it

[7] There are in total 128 central SOEs as of year 2019. The key distinction of the inspected SOEs is that their leaders officially hold ministerial rank, while the leaders of other central SOEs are in the lower ranks of a general bureau or department. For example, for the inspected central SOEs, the CEO is ranked as Vice Minister in the Ministry of China, while for other non-inspected central SOEs, the CEO is ranked as the Director of the General Department.

[8] Table A1 in the appendix sketches the timeline of the discipline inspections. The online appendix provides detailed information for these 55 central SOEs, including English and Chinese names.

safe" and shy away from normal risk-taking. Contemporary accounts indeed suggest that SOE managers, much like the "lazy" local officials, begin exhibiting extreme caution after inspections, adopting a "do less, avoid trouble" strategy in order to "buy peace" with the CCDI. This unique institutional episode—a top-down anti-corruption sweep through the commanding heights of the economy—provides an ideal setting to examine how tough enforcement can alter managerial behavior in both intended and unintended ways.

2.2. Corporate governance of central SOEs

A brief overview of China's central SOE governance structure is necessary to understand why discipline inspections had such a profound effect on managers. Central SOEs are large conglomerates overseen by the central government. The State-owned Assets Supervision and Administration Commission (SASAC), a ministry under the State Council, is responsible for evaluating and supervising these enterprises and their leadership. By design, central SOEs share a common governance template and reporting hierarchy.

Each central SOE group company sits atop a pyramid of subsidiaries and affiliated firms (including numerous wholly owned subsidiaries, joint ventures, and often several publicly traded companies). In our study, we focus on publicly listed firms that are part of these central SOE business groups – these listed firms are effectively controlled subsidiaries of the central SOE "parent" companies (sometimes directly, other times through intermediate holding subsidiaries; see Figure 1 for a stylized ownership structure).[9] The parent central SOE, in turn, is the entity to which CCDI inspections were applied. This parent-subsidiary structure means that when a central SOE group was inspected, all the firms within its corporate family came under heightened scrutiny by extension.

A defining feature of central SOE governance is the integration of political authority into corporate leadership. Top executives of a central SOE group, such as the chairperson or general manager, are not only business managers but also government-appointed officials with administrative ranks.[10] For example, a CEO of a major central SOE often holds a rank equivalent to a vice minister or a provincial vice governor.

[9] These entities--referred to as "parent companies" by Jia, Shi and Wang (2013) in their investigation of Chinese business groups—act as controlling shareholders of publicly listed firms within their business networks.
[10] Chen et al. (2018) show that the double identity role of Chinese SOE manager leads to an overlap between market and political contracts in a closed pyramidal managerial labor market and further affects firm stock price crash risk.

These appointments are made by the Organization Department of the CPC and the State Council, rather than by a private board of directors.

Moreover, each central SOE group and its key subsidiaries have an internal CPC Committee that plays a pivotal role in governance, including overseeing anti-corruption compliance and personnel decisions. The Party Committee within an SOE often has the authority to approve major investments and can influence managerial promotions or demotions. In effect, central SOE executives operate in dual roles – they are expected to achieve commercial and financial objectives, but they are simultaneously Party cadres who must uphold political directives and avoid any actions that might reflect poorly on the Party. Traditionally, leadership positions in SOEs have been regarded as secure "iron rice bowl" jobs, with tenures protected unless serious misconduct occurs. However, the advent of discipline inspections upended this stability: suddenly, even high-ranking SOE managers face the real possibility of career-ending punishment if they are found complicit in corruption or even if their decisions are deemed politically unacceptable. As a result, the enforcement shock jeopardizes not just managers' financial standing, but also their political capital, reinforcing risk-averse behavior.

This governance context amplifies the impact of the CCDI's enforcement campaign. Because SOE managers derive not just pay but also political status from their positions, the career stakes of being caught in wrongdoing (or even being associated with a failed project under an anti-graft microscope) are extremely high. The discipline inspections thus exert powerful pressure on managers to avoid any hint of impropriety or failure. Anecdotal evidence from the period indicates that many SOE executives become very conservative: projects that might attract attention are put on hold, and managers prioritize compliance and the status quo over innovation or expansion.

In summary, China's anti-corruption inspections, combined with the unique political governance of SOEs, create a scenario in which enforcement intensity dramatically shifts incentives. This institutional background motivates our empirical strategy. In the next section, we describe how we exploit the staggered introduction of inspections to identify their causal effect on managerial decisions and firm performance.

3. Data and Methodology

3.1. Data sources and sample construction

We construct a firm-quarter panel dataset of Chinese central SOE-affiliated listed companies, spanning from the first quarter of 2007 through the fourth quarter of 2017. The starting point for our sample is identifying the central SOE group companies that are targeted by CCDI discipline inspections during the 2013–2015 anti-corruption campaign. We obtain the list of inspected SOE group firms (and the quarter in which each inspection occurred) from official government releases and CCDI reports. For each inspected SOE group, we then identify all publicly traded firms in China's stock markets that are under the control of that SOE group.

Ownership information from the China Stock Market & Accounting Research (CSMAR) database is used to determine control relationships and the history of shareholdings. We include a listed firm in our sample if its ultimate controlling shareholder is one of the inspected central SOE groups, either directly or through subsidiaries (i.e., the central SOE holds a majority stake or absolute control). To ensure that we can observe outcomes both well before and after the inspection event, we require the controlling relationship to be in place continuously for a significant window around the inspection. In practice, we retain firms whose central SOE shareholder remains the controlling owner for at least ten quarters before and after the inspection quarter. This criterion provides a balanced panel for analyzing pre- and post-inspection dynamics at the firm level.

Applying these criteria yields a sample of 173 listed firms, which are affiliated with the 55 inspected central SOE groups. Together, these firms generate 7,073 firm-quarter observations over 2007Q1–2017Q4.[11] Our sample period begins well before the anti-corruption campaign and extends for roughly two years after the last round of inspections, allowing a relatively long window to observe trends and any lasting effects. By construction, not all firms in the sample experience an inspection at the same time – rather, each

[11] There are two reasons why we choose the sample period of 2007Q1–2017Q4. First, the accounting rule for publicly listed firms changed in 2007. For the consistency of using firm balance sheet information, we only use data starting from 2007Q1. Second, starting from 2018, CCDI initiated a double-review inspections process to the same central SOEs, which could give us duplicate inspections to the same firm. Therefore, our data sample ends at 2017Q4.

firm's "treatment" occurs in the quarter its parent SOE is inspected (if at all). At any point in time, firms whose parent firms have not yet been inspected serve as controls for those just subjected to an inspection.

Figure 1 illustrates a stylized example of a central SOE parent company and its network of subsidiaries, including a publicly listed firm; and demonstrates a typical hierarchy: when a parent SOE is inspected, all its subsidiaries (including listed firms) come under scrutiny, effectively treating the whole group. We obtain firm-level financial and accounting data from the CSMAR database, including balance sheet and income statement items needed to construct our key variables. We also gather information on firms' investment and innovation activities, such as capital expenditures and R&D spending, as well as measures of any managerial perquisite consumption (for example, entertainment and travel expenses reported in selling or administrative costs) when available from financial notes. These variables allow us to evaluate both the productive investments and the opportunistic expenditures of firms before and after the inspections.

****** Insert Figure 1 about here ******

3.2. Summary statistics

Table 1 provides summary statistics for the main variables in our dataset (2007Q1–2017Q4). The firms in our sample are large SOE-controlled companies with substantial assets and leverage.[12] On average, quarterly capital investment (measured as capital expenditures divided by total assets) is about 1.3% of assets. This corresponds to an annualized investment rate of roughly 5–6% of assets, which is reasonable for mature industrial firms. The average firm's short-term debt is about 40% of assets and long-term debt about 13.5% of assets, reflecting the heavy use of short-term debt financing by SOEs. Profitability is modest: mean quarterly return on assets (ROA) is around 1.9%, return on equity (ROE) about 3.6%, and return on debt (ROD, defined as net income over total debt) about 2.5% per quarter. These translate to annual ROA of ~7.5% and ROE of ~14%, indicating that while profitable, SOEs were not extraordinarily high-

[12] To lessen the influence of outliers, we winsorize all variables at the 1st and 99th percentiles. Table A2 in the appendix provides more detailed explanations for the definition of all variables. Table A3 in the appendix presents the Pearson correlation and Spearman correlation for all variables.

performing during this period. Listed firms' market valuations, captured by Tobin's Q (the ratio of market value of assets to book value), average 1.68, suggesting that on average the market values these companies about 68% above book value. In addition, the mean cash flow (operating cash flow scaled by assets) is about 1.15% of assets per quarter. Overall, these figures depict a baseline of fairly typical SOE-affiliated listed firms: moderate growth opportunities, significant leverage, and average profitability.

****** Insert Table 1 about here ******

3.3. Univariate test

We next conduct a simple univariate comparison to gauge how firms' outcomes change after the inspections, before turning to formal regressions. Table 2 summarizes key performance and investment measures in the ten quarters before versus the ten quarters after a discipline inspection, using firm-level averages in each period for the treated firms.

****** Insert Table 2 about here ******

The results are striking: consistent with the concerns discussed earlier, there are large declines in investment and performance following an inspection. Average quarterly Investment (CapEx/Assets) drops from about 1.5% pre-inspection to roughly 1.0% post-inspection, a 33% decline. Similarly, profitability falls significantly: mean ROA decreases by about 28.5% (from ~2.1% to ~1.5%), and ROE drops by roughly 30%. The return on debt measure (ROD) declines by a similar magnitude (~27% lower post-inspection). We also observe a reduction in market valuation, with average Tobin's Q slightly lower after inspections (a drop of around 1.2%). These raw differences, which do not control for any other factors, suggest that firms under an anti-corruption inspection experience a notable pullback in investment activity alongside a deterioration in performance metrics. Of course, these comparisons could reflect other coincident trends or mean reversion, so we caution against interpreting them as causal. Nonetheless, they provide preliminary evidence consistent with our hypothesis that the enforcement shock of inspections has adverse side effects on firm behavior and outcomes.

3.4. Empirical strategy: difference-in-differences approach

To formally identify the causal impact of discipline inspections on managerial behavior and firm performance, we employ a staggered difference-in-differences (DID) research design. The staggered timing of inspections – different SOE groups are inspected in different quarters between 2013 and 2015 – allows us to compare changes in outcomes for firms just becoming treated (i.e. whose parent has just been inspected) to changes at the same time for firms not yet treated. In essence, each inspection event serves as a quasi-experiment where the affected firms can be contrasted against a control group of similar firms awaiting inspection. Our baseline specification can be written as a panel regression model:

$$Y_{i,t} = \alpha + \beta Inspection_{i,t} + \gamma X_{i,t} + \varphi_i + \theta_t + \varepsilon_{i,t}, \quad (1)$$

where i indexes firm; t indexes time (i.e., quarter). The dependent variable $Y_{i,t}$ represents the outcome of interest for firm i in quarter t – which include measures such as the firm's investment rate, profitability, market value, and other policy-relevant metrics. The key independent variable $Inspection_{i,t}$ is is an indicator (dummy) variable that equals 1 if firm i's controlling SOE undergoes a discipline inspection by time t, and 0 otherwise. In other words, for each treated firm the indicator switches from 0 to 1 in the quarter of the inspection and remains 1 thereafter.[13]

The vector $X_{i,t}$ denotes time-varying firm-level controls; following prior literature on investment and performance, we include controls for the firm's financial leverage (ratio of total debt to assets), cash flow (operating cash flow to assets), and firm age (log years since listing), which may affect its investment capacity and performance. We also include a full set of firm fixed effects φ_i to absorb all time-invariant differences between firms (such as industry, size, or managerial culture), and time fixed effects θ_t for each quarter to capture any macroeconomic shocks or common trends affecting all firms in a given period. With this two-way fixed effects setup, identification comes from within-firm changes relative to other firms over time.

[13] For example, if the discipline inspection happens on March 20, then *Inspection* equals one for the second quarter and equals zero for the first quarter.

Our coefficient of interest, β, estimates the average treatment effect of a discipline inspection on firm outcomes, $Y_{i,t}$. We compute heteroskedasticity-robust standard errors clustered at the SOE group (parent) level, to allow for correlation in errors among firms that share the same parent and to account for serial correlation within firms over time. This clustering addresses the concern that multiple subsidiaries of the same SOE are not independent observations and that shocks or behaviors may be correlated within a business group. In addition, clustering by parent group is conservative in the sense recommended by Bertrand, Duflo, and Mullainathan (2004) for difference-in-differences analyses with a limited number of treated clusters.

The DID framework relies on the assumption that, absent the inspections, treated firms would have evolved in parallel with untreated firms. While this parallel trends assumption is fundamentally untestable, our setting and data allow us to provide supportive evidence that it holds. First, the institutional context makes it plausible that inspection timing was exogenous to firm-specific performance trends. The decision of when to inspect a particular SOE group is made by top CPC authorities and largely driven by political and organizational considerations (e.g., rotating through sectors or targeting entities with high-ranking officials) rather than precipitated by the firm's financial health.

To further clarify our empirical strategy, we emphasize that our identification relies on the staggered rollout of inspections across 55 central SOE groups between 2013 and 2015.[14] Firms whose parent SOEs were inspected constitute the treatment group, while firms affiliated with yet-uninspected central SOEs in the same quarter serve as the control group. Because inspections were announced and executed according to a centralized political schedule—determined by the Central Commission for Discipline Inspection (CCDI) based on administrative rotation and political visibility rather than firm performance—this timing is plausibly exogenous to firm-level economic outcomes. In our dataset, no firms experienced multiple inspections, and each treatment event is unique to the parent SOE. In our later robustness checks, we find no observable differences in pre-inspection characteristics that would suggest poorer-performing firms are

[14] Indeed, prior research has characterized these inspections as an external political shock unrelated to the firms' own economic conditions (Lennox and Wu 2022).

selectively chosen for earlier inspection. We also present event-study figures that visualize parallel pre-trends and the persistent post-inspection break in investment, which anchor our identification graphically.

Additionally, to ensure transparency, we explicitly adopt the recent econometric refinements proposed by Baker, Larcker, and Wang (2022) and Sun and Abraham (2021) to address potential bias in staggered difference-in-differences estimators. Specifically, we conduct the Goodman–Bacon decomposition to verify that later-treated firms serving as temporary controls do not drive our results. The decomposition reveals that all subgroup estimates are of the same sign (negative) and comparable magnitude, confirming the robustness of our treatment effect. Additionally, the Sun–Abraham adjustment yields nearly identical results, suggesting that heterogeneous treatment timing does not bias our estimates.

Finally, to preempt concerns about sample selection or inspection targeting, we compare pre-inspection firm characteristics—such as size, profitability, leverage, and investment intensity—across early- and late-inspected SOEs and find no statistically significant differences. This evidence, together with the political nature of the inspection schedule, supports the exogeneity of the enforcement shock. The institutional design of the campaign thus provides a rare opportunity to causally identify how abrupt enforcement intensification affects managerial incentives.

4. Empirical results

4.1. Investment

We begin by examining the impact of discipline inspections on corporate investment, which is central to our hypothesis about managerial risk aversion. Table 3 presents results. The estimated coefficient of interest is the one on *Inspection*, the indicator that equals one if a firm's controlling shareholder (i.e., central SOE) has been inspected. All regressions include firm fixed effects and time fixed effects. Column (1) of Table 3 estimates the basic impact of the discipline inspections on the mean investment of the inspected firm. Our preferred specification with controls is presented in Column (2). The results show that the coefficient for the discipline inspections indicator variable is -0.004 and is statistically significant at better than the 1% level. In terms of magnitude, the sample average quarterly investment is 1.5% of firm total

assets before inspections, indicating that managers in inspected firms cut investment by roughly 26.7% (= 0.004/0.015) relative to baseline levels after inspection. In other words, managers sharply curtail capital spending following the enforcement shock. This behavior is consistent with managers becoming more risk-averse and 'playing it safe' in response to the heightened inspection risk.

Importantly, we find no evidence of pre-existing trends: when we include leads and lags of the inspection indicator, the coefficient on the one-quarter-before dummy is small and statistically insignificant (columns (3) and (4) of Table 3). This suggests that treated firms do not exhibit any abnormal investment behavior in the period leading up to the inspection, supporting the parallel trends assumption for our identification strategy. Taken together, these results indicate a significant causal effect of discipline inspections on reducing investment – consistent with managers adopting a more cautious stance once the threat of punishment increases.

****** Insert Table 3 about here ******

We next investigate whether managers improve investment efficiency when cutting back on levels. In particular, we follow the literature on investment efficiency (Lang, Ofek, and Stulz 1996; Chen, Sun, Tang, and Wu, 2011) to analyze the sensitivity of capital expenditures to investment opportunities. We use firm sales growth to measure the investment opportunity.[15] Table 4 reports this analysis. If inspections prompt managers to cut only low-NPV projects, the investment–sales growth sensitivity should increase; however, we find no such pattern.

Specifically, the interaction term between *Inspection* and *Investment Opportunity* is statistically insignificant, indicating that investment efficiency does not improve after inspections. In other words, managers do not target only low-quality projects for reduction; instead, they appear to indiscriminately scale down all investment, rather than reallocating capital to better opportunities. This suggests that the cutbacks are driven by a desire to "buy peace" with the inspectors – a broad pullback to avoid scrutiny –

[15] Ding et al. (2018) suggests sales growth as a good measure of investment opportunity for Chinese firms.

rather than by an effort to eliminate waste and focus on efficient projects. In sum, while inspections cause managers to reduce investment, there is no offsetting increase in the quality of remaining investments.

****** Insert Table 4 about here ******

4.2. Heterogeneous effects on investment

To shed further light on the mechanism behind these investment cuts, we examine heterogeneity across industries and managers, focusing on where fear of political punishment would be strongest. First, we expect a larger response in industries where central SOEs have monopoly power and face heightened political scrutiny. SOEs dominate certain strategic sectors—such as petroleum, mining, and utilities--that require large investments and are often prone to corruption; managers in these sectors might anticipate extra attention from regulators. Consistent with this hypothesis, Columns (1)–(2) of Table 5 show that firms in monopoly industries experience significantly greater declines in investment after inspections than do those in other industries. This is consistent with the thesis that managers in strategic sectors (e.g. utilities, oil) anticipate greater political scrutiny and thus react more strongly.

****** Insert Table 5 about here ******

Second, we consider managerial career incentives. Younger CEOs, with longer future careers at stake, may respond more strongly to the inspection threat due to career concerns, whereas older CEOs near retirement have less to lose.[16] Columns (3)–(4) of Table 5 confirm this pattern: firms led by younger managers cut investment markedly more than firms led by older managers following an inspection. This pattern aligns with Holmström's (1999) career-concerns model: managers with longer horizons have more to lose and thus become more cautious. Managers who expect greater scrutiny – either because of the strategic importance of their industry or the length of their remaining career – are the ones most prone to pull back, which is consistent with a career-concerns model of managerial behavior under political pressure.

In summary, the investment pullback is most pronounced in scenarios where managerial incentives to take risk are weakest – whether due to industry environment (state monopolies with soft competition) or

[16] Previous literature has demonstrated that managerial tenure concerns can influence their propensity for risk-taking (e.g., Serfling, 2014; Ali and Zhang, 2015).

personal career considerations (younger CEOs with much at stake). This is in line with Hypothesis 3's expectation that poorly incentivized managers should react more strongly.

In sum, the above evidence reinforces our proposed career-risk mechanism. Younger managers, who face longer promotion horizons and greater exposure to career sanctions, respond more strongly to inspection shocks. Similarly, managers with weak performance-based pay or limited equity ownership display greater investment retrenchment, consistent with having little financial upside to offset the personal downside risk. These findings jointly indicate that it is not a liquidity or credit constraint channel, but rather a behavioral adjustment in response to perceived personal risk that drives the results. In this sense, discipline inspections alter the relative weighting of career versus performance incentives, leading rational managers to prioritize political safety over entrepreneurial initiative.

4.3. Other managerial expenditures

We also analyze how discipline inspections affect other types of expenditures, including discretionary spending often associated with agency problems (entertainment and travel expenses) as well as long-term investments like R&D. Using annual data (since these items are reported yearly), Table 6 shows the change in each expense category scaled by sales. The deterrence effect on opportunistic spending is apparent: after an inspection, spending on entertainment and travel drops dramatically. More specifically, as show in Column (1) and (2), expenditures on entertainment and travel decline by 45.65% (= 0.021/0.046) and 58.33% (= 0.028/0.048), respectively. These large declines suggest that managers curtail expenditures that could be perceived as personal perks or potential channels for graft. This demonstrates a successful deterrence of opportunistic behavior, aligning with the crackdown's goal of reducing malfeasance.

****** Insert Table 6 about here ******

However, managers also pull back on productive expenditures. In particular, as shown in Column (3), R&D investment falls by roughly 25% (= 0.775/3.0913) post-inspection. This reduction in innovation input is consequential: the average number of new invention patents per firm plunges from about 31 before inspections to only 5 after. The sharp decline in R&D spending and patent output indicates that heightened enforcement not only weeds out wasteful expenditures, but also discourages long-term innovative activities.

In short, the campaign achieves deterrence of lavish spending, but at the cost of stifling growth-oriented investments.

Thus, a clear trade-off emerges – the inspections curb wasteful indulgences, but they also curtail productive investment in R&D, with measurable drops in innovation output.

4.4. Firm performance

We examine whether the enforcement-induced changes in managerial behavior translate into observable differences in firm performance. Table 7 reports the impact of inspections on market valuation and profitability. Column (1) shows that Tobin's Q (the market-to-book asset ratio) declines significantly in inspected firms. The point estimate implies an approximately 17.6% (= 0.297/1.687) drop in Tobin's Q relative to its pre-inspection average, suggesting that investors assign a lower value to firms after the crackdown – consistent with reduced growth prospects. Columns (2)–(4) of Table 7 document a deterioration in profitability. Return on assets (ROA) falls by about 19% (=0.004/0.021) of its baseline level, and return on debt (ROD) – defined as net income over total debt – declines by about 30.8% (=0.008/0.026). Both of these declines are statistically significant at conventional levels. Return on equity (ROE) also drops by a significant 25.6% (=0.01/0.039), although its t-statistic value is slightly smaller.

****** Insert Table 7 about here ******

Overall, inspected firms' profits and market valuations worsen substantially after the inspections. These findings confirm Hypothesis 2 – the post-inspection pullback in investment has a measurable cost in terms of performance and valuation. The performance decline underscores the unintended cost of the crackdown: while some resources may be saved by cutting perks or unprofitable projects, the evidence suggests that the foregone profitable investments and increased organizational caution negatively impacts firm value. In line with this interpretation, we observe that innovation output suffers, as noted above, and more broadly the firms' long-run growth potential is hampered by the climate of fear.

4.5. Other outcomes

We also analyze whether managers adjust firm policies on employment and wages in response to inspections. In Table 8, columns (1)–(2) indicate no significant change in average wages for either

employees or top executives post-inspection. This contrasts with some prior evidence in private-sector settings (e.g. Bertrand and Mullainathan 2003) that managers might raise worker pay to "buy peace" and ensure loyalty when under less scrutiny.[17] In our context of politically monitored SOEs, managers do not increases or cut wages – likely because wage bills in SOEs are guided by bureaucratic norms and deviations could draw unwanted attention.

Column (3) of Table 8 shows that firms do not downsize their workforce after inspections; there is no evidence of layoffs or reduction in employee headcount. This is not surprising given that Chinese SOEs face social and political pressures to maintain employment for stability. In other words, rather than cutting staff or altering compensation (which might cause political backlash), managers react to the inspections primarily by scaling back discretionary spending and investment. This behavior is consistent with a strategy of avoiding high-visibility actions (like layoffs) that could trigger political disapproval, and instead minimizing activities that might attract the inspectors' scrutiny.

****** Insert Table 8 about here ******

Lastly, using information on M&A activity from firm annual reports, we find evidence of a broader retreat from corporate expansion in the wake of inspections.[18] M&A declines noticeably for inspected firms. In our sample, about 20% of firms engage in M&A in the years before being inspected, whereas only 16% do so afterward. The total value of M&A deals (scaled by firm sales) falls from roughly 0.197 before inspections to 0.128 after, and the average number of transactions per firm drops from about 52 to 33. These declines in M&A are consistent with managers becoming more reluctant to pursue bold, acquisitive growth strategies under heightened enforcement risk. In fact, they echo findings by Nguyen and Phan (2017) that greater policy uncertainty leads to fewer acquisitions.[19] The decline in M&A is consistent with managers becoming more reluctant to pursue bold, acquisitive growth strategies under heightened enforcement risk.

[17] Bertrand and Mullainathan (2003) find that insulated managers may raise wages to reduce scrutiny.
[18] We do not include foreign M&A activities, because the data does not provide the value of foreign M&A, but in terms of the number of transactions, foreign M&A accounts for a relatively small fraction. Nevertheless, we obtain similar result if we include foreign M&A. On average, there are 2.8 firms with foreign M&A and 3.2 transactions before the inspections, and the numbers declines to 2.5 and 3.0 after the inspections, respectively.
[19] Because firms only report yearly on M&A activities, we cannot process the corresponding regressions by using quarterly data. In fact, in terms of magnitude, there are on average only 0.327 M&A transactions per firm per year.

Taken together, the evidence on investment, innovation, and M&A consistently supports our core hypothesis: discipline inspections—as an anti-corruption tool—succeed in deterring opportunistic behavior, but they also unintentionally suppress legitimate business investment and risk-taking, resulting in slower growth and weaker performance. Managers, facing a substantially higher probability of punishment (Becker 1968), rein in malfeasance but also adopt an overly cautious "safe-play" posture in day-to-day decisions. This pattern illustrates a form of rational over-deterrence in a political enforcement setting: the crackdown's deterrent force spills over from "bad" activities to discourage even beneficial, value-generating activities, as executives prioritize personal career safety over enterprise expansion.

5. Robustness checks

We conduct a series of robustness checks to confirm that our findings remain valid under various conditions. First, we address the concern that the observed decline in post-inspection firm performance could be driven by financial constraints. Second, we rule out the possibility of a "crowding-out" effect, where inspected firms might lose their preferential access to resources or government support, resulting in reduced investments. Third, we conduct a parallel trends test to eliminate concerns that managers might preemptively adjust their behavior in anticipation of upcoming inspections. Importantly, we also demonstrate that the timing of disciplinary inspections is effectively random and unrelated to firm-specific characteristics, mitigating concerns about endogeneity. Additionally, we conduct several placebo tests to ensure that our results are not driven by other confounding factors, further strengthening the credibility of our conclusions. Finally, we incorporate a series of tests to demonstrate that our staggered DID approach is robust to the potential biases identified by Baker et al. (2022). Collectively, these extensive robustness checks affirm the reliability of our empirical results and substantiate our conclusions.

5.1. Parallel trends and the timing of discipline inspections

Before implementing the Difference-in-Difference approach by taking the event of inspections as an external shock, we test for parallel trends by estimating pre-inspection and post-inspection trends. Since we

argue that investment could be a sensitive issue for SOE managers, we therefore estimate the following equation by using three leads and lags around the inspection:

$$Investment_{i,t} = \alpha + \sum_{k=-3,k\neq-1}^{3} \beta_k Inspection_{i,t}^{k} + \gamma X_{i,t} + \varphi_i + \theta_t + \varepsilon_{i,t} \quad (2)$$

where i indexes firm; t indexes time (i.e., quarter); $Investment_{i,t}$ refers to the ratio of capital expenditures to total assets; φ_i and θ_t are firm and time fixed effects, respectively; $X_{i,t}$ represents control variables including leverage ratio, cash flow and firm age; and $\varepsilon_{i,t}$ is the error term. $Inspection_{i,t}^{k}$ is a dummy variable that indicates the period relative to the discipline inspections of central SOEs. Therefore, $Inspection_{i,t}^{-3}$ refers to three quarters or more prior to the quarter of inspection and $Inspection_{i,t}^{+3}$ refers to three or more quarters after the quarter of inspection. The omitted category is k = -1.[20]

The event-study results strongly support the identification assumption. Figure 2 plots the estimated lead and lag coefficients for the Investment outcome (capital expenditure ratio) along with their confidence intervals. As shown in Figure 2, all the pre-inspection coefficients are small and statistically indistinguishable from zero, indicating that treated firms do not exhibit any divergent trend in investment in the quarters leading up to the inspection. In contrast, a clear pattern emerges after the inspection: the coefficients become negative and significant in the post-inspection quarters, confirming a break in trend coincident with the enforcement shock. In fact, investment drops sharply in the quarter following an inspection and remains at a lower level thereafter, consistent with a persistent chilling effect on managerial investment decisions. These dynamic results provide visual and statistical evidence that, prior to treatment, the treatment and control groups are on parallel paths, lending credibility to the causal interpretation.[21]

****** Insert Figure 2 about here ******

[20] The online appendix provides detailed corresponding regressions and additional tests for other outcomes.

[21] We also conduct the test to ensure that the timing of discipline inspections to central SOEs is not driven by firm-level characteristics. Table A4 reports the joint significance test, suggesting that we do not reject the null hypothesis that the timing of discipline inspections is random.

5.2. Placebo tests

We undertake several additional analyses to validate that our empirical strategy cleanly isolates the effect of discipline inspections and is not confounded by other factors. First, we perform placebo tests by introducing fake inspection events. In one placebo exercise, we shift each SOE's actual inspection date to a much earlier date (specifically, we set a placebo "inspection" at nine quarters before the true inspection quarter for every treated firm) and re-estimate our difference-in-differences model. This placebo timing lies outside the real campaign period (for instance, for SOEs inspected in the final round in 2015Q3, the placebo assigns an "inspection" in 2013Q1, which is before any actual inspections begin). If our results are truly driven by the discipline inspections, we should find no systematic effect at these arbitrary earlier dates. Indeed, the placebo tests confirm no significant coefficient on the placebo inspection indicator for any of our main outcomes. In other words, assigning fictitious inspection dates well before the actual campaign yields no effect – reassuring that our results are not driven by spurious time trends. Table 9 reports the results in which we do not observe a significantly negative coefficient for the inspection indicator variable.[22]

****** Insert Table 9 about here ******

In a second placebo test, we ask whether similar patterns appear in firms that are b vnever subject to discipline inspections. We construct a matched sample of non-SOE listed firms that operate in the same industries as our treated firms and have comparable size distributions, and we arbitrarily assign each such firm a "treatment" date corresponding to the inspection date of a similar SOE firm. Table 10 reports the results of the second placebo test. For none of these placebo inspections do we observe a significantly negative coefficient of the indicator variable for the inspections. This suggests that the effects we document are not driven by economy-wide shocks or industry trends coinciding with the inspection timeline, but rather are specific to the inspected SOE groups. We also conduct a randomization inference test, randomly shuffling inspection timings across firms and iterating the estimation 1,000 times: the distribution of

[22] In the online Appendix, we also conduct another set of placebo tests in which the timing of inspections is randomly assigned. We run the same regression to obtain the coefficient and t-value and repeat it for 1000 iterations. Figure A4 plots the t-value distribution, and suggests that we do not obtain similar results in this placebo exercise.

placebo t-statistics centers around zero and rarely reaches the magnitude of our actual estimates, further attesting that our findings are unlikely due to chance.

****** Insert Table 10 about here ******

5.3. The concern of financial constraints

Another concern could be that the anti-corruption campaign alters other aspects of the business environment for SOEs, which in turn affects investment and performance. For example, one might worry that financial policies or political favors toward SOEs change in tandem with inspections – perhaps banks tighten credit to SOEs under scrutiny, or government budgets cut back subsidies, thereby constraining inspected firms' resources. We address this by examining channels such as financing and government support. If post-inspection investment declines are simply due to tighter financial constraints, we would expect to see evidence of credit contraction.

To address this concern, we consider several measures of financial constraints: the change in short-term debts and long-term debts, the change in equity financing, the Kaplan-Zingales (1997) index (KZ index), and the Whited-Wu (2006) index (WW index).[23] Table 11 first presents the results of the tests for the KZ and WW indices. Both columns show that the coefficient for the inspection indicator variable is not significant, indicating that firms do not face tighter financial constraints after the inspections.

****** Insert Table 11 about here ******

Table 12 presents estimates of firm external financing, including changes in debt and equity. The results in Columns (1) – (4) of Table 12 demonstrate that the coefficient for the inspection indicator variable is not significant. In other words, the discipline inspections do not affect affect firms' issuance of equity or debt, including long-term debt and short-term debt. These findings suggest that financial constraints are not a driver of our results.

****** Insert Table 12 about here ******

[23] We also conduct a cash flow sensitivity analysis (Fazzari et al. 1988) to further test the hypothesis on financial constraints. The online appendix reports the results and shows that the coefficient of the interaction term between the inspection indicator and cash flow is not statistically significant, indicating that the discipline inspections do not tighten firms' financial constraints.

5.4. The concern on the loss of political favors or preferential access

Another concern is that our results, especially the decline of investment, may reflect a "crowding-out" story, where the inspected firms may lose their preferential access to resources and government support. The above tests for financial constraint and external financing address this question to some extent. To further address this concern, we examine how government subsidies respond to the event of discipline inspections. Column (5) of Table 12 shows that the coefficient for the inspection dummy is not significant, and we find no drop in government subsidies post-inspection, indicating that the state does not broadly punish inspected firms by cutting support. Therefore, the concern on the loss of preferential access does not seem important in this case.

5.5. Anticipation test: the first round of discipline inspections as the cutoff

It is possible that when the first firm is inspected in the second quarter of 2013, all other firms may anticipate that they might be inspected in the future, and thus many firm level characteristics might be changed accordingly, which may confound interpretation of our results. To address this concern, we fix the inspection indicator variable on 2013Q2, so *Inspection* = 1 if the time is after 2013Q2. Table 13 presents estimates of the test and suggests that our results are still valid. Overall, the estimated coefficient of interest, the inspection indicator variable, is consistent with our main results. In other words, while there may have been some general caution induced by the campaign's start, the incremental effect of a firm's own inspection is clearly evident and is the focus of our analysis.

****** Insert Table 13 about here ******

5.6. Potential bias of Staggered DID setting

The existing literature on causal inferences discusses the issue of potential bias in multi-period difference-in-differences (DID) estimation under two-way fixed effects (TWFE) (Baker et al., 2022). When treatment effects vary over time or across units, the two-way fixed effects estimator can sometimes produce a weighted average that is not equivalent to the true average treatment effect.

To assess this, we apply the Goodman-Bacon (2021) decomposition, which disaggregates the overall DID estimate into comparisons between different groups. The decomposition for our data reveals that the

potentially problematic comparisons (such as later-treated firms serving as controls for earlier-treated ones) carry relatively small weights and their individual estimates are all of the same sign (negative) as the overall effect. The bias-corrected DID point estimate for investment using Goodman-Bacon's method is very close to our original estimate (in fact, slightly more negative in magnitude, but within the original confidence interval). More specifically, during the execution of the Goodman-Bacon decomposition, we treat the sample data as a balanced panel from 2007 to 2017. The decomposition results indicate that the appropriate treatment effect of early treatment vs. later control shows negative DID estimates. Similarly, the inappropriate treatment effect of *Later Treatment* vs. *Early Control* also shows predominantly negative DID estimates, albeit with smaller weights. Hence, it can be considered that the influence of heterogeneous treatment effects in this paper is minimal. Table 14 presents the results, suggesting that the adjusted estimate is -0.0045 and is significant at the 5% level, closely aligning with the baseline results of this paper.

****** Insert Table 14 about here ******

We also employ the approach of Sun and Abraham (2021), treating the last inspected group as the control group and then deleting the sample data from the period after the last inspection for the last inspected group. The results reported in Table 15 show that the findings of this paper remain robust. Overall, the above tests suggest that heterogeneous timing is not driving spurious results in our study – the enforcement shock has a consistently negative impact on investment across different waves of inspections.

****** Insert Table 15 about here ******

Overall, these exercises provide strong assurance that the documented investment contraction and performance deterioration reflect a genuine behavioral response to inspection pressure rather than confounding factors, and strengthen the causal interpretation of our findings and reinforce the core conclusion: discipline inspections alter managerial incentives in ways that suppress firm-level risk-taking and growth.

6. Conclusion

In this study, we investigate how aggressive anti-corruption enforcement can unintentionally distort managerial incentives within politically connected firms. Using the quasi-natural experiment of China's

discipline inspections, we document a pronounced trade-off inherent in stringent regulatory oversight. Consistent with Becker's deterrence framework, we find clear evidence that disciplinary inspections effectively curtail managerial opportunism—demonstrated by significant reductions in discretionary expenditures such as entertainment and travel expenses. However, aligning closely with the career-concerns perspective, the intensified oversight simultaneously heightens managers' perceived personal risks. Consequently, executives respond by adopting an excessively cautious approach, substantially reducing investments, R&D, and other productive but risky initiatives. This risk-averse managerial response significantly impairs corporate performance and innovation.

Empirically, our DID analysis reveals a substantial causal decline in capital expenditures (approximately 27% relative to pre-inspection levels), accompanied by marked deterioration in profitability, market valuation, and innovation outcomes for inspected firms relative to comparable controls. Importantly, we find no offsetting improvement in investment efficiency, indicating that managers indiscriminately scale back investments rather than selectively pruning wasteful projects. Heterogeneity analyses further reinforce our interpretation: the negative impact of inspections is especially pronounced in monopoly industries and among younger managers who face greater career risks. This underscores that managers rationally alter their strategic priorities, prioritizing career safety over enterprise growth when confronted with the increased probability of detection and punishment.

Robustness checks—including event-study analyses validating parallel trends, placebo tests ensuring inspection exogeneity, and sensitivity tests addressing financial constraints—consistently affirm the causal nature of our findings. These tests collectively support the conclusion that discipline inspections directly trigger a chilling effect on managerial initiative, confirming that the observed decline in investment and performance reflects a genuine unintended consequence of heightened enforcement intensity.

Our findings carry important implications for the design of enforcement and governance policies. Strong, centralized enforcement mechanisms are often necessary to curb corruption and malfeasance – this is particularly true in politically connected firms or sectors prone to agency problems. However, our study highlights a fundamental trade-off: if oversight is too heavy-handed, it may unintentionally foster

managerial conservatism, deterring even legitimate, value-creating corporate initiatives. Policymakers and controlling shareholders must recognize that anti-corruption tools, if miscalibrated, carry the risk of "over-deterrence." In our context, over-deterrence manifested as an incentive distortion that harmed firm productivity, innovation, and long-run performance. The broader lesson is that governance interventions need to be carefully calibrated to balance the benefits of deterring misconduct against the economic costs of discouraging risk-taking.

We also see avenues for future research. One question is how firms or regulators might mitigate such unintended consequences. For instance, could tweaks to incentive contracts (e.g., introducing performance-based rewards or safe-harbor provisions for certain investments) help managers maintain productive initiative under strict oversight? More broadly, we encourage research into other settings – in and outside China – where a well-intentioned regulatory or governance change may yield countervailing effects on corporate behavior. Our study underscores that even laudable reforms (like anti-graft campaigns or stringent compliance mandates) can have dual edges. Understanding how to preserve managerial initiative while enforcing discipline is a critical challenge for corporate governance, in emerging markets and developed economies alike.

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Table 1 – Summary Statistics

Variable	N	Mean	SD	Min	Median	Max
Investment	7073	0.0135	0.0165	-0.0176	0.0083	0.0862
Tobin's Q	7073	1.6818	1.4983	0.1386	1.2174	7.5181
ROA	7073	0.0192	0.0343	-0.0990	0.0134	0.1485
ROD	7073	0.0247	0.0575	-0.1169	0.0126	0.3153
ROE	7073	0.0358	0.0901	-0.4334	0.0320	0.2838
Short-debt	7073	0.4009	0.1789	0.0632	0.3879	0.8472
Long-debt	7068	0.1347	0.1545	0.0000	0.0733	0.6253
Leverage	7073	0.5367	0.2030	0.0822	0.5483	0.9913
CF	7073	0.0115	0.0431	-0.1181	0.0109	0.1559
Age	7073	2.4424	0.5573	0.6931	2.5649	3.2189

Note: This table reports the summary statistics for the main sample of firm-year-quarter observations from 2007Q1 to 2017Q4. Investment is measured as the ratio of capital expenditures to total assets. ROA is the ratio of net income to total assets. ROE is the ratio of net income to book value of equity. Tobin's is ratio of market value of assets to book value of assets. Short-debt is the ratio of short-term debts to assets. Long-debt is the ratio of long-term debts to assets. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed.

Table 2 – Univariate test

Variable	Inspection=0			Inspection=1			T/Chi-sq Test	
	N	Mean1	Median	N	Mean2	Median	T	Chi-sq
Investment	5386	0.015	0.009	1687	0.010	0.006	0.005***	75.176***
Tobin's Q	5386	1.687	1.245	1687	1.666	1.121	0.020	7.593***
ROA	5386	0.021	0.014	1687	0.015	0.012	0.006***	12.117***
ROD	5386	0.026	0.013	1687	0.019	0.010	0.007***	14.137***
ROE	5386	0.039	0.034	1687	0.027	0.027	0.012***	16.205***
Short-debt	5386	22.790	22.464	1687	23.512	23.359	-0.721***	157.100***
Long-debt	5386	0.534	0.543	1687	0.546	0.567	-0.013**	7.360***
Leverage	5386	0.400	0.387	1687	0.403	0.390	-0.003	0.041
CF	5386	0.132	0.073	1687	0.142	0.073	-0.010**	0.012
Age	5386	0.010	0.010	1687	0.015	0.013	-0.004***	16.420***

Note: This table reports univariate test results. Inspection is an indicator that equals one if a firm has been inspected by the end of the quarter. Investment is measured as the ratio of capital expenditures to total assets. ROA is the ratio of net income to total assets. ROE is the ratio of net income to book value of equity. ROD is the ratio of net income to total debts. Tobin's is ratio of market value of assets to book value of assets. Short-debt is the ratio of short-term debts to assets. Long-debt is the ratio of long-term debts to assets. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. The mean difference T test reports the difference between the two groups. The median difference test reports the chi-square statistic. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 3 – Investment

Variables	*Dependent Variable: Investment*			
	(1)	(2)	(3)	(4)
Inspection	-0.004**	-0.004***		
	(-2.66)	(-3.05)		
Leverage		-0.002		-0.002
		(-0.61)		(-0.61)
CF		0.014**		0.014**
		(2.58)		(2.57)
Age		-0.013***		-0.013***
		(-4.17)		(-4.17)
$Before^{-1}$			-0.002	-0.002
			(-1.31)	(-1.27)
$Before^{0}$			-0.004***	-0.005***
			(-3.36)	(-3.73)
$After^{1}$			-0.005*	-0.005**
			(-1.99)	(-2.23)
$After^{2+}$			-0.002	-0.002
			(-1.31)	(-1.27)
Firm F.E.	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes
Observations	7,073	7,073	7,073	7,073
R^2	0.363	0.377	0.363	0.377

Note: This table presents estimates from panel regressions explaining firm-level quarterly investment, from 2007Q1 to 2017Q4. Investment is the ratio of capital expenditures to total assets. Inspection is an indicator that equals one if a firm has been inspected by the end of the quarter. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. Firm and time (quarter) fixed effects are included. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 4 – Investment efficiency

Variables	*Dependent Variable: Investment*	
	(1)	(2)
Inspection	-0.0045***	-0.0046***
	(-3.68)	(-4.20)
Investment Opportunity	0.0030*	0.0021
	(1.97)	(1.53)
Inspection × Investment Opportunity	0.0015	0.0013
	(1.23)	(1.13)
Leverage		-0.0019
		(-0.61)
CF		0.0145**
		(2.61)
Age		-0.0123***
		(-4.14)
Constant	0.0134***	0.0447***
	(23.58)	(5.86)
Firm F.E.	Yes	Yes
Time F.E.	Yes	Yes
Observations	7,073	7,073
R^2	0.364	0.377

Note: This table presents estimates from panel regressions explaining firm-level quarterly investment efficiency from 2007Q1 to 2017Q4. Investment is the ratio of capital expenditures to total assets. Investment opportunity is measured by sales growth. Inspection is an indicator that equals one if a firm has been inspected by the end of the quarter. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 5 – Heterogeneity analysis on investment

Variables	Monopoly industry		Age	
	Yes	No	< 60	>= 60
	(1)	(2)	(3)	(4)
Inspection	-0.007**	-0.002	-0.004**	-0.001
	(-2.53)	(-1.58)	(-2.28)	(-1.00)
Lev	0.002	-0.004	-0.001	-0.003
	(0.46)	(-1.03)	(-0.31)	(-0.53)
CF	0.009	0.017***	0.014**	0.019
	(0.70)	(3.12)	(2.16)	(1.53)
Age	-0.015**	-0.010***	-0.013***	-0.014*
	(-2.72)	(-3.08)	(-4.01)	(-1.76)
Constant	0.054***	0.040***	0.045***	0.053**
	(4.18)	(4.49)	(5.55)	(2.61)
Firm F.E.	Yes	Yes	Yes	Yes
Observations	2,090	4,983	5,472	1,601
R-squared	0.400	0.350	0.343	0.513

Note: This table presents estimates from panel regressions explaining firm-level quarterly investment, from 2007Q1 to 2017Q4. Investment is the ratio of capital expenditures to total assets. Inspection is an indicator that equals one if a firm has been inspected by the end of the quarter. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. Firm and time (quarter) fixed effects are included. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 6 – R&D, Entertainment and travel expenditures

Variables	*Entertainment*	*Travel*	*R&D*
	(1)	(2)	(3)
Inspection	-0.021***	-0.028***	-0.775**
	(-3.30)	(-3.13)	(-2.39)
Leverage	0.000	-0.012	-0.987
	(0.01)	(-0.50)	(-1.53)
CF	-0.031	-0.039	-1.217***
	(-1.10)	(-1.24)	(-4.10)
Age	0.036**	-0.001	-0.344
	(2.30)	(-0.07)	(-0.83)
Constant	-0.031	0.076*	1.651**
	(-0.72)	(1.93)	(2.24)
Firm F.E.	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes
Observations	2,011	2,011	1,843
R^2	0.593	0.613	0.811

Note: This table presents estimates from panel regressions explaining firm-level yearly expenditures on research and development, business entertainment and travel expenses, scaled by firm sales. Inspection is an indicator that equals one if a firm has been inspected by the end of the quarter. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. Firm and year fixed effects are included. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 7 – Firm performance

Variables	*Tobin's Q*	*ROA*	*ROD*	*ROE*
	(1)	(2)	(3)	(4)
Inspection	-0.268**	-0.005*	-0.008**	-0.011
	(-2.37)	(-1.94)	(-2.38)	(-1.27)
Leverage	-2.752***	-0.067***	-0.110***	-0.167***
	(-4.63)	(-7.63)	(-8.20)	(-4.81)
CF	0.704*	0.112***	0.193***	0.263***
	(1.93)	(5.05)	(4.54)	(4.91)
Age	-0.056	-0.006	-0.036***	0.005
	(-0.18)	(-1.07)	(-4.53)	(0.33)
Constant	3.673***	0.058***	0.166***	0.096***
	(5.88)	(5.86)	(9.61)	(3.40)
Firm F.E.	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes
Observations	7,073	7,073	7,073	7,073
R^2	0.696	0.512	0.536	0.358

Note: This table presents estimates from panel regressions explaining firm-level quarterly Tobin's Q, ROA, ROD and ROE from 2007Q1 to 2017Q4. Inspection is an indicator that equals one if a firm has been inspected by the end of the quarter. ROA is the ratio of net income to total assets. Tobin's is ratio of market value of assets to book value of assets. ROD is the ratio of net income to book value of total debt. ROE is the ratio of net income to book value of equity. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 8 – Wage and Employment

Variable	*Wage*	*Wage (managers)*	*Employment*
	(1)	(2)	(3)
Inspection	0.042	-0.102	0.094
	(0.71)	(-1.26)	(0.65)
Leverage	0.018	-0.147	0.845
	(0.09)	(-0.83)	(1.53)
CF	-0.358	0.340**	0.017
	(-1.06)	(2.52)	(0.12)
Age	0.026	-0.190***	0.313
	(0.38)	(-3.36)	(0.81)
Constant	11.331***	15.145***	0.395
	(72.14)	(96.93)	(0.52)
Firm F.E.	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes
Observations	1,841	1,840	1,842
R^2	0.678	0.822	0.980

Note: This table presents estimates from panel regressions explaining firm-level yearly economic measures from 2007 to 2017. Wage is the natural logarithm of employees' average wages. Wage (managers) is the natural logarithm of managers' average wages. Employment is the number of employees. Inspection is an indicator that equals one if a firm has been inspected by the end of the year. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 9 – Placebo test I (inspections occurring in other periods)

Variable	*Investment*	*Tobin's Q*	*ROA*	*ROD*	*ROE*
	(1)	(2)	(3)	(4)	(5)
Inspection	-0.0003	0.1540*	-0.0026	-0.0055	-0.0036
	(-0.19)	(1.79)	(-0.99)	(-1.64)	(-0.39)
Leverage	-0.0018	-2.7472***	-0.0669***	-0.1097***	-0.1664***
	(-0.58)	(-4.70)	(-7.70)	(-8.28)	(-4.86)
CF	0.0144**	0.7026*	0.1121***	0.1926***	0.2632***
	(2.58)	(1.95)	(5.12)	(4.62)	(4.98)
Age	-0.0125***	-0.0544	-0.0057	-0.0356***	0.0050
	(-4.16)	(-0.18)	(-1.07)	(-4.57)	(0.34)
Constant	0.0448***	3.2114***	0.0690***	0.1707***	0.1114***
	(5.69)	(4.18)	(5.82)	(8.40)	(3.36)
Firm F.E.	Yes	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes	Yes
Observations	7,073	7,073	7,073	7,073	7,073
R^2	0.376	0.696	0.512	0.536	0.358

Note: This table reports the results of Placebo test in which the inspection indicator is measured by nine quarters before the actual time of inspections. Investment is the ratio of capital expenditures to total assets. ROA is the ratio of net income to total assets. ROE is the ratio of net income to book value of equity. Tobin's is ratio of market value of assets to book value of assets. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 10 – Placebo test II (inspections occurring in other firms)

Variable	*Investment*	*Tobin's Q*	*ROA*	*ROD*	*ROE*
	(1)	(2)	(3)	(4)	(5)
Inspection	-0.0011	-0.1349	-0.0007	0.0051	0.0014
	(-0.62)	(-1.46)	(-0.27)	(0.83)	(0.09)
Leverage	-0.0028	-2.1654***	-0.0504***	-0.1716***	-0.1883***
	(-1.06)	(-15.35)	(-12.88)	(-18.40)	(-8.10)
CF	0.0213***	-0.0828	0.0581***	0.1573***	0.1795***
	(3.60)	(-0.26)	(6.70)	(7.61)	(3.48)
Age	-0.0055***	-0.1547***	-0.0032**	-0.0587***	0.0073
	(-5.45)	(-2.91)	(-2.19)	(-16.71)	(0.84)
Constant	0.0248***	3.5531***	0.0448***	0.2270***	0.1141***
	(10.78)	(29.26)	(13.31)	(28.27)	(5.70)
Firm F.E.	Yes	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes	Yes
Observations	6,047	6,047	6,047	6,047	6,047
R^2	0.488	0.803	0.674	0.738	0.488

Note: This table presents estimates from panel regressions explaining firm-level quarterly investment, Tobin's Q, ROA, ROD and ROE from 2007Q1 to 2017Q4. The sample contains all public listed non-SOEs. Investment is the ratio of capital expenditure to total assets. Inspection is an indicator that equals one if the current quarter is after 2013Q2. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 11 – Financial constraints

Variable	*KZ index*	*WW index*
	(1)	(3)
Inspection	1.3715	0.0068
	(0.63)	(0.98)
Leverage	21.9405***	-0.0179
	(4.08)	(-0.84)
CF	-12.2243**	-0.1876***
	(-2.34)	(-3.16)
Age	4.4619	0.0051
	(1.24)	(0.51)
Constant	-43.9641***	-1.0590***
	(-6.32)	(-48.96)
Firm F.E.	Yes	Yes
Time F.E.	Yes	Yes
Observations	7,073	7,073
R^2	0.496	0.378

Note: This table reports the results of panel regressions that examine the impact of discipline inspections on the firms' financial constraints. KZ index refers to the Kaplan-Zingales (1997) index. WW index refers to the Whited-Wu (2006) index. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. Q is Tobin's Q. DIV is the dividend divided by total assets. Cash is cash and marketable securities divided by total assets. DIVPOS is dividend dummy. TLTD is long-term debt divided by total assets. ISG is industry sales growth. SG is sales growth. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively. KZ index and WW index are calculated by the following two equations,

(1) KZ =-1.002*CF+0.283*Q-39.368*DIV-1.315*Cash+3.319*Leverage,

(2) WW=-0.091*CF-0.062*DIVPOS+0.021*TLTD-0.044*Size+0.102*ISG-0.035*S.

Table 12 – External financing and subsidy

Variable	*ΔShortDebt*	*ΔLongDebt*	*ΔDebt*	*ΔEquity*	*Subsidy*
	(1)	(2)	(3)	(4)	(5)
Inspection	0.0011	-0.0005	0.0006	-0.0024	0.0010
	(0.32)	(-0.33)	(0.19)	(-0.67)	(0.79)
Leverage	0.0885***	0.0130***	0.1028***	-0.0397***	0.0024
	(6.41)	(2.68)	(9.82)	(-4.44)	(1.20)
CF	-0.0220	0.0007	-0.0212	-0.0103	0.0003
	(-0.59)	(0.07)	(-0.60)	(-0.55)	(0.12)
Age	-0.0058	-0.0035	-0.0097***	0.0018	-0.0003
	(-1.58)	(-1.18)	(-2.72)	(0.53)	(-0.26)
Constant	-0.0396***	0.0088	-0.0305***	0.0240***	0.0024
	(-4.74)	(1.52)	(-3.73)	(3.29)	(2.72)
Firm F.E.	Yes	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes	Yes
Observations	7,046	7,040	7,046	7,029	7,073
R^2	0.059	0.031	0.079	0.039	0.259

Note: This table reports results of panel regressions that examine the impact of discipline inspections on firms' debt financing and equity financing. ΔShortDebt is defined as the increase in short-term debt scaled by the book value of total assets. ΔLongDebt is defined as the increase in long-term debt scaled by the book value of total assets. ΔDebt is defined as the increase in total debt scaled by the book value of total assets. ΔEquity is defined as the net increase in book equity minus the net increase in retained earnings. Subsidy is the ratio of government subsidy to total assets. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 13 – Using the first inspection as the cutoff

Variable	*Investment*	*Tobin's Q*	*ROA*	*ROD*	*ROE*
	(1)	(2)	(3)	(4)	(5)
Inspection	-0.0041***	-0.2635**	-0.0047*	-0.0082**	-0.0111
	(-3.04)	(-2.34)	(-1.98)	(-2.44)	(-1.26)
Leverage	-0.0017	-2.7603***	-0.0674***	-0.1111***	-0.1677***
	(-0.55)	(-4.63)	(-7.60)	(-8.35)	(-4.81)
CF	0.0147**	0.7189*	0.1134***	0.1930***	0.2666***
	(2.58)	(1.97)	(5.13)	(4.59)	(4.97)
Age	-0.0124***	-0.0508	-0.0057	-0.0356***	0.0051
	(-4.10)	(-0.16)	(-1.05)	(-4.50)	(0.34)
Constant	0.0388***	3.6689***	0.0576***	0.1670***	0.0963***
	(6.11)	(5.82)	(5.82)	(9.60)	(3.39)
Firm F.E.	Yes	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes	Yes
Observations	6,907	6,907	6,907	6,907	6,907
R^2	0.377	0.695	0.511	0.534	0.359

Note: This table reports the results of a robustness test in which the cut-off time for the inspection indicator is fixed on the second quarter of 2013. Investment is the ratio of capital expenditures to assets. ROA is the ratio of net income to total assets. ROE is the ratio of net income to book value of equity. Tobin's is ratio of market value of assets to book value of assets. Inspection is an indicator that equals one if a quarter is after 2013Q2. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Table 14 – Goodman-Bacon Decomposition

Weighted ATT		
Inspection	-.0045** (0.0018)	
Bacon Decomposition		
Early_v_Late	-0.005	0.002
Late_v_Early	-0.001	0.001
Early_v_Late	-0.008	0.010
Late_v_Early	-0.007	0.004
Early_v_Late	-0.004	0.010
Late_v_Early	-0.007	0.004
Early_v_Late	-0.009	0.027
Late_v_Early	-0.006	0.010
Early_v_Late	-0.005	0.043
Late_v_Early	-0.006	0.015
Early_v_Late	-0.001	0.067
Late_v_Early	0.001	0.023
Early_v_Late	-0.009	0.009
Late_v_Early	-0.004	0.003
Early_v_Late	-0.003	0.017
Late_v_Early	-0.001	0.005
Early_v_Late	-0.006	0.035
Late_v_Early	-0.001	0.011
Early_v_Late	-0.004	0.038
Late_v_Early	0.000	0.012
Early_v_Late	-0.005	0.655

Table 15 – Refining control group

Variables	*Dependent Variable: Investment*			
	(1)	(2)	(3)	(4)
Inspection	-0.004***	-0.005***		
	(-3.57)	(-4.82)		
Leverage		-0.006		-0.006
		(-1.65)		(-1.63)
CF		0.010		0.010
		(1.57)		(1.54)
Age		-0.014***		-0.014***
		(-4.59)		(-4.62)
$Before^{-1}$			-0.002	-0.002
			(-1.37)	(-1.41)
$After^{1}$			-0.005***	-0.005***
			(-2.79)	(-3.38)
$After^{2+}$			-0.007***	-0.008***
			(-2.97)	(-4.11)
	0.015***	0.051***	0.015***	0.051***
	(471.24)	(6.68)	(171.81)	(6.73)
Firm F.E.	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes
Observations	5,474	5,474	5,474	5,474
R^2	0.403	0.416	0.403	0.417

Note: This table presents estimates from panel regressions explaining firm-level quarterly investment, from 2007Q1 to 2017Q4. Investment is the ratio of capital expenditures to total assets. Inspection is an indicator that equals one if a firm has been inspected by the end of the quarter. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. Firm and time (quarter) fixed effects are included. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Figure 1 – Examples of shareholdings by central SOEs

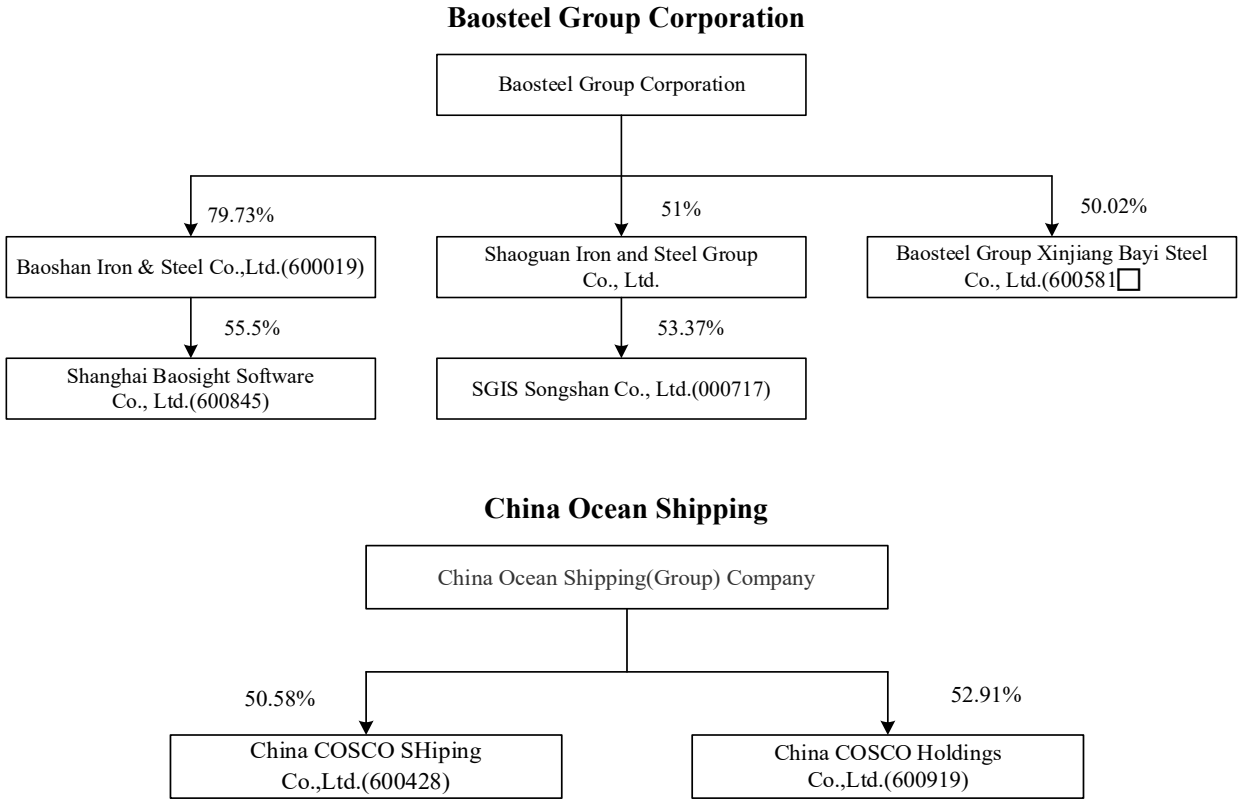
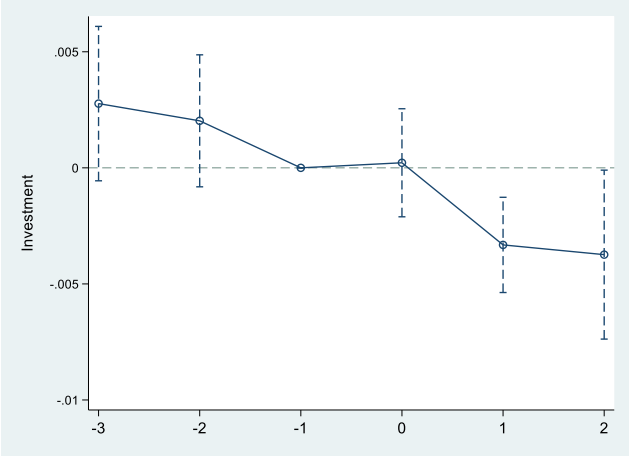


Figure 2 – The dynamic impact of the discipline inspections on investment



Notes: This figure depicts the coefficients, associated 90% confidence intervals, from estimating the leads and lags regression of Equation (1) in the paper. The dependent variable is investment. The estimated coefficients are relative to those in the quarter of inspection (k = -1).

Table A1 – The timeline of discipline inspections

# of Round	Inspection time	Number of central SOEs	Number of listed firms in our sample
First round in 2013	2013Q2	1	0
Second round in 2013	2013Q4	1	1
First round of in 2014	2014Q2	1	3
Second round in 2014	2014Q3	1	3
Third round in 2014	2014Q4	8	21
First round in 2015	2015Q1	26	73
Second round in 2015	2015Q3	17	72
Total	-	55	173

Note: This table presents the discipline inspections timeline by category and quarter over the sample period from the beginning of 2013 to the third quarter of 2015.

Table A2 – Variables definition

Variable	Definition
Inspection	An indicator variable that equals one if firm i has been inspected by the end of the quarter.
Investment	Cash payments for fixed assets, intangible assets, and other long-term assets from the cash flow statement minus cash receipts from selling these assets, scaled by total assets in the current quarter.
Tobin's Q	The sum of market value of tradable shares, book value of non-tradable shares and liabilities, divided by the sum of book value of equity and liabilities, in the current quarter. If a firm has no non-tradable shares, then the book value of non-tradable shares is removed from this calculation.
ROA	Net income/Total assets in the current quarter.
ROD	Net income/Total debt in the current quarter.
ROE	Net income/Book value of equity in the current quarter.
Leverage	Total debt/Total assets in the current quarter.
Short-debt	Total short-term debt/Total assets in the current quarter.
Long-debt	Total long-term debt/Total assets in the current quarter.
CF	Net operating cash flow/Total assets in the current quarter.
Age	Natural logarithm of one plus the number of years listed.

Note: This table reports variables definition. The sample size for the regression analyses may vary depending on the specification after excluding missing values independent and independent variables. All variables are defined in Table 1. All continuous variables are winsorized at the 1% and 99% levels. All quarterly observations used in our empirical analysis are obtained from the China Stock Market and Accounting Research (CSMAR) database. The quarterly data obtained from the income statements and cash flow statements of the CSMAR database actually records the cash transactions from the beginning of the current year. The cash transactions for a particular quarter are calculated by the difference between two consecutive quarterly observations within the same year.

Table A3 – Pearson correlation and Spearman correlation

	Invest	*Q*	*ROA*	*ROD*	*ROE*	*ShortDebt*	*LongDebt*	*Lev*	*CF*	*Age*
Invest	1	-0.114***	0.180***	0.121***	0.168***	-0.271***	0.305***	-0.0241*	0.221***	-0.237***
Q	-0.0713***	1	0.237***	0.325***	0.0624***	-0.288***	-0.549***	-0.686***	-0.0609***	-0.125***
ROA	0.143***	0.232***	1	0.768***	0.943***	-0.177***	-0.135***	-0.302***	0.337***	-0.147***
ROD	0.0876***	0.328***	0.690***	1	0.662***	-0.265***	-0.221***	-0.418***	0.243***	-0.148***
ROE	0.121***	0.0861***	0.846***	0.474***	1	-0.0203	-0.00350	-0.0509***	0.339***	-0.112***
ShortDebt	-0.230***	-0.288***	-0.232***	-0.315***	-0.131***	1	-0.169***	0.638***	-0.124***	0.192***
LongDebt	0.277***	-0.423***	-0.138***	-0.184***	-0.0500***	-0.276***	1	0.526***	0.101***	-0.0138
Leverage	0.00878	-0.578***	-0.312***	-0.420***	-0.154***	0.675***	0.523***	1	-0.0178	0.135***
CF	0.155***	-0.00759	0.295***	0.212***	0.232***	-0.0914***	0.0609***	-0.0341**	1	-0.0719***
Age	-0.252***	-0.127***	-0.152***	-0.185***	-0.102***	0.210***	-0.0288*	0.164***	-0.0616***	1

Note: This table reports the Pearson correlation (above the diagonal) and Spearman correlation (below the diagonal) results. Investment is the ratio of capital expenditure to total assets. ROA is the ratio of net income to total assets. ROE is the ratio of net income to book value of equity. Tobin's is ratio of market value of assets to book value of assets. Inspection is an indicator that equals one if a firm has been inspected by the end of the quarter. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. The superscript ***, **, or * indicates statistical significance at 1%, 5% or 10% level, respectively.

Table A4 – Timing of discipline inspections

Variables	*Timing*
Leverage	-0.142
	(-0.20)
CF	-0.323
	(-0.11)
Age	0.110
	(0.35)
ind_dum1	0.669
	(0.43)
ind_dum2	0.698
	(0.37)
ind_dum3	1.346
	(0.91)
ind_dum4	1.408
	(1.01)
ind_dum5	0.035
	(0.02)
ind_dum6	1.130
	(0.74)
ind_dum7	1.181
	(0.79)
ind_dum8	2.067
	(1.36)
ind_dum9	1.065
	(0.71)
ind_dum10	0.233
	(0.15)
ind_dum11	1.131
	(0.50)
N	167
R^2	0.509
The joint significance test: F(14, 90) =1.37; Prob > F = 0.1856	

Note: The dependent variable is timing, referring to the timing of discipline inspections. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. ind_dum1-ind_11 is the industry of the firm. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

Online Appendix for "*The Unintended Consequence of Discipline Inspections as an Anti-Corruption Tool on Managerial Incentives*"

1. The cash flow sensitivity of investment

We conduct the cash flow sensitivity analysis, using the approach found in Fazzari et al., (1988), to further test the hypothesis on financial constraints. Table A1 reports the results and shows that the coefficient of the interaction term between inspection indicator and cash flow is not statistically significant, indicating that the discipline inspections did not tighten firms' financial constraints.

Table A1 – The cash flow sensitivity of investment

Variables	*Investment* (1)
Inspection	-0.0015
	(-0.45)
CF	0.5750***
	(14.74)
Inspection×CF	-0.0831**
	(-2.07)
Tobin's Q	-0.0023***
	(-3.52)
Constant	-0.0064
	(-1.67)
Firm F.E.	Yes
Time F.E.	Yes
Observations	6,854
R-squared	0.272

Note: This table reports the results of panel regressions explaining firm invest-cash flow sensitivity. The dependent variable is investment. Investment is the ratio of capital expenditure to total assets. Inspection is an indicator that equals one if a firm has been inspected by the end of the quarter. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

2. Parallel trend tests

We conduct the parallel trend test by estimating pre-inspection and post-inspection trends. In particular, we estimate our baseline specification by using four leads and lags around the inspection:

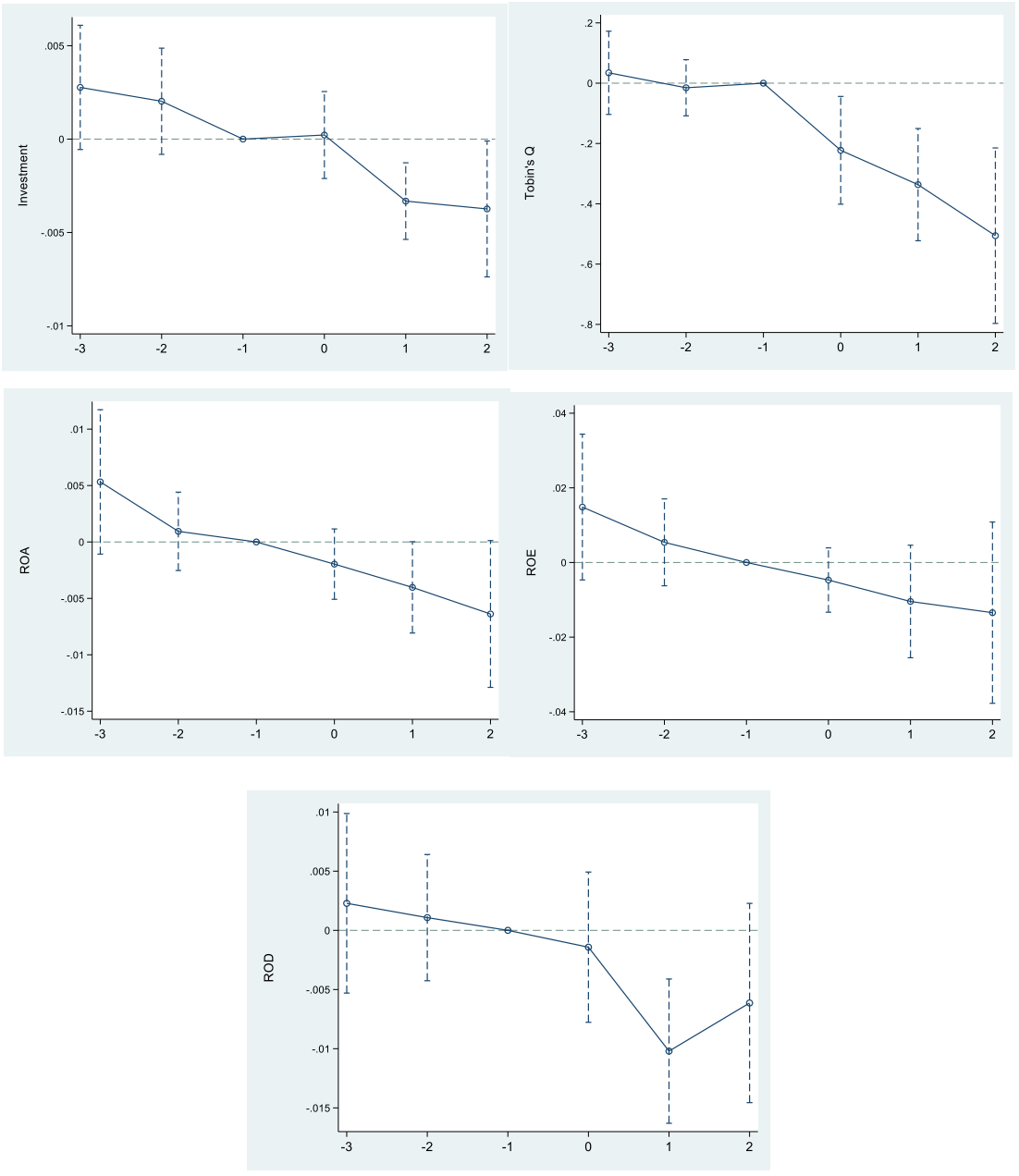
$$y_{i,t} = \alpha + \sum_{k=-3}^{3} \beta_k Inspection_{i,t}^{k} + \gamma X_{i,t} + \varphi_i + \theta_t + \varepsilon_{i,t} \,,$$

(1)

where $Inspection_{i,t}$ is an indicator variable that indicates the period relative to the discipline inspections to central SOEs. Therefore, $Inspection_{i,-3}$ refers to three quarters or more prior to the quarter of inspection and $Inspection_{i,+3}$ refers to three or more quarters after the inspection. $Inspection_{i,-3}$ refers to three quarters prior to the quarter of inspection and $Inspection_{i,3}$ refers to three quarters after the inspection. The omitted category is k = -1. Figure A1 depicts the estimates corresponding to equation (2), and suggests that there is no significant trend in the outcome prior to the inspections.[24] In addition, there is a shift in both the magnitude and significance of the coefficients after the discipline inspections.

[24] Table A2 is the corresponding regressions and coefficients.

Figure A1 – The dynamic impact of the discipline inspections on key measures



Notes: This figure depicts the coefficients, associated 90% confidence intervals, from estimating the leads and lags regression of equation (2). Dependent variables are investment, Tobin's Q, ROA, ROE, and ROD. All effects are relative to the quarter of inspection (k = -1).

Table A2 – The dynamic impact of the discipline inspections on key measures.

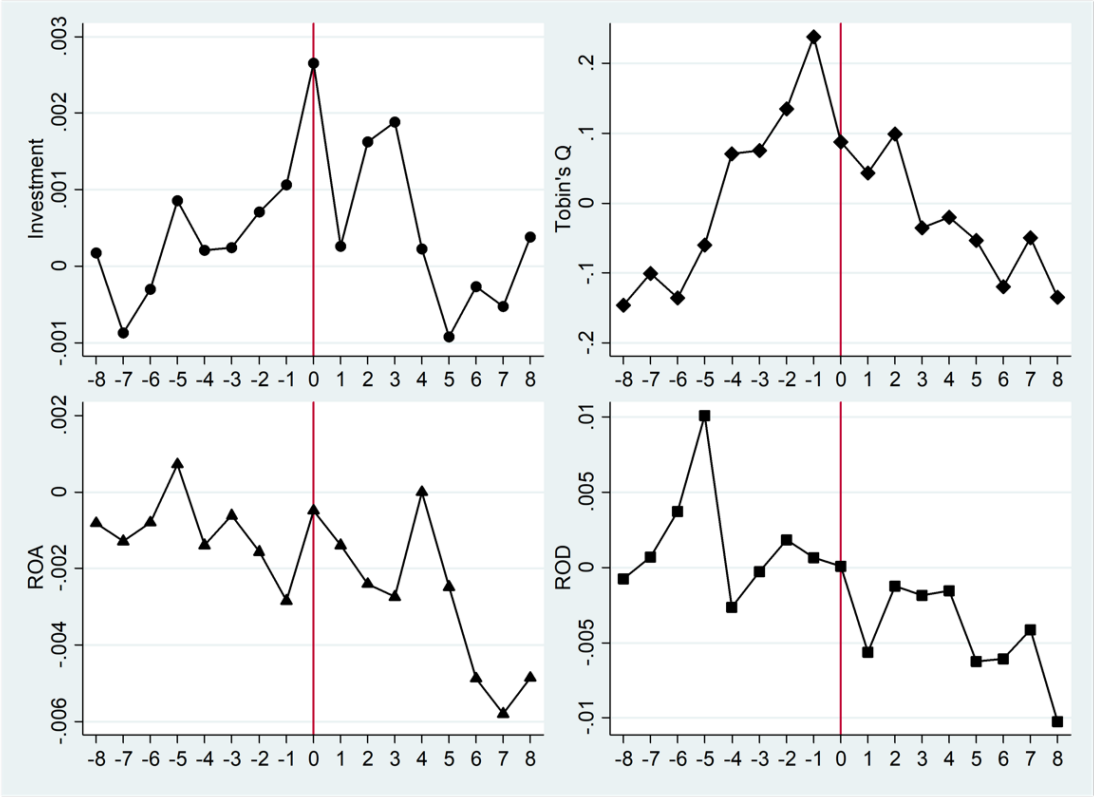
Variables	*Investment*	*Tobin's Q*	*ROA*	*ROE*	*ROD*
	(1)	(2)	(3)	(4)	(5)
Inspection(≤-3)	0.0030	-0.0170	0.0059	0.0027	0.0166
	(1.55)	(-0.16)	(1.54)	(0.57)	(1.43)
Inspection(-2)	0.0022	-0.0555	0.0014	0.0014	0.0066
	(1.32)	(-0.84)	(0.61)	(0.40)	(0.88)
Inspection(0)	0.0003	-0.2240**	-0.0020	-0.0014	-0.0047
	(0.19)	(-2.04)	(-1.01)	(-0.37)	(-0.90)
Inspection(+1)	-0.0034***	-0.3209**	-0.0042*	-0.0104***	-0.0111
	(-2.84)	(-2.59)	(-1.70)	(-2.94)	(-1.20)
Inspection(≥+2)	-0.0039*	-0.4746**	-0.0069*	-0.0064	-0.0147
	(-1.91)	(-2.42)	(-1.79)	(-1.25)	(-1.05)
Lev	-0.0019	-2.7547***	-0.0671***	-0.1099***	-0.1669***
	(-0.61)	(-4.61)	(-7.64)	(-8.18)	(-4.81)
CF	0.0142**	0.6932*	0.1115***	0.1926***	0.2619***
	(2.53)	(1.90)	(5.01)	(4.54)	(4.89)
Age	-0.0125***	-0.0569	-0.0058	-0.0356***	0.0049
	(-4.12)	(-0.18)	(-1.07)	(-4.52)	(0.33)
Constant	0.0360***	3.6931***	0.0516***	0.1637***	0.0796**
	(4.96)	(6.12)	(4.86)	(8.81)	(2.62)
Firm F.E.	Yes	Yes	Yes	Yes	Yes
Time F.E.	Yes	Yes	Yes	Yes	Yes
Observations	7,073	7,073	7,073	7,073	7,073
R-squared	0.377	0.696	0.512	0.536	0.359

Note: This table reports the dynamic impact of inspection on investment, Tobin's Q, ROA, ROE, ROD. The $inspection(-j)_{i,t}$ equals one for companies in the jth quarter before inspection, while $inspection(+j)_{i,t}$ equals one for inspections in the jth quarter after inspection. We exclude the quarter of inspection, thus estimating the dynamic effect of inspection on the investment relative to the quarter of inspection. Leverage is the ratio of total debts to total assets. CF is the ratio of net operating cash flow to total assets. Age is the natural logarithm of one plus the number of years listed. T-statistics values are shown in parentheses. The superscript ***, **, or * indicates statistical significance at the 1%, 5% or 10% level, respectively.

3. Comparison between inspected firms and non-inspected firms

We conduct the comparison between two types of firms: one is firms in the inspected group (Leaders with the official Ministry level) and one is firms in the uninspected group (leaders with lower-rank). Since all firms in our sample are indeed SOEs, and thus, we examine the different performances between the inspected SOEs and non-inspected SOEs before and after the political inspections. In the CSMAR database, there are about 1,300 SOEs. The value of y-axis in Figure A2 refers to the difference of the averages of measures (investment, Tobin's Q, ROA and ROE) between two groups. Figure A2 shows that most of these measures for inspected firms were very closed to that for uninspected firms before the inspections, but became worse after the inspections.

Figure A2 – Comparison between inspected firms and non-inspected firms

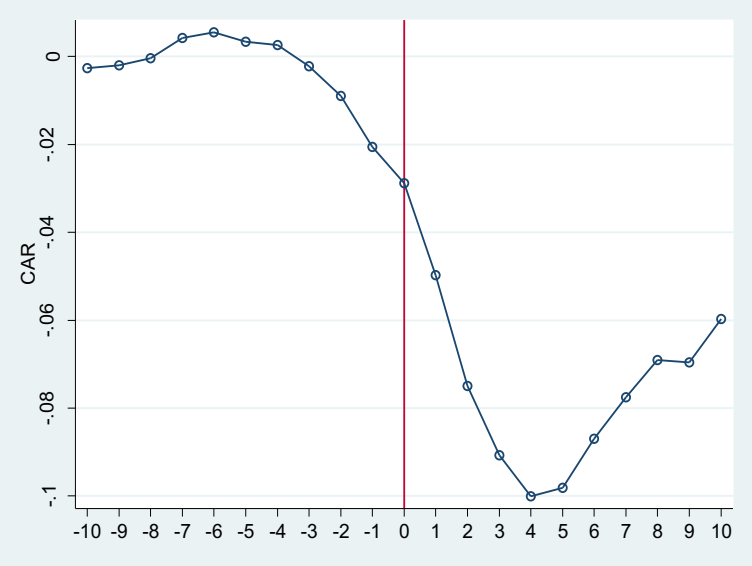


Note: This figure depicts the trend of firm characteristics before and after the discipline inspections. The value of y-axis refers to the difference of the average value of measures (investment, Tobin's Q, ROA and ROE) between firms in the inspected group and firms in the uninspected group. The value of x-axis refers to the time period (quarterly) before and after the discipline inspections. Investment is in top-left panel. Tobin's Q is in top-right panel. ROA is in bottom-left panel. ROD is in bottom-right panel. shows that the trends of investment, Tobin's Q, ROA and ROE changed after the inspections.

4. Asset prices

We also examine the asset price respond, measured by the announcement-period returns. Figure A3 in the online Appendix depicts the change of cumulative abnormal returns (CAR) over 21 days [-10, +10], showing that CAR responded negatively to the event of discipline inspections.

Figure A3 – Cumulative abnormal returns



Notes: The estimation period is from 190 trading days to 10 trading days before the event. Abnormal return is adjusted by the CAPM. Average abnormal returns is calculated by the following formula: $AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{it}$and average cumulative abnormal returns is calculated by the following formula: $CAR(t_1, t_2) = \sum_{t=t_1}^{N} AAR_t$We report cumulative abnormal returns (CARs) for time windows 10 trading day before to 10 trading day after, (-10,+10).

5. Placebo test III – inspections occurring in other periods

We also conduct another set of placebo test in which the timing of inspections is randomly assigned. We run the same regression to obtain the coefficient and t-value, and repeat it for 1000 times. Figure A4 plots the t-value distribution, and the value is concentrated to zero, which suggests that we do not obtain similar results in this placebo exercise.

Figure A4 – t-value distribution

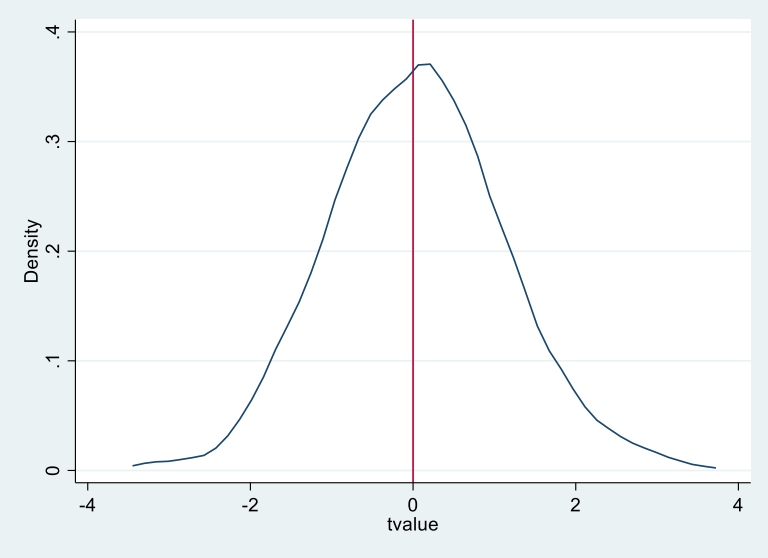


Table A4 – List of inspected central SOEs

	English Name	Chinese Name
1	China Grain Reserves Group LTD. Company	中国储备粮管理总公司
2	China Three Gorges Corporation	中国长江三峡集团公司
3	China Oil & Foodstuffs Corporation	中粮集团
4	China FAW Group Corporation	中国第一汽车集团公司
5	China Huadian Corporation	中国华电集团公司
6	Sinopec Group	中国石油化工集团公司
7	China Shenhua Group	神华集团公司
8	China Unicom	中国联合网络通信集团有限公司
9	Dongfeng Motor Corporation	东风汽车公司
10	China Southern Airlines	中国南方航空集团公司
11	China State Shipbuilding Corporation Limited	中国船舶工业集团公司
12	China Shipping (Group) Company	中国海运（集团）总公司
13	State Grid Corporation of China	国家电网公司
14	China Huaneng Group	华能集团
15	China Ship Building Industry Corporation	中国船舶重工集团公司
16	China National Machinery Industry Corporation	中国机械工业集团
17	Wuhan Iron and Steel Group	武钢集团
18	China Ocean Shipping (Group) Company	中国远洋运输（集团）总公司
19	China Electronics Corporation	中国电子信息产业集团有限公司
20	China Electronics Technology Group Corporation	中国电子科技集团公司
21	State Development & Investment Corporation	国家开发投资公司
22	China State Construction Engineering Corporation	中国建筑工程总公司
23	China Guodian Corporation	中国国电集团公司
24	China General Technology (Group) Company	中国通用技术集团公司
25	China Baowu Steel Group	宝钢集团有限公司
26	China Telecom Corporation	中国电信集团公司
27	China Mobile Communications Group	中国移动通信集团公司
28	China National Petroleum Corporation	中国石油天然气集团公司
29	State nuclear power technology corporation	国家核电技术公司

30	China National Offshore Oil Corporation	中国海洋石油总公司
31	China Datang Corporation	中国大唐集团公司
32	State Power Investment Corporation	中国电力投资集团公司
33	China Nuclear Engineering & Construction Group Corporation	中国核工业建设集团公司
34	China National Nuclear Corporation	中国核工业集团公司
35	China Minerals Corporation	中国五矿集团公司
36	China Dongfang Electric Corporation	中国东方电气集团
37	China Southern Power Grid Company Limited	中国南方电网公司
38	SINOCHEM Corporation	中国中化集团公司
39	China State Railway Corporation	中国铁路总公司
40	China Post Group Corporation	中国邮政集团公司
41	China North Industries Group Corporation	中国兵器工业集团公司
42	Aluminum Corporation of China	中国铝业公司
43	China South Industries Group Corporation	中国兵器装备集团公司
44	Ansteel Group Corporation	鞍钢集团公司
45	Commercial Aircraft Corporation of China	中国商用飞机有限责任公司
46	China Eastern Airlines Corporation	中国东方航空集团公司
47	China National Aviation Holding Company	中国航空集团公司
48	Aviation Industry Corporation of China	中国航空工业集团公司
49	The China National Travel Service (HK) Group Corporation	中国港中旅集团公司
50	China Aerospace Science and Industry Corporation	中国航天科工集团公司
51	China Merchants Group	招商局集团有限公司
52	China Aerospace Science and Technology Corporation	中国航天科技集团公司
53	China Resources (Holdings) Corporation	中国华润总公司
54	Harbin Electric Corporation	哈尔滨电气集团公司
55	China First Heavy Industries	中国第一重型机械集团公司