

When does ownership matter? Evidence from China

Abstract

We study the real effect of ownership activism by exploring a corporate charter amendment event in China, which significantly augmented the control rights of incumbent owners without altering ownership structures. Following the installment of enhanced control provisions, firms experienced increased profitability, productivity, and innovation. The performance improvements are most pronounced in firms that adopted more substantial amendments and in those targeting critical provisions, such as decision-making processes and personnel management. Strengthening control rights also resulted in increased owner engagement in board functions. The improved corporate governance and disclosure quality of the affected firms support our proposed mechanisms. Our findings highlight the crucial role of control rights, as opposed to mere ownership, in shaping corporate governance practices and firm performance.

JEL classification:

Keywords: ownership activism, control rights, corporate governance, performance

1. Introduction

Firms—who owns them, who operates them, and who controls them—have been central topics in finance. A large literature in corporate governance highlights the critical roles of control and ownership. Nevertheless, a firm’s control rights and ownership structure are inherently endogenous: An owner’s inclination to exercise control rights is often influenced by the size of their ownership stake, which ultimately shapes their incentives to actively engage in decision-making and monitoring—potentially through the accumulation of additional shares—or to relinquish control by exiting their position. Empirically, disentangling and evaluating the distinct effects of control and ownership remains a significant challenge.

In this paper, we examine the real impact of corporate control—independent of ownership—on firm performance. We leverage staggered amendments to corporate charters among state-owned enterprises (SOEs) in China, which grant increased control rights to existing owners (i.e., the state) without altering ownership structures. Using a difference-in-differences specification, we estimate how changes in the extent of control provisions by owners affect firm performance.

China provides a unique laboratory to investigate these issues for two reasons. First, while the state, by design, serves as the controlling shareholder of SOEs, these firms are owned collectively by the public rather than specific groups of individuals, resulting in a “vacancy of an actual owner.” In essence, similar to shareholders in typically diverse ownership structures, state owners do not actively oversee the day-to-day operations of their firms (Che and Qian, 1998; Lin et al., 1998). Consequently, agency problems arise as managers may prioritize their own interests at the expense of both state and minority shareholders (Bradshaw et al., 2019; Cheung et al., 2006).

Importantly, because state owners in China generally cannot relinquish their status as controlling shareholders, their ability to influence managers and to address such agency problems is primarily limited to “voice” rather than “exit.”

Second, China experienced a regulatory event that led to amendments of corporate charters among state-owned firms, which altered corporate governance structure, increasing the extent to which the owners exercise their control rights. To enhance state monitoring and oversight, the central government mandated in 2016 that SOEs incorporate specific provisions into their corporate charters. The Charter Amendment of State Control Provisions (CASCP) seeks to institutionalize state representatives within the governance structures of SOEs and foster more direct and active engagement by state owners in firm operations. In particular, decision-making provisions require the board and management to consult the party committee, acting as the state representative within the firm, before making significant decisions. Additionally, personnel provisions mandate the close involvement of the party committee in appointing directors and managers.

Since the requirement for CASCP is administered by the central government, it is unlikely to be influenced by individual firms. Furthermore, SOE status is predetermined and beyond the control of management or past performance, enabling the formation of relatively exogenous treatment and control groups. The nature of state ownership minimizes endogenous changes in ownership structure, allowing us to isolate the effect of control independently of ownership.

We manually collect data on corporate charter amendments from corporate announcements and identify 760 SOEs that incorporated specific provisions into their charters between 2016 and 2020. Using a difference-in-differences (DiD) approach, we compare the performance of firms that amended their charters to grant more control rights to their owners with those that did not. Our

findings indicate that the CASC significantly enhances firm financial performance, production efficiency, and innovation outputs. Specifically, after their state owners are granted greater control rights, CASC firms experience an 18.6% improvement in ROE, a 7.3% increase in productivity, file 13.4% more total patents, and secure 6.05% more invention patent grants compared to non-CASC firms.

Our analysis controls for a host of firm-specific time-varying characteristics and firm fixed effects, which help to track the same firm's employment strategy over time. We saturate our regression models with industry $\times$ year fixed effects and province $\times$ year fixed effects, which compare across firms in the same industry and the same province at the same time. The inclusion of these fixed effects helps disentangle the effect of charter amendment from the influence of various industry- and province-specific shocks and firm characteristics, as well as macroeconomic conditions. We also employ Baker et al.'s (2022) stacked DiD estimation as well as an enforcement-based refinement approach to address potential endogeneity in the timing of charter amendments. We construct matched samples using various matching techniques so as to narrow the comparison of performance among firms with similar characteristics. Our dynamic analysis confirms that pretreatment differences in both observed and unobserved firm characteristics cannot account for our results, as firms did not exhibit performance changes prior to the charter amendment. Furthermore, placebo tests and simulation results validate that our findings are not statistical artifacts.

There are significant distributional effects, as firms incorporating a greater number of state-control provisions, or provisions that grant substantial control rights rather than symbolic terms, tend to experience greater performance improvements. Interestingly, personnel provisions appear to play a more pivotal role than decision-making provisions in influencing firm performance.

Firms with more pronounced agency problems—such as those whose executives are not affiliated with state owners, whose managers hold smaller ownership stakes, and those with a weaker presence of disciplinary committees—exhibit larger performance gains.

Lastly, to explore the mechanisms behind the effects of charter amendments that institutionalize the control rights of state representatives (i.e., party committees), we manually collect the resumes of directors and managers and identify party committee members within each firm. We find that the number of party committee members on the boards and in the management of CASC firms increases, particularly in critical board functions such as audit, nomination, and compensation committees. Not only does the presence of state owners' representatives increase, but their quality improves as well. Specifically, we observe significant enhancements in the educational backgrounds, overseas experience, and work experience of party committee members on the boards of treated firms compared to control firms after the CASC.

By more effectively exercising control rights, particularly through personnel provisions, inventors and individuals with R&D experience in CASC firms are more likely to be appointed as board directors and managers compared to those in non-CASC firms. Analyzing the identities of patent inventors, we also observe increased collaboration and engagement between directors, managers, and R&D staff. These results support our hypothesis that state shareholders assign more qualified representatives to boards and management to actively engage in SOE operations, suggesting that improvements in human capital may serve as a channel through which CASC firms achieve superior performance.

Additionally, there are broad improvements in corporate governance practices. CASC firms hold more board and committee meetings post-amendment, indicating that directors are more committed to fulfilling their duties in alignment with shareholders' interests. This is especially

evident among independent directors, whose board meeting absence rates decline. Furthermore, perk-spending activities—often associated with corruption (Cai et al., 2011; Giannetti et al., 2021)—decline more significantly in CASC firms compared to non-CASC firms. We also observe enhanced internal control quality and stock price informativeness among CASC firms, as they receive fewer modified audit opinions, make fewer restatements, and earn higher disclosure ratings from regulators than their non-CASC counterparts.

Our study contributes to the large literature on ownership and control. While early economic theories simplify the ownership structure and often equate ownership with control rights (e.g., Coase, 1937; Klein, Crawford, and Alchian, 1978; Williamson, 1979; Grossman and Hart, 1986), Jensen and Meckling (1976) highlight the separation of ownership and control when ownership is diffuse. Empirically, the literature provides strong evidence that ownership does not necessarily equate to control, and shareholders seek ways to increase their control rights. La Porta et al. (1999), Claessens et al. (2000), and Faccio and Lang (2002) find that controlling shareholders often leverage mechanisms such as hierarchical ownership chains and dual-class shares to amplify their influence over corporate decisions while holding disproportionately small cash-flow stakes. Bennedsen et al. (2021) find that founding families, despite holding minimal equity stakes, use cross-shareholding networks and relational contracts to exert influence in post-war Japanese firms. When ownership of controlling shareholders is smaller than their control rights, agency conflicts arise between controlling and minority shareholders (e.g., Johnson et al., 2000; Claessens et al., 2002; Lin et al., 2011; Gu et al., 2023). To mitigate agency issues, the control rights of minority shareholders are empowered through mechanisms such as the segmented voting regulation in China (Chen, Ke, and Yang 2013), minority veto rights in Israel (Fried, Kamar, and Yafeh, 2018), majority-of-minority shareholder voting mechanism in India (Li, 2021), and lower defeat

thresholds in shareholder voting in Australia (Bugeja et al., 2023). We utilize a unique setting in China, where the control rights of shareholders are less than their ownership due to the absence of an actual owner, and examine how controlling shareholders enhance their control rights through corporate charter amendments.

Second, we add to the debate on the corporate governance role of passive investors. Investors are passive in that they do not actively buy or sell shares to influence managerial decisions, and the evidence on their governance role is mixed. On one hand, an increase in ownership of index funds has positive governance implications, including greater firm transparency (Boone and White, 2015), higher dividend payouts (Crane et al., 2016), and more successful activist campaigns and better governance practices (Appel et al., 2016, 2019). On the other hand, Schmidt and Fahlenbrach (2017) and Heath et al. (2021) find that passive investors are associated with worse governance, as measured by board independence, the value of mergers and acquisitions, engagement with management, and pay-performance sensitivity. Our paper focuses on a specific type of passive investor, the state, and demonstrates, in the absence of the “exit” governance channel, how the “voice” channel through the charter amendment improves firm performance.

Third, we contribute to the literature on corporate charter provisions. Existing research predominantly examines anti-takeover provisions in corporate charters and bylaws, such as staggered boards, poison pills, golden parachutes, supermajority vote requirements, and business combination state laws (Straska and Waller, 2014). The amendment of anti-takeover provisions is shaped by factors such as ownership structure (Bhagat and Jefferis, 1991), large shareholders (Agrawal and Mandelker, 1990), CEO contracting (Borokhovich et al., 1997), and board monitoring (McWilliams and Sen, 1997), and has been shown to impact stock returns (Bebchuk et

al., 2009; Core et al., 2006; Gompers et al., 2003), subsequent takeovers and IPOs (Field and Karpoff, 2002), as well as corporate innovation (Chemmanur and Tian, 2018). Lin (2020) and Lin and Milhaupt (2021) describe the institutional background of the CASC and argue that it is not merely a matter of putting something already in practice into written words, indicating that control rights are shifting from managers to the state. Our analysis of the CASC emphasizes decision-making and personnel provisions, which influence a broader spectrum of internal governance and mitigate the agency conflict between SOE managers and controlling shareholders.

Lastly, our paper adds to the literature on the performance and governance of SOEs. The lack of supervision leads to a conflict of interest between shareholders and SOE managers. Jin et al. (2023) find that weakening implicit government guarantees reduces SOE overinvestment, whereas Griffin et al. (2022) find that executives investigated in anti-corruption campaigns are often associated with poor governance, self-dealing, and inefficiencies. Ru and Zou (2022) highlight that connected local politicians are more likely to sell SOEs to corrupt buyers at discounted prices.¹ Our findings indicate that improving control rights enhances corporate governance and SOE performance. In the absence of a corporate control market or optimal incentive contracts, internal governance mechanisms, particularly through the board, appear to play a crucial role in enhancing firm performance.

The rest of the paper is organized as follows. Section 2 discusses the institutional background. Section 3 describes the data, sample, and variable construction. Sections 4 through 6 present the results. Section 7 concludes.

¹ The conflict of interest between shareholders and SOE managers is also found through inadequate tax avoidance (Bradshaw et al., 2019), pay-for-performance sensitivity (Ke et al., 2012), stock options to executives (Chen et al., 2013), political promotions (Cao et al., 2019), and performance evaluation (Du et al., 2012).

2. Institutional background

China operates the world's most extensive state asset system, and the reforms of SOEs in China experience different stages. This section first provides a brief history of SOE development in China and then illustrates the reforms of CASC.

2.1 A brief history of SOEs development

Before the "reform and opening-up" policy in 1978, Chinese SOEs were complete affiliates of government agencies, serving as the "basic production units run directly by the government" under a highly centralized economic system. The first round of SOE reform since 1978 aimed at incentivizing enterprise autonomy and enhancing SOE efficiency and performance. The ownerships of SOEs were transferred from the bureaucrats both in central ministries and at various levels of local governments to primarily municipal level local government (Li, 1997). SOEs obtained some autonomy in retaining profits to pay bonuses and make investments and gradually transitioned to independent economic entities. In the 1980s, ownership and control rights started to separate in the sense that the government intervened less in the firm's operation. Accordingly, the role of the party committee, the representative of the state, was weakened, and its function was mainly supervisory. The managers had control over the firm and were in charge of its operations. SOE managers were motivated by their job security and interests (Groves et al., 1995, 1994; Li, 1997). However, SOEs still shouldered heavy policy burdens, and the multifaceted objectives of SOEs make it hard to evaluate managers. In addition, the soft budget constraint problem, in which the government provided funding when SOEs incurred losses, and information asymmetry between the government and firms further increased SOE managers' opportunism (Lin and Tan, 1999).

The second round of SOE reform was with the establishment of the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE) in 1990 and the Company Law enacted in 1993. The government partially privatized SOEs through initial public offerings (IPOs) to further separate SOEs from the government and improve governance through capital market supervision. The Company Law helped SOEs establish modern corporate governance structures, including a board of directors, supervisors, and shareholder meetings. However, multiple government institutions at the time performed specific roles of SOE owners simultaneously, while no one actively supervised SOEs. The public did not obtain controlling ownership in the partial privatization and cannot effectively engage in the governance of SOEs (Firth et al., 2010; Fried et al., 2020; Hamdani and Yafeh, 2013). Therefore, the lack of effective monitoring exacerbates insider control issues. Partially privatized SOEs underperform in the post-IPO period (Fan et al., 2007) and have no improvement in performance (Sun and Tong, 2003; Chen et al., 2008).

To solve the coordination problem across multi-supervisory agencies, the State-Owned Assets Supervision and Administration Commission (SASAC) of the State Council was founded in 2003, and local SASACs were founded subsequently. SASAC consolidates the ownership of SOEs and performs the role of controlling shareholders to evaluate and monitor managers. Since 2003, the higher-ranking positions (e.g., party secretaries, board chairpersons, and CEOs) of central SOEs and fully-owned local SOEs are appointed directly by the central and local government's Organization Department. Lower-ranking positions in these SOEs and the executive positions of other SOEs are appointed by SASAC. SOE managers are motivated mostly by political promotion, a substitute for monetary incentives (Chen et al., 2018). The likelihood of a CEO receiving a political promotion is positively related to the firm's performance (Cao et al. 2019). Chen et al. (2013) and Ke et al. (2012) find little pay-for-performance sensitivity for SOEs listed

in the Hong Kong market. In 2009, SASAC, along with other agencies, issued “Guiding Opinions on Further Regulating Compensation Management of Executives of Central State-Owned Enterprises” to limit the compensation of central SOE executives to a “rational” range. Nanda et al. (2024) find that central SOEs significantly decrease executive pay relative to nonaffected firms. Because the objectives of controlling shareholders are complex, the evaluation and monitoring of managers are inherently subjective and less ineffective (Du et al., 2018). Political connection and geographic proximity increase SOE managers' probability of receiving better evaluations (Du et al. 2012). In addition, the strong political ties and restrictions on monetary incentives lead to rent-seeking behaviors of SOE managers. According to the report by the Central Commission for Discipline Inspection, based on an investigation between 2013 and 2015, the central SOEs have problems of non-compliance in manager appointments and decision-making, and the violation of the Eight-Point Policy of anti-corruption. The government audit report for central SOEs in 2013 also indicates that financial fraud and tunneling, related-party transactions, and internal disorganization are common in SOEs. As a result, the establishment of SASAC and its policies since 2003 did not fully address insider-control issues in SOEs.

2.2 CASC

To address the agency conflict between shareholders and managers in SOEs, the latest SOE reform round institutionalized state owners' role in corporate governance via the amendment of the corporate charter. The party organization, consisting of the party committee (engages in operations and critical decision-making in the party) and the discipline inspection committee (oversees party members), has direct leadership over party members but does not directly participate in the day-to-day firm's operation before the CASC. The CASC enables the party

committee to be formally and closely involved in decision-making and monitoring through the modern corporate governance structure.

On August 24, 2015, the central government issued Guiding Opinions on Deepening State-owned Enterprises Reforms (“Guiding Opinions”) to strengthen the state-owner's leadership in SOEs. SOEs are expected to include state-control provisions in their corporate charters to formalize the state-owner's legal status within the companies. In October 2016, the National Conference on State-owned Enterprise Reform expedited the implementation of the Guiding Opinions. Since then, many companies started to amend their corporate charters to include the state-control provisions.

From January to May 2017, SASAC and the Organization Department issued the state-control provision template and related guidance. The main provisions in the template fall into three categories: symbolic, decision-making, and personnel. According to symbolic provisions, the firm shall officially introduce the party committee and provide the necessary conditions for its activities. This is symbolic because Article 19 of China's Company Law already mandates the establishment of party committees within SOEs. Additionally, the symbolic provisions explicitly require the state-owner's representatives to perform the core leadership role, provide guidance, and oversee the overall firm operation.

The decision-making provisions are strategically crafted to empower the party committee, the representatives of the state owner, to influence SOEs directly. The board and management are mandated to seek the party committee's input on “important matters,” which encompass important decisions, important personnel appointments, important projects, and the use of large funds. The criterion of the “important matters”, known as “three important and one large,” is determined by

the firm or its parent firm, underscoring the party committee's pivotal role in SOEs' decision-making.

To improve the consistency in the decision-making process, the personnel provisions of CASC aim to integrate the party committee with the board and management. First, the party secretary and the board chairman should be held by the same person to ensure consistency between the leadership of the two organs. Second, the qualified directors and managers can become party committee members, whereas the qualified party committee members can take positions on the board and management through the appointment mechanisms of corporate governance, known as the “two-way entry and cross-appointment.” Third, the party committee should be closely involved in important personnel decisions and provide advice and suggestions on the candidates for directors and managers proposed by the board and the CEO. Integrating the state-owner representatives with the board and management can potentially alleviate owner vacancy issues. The personnel provisions of CASC also include the establishment of a discipline inspection committee within the firm. This committee serves as the monitoring and anti-corruption enforcement agency on behalf of the state owners. It can investigate or penalize an SOE manager for violating party discipline, preventing perks or corruption. The discipline inspection committee is similar to the supervisory board, while the latter is designed to protect the interests of all shareholders. Lastly, the personnel provisions require the firms to have a full-time deputy party secretary to assist the party secretary.

In summary, the state-control provisions increase the state-owner's control and allow representatives of the state-owner to influence important decisions at the management and board levels and to perform the monitoring role. To enhance the consistency and effectiveness of the decision-making across the two organs, the personnel provisions ensure the integration of the state-

owner representatives, the board, and management. In the absence of functional corporate control markets and well-defined optimal contracts, these provisions are supposed to address the owner's vacancy and consequent insider control issues.

3. Data and sample characteristics

3.1 Data

We obtain accounting data of listed firms from the China Stock Market and Accounting Research (CSMAR) database. The patent data are from the China Research Data Services Platform (CNRDS). The sample period is from January 2012 to December 2022. Following the literature, we exclude firms in the financial industry and firms with special treatment (ST), delisting risk warning (*ST), and special transfer (PT) status. To eliminate the influence of extreme values, all continuous variables are winsorized at the 1% level in each period.

We obtain the CASC information from the announcements of Chinese listed firms disclosed on www.cninfo.com.cn, an official website that archives documents and filings for listed firms. We search the keywords party (dang), and charter (gongsi zhangcheng) in all the corporate announcements between January 1, 2016, and December 31, 2020 to identify the potential firms that amend their charter to include state-control provisions. After obtaining an initial list of CASC firms, we manually check each firm's announcements to verify the charter amending firms. We are able to identify 760 CASC SOEs that formally wrote certain state-control provisions into their charters from 2016 to 2020. We consider the firms that made charter amendments before December 31, 2020, to ensure at least two years of firm performance data after treatment. Table A1 in Appendix A presents the distribution of the number of CASC SOEs by year and industry. About 80% of CASC firms amend their charters in 2017 and 2018. Almost half of the CASC

firms are from the manufacturing industry, whereas there is no obvious clustering in other industries.

To identify the nature of state-control provisions, we manually check the amendment content and hand-code charter provisions according to the SASAC's template. Specifically, we follow the nine major provisions in the three main categories in Table A2 in Appendix A as the basis for coding, read the charter of each amending firm to identify what provisions are adopted, and code each provision accordingly. Section 5.1 provides further discussion on the content of state-control provisions.

3.2 Variables

The variable of interest is, $CASCP_{i,t}$, which is equal to one if a firm i incorporates at least one state-control provision into its charter in year t or earlier, and zero otherwise. We use four proxies to capture firm performances: a measure of firm profitability, return on equity (ROE), the total factor of productivity (TFP), and two innovation outputs to measure long-term performances, $PatApp$ (the number of patents applied in a firm-year) and $InvGrnt$ (the number of invention patents applied in a firm-year that are eventually granted). Specifically, we compute TFP following Giannetti et al. (2015). $PatApp$ captures the firms' innovation ability in time because there is a time lag between the patent application and approval, while $InvGrnt$ measures the firms' actual ability to transform production factor (innovation input) to output. The Chinese patent system has three types of patents: invention, utility, and product design. The number of all patents measures innovation quantity, whereas the number of invention patents is a proxy for innovation quality. In Section 4.1, we consider alternative proxies for patent quality.

To identify the effect of $CASCP$ on firm performance, we control for an array of firm characteristics known as determinants of firm performance. Following the previous studies (Chang

et al., 2019; Giannetti et al., 2015), we include the following firm characteristics: firm size (*Size*), tangibility (*PPE*), firm age (*Age*), growth rate of operating revenue (*Growth*), Tobin's Q (*Tobinq*), book leverage ratio (*Leverage*), current ratio (*Liquidity*), board size (*Board*), institutional shareholding (*InstHld*), and the top one shareholders' shareholding (*Top1*). Variable definitions are provided in Appendix A Table A3.

3.3 Sample characteristics

Table 1 presents the descriptive statistics for the main variables. We have 23,997 firm-year observations. The number of firms in each year ranges from 1508 in 2012 to 3078 in 2022. SOEs represent 30.97% of listed firms, and 78.51% of SOEs (760 firms) adopt the state-control provisions by the end of 2020. On average, firms in our sample period have a *ROE* of 5.9%. For the measures of innovation output, the average number of patents a firm applied in a year is 18.442, with a 25th percentile of 5, a median of 22, and a 75th percentile of 62. The number of invention patents eventually granted in a year has an average of close to 3 and a median of 2.

4 Main results

In this section, we first employ a DiD methodology that exploits the staggered charter amendment of state-control provisions to investigate the impact of CASCSP on SOE performances. Then, we address the concern of endogeneity and conduct robustness checks.

4.1 The baseline results

We first estimate the following model:

$$Performance_{i,t} = \beta_0 + \beta_1 CASCSP_{i,t-1} + \gamma a Controls_{i,t-1} + \lambda_i + \alpha_t + \epsilon_{i,t} \quad (1)$$

where *i* denotes the firm, and *t* denotes the year. The dependent variable *Performance_{i,t}* represents one of the four firm performance measures (*ROE*, *TFP*, *PatApp*, and *InvtGrnt*). The key independent variable is *CASCSP_{i,t-1}*, and β_1 captures the DiD effects due to CASCSP, reflecting

changes after the charter amendment for *ROE* and *TFP*, and the percentage change for innovation output, *PatApp* and *InvtGrnt*. $Controls_{i,t}$ is the set of variables described in Table 1.

We add firm fixed effects, λ_i , to control for time-invariant firm characteristics and year-fixed effects, α_t , to control for changing economic conditions over time. The standard errors are clustered at the firm level. If enhancing state-owner control facilitates firm profitability, efficiency, and innovation, we expect β_1 , which captures the average treatment effect, to be positive and significant.

Columns 1-4 of Table 2 present the estimates of Eq.1. The dependent variables are *ROE*, *TFP*, *PatApp*, and *InvtGrnt* in Columns 1 to 4, respectively. Across all columns, we find that β_1 is positive and statistically significant, suggesting that, compared with non-CASCP firms, CASCP firms experience a more significant increase in *ROE*, *TFP*, the number of patent applications (*PatApp*), and granted inventions (*InvtGrnt*) after the charter amendment. On average, after incorporating the state-control provisions, CASCP firms experience an increase of 0.016 (or 27.12%) in ROEs compared to non-CASCP firms after controlling for other factors. The CASCP brings a firm with median productivity to the 45th percentile. The percentage increase in the number of patent applications (granted inventions) for CASCP firms is 13.42% (6.05%) higher than that for non-CASCP firms.

The coefficients of control variables are largely consistent with prior literature. For instance, larger firms perform better. Firms with lower leverage and financial risks generate more financial returns, operate more efficiently, and engage in more risky innovation activities. Higher Tobin q and market evaluation are associated with higher profitability, operational efficiency, and innovation abilities.

Armstrong et al. (2022) suggest that including group-fixed effects will isolate within-group variations (i.e., remove all other variations), which may amplify the correlation with the omitted variable and exacerbate omitted variable bias. In addition, Ang et al. (2014) reveal significant heterogeneity across provinces in China regarding the protection of local intellectual property rights. This variation can lead to divergent economic outcomes, like financing choices, R&D investment, and patenting. Hence, we assess the robustness of results to alternative fixed effect structures. We use the industry-year and province-year fixed effects instead of year-fixed effects in Eq. 1 to account for shocks common to the same industry in a year and unobserved, time-varying province-level factors, respectively. In Columns 5-8 of Table 2, we find that the coefficients of *CASCP* are positive and significant, and their magnitude is quantitatively similar to those in Columns 1-4. Our findings are robust to the alternative high-dimension fixed effects and not driven by industry- and province-level time-varying factors.

The number of patents in baseline results only captures innovation quantity, but imperfectly measures innovation quality. Therefore, we consider three proxies for patent quality. We first use the number of forward citations per applied patent (*Citation*) to measure the average quality or scientific value of patents following Chang et al. (2019). In general, more significant patents are expected to be cited more frequently by other patents. We also use the economic value of patents (*Economic_value*) to measure the present value of the monopoly rents associated with patents. We follow the approach of Kogan et al. (2017) and compute the economic values of invention patents based on stock market reactions to the announcement of the patent applications of public firms. For firms with more than one invention in a year, we compute the total economic value of all patents filed in that year. Lastly, we use the percentage of analyst reports with topics related to firm innovation. Bellstam et al. (2021) argue that most existing innovation measures do not fully

capture the nature and scope of innovative output, which is far beyond product introductions, including new production methods, new supply sources, exploitation of new markets, and new organizational forms. We follow Bellstam et al. (2021) and estimate *LDA_topic* by the Latent Dirichlet Allocation (LDA) method on the text of analyst reports, and then select topics about product innovation and R&D. We use these proxies as the dependent variables to re-estimate Eq. 1 and report the results in Online Appendix. The coefficients of CASC for all three innovation quality measures are positive and significant, so adopting state-control provisions is associated with the improvement in innovation quality. The evidence reinforces the main results of innovation outputs, which show that CASC firms generate more valuable patents scientifically and economically.

4.2 Tests on endogeneity and robustness

While we have shown a positive relation between the charter amendment of state-control provisions and firm performances, its causal interpretation remains hypothetical due to the endogeneity concern. Thus, we conduct a battery of tests to alleviate this concern and to show that endogenous issues do not entirely drive our results.

First, one concern about the DiD approach is that the estimated treatment effect could be due to pretreatment differences in the characteristics of treated and control groups. Thus, we examine the dynamics of performance differentials between CASC and non-CASC firms over the years surrounding the charter amendment. If the pretreatment difference drives our results, we should observe an improvement in performance before the charter amendment. To detect this possibility, we replace CASC in Eq. 1 with five variables: *CASC(-3)*, *CASC(-2)*, *CASC(0)*, *CASC(1)*, *CASC(2)*, and *CASC(≥ 3)*, and use the average firm performance one year before

the event year as the baseline. The results are reported in Panel A of Table 3. Columns 1-4 use firm and year fixed effects, whereas Columns 4-8 include high dimension fixed effects.

The dynamics of firm performances around the CASC reform support our hypothesis. We do not find a strong anticipatory effect. The coefficients on $CASC(-3)$ and $CASC(-2)$ are insignificant across all specifications, so CASC firms do not perform better than the non-CASC firms before the charter amendment. Instead, firm performances improved after the CASC. Moreover, the long-run effect of CASC on performances is captured by the coefficients on $CASC(\geq 3)$, which are larger and more significant than those on $CASC(0)$ and $CASC(1)$. It is consistent with the idea that performance improvement takes time, so the impact of CASC should be prominent in the long run. These results do not suggest that the parallel-trend assumption underlying the DiD estimator is violated.

Second, our key variable of interest, $CASC$, is constructed based on the actual event dates, which exhibit a clustered pattern (see Appendix Table A1). Thus, the concentration of charter amendments around particular time periods could give rise to spurious results. We employ the placebo methodology of Bekaert et al. (2005) to address this concern. Specifically, we draw 760 uniform random numbers and randomly assign one of the actual amendment dates to each of the 760 CASC firms in our sample. We then re-estimate Eq. 1 using this randomly assigned charter amendment date sample. We record the estimates and repeat the exercise 500 times. The distribution of actual charter amendment dates is preserved in simulated data. Therefore, if our main results are driven by event clustering, the coefficients based on the simulated data should be close to those based on the actual charter amendment dates. The results are reported in Panel B of Table 3. Columns 1-4 show the summary statistics of coefficients for four performance measures, and Columns 5-8 present the corresponding t-statistics of the coefficients. The mean and the

median of the coefficients on *CASCP*, constructed using randomized charter amendment dates, are all close to zero and insignificant. The coefficients reported in Table 2 are far out in the right tail of the distribution (i.e., higher than the 95th percentiles), implying that our results are not merely a statistical artifact reflecting specific time trends or event clustering.

Third, firms have some discretion over the timing of charter amendment, so the actual event dates are not entirely exogenous. To tackle this issue, we utilize the inspections conducted by the central inspection team (CIT) after 2016 as an exogenous shock. The CIT, a Central Commission for Discipline Inspection branch, inspects all organizations directly under the central government, including 29 provinces. Since 2013, CIT has been dispatched to provinces to conduct thorough examinations to uncover corruption and non-compliant behaviors in local governments and SOEs. CIT will report officials for disciplinary action if they violate the principles and policies of the party. The decision to dispatch a CIT to specific provinces lies with the Central Commission for Discipline Inspection. The timing and order of CIT site visits are typically beyond the control of local government officials. The focus of the CIT inspection is aligned with the national policies, and the *CASCP* in local SOEs has been one important objective since 2016. Anecdotal evidence suggests that local SOEs incorporate state control provisions soon after central inspections. Thus, we use the CIT visit as a quasi-natural experiment. In particular, CIT visited 16 provinces from 2016 to 2017, 27 provinces in 2018, 13 of which were inspected for the first time after *CASCP*, and 17 provinces in 2020, including the last two provinces that had not been visited since the *CASCP* reform. We exclude central SOEs, which are subjected to separate inspections by SASAC, and focus solely on local SOEs, as provincial site visits primarily target provincial bureaucracy. We accordingly construct variable *CI*, which is equal to one if the firm is a local SOE in the province experiencing a CIT visit since 2016 and zero otherwise, and the variable *Post*, which is

equal to one when it is the year after the inspection and zero otherwise. We re-estimate the Eq. 1 as in Table 2 and report the results in Panel C of Table 3. We find that the coefficients on $CI \times Post$ are positive and significant across all specifications, indicating that local SOEs have better performance after the central inspection than the control firms. The evidence from this alternative identification suggests that our results are unlikely to be entirely driven by the endogeneity issue.

To further mitigate the endogeneity concern, we also use the propensity-score-matching (PSM) method in prior studies (Gao et al., 2022) and match each treated firm with two control firms to construct the matched sample. The PSM approach potentially controls for the factors determining a firm's propensity and timing to incorporate state-control provisions into its charter. We use an array of firm characteristics, the same as the controls in Eq.1, to estimate the probability of charter amendment. We then re-run Eq.1 using the matched sample and report the estimates in the Online Appendix. Because of the matching, the sample size is reduced by 25%, but the main finding is largely unchanged. The coefficients on $CASCP$ are positive and significant across all four performance measures, and their magnitude is almost the same as those in Columns 1-4 in Table 2.

In addition, we adopt the cohort-matching approach proposed by Gormley & Matsa (2011) to estimate the DiD model with multiple events. In particular, we compare the changes in firm performances of $CASCP$ and non- $CASCP$ firms within the same province. For each province, we construct a cohort of the treated and the control firms using firm-year observations for the four years before and the four years after the charter amendment. We then pool the data across cohorts and re-run Eq.1 to estimate the average treatment effect. We include firm-cohort fixed effects to control for any fixed differences between firms and year-cohort fixed effects to control for any

time trends. As shown in the Online Appendix, the coefficients of *CASCP* are positive and significant across all four specifications, and the main results are robust to this estimation method. Next, the matched sample in the PSM analysis is based on an array of firm characteristics, but this way of matching may de-emphasize the importance of industry and firm size. We address this concern using a parsimonious PSM and match firms only by size and industry. The results in the Online Appendix show that the effect of *CASCP* on firm performance remains positive and significant.

Lastly, we address concerns raised in the recent econometrics literature that a staggered DiD approach can produce biased estimates if there is heterogeneity in the treatment effect depending on when an observation is treated or how long it takes for the treatment effect to fully manifest (Baker et al., 2022). In particular, we first create cohort-specific datasets, assigning firms that implement *CASCP* in the same year to the same cohort, so there are five cohorts in total. Each of the five cohorts includes all observations that fall between three years before and three years after *CASCP*. We keep only the treated firms and all firms that are never treated as our control group. Then, we stack these cohort datasets together and calculate an average effect across *CASCP* firms. The results in the Online Appendix show that our findings are robust to this stacked DiD estimation.

In summary, the positive and significant coefficient on *CASCP* is virtually unchanged across all specifications, providing strong supporting evidence for a causal impact of *CASCP* on firm performance.

5. Cross-sectional analysis and tests of mechanisms

In this section, we first examine the cross-sectional differences to provide further evidence of the underlying mechanisms. Specifically, we explore the heterogeneous effects associated with the extent of CASC. Then, we investigate the mechanisms behind our results.

5.1 Cross-sectional analysis: the extent of CASC

Panel A of Appendix Table A2 shows that firms adopt different numbers of state-control provisions, and the number of adopted provisions should indicate the extent of state-control reform and the effectiveness of CASC. Incorporating more provisions means that state owners can exert more influence over the firm. Therefore, if CASC has a causal impact on firm performance, this impact should be more prominent for firms that adopt more provisions. We examine the potential heterogeneous effects of the number of state-control provisions and divide CASC firms into two groups by the median number of provisions included. We re-estimate Eq. 1 for firms with more and fewer provisions amended separately. Panel A of Table 4 presents the estimates for firms with fewer provisions in Columns 1-4 and more provisions in Columns 5-8. The coefficients of *CASC* are positive and significant in Columns 5-8, while they are insignificant or marginally significant in Columns 1-4. Therefore, our findings are driven by firms incorporating more provisions. The evidence is consistent with our expectations and lends further support for the causal impact of CASC.

We next examine the differential impact of CASC conditional on the provision contents. Panel B of Appendix Table A2 lists the nine state-control provisions. Some provisions appear symbolic, whereas others may materially affect the firm organization and decision-making process. We categorize the provisions into three groups according to their function: symbolic provisions, decision-making provisions, and personnel provisions. The symbolic group consists of two provisions that institutionalize the pre-existing party committee within the firm. The decision-

making group consists of two provisions that require the board and management to consult the party committee before making important decisions. The personnel group consists of five provisions that allow the state owner to influence the corporate personnel significantly by integrating the party committee, the board, and management and supervising the firm through the discipline inspection committee.

Panel B of Appendix A Table A2 also reports the adoption rate of each provision for SOEs. As expected, the adoption rate of symbolic provisions is the highest, ranging from 90.13% to 100% for CASC firms. By contrast, the average adoption rates of decision-making and personnel provisions are 60.00% and 54.63%, respectively. Among decision-making provisions, firms are more amenable to the board's prior consultation with the party committee (77.50%) than management's prior consultation with the party committee (42.50%), suggesting non-state shareholders may be reluctant to allow the party committee to intervene in daily operations. Regarding personnel provisions, 30.92% of firms approve the chairman simultaneously serving as party secretary in the corporate charter, and 25.53% of firms adopt the provision of a full-time deputy party secretary. Firms are relatively more amenable to the party committee's involvement in personnel decisions (73.29%), having a discipline inspection committee (59.47%), and the personnel overlapping of board, management, and party committee (83.95%). In sum, we observe a significant variation in the adoption of provisions among firms.

Because firms that include decision-making and personnel provisions usually include symbolic provisions, we divide the CASC firms into two mutually exclusive groups: those with only symbolic provisions and those with all three types. Given the nature of the content, if CASC has a causal impact on firm performance, then this impact should be less prominent for firms only adopting symbolic provisions and be more significant for firms including all provisions. To test

this hypothesis, we re-estimate Eq. 1 for these two groups separately and report the results in Panel B of Table 4. The coefficients of *CASCP* are insignificant in Columns 1-4, showing that the firms with only symbolic provisions do not have an improvement in the performances following the adoption of state-control provisions. The coefficients of *CASCP* are positive and economically significant in Columns 5-8, suggesting that firms adopting all three types of provisions perform much better after incorporating *CASCP*. To further disentangle the impact of non-symbolic provisions, we partition the firms into the group that adopts decision-making provisions and the group that adopts personnel provisions. These two groups are not mutually exclusive because some firms adopt both types of provisions. We re-estimate Eq. 1 for these two groups separately and report the results in Columns 1-4 and 5-8 of Panel C in Table 4. Firm performance generally does not improve in those that mainly adopt decision-making provisions. The effects of *CASCP* are concentrated in firms that amend the personnel provisions, highlighting the importance of the power of directors and managers' appointments in shaping corporate governance. Overall, these results are consistent with our conjecture and provide supporting evidence for the causal impact of *CASCP*.

5.2 Cross-sectional analysis: the agency issues

Because of the “vacancy of an actual owner,” there is an agency problem between shareholders and SOE managers. Given that the *CASCP* improves corporate governance, a further analysis is to see whether the impact of *CASCP* is more prominent in firms where the agency issues are presumably more severe. To test this hypothesis, we consider three proxies for agency issues between shareholders and managers. The first is the number of discipline committee members in the management before *CASCP*. This committee serves as the monitoring and anti-corruption enforcement agency on behalf of the state owners. It can investigate or penalize an SOE

manager for violating party discipline. We expect that the agency issues will be more severe in firms with fewer discipline committee members in the management before CASC. Accordingly, we partition the firms into the more and less discipline-committee-members groups and re-estimate Eq. 1 for these two groups. As shown in Panel A of Table 5, the impact of CASC is more prominent in firms with fewer discipline-committee-members, supporting our conjecture.

The second proxy is the affiliation of CEOs. Some CEOs hold positions in the controlling parent firms at the same time, and the state owners should be able to closely monitor these affiliated CEOs. Therefore, we anticipate that firms led by CEOs who are not connected to state owners experience more significant agency issues. We identify whether the CEOs work in the controlling parent firms simultaneously before the CASC. Accordingly, we partition the firms into two groups and re-estimate Eq. 1 for these two groups. As shown in Panel B of Table 5, the impact of CASC is more prominent in firms whose CEO is not affiliated with the state owner, supporting our conjecture.

The third proxy is the ownership of managers. The managers in SOEs hold considerably fewer shares of their companies than the managers in POEs do, and it is the root of the interest of conflict between managers and shareholders. However, the managers' ownership is not entirely zero, so we conjecture that the agency issues will be more severe in firms with fewer managers' holdings. We partition the firms into the more management-holdings and the fewer management-holdings groups according to the median management holdings across firms before CASC. We re-estimate Eq. 1 for these two groups and report the results in Panel C of Table 5. We find that the effects of CASC are larger in low-holding firms (Columns 1-4) than those in high-holding firms (Columns 5-8), except for the TFP. The result is consistent with our hypothesis. Note that

the impact of CASC in high-holding firms is generally significant, possibly due to the fact that the overall managers' holdings in SOEs are low.

In an untabulated test, we explore the heterogeneous impact of CASC on performance conditional on the corporate pyramid structure. In a pyramid-like organizational structure, the controlling owner at the top controls a firm indirectly through layers of intermediate companies. Intermediate pyramidal layers insulate managers from a pyramid's top owners and hence induce agency costs, as the higher information costs make monitoring more difficult. Therefore, we expect that more extensive pyramidal structures will be associated with a stronger impact of CASC on firm performance. We hand-collect the information on pyramidal layers from the ownership structure figure in annual reports and focus on local SOEs following previous literature (Fan et al., 2013; Opie et al., 2019). We compute the number of intermediate layers between a company and its controlling shareholder through the controlling pyramidal chain. Accordingly, we divide CASC firms into two groups by the median number of layers and re-estimate Eq. 1 for firms with more and fewer layers separately. The results are largely consistent with our expectation that the effects of CASC are stronger in firms with more layers.

5.3 Mechanisms

In this subsection, we examine the potential mechanism behind our results. Previous research evaluates the governance impacts of passive owners mainly through the final corporate decisions instead of the internal decision-making processes (Appel et al., 2016; Heath et al., 2021; Schmidt and Fahlenbrach, 2017). We try to open this “decision-making black box” and understand how passive owners engage in governance after the CASC. Typical corporate governance includes internal mechanisms via boards of directors and incentive compensation and external mechanisms via corporate control. Due to the ownership nature, the corporate control market for

SOEs is largely muted. In addition, some of SOEs' objectives are non-monetary and often difficult to quantify. Because of the less tangible goals of the controlling shareholders, the optimal compensation of SOE managers is not obvious. The CASC does not change corporate control markets or executive compensation, and we focus on the impact of CASC on the internal governance mechanism via the boards.

We first examine the personnel change in the board and management. CASC aims to address SOEs' insider-control issues by institutionalizing the control rights of the representatives of the state owner through the modern corporate governance structure. Therefore, we hypothesize that the CASC leads to the integration between party committee members and the board and management. We manually identify the party committee members on the board and in management. Public firms are required to disclose resumes of the board and management in the *Basic Information on Directors, Supervisors, and Senior Managers* section in annual reports, and the resumes include the information of the name, age, educational background, past working experiences, and current positions and responsibilities. We identify the party committee members if the resumes of directors, supervisors, and senior managers explicitly state that they serve as secretary of party committee (Dangwei Shuji), deputy secretary of party committee (Dangwei Fu Shuji), members of party committee (Dangwei Weiyuan), secretary of discipline committee (Jiwei Shuji), deputy secretary of discipline committee (Jiwei Fu Shuji), and members of discipline committee (Jiwei Weiyuan) in the public firm (neither its parent nor subsidiary). Before the charter amendment, 7.10% (9.10%) of board members (senior managers) of the CASC firms serving on the party committee at the same time, while this percentage increases to 12.06% (17.39%) after the CASC. As a benchmark, the average percentage of party committee members on the board (the management) is 1.19% (1.50%) in the full sample.

Then, we use the percentage of party committee members on the board and the management as dependent variables and re-estimate Eq. 1. The results are reported in Columns 1-2 of Panel A in Table 6, respectively. The coefficients on *CASCP* are positive and significant in both columns, suggesting that the number of party committee members on the board and management of the *CASCP* firms increases compared to the non-*CASCP* firms after the *CASCP*. It supports our conjecture that passive state shareholders assign more of their representatives to the board and management to engage in SOE operations actively. It explains how the representatives of the state owner have more power over the decision-making process and personnel decisions, which is a potential mechanism behind the improved performance following the *CASCP*.

Similar to that in the U.S., the board of SOEs in China accomplishes its functions through different committees. Listed companies must have audit committees and are encouraged to establish other committees, such as nomination and compensation. The previous results show that the percentage of party committee members on the board increased after *CASCP*, and we next examine how the *CASCP* affects the board's committees. We use the ratio of the number of party committee members over the size of audit, nomination, and compensation committees as dependent variables and re-run Eq.1. As shown in Panel B of Table 6, the coefficients of *CASCP* are positive and significant in all three columns, suggesting that the percentage of party committee members on audit, nomination, and compensation committees are all increased in *CASCP* firms after the charter amendment. In addition, the regulator of public firms, the China Securities Regulatory Commission (CSRC), requires independent directors to consist of at least one-third of the audit committees. Because party committee members cannot be independent directors, we also examine whether the *CASCP* increases the size of audit committees by adding party committee

members. In untabulated results, we find that CASC does not affect the size of audit committees, suggesting that party committee members replace some directors in the audit committees in treated firms.

Next, we examine the impact of CASC on the quality of party committee members on the board and explore whether enhancements in human capital are a potential channel through which CASC firms achieve better performance. We use academic qualifications, overseas work or education experiences, and work experiences in the production department to measure directors' qualifications. Specifically, *Education* is defined as the percentage of party committee members with a bachelor's or above degree over the total number of directors on the board; *Overseas* is defined as the percentage of party committee members with overseas learning or working experiences over the total number of directors on the board; and *ProExp* is defined as the percentage of party committee members with working experiences in the production department over the total number of directors on the board. As shown in Panel C of Table 6, the positive and significant coefficient of CASC in all three columns indicates that CASC improves not only the number but also the quality of party committee members on the board.

Finally, we investigate the specific mechanisms related to corporate innovation. We first examine whether the patent inventors are more likely to be promoted to board and management positions after the charter amendment. We match the patent inventors with the board and management members based on names and firms to identify the promotion. We check if the incumbent board and management members previously worked in the same firm as a patent inventor. *Promotion* is equal to one if the firm has at least one current member of the board and management who was an inventor of patents in the same firm and zero otherwise. We use *Promotion* as the dependent variable to re-estimate Eq.1. As shown in Column 1 of Panel D in

Table 6, the coefficient on *CASCP* is positive and significant, indicating that the inventors in *CASCP* firms are more likely to become board directors and managers than those in non-*CASCP* firms after the shock.

We then study whether the incumbent board and management members of *CASCP* firms are more involved in innovation than those of non-*CASCP* firms. Specifically, we identify the collaboration of the directors and managers with the R&D staff by measuring whether the patent inventors include incumbent directors and managers. *Collaboration* is equal to one if the patents that a firm applied for in a given year have at least one inventor who is simultaneously a board or management member and zero otherwise. We use *Collaboration* as the dependent variable to re-estimate Eq.1 and report the results in Column 2 of Panel D in Table 6. Consistent with the main findings of improving innovative outputs, the positive and significant coefficient on *CASCP* shows that the *CASCP* leads to more collaboration, and the board and management are more focused on innovation after the *CASCP*.

Lastly, we use the work experience in R&D as a proxy for innovation capabilities and explore whether the *CASCP* firms have more board and management members with R&D experiences than those in non-*CASCP* firms. The R&D experiences of the directors and managers are sourced from the *Basic Information on Directors, Supervisors, and Senior Managers* (Resume) section in the annual reports, which shows their prior and current working experiences, including firm names, positions, and main responsibilities. We use the percentage of directors and managers with R&D experiences as the dependent variable to re-estimate Eq.1 and report the results in Column 3 of Panel D in Table 6. The positive and significant coefficient on *CASCP* indicates that more directors and managers with backgrounds in R&D join the board and management after implementing *CASCP*.

The personnel change in the board and management can be a potential channel, whereas the directors' effort can also be an important driver of improved performance. We next examine whether board members exert more effort after the charter amendment. Vafeas (1999) proposes board activity intensity as a value-relevant attribute of board effort. Therefore, we use the meeting frequency of the board and board committees (i.e., audit, nomination, and compensation) as dependent variables and re-estimate Eq.1. The meeting frequency is defined as the natural logarithm of one plus the number of meetings held in a given year. Panel A of Table 7 shows that the coefficients of *CASCP* are positive and significant across all four specifications. Specifically, the board of *CASCP* firms holds 62.8% more meetings than non-*CASCP* firms after the charter amendment. These numbers for audit, nomination, and compensation committees are 23.1%, 12.9%, and 25.6%, respectively. It provides strong evidence that directors become more diligent after the charter amendment, and this increased commitment to the board's duty can explain the improved performance following the *CASCP*.

Beyond the meeting frequency, we want to further test whether the *CASCP* affects the absence rate of directors in board meetings. The attendance of directors at board meetings stands for their commitment to firms, and it is particularly the case for independent directors (Masulis and Zhang, 2019). We obtain the board meeting attendance records of directors from annual financial reports and use the total number of absences of directors from board meetings in a year, the ratio of total director absences to the board size, and the ratio of total director absences to the number of meetings as dependent variables to re-estimate Eq. 1. Panel B of Table 7 shows the results for all directors in Columns 1-3 and for independent directors in Columns 4-6. In all columns, the coefficients of *CASCP* are negative and significant, supporting that board members, especially the independent directors, on the board make more efforts.

In summary, the analysis in Tables 6 and 7 suggests that the adoption of state-control provisions is associated with important personnel change in the board and management and that directors and managers become more focused on R&D and more diligent in CASC firms. These findings shed light on the mechanisms behind the main findings of improved firm performance and indicate that the CASC helps to mitigate the agency conflict between shareholders and management.

6. Further analysis

6.1 Governance and disclosure

The CASC aims to address insider control issues, so we examine whether the CASC has a positive impact on corporate governance. We first use a composite governance index (CGI) from the DIB Internal Control and Risk Management database to measure governance quality as a proxy. The DIB corporate governance index consists of five aspects of the internal control system (asset safeguard, reliable reporting, compliance, operation efficiency and effectiveness, and sustainable development), and each aspect is quantified by three proxies. For example, asset safeguard is measured by impairment loss, financial investment loss, and non-operating expenses. The CGI is the weighted average of these fifteen proxies.

The second proxy for governance quality is related to corruption. Anti-corruption has been one of the most important national policies regarding SOEs since 2013 (Griffin et al., 2022). The party committee is in charge of anti-corruption in the SOEs on behalf of the state owner. Moreover, one provision in the charter amendment particularly emphasizes establishing the discipline inspection committee to enhance the supervision of SOE managers. On the proxy for corruption, Cai et al. (2011) point out that Chinese firms commonly use perk-related accounts to reimburse expenditures used to bribe government officials, entertain clients and suppliers, or accommodate

managerial excess in addition to legitimate expenses. Therefore, perks are perceived to be unethical management behavior, a waste of firm resources, and a result of poor corporate governance. Following Luo et al. (2011), we use abnormal management costs after controlling for management compensation, bad debt provisions, and inventory provisions as a proxy for perks.

We use both proxies for governance quality as the dependent variables and re-perform Eq.1. Column 1 in Table 8 presents the estimate of CGI, and the positive coefficient on *CASCP* suggests the improvement in governance following the charter amendment. Column 2 presents the estimate of perks, and the negative coefficient on *CASCP* indicates that the perks decreased after the charter amendment. These results support our conjecture that the *CASCP* improves corporate governance. Disclosure quality is another critical dimension of corporate governance. Section 5.2 shows the personnel change in audit committees after the *CASCP*, and we expect that audit committee members are likely to improve disclosure quality in alignment with the state owner's policy. Following previous research, we consider three proxies to measure disclosure quality. First, China's generally accepted auditing standards (GAAS) require auditors to issue a modified opinion for any one of three reasons: (1) GAAP violation, (2) scope restriction, and (3) inconsistency in the application of GAAP (AS No. 7). Unqualified opinions with explanatory notes can be considered an alternative form of a modified opinion in China. Therefore, we use whether the firm receives a modified audit opinion to directly measure disclosure quality following Chen et al. (2011). Besides, a restatement represents an acknowledgment by the firm of a material omission or misstatement in their financial statements, so we use whether firms make a restatement as a proxy for disclosure quality (Palmrose et al., 2004). Additionally, to enhance firms' information disclosure quality, the Shenzhen Stock Exchange (SZSE) comprehensively assesses the information disclosure quality of listed firms with a rating index from the quality of information

disclosure, compliance level of the firm's operations, and degree of investor protection since 2001. Therefore, the information disclosure rating is a comprehensive evaluation index of information disclosure quality (Ho et al., 2022). The appraisal comprises four rankings ranging from A (highest) to D (lowest), and we code the four rankings from 1 to 4 to obtain the measure, *Evaluation*. Specifically, we include only firms listed in SZSE for this measure of disclosure quality.

We use three proxies for disclosure quality as the dependent variables to re-estimate Eq.1 and report the results in Columns 3-5 of Table 8. The coefficients of CASCPC in all three columns are negative and significant. Therefore, the CASCPC firms have lower modified audit opinions, fewer incidences of restatement, and higher disclosure ratings than non-CASCPC firms. The evidence supports our conjecture that the CASCPC improves the disclosure quality of SOEs.

Because of the improved disclosure quality, we also explore whether the CASCPC enhances the stock price efficiency. On the one hand, the improved disclosure quality should increase the availability of firm-specific information to outsiders of publicly traded firms (Bushman et al., 2004), so the price efficiency should increase. On the other hand, many Chinese firms do not value transparency due to China's weak institutional and monitoring environment. In particular, retail investors who are vulnerable to behavioral bias (Mei et al., 2009; Xiong and Yu, 2011) dominate the Chinese stock market (Titman et al., 2022), and stock prices may deviate from the firm's fundamentals because of IPO regulations (Qu et al., 2023). Therefore, the improved disclosure quality may not enhance price efficiency substantially.

We consider four proxies for stock price efficiency. The first two measures are based on high-frequency data of intraday transactions. The high stock turnover rate in China suggests that short-term measures are suitable to capture the relative informational efficiency of prices (Gao et al., 2022). Following the literature (Boehmer and Wu, 2013), we use the absolute value of the

quote midpoint return autocorrelation in nonoverlapping 15-minute and 20-minute intervals as the proxies. A large absolute value of the midpoint return autocorrelation indicates a low level of price efficiency. The next two proxies for price efficiency are based on low-frequency trading data. We follow Hou & Moskowitz (2005) and construct two measures of price delays—a low-frequency measure of relative efficiency that relies on the speed of adjustment to market-wide information. We use these four proxies as the dependent variable to re-estimate Eq. 1 and report the results in the Online Appendix. We find that the charter amendment increases the high-frequency price efficiency of CASC firms compared to non-CASC firms, while the results are weak for low-frequency measures.

6.2 Falsification tests and alternative motives

We next conduct several falsification tests and tests that rule out alternative motives for CASC. In our sample period, 126 POEs voluntarily amended their charters to include state-control provisions, and these firms may treat the CASC as a gesture to show their compliance with the government. The Online Appendix presents the distribution of these POEs by year and industry and the adoption rate of each provision for POEs. Because POEs do not have controlling state shareholders and the “owner vacancy” problem is not prominent, the CASC in POEs should be symbolic and have no real effects. We conduct the falsification test by employing a sample of POEs implementing the CASC as treated firms to re-estimate Eq.1. The results are presented in Panel A of Table 9. The coefficients on CASC are insignificant, so the charter amendment does not improve the POE’s performance. It is consistent with our expectations and provides corroborative evidence for a causal impact of CASC on SOE performance.

Section 5.2 shows important personnel changes in the board of CASC firms, which also hold more board meetings than non-CASC firms. Besides the board, firms in China must have a

separate supervisory board that supervises the directors and managers on behalf of the shareholders. However, supervisory boards are generally perceived as dysfunctional and cannot effectively perform supervisory roles (Chang et al., 2019; Giannetti et al., 2015). In addition, the state owner has its own supervisory unit, the discipline inspection committee, which monitors directors and managers. Therefore, we expect that the state owner will not assign more party committee members to the supervisory board and that the number of supervisory board meetings should not change after the CASC. We conduct the falsification test by using the percentage of party committee members on the supervisory board and the logarithm of one plus the number of supervisory board meetings in a year as dependent variables to re-estimate Eq.1. The results are reported in Columns 1-2 in Panel B of Table 9. Consistent with our expectation, the coefficients on CASC are insignificant across two columns, so the CASC does not affect the composition or the activities of the supervisory board.

In addition, the CSRC requires that at least one-third of the directors on the board be independent directors, and most listed firms have a minimum number of independent directors to fulfill the requirement. The CASC affects the board's composition by including more party committee members. However, it should not affect the relative size of independent directors. Therefore, we conduct the falsification test by using the percentage of independent directors on the board as the dependent variable to re-estimate Eq.1. The result in Column 3 in Panel B of Table 9 indeed shows that the CASC has no impact on independent directors, consistent with our conjecture.

Lastly, we examine the alternative motives of firms to implement the CASC. As explained in Section 2, the central government requires the SOEs to adopt the state control provisions in the corporate charter, so the firms have little discretion under this “top-down” approach. Nonetheless,

there might be some pecuniary benefits from the state, so the firms want to implement the CASC. To test this hypothesis, we consider two proxies for pecuniary benefits. The first is the ease of bank financing proxied by the total amount of bank loans, and the second is the funding support from the government proxied by the government subsidies. We re-estimate Eq.1 and use those two proxies as the dependent variables. The results are reported in Panel C of Table 9. We find that neither the amount of bank loans (Column 1) nor the government subsidies (Column 2) of CASC firms significantly increases compared to non-CASC firms. It suggests that pecuniary benefits are unlikely to be the driving force behind the charter amendment.

6.3 Industry effects and firm value

Since the CASC leads to better firm performance, a related question is its effect on industry competition. We compute the Herfindahl index of industry concentration to measure the industry competition for 47 industries. The Herfindahl index is defined as the sum of the squares of the market shares of all firms in one industry, where we use revenue, profit, total assets, and equity as four proxies to measure market shares, respectively. We construct the industry-level CASC using the following two equations:

$$CASC_{Ind} = \sum_i \frac{CASC_{i,j,t}}{Number\ of\ firms_{j,t}}$$

$$CASC_{Ind_A} = \sum_i \frac{CASC_{i,j,t} \times Asset_{i,j,t}}{Asset\ Ind_{j,t}}$$

Asset_Ind is the sum of total assets in an industry. The control variables are also aggregated at the industry level. We re-estimate Eq.1 at the industry level using the different Herfindahl indices as the dependent variables. The results are reported in Table 10. We find some evidence that CASC increases the industry concentration. The industry concentration increases with the percentage of

CASCP firms in the industry, but there is no association when value-weighted CASCP measure is used.

Lastly, we examine the impact of CASCP on firm value. Because of the improved performance, it is naturally expected that the firm value should increase after the CASCP. We study this question using two methods. First, we use the DiD approach and compare the changes in the firm value of CASCP firms with those that do not amend charters. We use Tobin q as the proxy for the firm value and compute two measures. The first, Tobinq, is the ratio market capitalization of share outstanding plus liability over total assets at the end of each year, whereas the second, Tobinq_3Y, is the average of Tobinq over future three years to capture long-term effects. We re-estimate Eq.1 using Tobinq as the dependent variable and report the results in Columns 1-2 in Table 11. As expected, the value of CASCP firms significantly increases compared to non-CASCP firms. Second, we explore the event study method, which is also useful for examining the value creation of the CASCP. Accordingly, we treat the implementation date of CASCP as the date zero and compute the cumulative abnormal return (CAR) over the calendar window [-10, 360] and buy-and-hold abnormal return (BHAR) over the calendar window [-10, 1440] for event firms. Fama-French three-factor model is used as the benchmark. The results are similar if other benchmark models or event windows are used. We match two control firms with similar characteristics for each event firm and compute the CAR and BHAR of control firms. In untabulated results, we find that the CAR and BHAR of CASCP firms are economically small. In Columns 3-4 of Table 11, we compare the CAR and BHAR of CASCP and non-CASCP firms and find that their differences are either insignificant or economically trivial. The evidence from the abnormal return indicates that the value increase of event firms primarily results from the low

value before the CASC. The CASC firms do not deliver abnormal returns to investors post-event.

7. Conclusion

The governance impact of passive owners has raised great attention from global investors, as they hold an increasing position in listed firms and can exert extensive impacts on firms. In this paper, we examine the governance impact of passive owners on firm performances, namely, financial performances, production efficiency, and innovation outputs under the CASC reform in China. Based on a manually collected sample, we find strong evidence that the charter amendment of state-control provisions significantly increases firm performance. The test of parallel trends, placebo test, and alternative identification all support a causal interpretation of the finding. The results are robust to a battery of alternative estimation methods.

The impact of CASC on firm performances is stronger for firms that incorporate more state-control provisions, especially personnel and decision-making provisions. In contrast, the effect is weak for firms that only incorporate symbolic provisions. The improvement in firm performance is also more prominent in firms with more severe agency conflicts, suggesting that the CASC alleviates the agency conflicts between shareholders and managers.

The influence of passive shareholders significantly shapes corporate governance and firm operations outcomes through the “voice” channel. Exploring the mechanism, we find consistent evidence that more party committee members enter the board and management whose interests, hence, become more aligned with the state owners. The quality of both the board and management also improves following the CASC. Directors and managers are more likely to possess strong educational backgrounds, extensive overseas experience, and significant work experience. Inventors are more apt to become executives, whereas directors and managers actively support

innovation. Consistently, the board holds more meetings and makes more effort. CASC firms decrease perks and improve their disclosure quality and overall corporate governance. Our findings highlight when ownership matters for a firm's performance.

Reference

- Agrawal, A., & Mandelker, G. N. (1990). Large shareholders and the monitoring of managers: The case of antitakeover charter amendments. *Journal of Financial and Quantitative Analysis*, 25, 143–161. <https://doi.org/10.2307/2330821>
- Ang, J. S., Cheng, Y., & Wu, C. (2014). Does enforcement of intellectual property rights matter in China? Evidence from financing and investment choices in the high-tech industry. *The Review of Economics and Statistics*, 96, 332–348. https://doi.org/10.1162/REST_a_00372
- Appel, I. R., Gormley, T. A., & Keim, D. B. (2019). Standing on the shoulders of giants: The effect of passive investors on activism. *The Review of Financial Studies*, 32, 2720–2774. <https://doi.org/10.1093/rfs/hhy106>
- Appel, I. R., Gormley, T. A., & Keim, D. B. (2016). Passive investors, not passive owners. *Journal of Financial Economics*, 121, 111–141. <https://doi.org/10.1016/j.jfineco.2016.03.003>
- Armstrong, C., Kepler, J. D., Samuels, D., & Taylor, D. (2022). Causality redux: The evolution of empirical methods in accounting research and the growth of quasi-experiments. *Journal of Accounting and Economics*, 74, Article 101521. <https://doi.org/10.1016/j.jacceco.2022.101521>
- Bai, C.-E., Lu, J., & Tao, Z. (2006). The multitask theory of state enterprise reform: Empirical evidence from China. *American Economic Review*, 96, 353–357. <https://doi.org/10.1257/000282806777212125>
- Baker, A. C., Larcker, D. F., & Wang, C. C. Y. (2022). How much should we trust staggered difference - in - differences estimates? *Journal of Financial Economics*, 144, 370–395. <https://doi.org/10.1016/j.jfineco.2022.01.004>
- Balsmeier, B., Fleming, L., & Manso, G. (2017). Independent boards and innovation. *Journal of Financial Economics*, 123, 536–557. <https://doi.org/10.1016/j.jfineco.2016.12.005>
- Bebchuk, L., Cohen, A., & Ferrell, A. (2009). What matters in corporate governance? *Review of Financial Studies*, 22, 783–827. <https://doi.org/10.1093/rfs/hhn099>
- Bekaert, G., Harvey, C., & Lundblad, C. (2005). Does financial liberalization spur growth? *Journal of Financial Economics*, 77, 3–55. <https://doi.org/10.1016/j.jfineco.2004.05.007>
- Bellstam, G., Bhagat, S., & Cookson, J. A. (2021). A text-based analysis of corporate innovation. *Management Science*, 67, 4004–4031. <https://doi.org/10.1287/mnsc.2020.3682>
- Bennedsen, M., Mehrotra, V., Shim, J., & Wiwattanakantang, Y. (2021). Dynastic control without ownership: Evidence from post-war Japan. *Journal of Financial Economics*, 142, 831–843.
- Bhagat, S., & Jefferis, R. H. (1991). Voting power in the proxy process. *Journal of Financial Economics*, 30, 193–225. [https://doi.org/10.1016/0304-405X\(91\)90042-I](https://doi.org/10.1016/0304-405X(91)90042-I)
- Boehmer, E., & Wu, J. (2013). Short selling and the price discovery process. *Review of Financial Studies*, 26, 287–322. <https://doi.org/10.1093/rfs/hhs097>
- Borokhovich, K. A., Brunarski, K. R., & Parrino, R. (1997). CEO contracting and antitakeover amendments. *The Journal of Finance*, 52, 1495–1517. <https://doi.org/10.1111/j.1540-6261.1997.tb01118.x>
- Bradshaw, M., Liao, G., & Ma, M. (2019). Agency costs and tax planning when the government is a major shareholder. *Journal of Accounting and Economics*, 67, 255–277. <https://doi.org/10.1016/j.jacceco.2018.10.002>

- Brav, A., Jiang, W., Ma, S., & Tian, X. (2018). How does hedge fund activism reshape corporate innovation? *Journal of Financial Economics*, 130, 237–264. <https://doi.org/10.1016/j.jfineco.2018.06.012>
- Bushman, R. M., Piotroski, J. D., & Smith, A. J. (2004). What determines corporate transparency? *Journal of Accounting Research*, 42, 207–252. <https://doi.org/10.1111/j.1475-679X.2004.00136.x>
- Cai, H., Fang, H., & Xu, L. C. (2011). Eat, drink, firms, government: An investigation of corruption from the entertainment and travel costs of Chinese firms. *The Journal of Law and Economics*, 54, 55–78. <https://doi.org/10.1086/651201>
- Cao, X., Lemmon, M., Pan, X., Qian, M., & Tian, G. (2019). Political promotion, CEO incentives, and the relationship between pay and performance. *Management Science*, 65, 2947–2965. <https://doi.org/10.1287/mnsc.2017.2966>
- Chang, X., Chen, Y., Wang, S. Q., Zhang, K., & Zhang, W. (2019). Credit default swaps and corporate innovation. *Journal of Financial Economics*, 134, 474–500.
- Che, J., & Qian, Y. (1998). Insecure property rights and government ownership of firms. *The Quarterly Journal of Economics*, 113, 467–496. <https://doi.org/10.1162/003355398555658>
- Chemmanur, T. J., & Tian, X. (2018). Do antitakeover provisions spur corporate innovation? A regression discontinuity analysis. *Journal of Financial and Quantitative Analysis*, 53, 1163–1194. <https://doi.org/10.1017/S0022109018000029>
- Chen, D., Kim, J.-B., Li, O. Z., & Liang, S. (2018). China's closed pyramidal managerial labor market and the stock price crash risk. *The Accounting Review*, 93, 105–131. <https://doi.org/10.2308/accr-51867>
- Chen, G., Firth, M., Xin, Y., & Xu, L. (2008). Control transfers, privatization, and corporate performance: Efficiency gains in China's listed companies. *Journal of Financial and Quantitative Analysis*, 43, 161–190. <https://doi.org/10.1017/S0022109000002787>
- Chen, H., Chen, J. Z., Lobo, G. J., & Wang, Y. (2011). Effects of audit quality on earnings management and cost of equity capital: Evidence from China. *Contemporary Accounting Research*, 28, 892–925. <https://doi.org/10.1111/j.1911-3846.2011.01088.x>
- Chen, Z., Guan, Y., & Ke, B. (2013). Are stock option grants to directors of state-controlled Chinese firms genuine compensation? *The Accounting Review*, 88, 1547 – 1574. <https://doi.org/10.2308/accr-50504>
- Cheung, Y.-L., Rau, P. R., & Stouraitis, A. (2006). Tunneling, propping, and expropriation: Evidence from connected party transactions in Hong Kong. *Journal of Financial Economics*, 82, 343–386. <https://doi.org/10.1016/j.jfineco.2004.08.012>
- Core, J. E., Guay, W. R., & Rusticus, T. O. (2006). Does weak governance cause weak stock returns? An examination of firm operating performance and investors' expectations. *The Journal of Finance*, 61, 655–687. <https://doi.org/10.1111/j.1540-6261.2006.00851.x>
- DeBacker, J., Heim, B. T., & Tran, A. (2015). Importing corruption culture from overseas: Evidence from corporate tax evasion in the United States. *Journal of Financial Economics*, 117, 122–138. <https://doi.org/10.1016/j.jfineco.2012.11.009>
- Du, F., Tang, G., & Young, S. M. (2012). Influence activities and favoritism in subjective performance evaluation: Evidence from Chinese state-owned enterprises. *The Accounting Review*, 87, 1555–1588. <https://doi.org/10.2308/accr-50196>
- Du, F., Erkens, D. H., Young, S. M., & Tang, G., 2018. How adopting new performance measures affects subjective performance evaluations: Evidence from EVA adoption by Chinese state-owned enterprises. *The Accounting Review*, 93, 161-185.

- Fan, J., Wong, T., & Zhang, T. (2007). Politically connected CEOs, corporate governance, and post-IPO performance of China's newly partially privatized firms. *Journal of Financial Economics*, 84, 330–357. <https://doi.org/10.1016/j.jfineco.2006.03.008>
- Fan, J. P. H., Wong, T. J., & Zhang, T. (2013). Institutions and organizational structure: The case of state-owned corporate pyramids. *Journal of Law, Economics, & Organization*, 29, 1217–1252. <https://doi.org/10.1093/jleo/ews028>
- Field, L. C., & Karpoff, J. M. (2002). Takeover defenses of IPO firms. *The Journal of Finance*, 57, 1857–1889. <https://doi.org/10.1111/j.0022-1082.00482.x>
- Firth, M., Lin, C., & Zou, H. (2010). Friend or foe? The role of state and mutual fund ownership in the split-share structure reform in China. *Journal of Financial and Quantitative Analysis*, 45, 685–706.
- Fried, J. M., Kamar, E., & Yafeh, Y. (2020). The effect of minority veto rights on controller pay tunneling. *Journal of Financial Economics*, 138, 777–788. <https://doi.org/10.1016/j.jfineco.2020.06.015>
- Gao, H., Qu, Y., & Shen, T. (2022). Geographic proximity and price efficiency: Evidence from high-speed railway connections between firms and financial centers. *Financial Management*, 51, 117–141. <https://doi.org/10.1111/fima.12354>
- Giannetti, M., Liao, G., & Yu, X. (2015). The brain gain of corporate boards: Evidence from China. *The Journal of Finance*, 70, 1629–1682. <https://doi.org/10.1111/jofi.12198>
- Giannetti, M., Liao, G., You, J., & Yu, X., 2021. The externalities of corruption: Evidence from entrepreneurial firms in China. *Review of Finance*, 25(3), 629–667.
- Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *The Quarterly Journal of Economics*, 118, 107–156. <https://doi.org/10.1162/00335530360535162>
- Gormley, T. A., & Matsa, D. A. (2011). Growing out of trouble? Corporate responses to liability risk. *Review of Financial Studies*, 24, 2781–2821. <https://doi.org/10.1093/rfs/hhr011>
- Griffin, J. M., Liu, C., & Shu, T. (2022). Is the Chinese anticorruption campaign authentic? Evidence from corporate investigations. *Management Science*, 68, 7248–7273. <https://doi.org/10.1287/mnsc.2021.4181>
- Grossman, S. J., & Hart, O. D. (1980). Takeover bids, the free-rider problem, and the theory of the corporation. *The Bell Journal of Economics*, 11, 42–64. <https://doi.org/10.2307/3003400>
- Groves, T., Hong, Y., McMillan, J., & Naughton, B. (1995). China's evolving managerial labor market. *Journal of Political Economy*, 103, 873–892.
- Groves, T., Hong, Y., McMillan, J., & Naughton, B. (1994). Autonomy and incentives in Chinese state enterprises. *The Quarterly Journal of Economics*, 109, 183–209. <https://doi.org/10.2307/2118432>
- Hamdani, A., & Yafeh, Y. (2013). Institutional investors as minority shareholders. *Review of Finance*, 17, 691–725. <https://doi.org/10.1093/rof/rfr039>
- Heath, D., Macciocchi, D., Michaely, R., & Ringgenberg, M. C. (2021). Do index funds monitor? *The Review of Financial Studies*, 35, 91–131. <https://doi.org/10.1093/rfs/hhab023>
- Ho, K.-C., Yang, L., & Luo, S. (2022). Information disclosure ratings and continuing overreaction: Evidence from the Chinese capital market. *Journal of Business Research*, 140, 638–656. <https://doi.org/10.1016/j.jbusres.2021.11.030>
- Hou, K., & Moskowitz, T. J. (2005). Market frictions, price delay, and the cross-section of expected returns. *Review of Financial Studies*, 18, 981 – 1020. <https://doi.org/10.1093/rfs/hhi023>

- Jin, S., Wang, W., & Zhang, Z. (2023). The real effects of implicit government guarantee: Evidence from Chinese state-owned enterprise defaults. *Management Science*, 69, 3650–3674. <https://doi.org/10.1287/mnsc.2022.4483>
- Ke, B., Rui, O., & Yu, W. (2012). Hong Kong stock listing and the sensitivity of managerial compensation to firm performance in state-controlled Chinese firms. *Review of Accounting Studies*, 17, 166–188. <https://doi.org/10.1007/s11142-011-9169-0>
- Kogan, L., Papanikolaou, D., Seru, A., & Stoffman, N., 2017. Technological innovation, resource allocation, and growth. *The quarterly journal of economics*, 132, 665–712.
- Li, W. (1997). The impact of economic reform on the performance of Chinese state enterprises, 1980–1989. *Journal of Political Economy*, 105, 1080–1106. <https://doi.org/10.1086/262106>
- Lin, L. Y. H. (2020). Institutionalizing political influence in business: Party-building and insider control in Chinese state-owned enterprises. *Vermont Law Review*, 45, 441.
- Lin, J. Y., & Tan, G. (1999). Policy burdens, accountability, and the soft budget constraint. *American Economic Review*, 89, 426–431. <https://doi.org/10.1257/aer.89.2.426>
- Luo, W., Zhang, Y., & Zhu, N. (2011). Bank ownership and executive perquisites: New evidence from an emerging market. *Journal of Corporate Finance*, 17, 352–370. <https://doi.org/10.1016/j.jcorpfin.2010.09.010>
- Masulis, R. W., & Zhang, E. J. (2019). How valuable are independent directors? Evidence from external distractions. *Journal of Financial Economics*, 132, 226–256. <https://doi.org/10.1016/j.jfineco.2018.02.014>
- McWilliams, V. B., & Sen, N. (1997). Board monitoring and antitakeover amendments. *Journal of Financial and Quantitative Analysis*, 32, 491–505. <https://doi.org/10.2307/2331234>
- Nanda, V., Silveri, S. D., Wang, K., & Zhao, L. (2024). Executive compensation limits and executive turnover. *Management Science*, 70, 2382–2405. <https://doi.org/10.1287/mnsc.2023.4812>
- Opie, W., Tian, G. G., & Zhang, H. F. (2019). Corporate pyramids, geographical distance, and investment efficiency of Chinese state-owned enterprises. *Journal of Banking & Finance*, 99, 95–120. <https://doi.org/10.1016/j.jbankfin.2018.12.001>
- Palmrose, Z.-V., Richardson, V. J., & Scholz, S. (2004). Determinants of market reactions to restatement announcements. *Journal of Accounting and Economics*, 37, 59–89. <https://doi.org/10.1016/j.jacceco.2003.06.003>
- Ru, H., & Zou, K. (2022). How do individual politicians affect privatization? *Review of Finance*, 26, 637–672. <https://doi.org/10.1093/rof/rfab030>
- Schmidt, C., & Fahlenbrach, R. (2017). Do exogenous changes in passive institutional ownership affect corporate governance and firm value? *Journal of Financial Economics*, 124, 285–306. <https://doi.org/10.1016/j.jfineco.2017.01.005>
- Straska, M., & Waller, H. G. (2014). Antitakeover provisions and shareholder wealth: A survey of the literature. *Journal of Financial and Quantitative Analysis*, 49, 933–956. <https://doi.org/10.1017/S0022109014000532>
- Sun, Q., & Tong, W. H., 2003. China share issue privatization: the extent of its success. *Journal of financial economics*, 70, 183–222.
- Titman, S., Wei, C., & Zhao, B., 2022. Corporate actions and the manipulation of retail investors in China: An analysis of stock splits. *Journal of Financial Economics*, 145(3), 762–787.
- Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics*, 53, 113–142. [https://doi.org/10.1016/S0304-405X\(99\)00018-5](https://doi.org/10.1016/S0304-405X(99)00018-5)

Xiong, W., & Yu, J., 2011. The Chinese warrants bubble. *American Economic Review*, 101(6), 2723-2753.

Appendix

Table A1. Distribution of CASC P firms.

Table A1 provides distribution of SOEs that implement the CASC P. The charter amendment data of CASC P firms are hand collected from the announcements and charters released on the official information disclosure website, CNIFO. Panel A shows the distribution over time. Columns 1-3 present the year, the number of CASC P firms, and the percentage of firms that implement CASC P in a year, respectively. Panel B shows the distribution across industries. Columns 1-4 present the CSRC industry code, the industry name, the number of CASC P firms in the industry, and the percentage of CASC P firms in the industry.

Panel A: Distribution of CASC P firms by amendment year			
(1)	(2)	(3)	
Year	Number of CASC P firms	Percentage of CASC P firms	
2016	41	5.39%	
2017	378	49.74%	
2018	230	30.26%	
2019	57	7.50%	
2020	54	7.11%	
Total	760	100%	
Panel B: Distribution of CASC P firms by CSRC industry			
(1)	(2)	(3)	(4)
CSRC code	Industries	Number of CASC P firms	Percentage of CASC P firms
A	Agriculture	9	1.18%
B	Mining	31	4.08%
C	Manufacturing	370	48.68%
D	Natural resources	60	7.89%
E	Construction	33	4.34%
F	Wholesale and retail	53	6.97%
G	Transportation and postal service	53	6.97%
H	Hotel and restaurant	6	0.79%
I	Information technology	38	5.00%
K	Real estate	39	5.13%
L	Leasing	13	1.71%
M	Scientific research	13	1.71%
N	Public utilities	16	2.11%
R	Entertainment	19	2.50%
S	Diversified	7	0.92%
Total		760	100%

Table A2. Charter amendment content.

Table A2 provides the summary statistics of charter amendment provisions in SOEs. The charter amendment data of CASC firms are hand collected from the announcements and charters released on the official information disclosure website, CNIFO. The amendment content falls into three categories with a total nine types of provisions. Panel A shows the distribution of nine types of provisions in CASC firms. Columns 1-3 present the number of provisions adopted by firms, the number of firms that adopt the corresponding number of provisions, and the ratio of firms that adopt the certain number of provisions over the total number of CASC firms. Panel B shows the content of nine types of provision (Column 1) and the percentage of CASC firms adopting that type of provision (Column 2).

Panel A: Distribution of CASC firms by amended provisions		
(1)	(2)	(3)
Number of provisions	Number of CASC firms	Percentage of CASC firms
1	20	2.63%
2	42	5.53%
3	47	6.18%
4	73	9.61%
5	101	13.29%
6	169	22.24%
7	137	18.03%
8	121	15.92%
9	50	6.58%
Total	760	100%
Panel B. Amendment content		
(1)	(2)	
Content	Included	
<u>Symbolic provision</u>		
1. The firm shall follow the constitution of the CCP and establish the party committee.	100.00%	
2. The firm shall provide the necessary support for the activities of the party committee.	90.13%	
<u>Decision-making provision</u>		
3. The board of directors shall consult the party committee before making important decisions.	77.50%	
4. The management shall consult the party committee before making important decisions.	42.50%	
<u>Personnel provision</u>		
5. The qualified directors and managers can become party committee members, whereas the qualified committee can take board and management positions.	83.95%	

6. The party committee shall be closely involved in important personnel decisions and provide advice on the nominee of directors and managers.	73.2 9%
7. The firm shall set up a discipline inspection committee.	59.4 7%
8. The party secretary shall simultaneously be the chairman of the board.	30.9 2%
9. The firm shall have a full-time deputy party secretary who sits on the board.	25.5 3%

Table A3. Variable definitions.

This table provides construction details for our key variables. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR, and the patent data are from the CNRDS. In regressions with accounting variables, variables are winsorized at the 1% level in each period.

Name	Description	Definition
PatApp	Patent applied	Logarithm of (1+ number of patents that were applied for during each firm year)
InvtGrnt	Invention granted	Logarithm of (1+ number of inventions that were granted for during each firm year)
ROE	Return on assets	Net profit / total equity
TFP	Total factor of productivity	Follow the method in Levinsohn and Petrin (2003)
Age	Firm age	Logarithm of (1+ number of years since the year of registration)
Liquidity	Current ratio	Total current assets / total current liabilities
Leverage	Book leverage	Total liabilities / total assets
Size	Firm size	Logarithm of (book value of total assets)
Growth	Operating revenue growth	(Operating revenue - lagged operating revenue) / lagged operating revenue
Return	Stock return	Logarithm of (1+firms' annual stock return)
InstHld	Institutional shareholding	Number of shares held by institutional shareholders / total number of shares
Top1	Holding concentration	Number of shares held by the largest shareholders / total number of shares
Cash	Cash holding	(Net cash + cash equivalents) / total assets
PPE	Property, plant, and equipment ratio	Net property, plant, and equipment / total assets
Tobinq	Tobin's Q	(market value of equity + total liabilities - deferred tax liabilities) / total assets
R&D	Research and development expense ratio	R&D expenses / operating revenue
Board	Board size	Logarithm of (1+ number of directors on the board)
SOE	State-owned enterprise	Dummy variable, 1 = state-owned enterprise, 0 = otherwise

Table 1. Summary Statistics

Table 1 presents summary statistics for the main variables. The sample period is from January 2012 to December 2022. The accounting data are from the CSMAR. The patent data are from the CNRDS. Variable definitions are in Appendix Table A3. Columns 1-8 report the number of observations, mean, standard deviation, 10th percentile, 25th percentile, 50th percentile, 75th percentile, and 90th percentile of the variables in the sample.

Variables	(1) N	(2) Mean	(3) Std dev	(4) P10	(5) P25	(6) Median	(7) P75	(8) P90
PatApp	23997	2.967	1.757	0.000	1.792	3.135	4.143	5.100
InvtGrnt	20170	1.377	1.371	0.000	0.000	1.099	2.197	3.258
ROE	23997	0.059	0.123	0.000	0.030	0.068	0.112	0.163
TFP	21045	0.005	0.781	-0.862	-0.434	0.008	0.457	0.912
Age	23997	2.938	0.323	2.485	2.773	2.996	3.178	3.332
Liquidity	23997	2.491	2.424	0.861	1.204	1.713	2.807	4.819
Leverage	23997	0.415	0.197	0.155	0.257	0.410	0.562	0.682
Size	23997	22.342	1.313	20.820	21.384	22.134	23.098	24.133
Growth	23997	0.155	0.352	-0.165	-0.022	0.104	0.258	0.484
InstHld	23997	0.441	0.253	0.073	0.225	0.457	0.647	0.768
Top1	23997	0.344	0.148	0.164	0.228	0.322	0.445	0.552
PPE	23997	0.202	0.154	0.031	0.082	0.169	0.286	0.422
Board	23997	2.382	0.233	2.079	2.303	2.398	2.565	2.708
Tobinq	23997	2.021	1.271	1.029	1.228	1.616	2.332	3.461

Table 2. The impact of CASC on firm performances

Table 2 presents impact of CASC on firm performance. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The patent data are from the CNRDS. The charter amendment data are collected by hand from the announcements and charters released on the official information disclosure website. The estimates are from a series of regressions based on Eq. 1. We include firm and year fixed effects in Columns 1-4 and firm, industry-year, and province-year fixed effects in Columns 5-8. The dependent variable is the return on equity (ROE) in Columns 1 and 5, the total factor of productivity (TFP) in Columns 2 and 6, the logarithm of one plus the number of patents applied (PatApp) in Columns 3 and 7, and the logarithm of one plus number of inventions granted (InvGrnt) in Columns 4 and 8. Variable definitions are provided in Appendix Table A3. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ROE	TFP	PatApp	InvGrnt	ROE	TFP	PatApp	InvGrnt
CASC	0.016*** (3.79)	0.073*** (3.12)	0.221*** (5.76)	0.165*** (5.12)	0.022*** (4.91)	0.074*** (2.98)	0.141*** (3.71)	0.108*** (3.30)
Age	0.026 (1.41)	-0.070 (-0.67)	0.007 (0.04)	-0.076 (-0.53)	0.019 (1.03)	-0.055 (-0.51)	0.038 (0.24)	-0.060 (-0.43)
Liquidity	0.001** (2.24)	0.007** (2.35)	0.001 (0.29)	0.001 (0.27)	0.001 (1.62)	0.007** (2.32)	0.001 (0.26)	0.001 (0.13)
Leverage	-0.046*** (-2.80)	-0.609*** (-8.04)	-0.345*** (-2.87)	-0.155 (-1.52)	-0.041** (-2.51)	-0.563*** (-7.52)	-0.232** (-2.07)	-0.060 (-0.61)
Size	-0.017*** (-4.39)	0.086*** (4.04)	0.443*** (13.30)	0.274*** (9.23)	-0.018*** (-4.44)	0.088*** (4.06)	0.461*** (14.15)	0.279*** (9.36)
Growth	0.045*** (13.82)	0.198*** (12.27)	0.064*** (3.23)	0.042** (2.57)	0.042*** (13.23)	0.201*** (12.32)	0.069*** (3.48)	0.054*** (3.29)
InstHld	0.066*** (5.96)	0.529*** (7.82)	0.142 (1.31)	0.225** (2.10)	0.067*** (6.24)	0.497*** (7.38)	0.152 (1.45)	0.189* (1.87)
Top1	0.083*** (3.75)	-0.286** (-2.27)	-0.105 (-0.50)	-0.120 (-0.60)	0.066*** (3.11)	-0.317** (-2.52)	-0.236 (-1.19)	-0.188 (-0.96)
PPE	0.014 (0.87)	-0.437*** (-4.39)	0.265* (1.68)	-0.010 (-0.08)	0.008 (0.50)	-0.495*** (-5.08)	0.106 (0.73)	-0.096 (-0.73)
Board	-0.016*** (-3.31)	-0.005 (-0.21)	-0.005 (-0.12)	-0.068** (-1.97)	-0.016*** (-3.27)	-0.011 (-0.43)	0.001 (0.04)	-0.058* (-1.72)
Tobinq	0.011*** (10.00)	0.044*** (7.28)	0.036*** (4.08)	0.015* (1.78)	0.009*** (8.52)	0.048*** (7.88)	0.042*** (4.70)	0.021** (2.43)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No	No	No	No
Year×Ind FE	No	No	No	No	Yes	Yes	Yes	Yes
Year×Prov FE	No	No	No	No	Yes	Yes	Yes	Yes
N	23868	20936	23868	20121	23851	20927	23851	20111
Adj. R ²	0.305	0.557	0.799	0.755	0.332	0.561	0.806	0.762

Table 3. Robustness tests

Table 3 presents the results of the dynamic test, the placebo test, and the alternative DiD identification. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The patent data are from the CNRDS. The charter amendment data are collected by hand from the announcements and charters released on the official information disclosure website. Panel A presents the results of dynamic tests. The dependent variable is the return on equity (ROE) in Columns 1 and 5, the total factor of productivity (TFP) in Columns 2 and 6, the logarithm of one plus the number of patents applied (PatApp) in Columns 3 and 7, and the logarithm of one plus number of inventions granted (InvtGrnt) in Columns 4 and 8. We add two leads (before treatment) and two lags (after treatment) of the variable CASC. Panel B presents the distribution of coefficient estimates of CASC from regressions in Eq. 1 by randomizing the years of charter amendment among the sample firms for 500 times. Columns 1-4 present the summary statistics of the coefficient on CASC for four performance variables, and Columns 5-8 present the summary statistics of the associated t-statistics of coefficient estimates. The dependent variable is the return on equity (ROE) in Columns 1 and 5, the total factor of productivity (TFP) in Columns 2 and 6, the logarithm of one plus the number of patents applied (PatApp) in Columns 3 and 7, and the logarithm of one plus number of inventions granted (InvtGrnt) in Columns 4 and 8. The statistics include the mean, median, standard deviation, 1th percentile, 10th percentile, 90th percentile, and 99th percentile of the estimates. Panel C presents the alternative DiD results. *CI* equals one if the firm is a local SOE in the province with a CIT visit after 2016 and zero otherwise. *Post* equals one when it is the year after the inspection and zero otherwise. All regressions include the same control variables as in Table 2. The dependent variable is the return on equity (ROE) in Column 1, the total factor of productivity (TFP) in Column 2, the logarithm of one plus the number of patents applied (PatApp) in Column 3, and the logarithm of one plus number of inventions granted (InvtGrnt) in Column 4. Firm and year fixed effects or firm, industry-year, and province-year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Dynamic test								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ROE	TFP	PatApp	InvtGrnt	ROE	TFP	PatApp	InvtGrnt
CASCP (-3)	0.004 (0.83)	0.010 (0.33)	0.012 (0.28)	0.004 (0.09)	0.002 (0.34)	0.015 (0.47)	0.032 (0.68)	0.004 (0.09)
CASCP (-2)	-0.005 (-1.18)	-0.030 (-1.13)	-0.046 (-1.23)	-0.050 (-1.53)	-0.006 (-1.26)	-0.033 (-1.23)	-0.034 (-0.90)	-0.032 (-0.96)
CASCP (0)	0.005 (1.30)	0.035 (1.54)	0.042 (1.25)	0.088*** (2.96)	0.007 (1.64)	0.042* (1.72)	0.026 (0.76)	0.071** (2.36)
CASCP (+1)	0.014*** (2.75)	0.047* (1.91)	0.081** (1.99)	0.127*** (3.43)	0.015*** (2.89)	0.055** (2.09)	0.056 (1.37)	0.098*** (2.58)
CASCP (+2)	0.011* (1.92)	0.068** (2.37)	0.182*** (4.02)	0.200*** (4.85)	0.016*** (2.76)	0.084*** (2.64)	0.136*** (2.95)	0.159*** (3.71)
CASCP (+3)	0.024*** (4.12)	0.109*** (3.36)	0.345*** (6.65)	0.218*** (4.69)	0.033*** (5.20)	0.112*** (3.22)	0.235*** (4.54)	0.127*** (2.66)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No	No	No	No
Year×Ind FE	No	No	No	No	Yes	Yes	Yes	Yes
Year×Prov FE	No	No	No	No	Yes	Yes	Yes	Yes
N	23868	20936	23868	20121	23851	20927	23851	20111
Adj. R ²	0.305	0.557	0.799	0.755	0.333	0.561	0.807	0.762
Panel B. Placebo test								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ROE	TFP	PatApp	InvtGrnt	ROE	TFP	PatApp	InvtGrnt
	Coefficient of CASCP				T-stat. of CASCP			
Mean	0.000	0.001	-0.001	0.000	0.049	0.128	-0.048	0.024
Median	0.000	0.001	0.000	0.000	0.091	0.120	-0.011	0.008
Std dev	0.002	0.011	0.016	0.016	1.041	0.998	0.990	0.993
P5	-0.004	-0.018	-0.028	-0.025	-1.778	-1.554	-1.728	-1.581
P10	-0.003	-0.013	-0.021	-0.020	-1.394	-1.117	-1.359	-1.248
P90	0.003	0.016	0.020	0.020	1.348	1.398	1.215	1.287
P95	0.003	0.019	0.024	0.025	1.735	1.660	1.536	1.610
Panel C. Central inspection								
	(1)	(2)	(3)	(4)				
	ROE	TFP	PatApp	InvtGrnt				
CI×Post	0.019*** (4.43)	0.096*** (3.21)	0.236*** (5.30)	0.140*** (3.60)				
Control	Yes	Yes	Yes	Yes				
Firm FE	Yes	Yes	Yes	Yes				
Year FE	Yes	Yes	Yes	Yes				
N	21858	18775	21858	18267				
Adj. R ²	0.303	0.552	0.786	0.718				

Table 4. Cross-sectional heterogeneity in the effects of provision amendment

Table 4 presents the cross-sectional heterogeneity in the effects of provision amendment on firm performance. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The patent data are from the CNRDS. The charter amendment data of CASCPC firms are collected by hand from the announcements and charters released on the official information disclosure website, CNINFO. The estimates are from a series of regressions based on Eq. 1. The dependent variable is the return on equity (ROE) in Columns 1 and 5, the total factor of productivity (TFP) in Columns 2 and 6, the logarithm of one plus the number of patents applied (PatApp) in Columns 3 and 7, and the logarithm of one plus number of inventions granted (InvtGrnt) in Columns 4 and 8. In Panel A, we partition the firms into the more-provision and the less-provision groups according to the median number of provisions that a firm incorporates in its charter. A firm is in the group of more-provision (less-provision) if it amends more (less) provisions into its charter than the sample median. In Panel B, we partition the firms into two groups according to different amendment contents. Columns 1-4 report the regression estimates based on firms that adopt only symbolic provisions, and Columns 5-8 report on firms that adopt all three categories of provisions. In Panel C, Columns 1-4 report the regression estimates based on firms that adopt decision-making provisions, and Columns 5-8 report on firms that adopt personnel provisions. All regressions include the same control variables as in Table 2. Firm and year-fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) ROE	(2) TFP	(3) PatApp	(4) InvtGrnt	(5) ROE	(6) TFP	(7) PatApp	(8) InvtGrnt
Panel A. Number of provisions amended								
	More provisions				Less provisions			
CASCP	-0.015 (-1.20)	0.029 (0.49)	0.125* (1.66)	0.086 (0.95)	0.020*** (5.07)	0.079*** (3.24)	0.242*** (5.80)	0.182*** (5.44)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	17376	15091	17376	14717	22786	20242	22786	19588
Adj. R	0.301	0.544	0.776	0.709	0.306	0.557	0.797	0.750
Panel B. Type of provisions amended I								
	Symbolic provisions				Decision-making and personnel provisions			
CASCP	-0.013 (-0.56)	-0.063 (-1.03)	0.003 (0.02)	-0.043 (-0.25)	0.023*** (5.40)	0.073*** (2.86)	0.242*** (5.38)	0.177*** (5.00)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	16918	14632	16918	14227	21874	19563	21874	18960
Adj. R	0.304	0.548	0.772	0.701	0.305	0.560	0.795	0.747
Panel C. Type of provisions amended II								
	Decision-making provisions				Personnel provisions			
CASCP	-0.043 (-1.34)	-0.027 (-0.20)	0.454*** (2.74)	0.241 (1.45)	0.014 (1.58)	0.148** (2.55)	0.264*** (3.19)	0.205*** (3.01)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	16773	14552	16773	14098	17345	15263	17345	14866
Adj. R	0.300	0.544	0.772	0.700	0.300	0.537	0.775	0.709

Table 5. Cross-sectional heterogeneity in the effects of agency issue

Table 5 presents the cross-sectional heterogeneity in the effects of agency issues on firm performance. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The charter amendment data of CASCPC firms are hand-collected from the announcements and charters released on the official information disclosure website, CNINFO. The estimates are from a series of regressions based on Eq. 1. The dependent variable is the return on equity (ROE) in Columns 1 and 5, the total factor of productivity (TFP) in Columns 2 and 6, the logarithm of one plus the number of patents applied (PatApp) in Columns 3 and 7, and the logarithm of one plus number of inventions granted (InvtGrnt) in Columns 4 and 8. In Panel A, we partition the firms into the more discipline-committee-members and the less discipline-committee-members groups according to the median number of discipline-committee members in the management before CASCPC. Columns 1-4 (5-8) report on the regression estimates based on firms that have fewer (more) discipline committee members in the management than the sample median before CASCPC. In Panel B, we partition the firms into two groups according to CEO affiliation. Columns 1-4 report the regression estimates based on firms in which the CEOs are not affiliated with the state owner before the CASCPC, and Columns 5-8 report on firms in which the CEOs are affiliated with the state owner before the CASCPC. In Panel C, we partition the firms into the more management-holdings and the less management-holdings groups according to the median management-holdings in a firm before CASCPC. Columns 1-4 (5-8) report the regression estimates based on firms where management has less (more) ownership of the firm than the sample median before CASCPC. All regressions include the same control variables as in Table 2. Firm and year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Discipline committee member								
	(1) ROE	(2) TFP	(3) PatApp	(4) InvtGrnt	(5) ROE	(6) TFP	(7) PatApp	(8) InvtGrnt
	Less discipline members in the mgt				More discipline members in the mgt			
CASCP	0.016*** (3.84)	0.078*** (3.27)	0.227*** (5.69)	0.168*** (5.07)	0.016 (1.55)	0.027 (0.38)	0.130 (1.22)	0.179* (1.88)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	23452	20280	23452	19779	17143	14918	17143	14428
Adj. R ²	0.305	0.556	0.795	0.750	0.299	0.545	0.777	0.707
Panel B. CEO affiliation								
	CEO not from state owner				CEO from state owner			
CASCP	0.020*** (4.75)	0.087*** (3.53)	0.234*** (5.73)	0.189*** (5.55)	-0.002 (-0.13)	-0.012 (-0.25)	0.151 (1.64)	0.048 (0.63)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	23018	19994	23018	19435	17718	15339	17718	14870
Adj. R ²	0.303	0.555	0.792	0.745	0.302	0.548	0.782	0.718
Panel C. Managers' holdings								
	Less holdings				More holdings			
CASCP	0.025*** (5.30)	0.070** (2.43)	0.307*** (5.74)	0.240*** (5.88)	0.007 (1.14)	0.084** (2.56)	0.135*** (2.83)	0.089** (2.02)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	20514	18063	20514	17418	20081	17135	20081	16789
Adj. R ²	0.302	0.545	0.787	0.734	0.304	0.558	0.788	0.733

Table 6. The impact of CASC on the board and management

Table 6 presents the impact of CASC on the board and management. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The patent data are from the CNRDS. The charter amendment data of CASC firms are hand-collected from the announcements and charters released on the official information disclosure website, CNIFO. The estimates are from a series of regressions based on Eq. 1. In Panel A, Columns 1-2 shows the regression estimates where the dependent variable is the percentage of party committee members on board, and management, respectively. In Panel B, Columns 1-3 show the regression estimates where the dependent variable is the percentage of party committee members in audit, nomination, and compensation committees, respectively. In Panel C, the dependent variable in Column 1 is *Education* which is the percentage of party committee members with a bachelor's or above degree over the total number of directors on the board. The dependent variable in Column 2 is *Oversea* which is defined as the percentage of party committee members with overseas learning or working experiences over the total number of directors on the board. The dependent variable in Column 3 is *ProExp* which is the percentage of party committee members with working experiences in the production department over the total number of directors on the board. In Panel D, the dependent variable in Column 1 is *Promotion*, which equals one if the firm has at least one current member of the board and management who was an inventor of patents in the same firm and zero otherwise. The dependent variable in Column 2 is *Collaboration* which equals one if the patents that a firm applied for in a given year have at least one inventor who is simultaneously a board or management member, and zero otherwise. The dependent variable in Column 3 is *RnDExp*, which is the percentage of directors and managers with R&D experience. All regressions include the same control variables as in Table 2. Firm and year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Party committee members on the board and management			
	(1) Board	(2) Management	
CASCP	0.034*** (10.35)	0.055*** (8.67)	
Control	Yes	Yes	
Firm FE	Yes	Yes	
Year FE	Yes	Yes	
N	20121	20121	
Adj. R ²	0.714	0.669	
Panel B. Party committee members in board committees			
	(1) Audit	(2) Nomination	(3) Compensation
CASCP	0.011*** (3.57)	0.029*** (7.36)	0.014*** (3.95)
Control	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	20121	20121	20121
Adj. R ²	0.480	0.584	0.524
Panel C. Background of party committee members on the board			
	(1) Education	(2) Oversea	(3) ProExp
CASCP	0.037*** (2.90)	0.004*** (3.10)	0.038*** (4.15)
Control	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	23868	23868	23868
Adj. R ²	0.596	0.263	0.479
Panel D. Board and management efforts in innovation			
	(1) Promotion	(2) Collaboration	(3) RnDExp
CASCP	0.073*** (5.45)	0.069*** (5.06)	0.027*** (5.78)
Control	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	23868	23868	23868
Adj. R ²	0.791	0.533	0.788

Table 7. The impact of CASC on the board and management meetings

Table 7 presents the impact of CASC on the board and management meetings. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The patent data are from the CNRDS. The charter amendment data of CASC firms are hand-collected from the announcements and charters released on the official information disclosure website, CNIFO. The estimates are from a series of regressions based on Eq. 1. In Panel A, Columns 1-4 show the regression estimates where the dependent variable is the annual number of meetings of the board, audit committee, nomination committee, and compensation committee, respectively. In Panel B, Columns 1-3 show the regression estimates where the dependent variable is the total number of absences per year, the average number of absences per person, absent ratio per year, respectively. All regressions include the same control variables as in Table 2. Firm and year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Meetings				
	(1) Audit	(2) Nomination	(3) Compensation	(4) Board
CASC	0.231*** (3.24)	0.129*** (4.10)	0.256*** (7.27)	0.628*** (5.83)
Control	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	23868	23868	23868	23868
Adj. R	0.628	0.538	0.415	0.514
Panel B. Meeting attendance				
	(1) Absence	(2) Absence per person	(3) Absence rate	
CASC	-0.193*** (-3.51)	-0.106*** (-3.57)	-0.049*** (-3.93)	
Control	Yes	Yes	Yes	
Firm FE	Yes	Yes	Yes	
Year FE	Yes	Yes	Yes	
N	23868	23997	23997	
Adj. R	0.628	0.372	0.387	

Table 8. The impact of CASC on corporate governance and disclosure

Table 8 presents the impact of CASC on governance and firm disclosure. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The charter amendment data of CASC firms are hand-collected from the announcements and charters released on the official information disclosure website, CNIFO. The estimates are from a series of regressions based on Eq. 1. In Column 1, the dependent variable is the composite governance index, which is the weighted average of fifteen ratings by DIB Internal Control and Risk Management database. In Column 2, the dependent variable is the abnormal management costs after controlling for management compensation, bad debt provisions, and inventory provisions. In Column 3, the dependent variable is the modified audit opinion, which equals one if the firm receives a modified audit opinion and zero otherwise. In Column 4, the dependent variable is a restatement, which equals one if the firm makes a restatement and zero otherwise. In Column 5, the dependent variable is the disclosure evaluation by the Shenzhen Stock Exchange (SSE) for SSE-listed firms, and it takes the value from one (highest disclosure rating) to four (lowest disclosure rating). All regressions include the same control variables as in Table 2. Firm and year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
	CGI	Perk	MAO	Restatement	Evaluation
CASC	0.024*** (4.66)	-0.002*** (-2.72)	-0.018*** (-3.67)	-0.057*** (-2.84)	-0.095*** (-3.42)
Control	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
N	19747	19188	23868	23868	14303
Adj. R ²	0.234	0.700	0.169	0.300	0.400

Table 9. Falsification tests and alternative motives

Table 9 presents the results of falsification tests and alternative motives. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The charter amendment data of CASCPC firms are collected by hand from the announcements and charters released on the official information disclosure website, CNINFO. The estimates are from a series of regressions based on Eq. 1. In Panel A, we use private-owned enterprises (POE) that implement CASCPC as the treated firms. The dependent variable is the return on equity (ROE) in Column 1, the total factor of productivity (TFP) in Column 2, the logarithm of one plus number of patents applied (PatApp) in Column 3, and the logarithm of one plus number of inventions granted (InvtGrnt) in Column 4. In Panel B, the dependent variable is the percentage of party committee members on the supervisory board in Column 1, the logarithm of one plus the number of supervisory board meetings in a year in Column 2, and the percentage of independent directors on the board in Column 3. In Panel C, the dependent variable is the ratio of the total amount of bank loan to total assets in Column 1 and the government subsidy in Column 2. All regressions include the same control variables as in Table 2. Firm and year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. POE				
	(1)	(2)	(3)	(4)
	ROE	TFP	PatApp	InvtGrnt
CASCP	0.008	-0.033	-0.088	0.016
	(0.80)	(-0.73)	(-1.19)	(0.23)
Control	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	17599	15347	17599	14810
Adj. R ²	0.301	0.544	0.769	0.697
Panel B. Supervisory board and independent directors				
	(1)	(2)	(3)	
	Supervisory board	Supervisory meeting	Independent director	
CASCP	0.003	0.055	0.003	
	(0.68)	(0.62)	(1.41)	
Control	Yes	Yes	Yes	
Firm FE	Yes	Yes	Yes	
Year FE	Yes	Yes	Yes	
N	20121	23868	23866	
Adj. R ²	0.556	0.608	0.616	
Panel C. Alternative motive				
	(1)	(2)		
	Bank loan	Government subsidy		
CASCP	-0.002	-0.000		
	(-0.66)	(-0.60)		
Control	Yes	Yes		
Firm FE	Yes	Yes		
Year FE	Yes	Yes		
N	19560	23868		
Adj. R ²	0.758	0.594		

Table 10. The impact of CASC on industry

Table 10 presents the impact of CASC on industry. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The charter amendment data of CASC firms are hand collected from the announcements and charters released on the official information disclosure website, CNIFO. *Rev* in Columns 1 and 5 is the sum of the squares of the market shares of all firms in one industry, where we use the percentage of revenue over the total revenue of the whole industry to measure market shares. *Profit* in Columns 2 and 6 is the sum of the squares of the market shares of all firms in one industry, where we use the percentage of operating revenue over the total operating revenue of the whole industry to measure market shares. *Assets* in Columns 3 and 7 is the sum of the squares of the market shares of all firms in one industry, where we use the percentage of assets over the total assets of the whole industry to measure market shares. *Equity* in Columns 4 and 8 is the sum of the squares of the market shares of all firms in one industry, where we use the percentage of equity over the total equity of the whole industry to measure market shares. Industry and year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) Rev	(2) Profit	(3) Assets	(4) Equity	(5) Rev	(6) Profit	(7) Assets	(8) Equity
CASC_Ind	0.092** (2.44)	0.100** (2.66)	0.085*** (2.77)	0.116*** (3.07)				
CASC_Ind_A					-0.009 (-0.22)	-0.006 (-0.14)	-0.007 (-0.20)	-0.002 (-0.04)
Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	492	492	492	492	492	492	492	492
Adj. R	0.847	0.841	0.820	0.792	0.844	0.838	0.817	0.786

Table 11. The impact of CASC on firm value

Table 11 presents the impact of CASC on firm value. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The charter amendment data of CASC firms are collected by hand from the announcements and charters released on the official information disclosure website, CNIFO. *Tobinq* in Column 1 is the ratio market capitalization of share outstanding plus liability over total assets at the end of each year. *Tobinq_3Y* in Column 2 is the average of *Tobinq* over future three years to capture long-term effects. *CAR_1Y* in Column 3 is the cumulative abnormal return (CAR) over the calendar window [-10, 360]. *BHAR_4Y* in Column 4 is buy-and-hold abnormal return (BHAR) over the calendar window [-10, 1440] for event firms. Firm and year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	<i>Tobinq</i>	<i>Tobinq_3Y</i>	<i>CAR_1Y</i>	<i>BHAR_4Y</i>
CASC	0.275*** (6.87)	0.219*** (6.36)	0.0126 (0.45)	0.000239** (2.22)
Control	Yes	Yes	No	No
Firm FE	Yes	Yes	No	No
Year FE	Yes	Yes	No	No
N	23890	23856	1923	1634
Adj. R ²	0.673	0.786	0.0565	0.00240

Online Appendix

Table B1. CASCPC and innovation quality

Table B1 presents the results of further analysis of innovation quality. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR, and the innovation quality data is from the CNRDS. The charter amendment data of CASCPC firms are collected by hand from the announcements and charters released on the official information disclosure website, CNINFO. The dependent variable is the percentage of analyst reports relating to corporate innovation (classified by LDA model) in Column 1, the economic value of inventions following Kogan et al. (2017) in Column 2, and the logarithm of one plus forward citation of patents in Column 3. All regressions include the same control variables as in Table 2. Firm and year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) LDA	(2) Economic value of invention	(3) Citation
CASCPC	0.026*** (2.68)	0.293** (2.24)	0.247*** (3.74)
Control	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	23868	23868	23868
Adj. R ²	0.196	0.658	0.449

Table B2. Distribution of CASC P OEs over time and across industries.

Table B2 provides the distribution of POEs that implement the CASC P. The charter amendment data of CASC P firms are collected by hand from the announcements and charters released on the official information disclosure website, CNIFO. Panel A shows the distribution over time. Columns 1-3 present the year, the number of CASC P firms, and the percentage of firms that implement CASC P in a year, respectively. Panel B shows the distribution across industries. Columns 1-4 present the CSRC industry code, the industry name, the number of CASC P firms in the industry, and the percentage of CASC P firms in the industry.

Panel A: Distribution of CASC P firms by amendment year			
(1)	(2)	(3)	
Year	Number of CASC P firms	Percentage of CASC P firms	
2016	5	3.88%	
2017	14	10.85%	
2018	52	40.31%	
2019	44	34.11%	
2020	14	10.85%	
Total	129	100%	
Panel B: Distribution of CASC P firms by CSRC industry			
(1)	(2)	(3)	(4)
CSRC code	Industries	Number of CASC P firms	Percentage of CASC P firms
B	Mining	1	0.78%
C	Manufacturing	112	86.82%
D	Natural resources	1	0.78%
E	Construction	5	3.88%
F	Wholesale and retail	2	1.55%
I	Information technology	6	4.65%
N	Public utilities	1	0.78%
P	Education	1	0.78%
Total		129	100%

Table B3. Charter amendment content.

Table B3 provides the summary statistics of the nine specific provisions outlined in the central SASAC's template for a charter amendment.

Panel A: Distribution of CASCP firms by amended provisions		
(1)	(2)	(3)
Number of provisions	Number of CASCP firms	Percentage of CASCP firms
1	52	40.31%
3	12	9.30%
4	35	27.13%
5	13	10.08%
6	14	10.85%
8	3	2.33%
Total	129	100%
Panel B. Amendment content		
(1)	(2)	
Content	Included	
<u>Symbolic provision</u>		
1. The firm shall follow the constitution of the CCP and establish the party committee.	100.00%	
2. The firm shall provide the necessary support for the activities of the party committee.	53.49%	
<u>Decision-making provision</u>		
3. The board of directors shall consult the party committee before making important decisions.	37.21%	
4. The management shall consult the party committee before making important decisions.	7.75%	
<u>Personnel provision</u>		
5. The qualified directors and managers can become party committee members, whereas the qualified committee can take board and management positions.	44.96%	
6. The party committee shall be closely involved in important personnel decisions and provide advice on the nominee of directors and managers.	27.91%	
7. The firm shall set up a discipline inspection committee.	29.46%	
8. The party secretary shall simultaneously be the chairman of the board.	7.75%	
9. The firm shall have a full-time deputy party secretary who sits on the board.	2.33%	

Table B4. Test on endogeneity: PSM, Cohort matching, and matching by size and industry

Table B4 presents the results of the endogeneity tests. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The patent data are from the CNRDS. The charter amendment data of CASCPC firms are collected by hand from the announcements and charters released on the official information disclosure website, CNIFO. The dependent variable is the return on equity (ROE) in Column 1, the total factor of productivity (TFP) in Column 2, the logarithm of one plus the number of patents applied (PatApp) in Column 3, and the logarithm of one plus the number of inventions granted (InvtGrnt) in Column 4. Panel A presents the result of sample matched by PSM. Panel B presents the result of sample using cohort matching. Panel C presents the result of sample matched by size and industry. All regressions include the same control variables as in Table 2. Firm and year fixed effects or firm, industry-year and province-year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) ROE	(2) TFP	(3) PatApp	(4) InvtGrnt
Panel A. SOE with matched POE				
CASCP	0.015*** (3.10)	0.056** (2.09)	0.113*** (2.64)	0.080** (2.27)
Control	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	12777	10877	12777	12777
Adj. R	0.308	0.572	0.818	0.745
Panel B. Cohort matching by province				
CASCP	0.012*** (3.58)	0.053** (2.12)	0.148*** (4.02)	0.155*** (5.95)
Control	Yes	Yes	Yes	Yes
Firm × Cohort FE	Yes	Yes	Yes	Yes
Yr × Cohort FE	Yes	Yes	Yes	Yes
N	16302	14268	16302	14785
Adj. R	0.299	0.562	0.811	0.767
Panel C. Matching by size and industry				
CASCP	0.020*** (4.16)	0.065** (2.23)	0.254*** (5.62)	0.175*** (4.54)
Control	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	12461	10590	12461	11004
Adj. R	0.302	0.545	0.813	0.775

Table B5. Test on endogeneity: Stacked difference-in-difference

Table B5 presents the results of stacked difference-in-difference. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The patent data are from the CNRDS. The charter amendment data of CASCPC firms are hand collected from the announcements and charters released on the official information disclosure website, CNIFO. The dependent variable is the return on equity (ROE) in Column 1, the total factor of productivity (TFP) in Columns 2, the logarithm of one plus number of patents applied (PatApp) in Column 3, and the logarithm of one plus number of inventions granted (InvtGrnt) in Column 4. All regressions include the same control variables as in Table 2. Firm and year fixed effects or firm, industry-year and province-year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively

	(1) ROE	(2) TFP	(3) PatApp	(4) InvtGrnt
CASCP (-3)	0.002 (0.41)	0.029 (0.98)	-0.010 (-0.23)	-0.024 (-0.62)
CASCP (-2)	-0.005 (-1.10)	-0.027 (-1.02)	-0.053 (-1.42)	-0.051 (-1.54)
CASCP (0)	0.004 (1.02)	0.050** (2.14)	0.015 (0.45)	0.069** (2.27)
CASCP (+1)	0.014*** (2.75)	0.066*** (2.63)	0.054 (1.31)	0.092** (2.42)
CASCP (+2)	0.009 (1.61)	0.085*** (2.78)	0.150*** (3.23)	0.168*** (4.00)
CASCP (+3)	0.014** (2.17)	0.063* (1.87)	0.224*** (4.27)	0.182*** (3.85)
Control	Yes	Yes	Yes	Yes
Firm×Cohort FE	Yes	Yes	Yes	Yes
Year×Cohort FE	Yes	Yes	Yes	Yes
N	49405	43309	49405	39100
Adj. R	0.317	0.580	0.810	0.739

Table B6. CASCPC and stock price informativeness

Table B5 presents the results of further analysis of stock price informativeness. The sample period is from January 2012 to December 2022. The accounting data of listed firms are from the CSMAR. The charter amendment data of CASCPC firms are hand-collected from the announcements and charters released on the official information disclosure website, CNIFO. The dependent variable is the absolute value of the quote midpoint return autocorrelation in a nonoverlapping 15-min and 20-min interval, in Columns 1 and 2, and low-frequency informativeness following Hou and Moskowitz (2005) in Columns 3 and 4. All regressions include the same control variables as in Table 2. Firm and year fixed effects are included. Standard errors are clustered at the firm level. ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) AR15	(2) AR20	(3) Delay1	(4) Delay2
CASCPC	-0.005*** (-4.40)	-0.004*** (-3.08)	-0.012* (-1.90)	-3.158 (-0.44)
Control	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	23867	23867	23713	23712
Adj. R ²	0.074	0.059	0.326	-0.020