Does Regulatory Reform of Cumulative Voting Improve Minority Shareholder Protection?

Yinghui Chen

(Zhongnan University of Economics and Law)

Julan Du

(Chinese University of Hong Kong)

Abstract

It remains controversial whether cumulative voting (CV) can improve corporate governance. With hand-collected director-level data, we conduct DID-style analysis of China's CV reform by using CV firms and control groups derived from alternative matching methods. We find that CV raises the board representation of non-controlling substantial shareholders, especially in a subsample whose top ten shareholders are unrelated. CV enhances the "disinterestedness" of outside directors. CV-elected directors have better professional and educational qualifications. CV firms without related top ten shareholders display higher Tobin's Q and market-to-book ratio. But the incremental improvements are insufficient to curb tunneling activities and increase accounting performances.

Keywords: cumulative voting, board power distribution, outside director disinterestedness, director characteristics

JEL classification: G34 K22 L22

Yinghui Chen, School of Accounting and Finance, Zhongnan University of Economics and Law, Wuhan, 430073, China; email: yinghuichen@foxmail.com. Julan Du, Department of Economics, Chinese University of Hong Kong, Shatin, N.T., Hong Kong, julan.du@foxmail.com. We thank seminar and conference participants at the Chinese University of Hong Kong, Huazhong University of Science and Technology, Hunan University, the 2015 Annual Meeting of the Asian Finance Association, the 2015 WEA Pacific Rim Conference, and the 2016 Greater China Area Finance Conference for their helpful comments and discussions. All remaining errors are ours.

1. **Introduction**

Cumulative voting (CV) has long been regarded as a potentially effective means of enhancing the protection of minority shareholder interests. Under the CV scheme, each shareholder is entitled to a total number of votes that is equal to the number of shares she/he holds times the number of directors to be elected. A shareholder may cast all her/his votes to a single candidate so that the candidate may be elected by less than a majority of the shares. Thus, CV may enable minority shareholders, especially non-controlling substantial shareholders (i.e., large minority shareholders),[1] to elect their favored directors and increase their representation in the board, and to elect more outside directors that are likely to be truly disinterested, i.e., less connected with corporate insiders. In contrast, under the alternative straight voting scheme, each shareholder is entitled to a number of votes that are equal to the number of shares she/he holds and each shareholder votes on each director nominee separately, under which the controlling shareholder can dominate the selection of all directors.

In the law and finance literature, La Porta, et al. (1998) place much emphasis on the importance of CV in upholding minority shareholder interests and treat CV as one component of the country-level anti-director rights (minority shareholder rights) index. Gompers, et al. (2003) follow suit in building their firm-level corporate governance index. This view is supported by some empirical research (Bhagat and Brickley 1984) that finds a positive relationship between cumulative voting adoption and stock market responses. Nonetheless, it remains unexplored in the literature whether CV has truly elevated the

[1] For the convenience of exposition, we use the largest shareholder and the controlling shareholder interchangeably, and non-controlling substantial shareholders and the second to the tenth largest shareholders interchangeably.

board representation of large minority shareholders, raised the independence of outside directors, etc. Meanwhile, critics point to the drawbacks of CV mechanism such as lowering the efficiency of board operation by creating a stalemate in the boardroom, facilitating hostile takeovers, involving corporate raiders and dissents in firm decision-making, etc. As will be discussed in more detail in Section 2, CV emerged in the U.S. in the late 19th century, reached its peak in the first half of the 20th century, and started declining in the 1950s. Currently, the adoption of CV scheme is optional in most states. In European countries such as France and Germany, CV is also argued to play a minimal role in corporate governance (Lele and Siems 2007; Braendle 2006). This reflects the lack of consensus on the merits of CV in advanced economies.

In emerging markets, however, the expropriation of minority shareholders by the controlling shareholder is the primary concern in corporate governance. Under inadequate legal institutions, highly concentrated ownership structure, and lack of hostile takeover threat, CV is likely to be particularly potent in upholding minority shareholder interests, and its shortcomings may be minimized. However, a limited number of studies of CV effects in emerging markets (e.g., Maassen and Dragneva 2006) do not provide a clear answer.

We examine this issue in the context of China's experience of CV reform. As part of the recent wave of legal transplantation in emerging markets,[2] the Chinese security market

[2] For instance, the Mexican regulatory authority formulated the Code of Best Corporate Practices with the purpose of increasing the transparency of corporate information disclosure, increasing the regularity of corporate dividend payout, etc. (Price et. al. 2011).

regulatory authority, the China Securities Regulatory Commission (CSRC), introduced the CV scheme for board election in the governance reform campaign in 2002.

In this study, we examine the efficacy of the CV scheme by asking one basic but fundamental question: Who are elected through CV, and do CV-elected directors have different attributes than do non-CV-elected ones? Specifically, we carry out several lines of analysis. Firstly, has CV increased the representation of non-controlling substantial shareholders relative to that of the largest shareholder in the board? Secondly, has CV enhanced the "independence" of elected outside directors, i.e., less likely to have close relations with corporate executives? Thirdly, has CV enhanced the professionalism and qualifications of elected executive and outside directors? Fourthly, has CV improved firm performances? Finally, to understand CV's effects on performances, we investigate whether CV has changed some important corporate policies.

This approach allows us to capture better the incremental improvements in corporate governance brought about by CV adoption. The dominance of the controlling shareholder may not be changed considerably through CV elections, which makes it hard for CV-using firms to display salient improvements in corporate policies and firm performances. Nevertheless, even if this is the case, CV elections may still create incremental improvements by, e.g., enhancing the representation of large minority shareholders in the board, etc. Detecting the incremental improvements in corporate governance structure generated by CV implementation can contribute to resolving the conflicting findings of CV merits and provide a more comprehensive assessment of the effects of CV on the strengthening of corporate governance.

We construct a control group to match the CV-using firm group through two different matching methods, i.e., the method a la Barber and Lyon (1996) (the BL method) that searches for control group firms according to similarities in some key firm attributes and the "coarsened exact matching" (CEM), developed by Iacus, et al. (2011, 2012). Since each matching method has its own limitations, using both matching methods and comparing their findings can help us derive robust results. By applying the difference-in-differences (DID) style analysis, we compare the changes in the individual characteristics of elected directors in CV-using firms with those in non-CV-using firms.

We find that CV improves the representation of the non-controlling substantial shareholders in the board, especially for the sub-sample of firms without related parties among top ten shareholders. As will be discussed in Section 2, substantial shareholders in this subsample have the strongest incentive to coordinate and concentrate their votes on one or two of their favored candidates so as to elect them onto the board. Thus, the effects of CV on board power distribution can be most striking in this subsample. Moreover, in another subsample of CV firms wherein we can identify among top ten shareholders the related parties of the largest shareholder, CV prompts the controlling shareholder to rely relatively more on indirect representation than on direct representation, i.e., increasing the relative importance of representatives of ally substantial shareholders in the board.

We also find that CV improves the "independence" of non-executive outside directors, i.e., elected outside directors have less visible connections with CEO or board chairperson in CV-using firms than in non-CV-using control group firms. In addition, CV improves the professional and educational qualifications and business expertise of directors. Since the increased board representation of non-controlling substantial shareholders and the

enhanced disinterestedness of outside directors are presumably most important goals of CV mechanism, our findings provide support to the claim that CV has brought about some incremental improvements in corporate governance.

Nonetheless, these incremental improvements are not sufficiently large to significantly change corporate policies, especially curb tunneling, and to raise firm performance. For the sub-sample of firms without related parties among top ten shareholders, we observe that the market-based performance measures such as Tobin's Q and market-to-book ratio do increase following CV adoption, but the accounting-based performance indicators do not. Hence, the market is optimistic with the prospects of these companies, but the actual performance of the companies does not significantly improve.

One plausible angle to understand this finding is that CV elections still cannot change the dominance of the controlling shareholder in board representation and thus cannot generate significant shifts in corporate policies and accounting performances. Nevertheless, the positive incremental improvements brought about by CV reform point to the benefits, albeit limited, of corporate governance institution transplantations to emerging markets.

This study contributes to the literature on shareholder voting mechanisms. Several studies (Bhagat and Brickley 1984; Harris and Raviv 1988; DeAngelo and De Angelo 1985; Grossman and Hart 1988; Klapper and Love 2004; Zingales 1994, 1995; Bethel and Gillan 2002; Klapper, et al. 2006; Bebchuk, et al. 2009; Iliev et al. 2011) investigated the effects of different shareholder voting mechanisms on corporate governance.

To the best of our knowledge, however, our work is the first one that directly compares director characteristics under different shareholder voting mechanisms. Several earlier

studies indicated that CV positively affects corporate valuation, but these studies do not identify the channels through which CV influences firm performance. Furthermore, our approach can detect the incremental improvements in corporate governance even if firm performance has not significantly improved. In this sense, it helps resolve to some degree the inconsistency in the findings of the literature.

Owing to data limitations, our study relies only on apparent "visible" connections between outside directors and corporate executives so that we cannot capture hidden connections in other forms. But these visible connections can still help us gauge to some degree the differences in the "independence" between CV-elected and non-CV-elected outside directors.

The rest of the paper proceeds as follows. Section 2 presents the institutional setting and conceptual framework of this study. Section 3 discusses the empirical methods used in this study. Section 4 describes the variables and the data used. Section 5 examines the relationship between CV adoption and the power distribution in the board. Section 6 investigates whether CV raises the disinterestedness of outside directors. Section 7 discusses whether CV improves the professionalism and qualifications of elected directors. Section 8 investigates the effects of CV adoption on firm performance changes. Section 9 examines the impacts of CV implementation on corporate policy changes so as to provide an angle to understand CV's effects on firm performances. Section 10 concludes the paper.

2. Background and Research Agenda

2.1. Background

Under CV, large minority shareholders can elect at least one preferred candidate onto the board as long as the stakes of those substantial shareholders are not excessively small relative to that of the controlling largest shareholder. We can illustrate this point with an example. Assume that a company has 1,000 shares outstanding owned by 10 stockholders, and five directors will be elected to the board. Suppose that the largest shareholder holds 510 shares (51%), whereas the other nine shareholders hold 490 shares (49%) together. Under straight voting with the one-share-one-vote rule, 1,000 votes would be cast for each candidate. The controlling shareholder can select his/her favored candidates for all of the five elected directors, thus completely dominating the preferences of the other nine shareholders. Under CV, however, 5,000 (1,000*5) votes in total can be cast. The controlling shareholder is entitled to casting 2,550 votes (51%), whereas the other nine shareholders cast the remaining 2,450 votes (49%). The CV rule allows shareholders to cast all of their votes for one or several candidates. Theoretically, if the other nine shareholders can coordinate, they can ensure that at least two candidates of their choice get elected, whereas the controlling shareholder can elect at most three preferred candidates. Thus, the primary advantage of the CV mechanism is to allow candidates favored by large minority shareholders to be elected onto the board.

Currently, CV adoption is optional in the U.S. It is also the case in many other countries. By investigating legal rules in 47 major economies, La Porta et al. (1998) find that only 27% of their sample countries have laws for CV or proportional representation. However, calls for CV have been on the rise in recent years following a series of corporate scandals. Several major U.S. companies such as Sears-Roebuck and Company, Hewlett-

Packard, and Toys 'R' Us have implemented CV when electing directors.[3] Shareholders of several other major companies have kept proposing to adopt CV.[4] As with other emerging market economies, corporate China is characterized by prevalent ownership concentration. At the end of 2001, the mean and median ownership shares of the controlling shareholders in 1,129 listed firms in China were 44.2% and 43.7%, respectively,[5] whereas those of the second to the tenth largest shareholders were approximately 16.7% and 13.5%, respectively.[6] Thus, the expropriation of minority shareholder interests by the controlling shareholders is a primary concern in corporate governance, which is a common situation in emerging markets (Claessens, et al. 2002).

In January 2002, by transplanting Western laws, the Ministry of Commerce and the CSRC jointly issued the *Code of Corporate Governance for Listed Companies in China* to elevate the corporate governance standards for listed firms. In Article 31, it is stated that "[t]he election of directors shall fully reflect the opinions of minority shareholders. A cumulative voting system shall be earnestly advanced in shareholders' meetings for the election of directors. Listed companies that are more than 30% owned by controlling shareholders shall adopt a cumulative voting system, and the companies that do adopt such

[3] For example, Hewlett-Packard states clearly that "unlike the vast majority of the other companies in the S&P 500, HP permits cumulative voting in the election of directors." (Information is obtained from HP's "Notice of Annual Meeting and Proxy Statement for the 2013 Annual Meeting of Stockholders", available from SEC archive.)

[4] For instance, there were shareholder proposals for CV implementation in Merrill Lynch & Co., Inc. in each of the 21 annual shareholder meetings in the period 1986-2007. (Information is obtained from Merrill Lynch "Notice of Annual Meeting of Shareholders 2007", available from SEC archives.)

[5] The values are calculated by ourselves based on the data provided by CSMAR, one of data sources of this paper that will be discussed later.

[6] In our sample matched by the BL method, the mean and median ownership shares of the largest shareholder are 45.5% and 44.4%, respectively, and in the sample matched by the CEM process, they are 45.3% and 44.6%, respectively. In contrast, the average ownership share of the second to the tenth largest shareholders in the BL sample is approximately 16.6%, and it is 16.5% in the CEM sample.

a system shall stipulate the implementing rules for such cumulative voting system in their articles of association."[7] In 2005, the revised version of *Company Law of China* was released. Article 106 re-emphasizes the implementation of the cumulative voting scheme. Although the Code stipulates that firms whose controlling shareholders have more than 30% of the outstanding shares are required to adopt CV in the election of two or more directors, many of those firms did not implement it quickly in the sample period 2002-5 for several possible reasons. First, because almost no firm has the practice of staggered boards in corporate China, many companies have not reached the point of re-electing board directors. Meanwhile, firms that had been established before 2002 usually did not include CV scheme in their corporate charters.[8] Second, the regulatory authorities took a soft approach to enforcing compliance with the *Code* because they realized that China's corporate governance practices could not be changed overnight. The Preamble of the *Code* only requires that when listed companies "formulate or amend their articles of association or corporate governance by-laws" the amendments shall "comply with the requirements of the Code". In other words, compliance with the *Code* is necessary only when the need of amending corporate charters arises. As changing to the CV scheme requires a revision of corporate charter, this process can be prolonged. Thus, this creates some leeway in regulatory compliance, which is partly the reason for the postponement of compliance of some listed companies.[9] Nevertheless, this variation in compliance creates a relatively

[7] For more information, see http://www.ecgi.org/codes/documents/code_en.pdf.

[8] As a matter of fact, we only find 2 CV-using firms in 2001 from our hand-collected data on director elections, which echoes the findings in Qian and Zhao (2011).

[9] This problem of weak implementation is especially relevant for emerging markets where formal institutions are generally underdeveloped (Qian and Zhao 2011).

large pool of potential control group firms for us to compare the differences between the CV-elected directors and the non-CV-elected directors. In Section 3, we shall discuss in more detail and tackle the self-selection issue for CV adoption.

A precondition for CV to play a role in enabling non-controlling substantial shareholders to enlarge their representation in the board is that they can nominate their favored candidates to stand for board election. For the election of independent or outside directors, *The Guidance Opinions on the Establishment of the Independent Director System by Listed Companies* issued by CSRC on 16 August 2001 states that "shareholders who individually or jointly hold not less than 1% of the shares in the listed company may nominate candidates for Independent Directors. Such directors will be decided through election by the shareholders' general meeting" (Article 4). For the election of executive directors, the *Company Law of China* states that "Shareholders individually or jointly holding 3% of the shares of the company may, ten days prior to the general meeting of shareholders, submit a temporary written proposal to the board of directors" (Article 104). This implies that large minority shareholders can nominate their favored director candidates to the shareholder meeting circumventing the corporate board in the form of temporary proposals. In our opinion, the threshold levels of stock ownership to qualify for nomination are reasonable, and non-controlling substantial shareholders should be able to cooperate to some degree to nominate their candidates for board elections.[10]

2.2 Research Agenda

[10] Nonetheless, on the whole, an explicit and standard norm for director nomination does not exist in corporate China. A successful case on this concern is the board election in 2012 of Gree Electric Appliances Inc. In that case, institutional investors successfully jointly nominated and cast their votes to their favored candidate to the corporate board. For some comments on this, see http://finance.sina.com.cn/stock/t/20120601/003112195558.shtml.

We assess the effects of CV along three major lines. First, we examine whether CV has enlarged the board representation of non-controlling substantial shareholders. It is widely perceived that dominant shareholders of Chinese companies hand-pick compliant boards and management (Clarke 2006). Therefore, the strength of CV could be reflected in the rise of the representation of the non-controlling substantial shareholders.

However, the largest shareholder and some non-controlling substantial shareholders in some companies can be related parties such as being parent and subsidiary companies or having joint ventures. Then, their interests are aligned to a large degree, which would blur the distinction between the representatives of the largest shareholder and those of the non-controlling substantial shareholders in the full sample analysis. Therefore, in addition to the full sample, we also consider two subsamples. Subsample 1 focuses on firms where there are no related parties among the top ten shareholders, and subsample 2 consists of firms that we can identify related parties among their top ten shareholders. Given the dominance of the largest shareholder in ownership structure, it requires cooperation and coordination among non-controlling substantial shareholders to elect their representatives onto the board. Because no substantial shareholder is related to the largest shareholder, they may have a strong incentive to coordinate their votes to elect their common favorable candidate onto the board so as to mitigate the influence of the largest shareholder to some degree. Hence, the effect of CV in raising the representation of the non-controlling shareholders could be particularly salient in subsample 1.

In subsample 2, it is not likely for substantial shareholders related to the controlling shareholder to coordinate with unrelated substantial shareholders to elect the latter's representatives onto the board, which would offend the largest shareholder. Since fewer

substantial shareholders can coordinate their votes, the likelihood of successfully getting their representatives on the board would be much smaller.

Second, we examine whether the non-executive directors in CV-using firms have less close relations with corporate executives (CEOs and board chairpersons). The *Code of Corporate Governance* places much emphasis on a high degree of "independence" or "disinterestedness" as a precondition to the efficacy of outside directors in monitoring corporate management (see Article 50). Under straight voting, the controlling shareholder can dominate in selecting outside directors. Consequently, closely connected outside directors are more likely selected. Under CV, non-controlling substantial shareholders can help select some outside directors who do not have close personal relationships with the controlling shareholder and corporate executives. Considering data limitations, we focus on the visible connections between outside directors and corporate executives, i.e., whether the selected outside directors and the CEO or board chairperson are former colleagues and/or college alumni/alumnae.

Third, we examine whether there exist salient differences in the educational qualifications, professional experiences, and political capital between CV-elected executive/non-executive directors and their non-CV-elected counterparts. The *Code of Corporate Governance* attaches great importance to the qualifications of directors. In article 37, it is stated that "(directors shall) familiarize themselves with relevant laws and regulations and to master relevant knowledge necessary for acting as directors." Article 41 states that "The directors shall possess adequate knowledge, skill and quality to perform their duties." This is not surprising for a newly started emerging capital market that lacks knowledgeable professionals for the directorship positions.

Controlling shareholders may prefer puppet directors to actively monitoring ones. Loyalty and compliance are likely to be the primary considerations in selecting directors under straight voting. In contrast, under CV, non-controlling substantial shareholders may nominate and elect onto the board those directors who are more professional, experienced, and knowledgeable to constrain the power of the controlling shareholder. Other small minority shareholders may support this move.

Next, we investigate the impacts of CV adoption on firm performance. If CV has enhanced the representation of the non-controlling substantial shareholders in the board, the qualifications and professionalism of directors and the disinterestedness of outside directors, firm performance is likely to improve. A central angle to understand the impact of CV adoption on firm performance changes is to examine whether the CV election has enhanced corporate monitoring and curbed the occurrence of tunneling activities such as related party transactions, etc.

3. Methodology

3.1 Control Group Method

Our study faces the typical challenges encountered in corporate governance research. For example, CV adoption is an endogenous firm decision. Firms without a controlling shareholder with 30% or more of the stock ownership can choose to implement CV or not. To address these issues, we apply two nonparametric matching methods, i.e., the BL method and the CEM process, to generate two different control groups. After completing the matching process, we conduct the DID-style regressions to further address the "self-selection" problem. Because of data unavailability, we cannot directly check the "parallel

trend" for prior periods. If the empirical results based on the two different matching samples are quantitatively similar, however, our DID strategy is unlikely to be biased (Gruber 2000).[11] This demonstrates the importance of using both matching approaches. For brevity, we will mainly present the results based on the BL method, and complement them by some results from the CEM approach. The CEM approach is illustrated in detail in Appendix B.1.

In our basic sample, we identify a firm as a CV user if it adopted CV in any year between 2002 and 2005. The remaining listed companies used straight voting in their board elections in the sample period (i.e., non-CV users), and are regarded as potential control group firms.

The BL method tries to match each CV-using firm with one non-CV-using firm based on the designated rules. In determining matching criteria, we take into account both the conventional practice in the literature and the potential important determinants of CV adoption. We consider similarity in industry (one digit SIC code released by CSRC), firm size (logarithm of book value of total assets), and firm performance (one-year lagged industry-adjusted ROA). In our setting, we add the dimension of the largest shareholder's ownership share, which is also vital to a firm's decision on CV adoption. We divide both CV users and non-CV users into two groups. One group consists of firms wherein the largest shareholder holds less than 30% of equity shares, which is called the voluntary or elective CV group. The other one is made up of firms where the largest shareholder holds

[11] Since data on board characteristics are almost unavailable before 2000, we cannot conduct a direct test of the "parallel trend" assumption of the DID strategy. However, we can make use of an alternative matched sample to support the validity of our DID strategy (see, e.g., Duflo 2002).

30% or more of equity shares, which is called the regulatory CV group. We will find control group firms for CV firms within each group.

As the CV adoption is an endogenous firm decision for elective CV group, and even the regulatory CV group firms may postpone their compliance with the regulation, we also consider the potential determinants of a firm's decision to implement CV rule in board election. We take into account prior performance, the largest shareholder's ownership share, the second largest shareholder's ownership share, firm size, and industry. Poorer prior performance may prompt minority shareholders to demand the implementation of CV so as to restructure corporate board. Provided the prevalence of dominant shareholders in China's listed companies, a relatively large stake of the second largest shareholder may raise the likelihood of CV adoption. Moreover, various other corporate governance features may affect the motives and abilities of large minority shareholders to push for CV adoption. We consider the degree of ownership concentration (i.e., the sum of squared stockholding proportions of the top five shareholders), duality (whether the general manager and the board chairperson are the same person), board size (the number of directors), board independence (the fraction of outside directors), the stockholdings of managers, and the stockholdings of the board. In addition, we also consider firm age and leverage.

Table 1 presents the probit regression results of the likelihood of CV adoption in the regulatory CV group and the voluntary CV group, respectively. Firms with worse prior performance were more likely to adopt CV in both groups. In the regulatory CV group, smaller-sized firms more frequently implemented CV for board election. In contrast to our prediction, the various indicators of corporate governance strength mostly produce no statistically significant estimated coefficients. The exception is that a higher degree of

board independence decreased the chances of CV implementation in the regulatory CV group, which suggests a possible substitution effect of board independence for CV adoption. This may mitigate to some degree our concern that the controlling shareholder may prevent the firm from adopting CV in firms with weaker governance structure. In addition, firms with a longer history were less likely to adopt CV in the elective CV group.[12] Furthermore, one may be concerned that firms whose controlling shareholder with no less than 30% ownership could strategically decrease her/his shareholdings to below 30% to avoid adopting CV. To address this concern, we check sample firms and find no firm with such changes in ownership structure.

In view of the probit regression results, we believe that the four criteria for control group selection are largely reasonable. Introducing more variables into the matching process probably won't yield much but makes it much less likely to find control group firms. Specifically, we adopt the following matching procedure: (1) match a CV user to a non-CV user with the nearest proportion of shares held by the controlling shareholder and with the same SIC code; (2) the firm size of the non-CV user is in the range of ½-2 times that of the CV user; and (3) the pre-performance of the non-CV user is within +/-10% that of the CV user. If no such non-CV user exists, we relax the restriction on firm size, i.e., regardless of firm size, we select the one satisfying the other conditions. Nevertheless, if no such non-CV user exists, we subsequently further drop the requirement on the same industry code.

[12] In Appendix B, we also incorporate firm age into the CEM control group construction.

The alternative CEM approach attempts to construct a balanced control group that shares the empirical joint distributions of the covariates with the treated group by "coarsening" each covariate through recoding so that substantively indistinguishable values are grouped and assigned the same numerical value. Then it applies the "exact matching" algorithm to the coarsened data to determine the matches and to "prune" unmatched observations to generate desired treatment and control groups without requiring any assumptions about the data generation process as do other matching methods (e.g., propensity score matching). Compared with the popular matching methods such as propensity score matching and Mahalanobis matching, the CEM method eliminates many assumptions required for the unbiased estimates of treatment effects and excels in its ability to reduce imbalance, model dependence, estimation error, bias, etc. (Iacus, et al. 2012).[13]

As the *Code of Corporate Governance for Listed Companies* released in 2002 contains other reform measures such as corporate information disclosure, to which all listed firms are exposed, our control group method can help isolate the impacts of CV implementation from other reform measures and create a quasi-natural experiment.

It is noteworthy that the regression discontinuity (RD) design may not be appropriate for this setting. Firstly, the block ownership of 30% is not a cutoff level below which no firm implements CV and above which all firms implement CV immediately, which makes the setting inconsistent with the requirement of the RD approach. Secondly, if we follow the RD approach to focus on a subsample of firms with the largest shareholder's ownership shares lying within a small band around 30%, the number of CV firms would drop

[13] For the implementation of CEM, please see Appendix B.

considerably, particularly when we examine the firms whose top ten shareholders are unrelated. Thirdly, econometrically there is also some concern with the RD estimand.[14]

3.2 Regression Design

To further reduce the "self-selection" bias, we employ the DID-style regression analysis, i.e., we primarily examine the changes in the CV-using firms before and after voting, and compare these changes with those of the control group firms. The DID-style regressions can remove biases in the comparisons resulting from the permanent differences between the two groups and preclude the biases in comparisons over time as a result of the time trends.

Our baseline firm-level regression model is specified as follows:

$$Y_{igt} = \beta_0 + \beta_1 CV_g + \delta_0 Post_t + \delta_1 CV_g * Post_t + \gamma X_{igt} + \varepsilon_{igt}$$

where Y_{igt} is the outcome variable of interest for firm i in group g (the treated or control groups) in period t, $Post_t$ is a dummy variable taking the value of one for the post-CV time period, X_{igt} is a vector of control variables, and ε_{igt} is an error term. The indicator variable CV_g takes the value of one for CV users, which captures the possible differences between the treated and control groups prior to the change in the shareholder voting mechanism. By including $Post_t$ as a separate explanatory variable, we can capture the aggregate factors that

[14] The RD estimand can be interpreted as a weighted average treatment effect across all firms. All individual firms could get some weight, but the similarity of the weights across firms is untestable, since researchers only observe one realization of the shareholdings of the largest shareholder in a firm and do not know anything about the *ex ante* probability distribution of the shareholdings of the largest stockholder for any individual firm. The weights may be relatively similar across firms, in which case the RD gap would be closer to the overall average treatment effect; but if the weights are highly varied and also related to the magnitude of the treatment effect, the RD gap would be very different from the overall average treatment effect (see, Lee 2010).

would cause changes in Y_{igt} even in the absence of a voting method change. The interaction term, CV_g*$Post_t$, is the central explanatory variable, which takes the value of one for those observations in the treated group in the post-CV period. δ_1 captures the treatment effect in this DID-style regression model.

4. Data and Variables

We identify the CV-adopting firms and the CV-elected directors from the information on shareholder meetings contained in *The Disclosure by Listed Companies* available from SHSE and SZSE. The central part of our analysis is the examination of the personal characteristics of executive and non-executive directors. The detailed information is hand collected from the resumes of directors included in the company annual reports disclosed by SHSE and SZSE or released by SINA Finance, a Chinese stock website run by SINA Corporation, a listed company in NASDAQ.[15] We read and check all of the files provided by both data sources to extract information for constructing the indicators of the personal characteristics of directors. In addition, firm-level accounting, financial, corporate ownership, and corporate governance data are obtained from the China Stock Market and Accounting Research (CSMAR) database.

The Chinese experiment with the CV reform scheme provides a good setting for the study of this issue. The CV scheme is implemented in a large campaign to enhance the protection of minority shareholder interests. We focus on the sample period 2002-5 because quite many companies started to adopt CV for their board election for the first time in this

[15] We read all corporate annual reports to obtain personal information of directors starting from 2004. As almost all companies' annual reports before 2004 did not include director resumes, we fall back on SINA Finance or search them via Baidu, a famous Chinese search engine (a listed company in NASDAQ).

sample period. At the same time, we try to minimize the impact of confounding factors that might affect corporate governance reforms after 2005 such as the strengthening of security market regulations, the split-share structure reforms, etc.

A total of 353 listed firms in the A-share market adopted CV in their elections of multiple board directors in the period 2002-5.[16] Table 2 describes the distribution of CV adoption in the regulatory CV group and voluntary CV group over the sample years. Understandably, a much larger number of firms in the regulatory CV group than in the voluntary CV group chose to follow the CV rule each year. The total number of CV adoptions surged to 266 in 2005 in the sample period. In untabulated results, we find that the number of CV adoptions kept remaining at a relatively high level in the following several years, i.e., 114 in 2006, 152 in 2007, etc. Several factors contribute to this pattern. An increasing number of companies reached the point of electing board members or revising corporate charters in later years. The implementation of the revised version of *Company Law of China* in 2006 and the strengthening of regulations of listed companies after 2005 could also be responsible for it.

Employing the BL method, we match 57 non-CV firms with 114 CV firms, i.e., each non-CV control firm corresponds to two different CV-using firms. The remaining ones are one-to-one matches. Thus, 296 distinct non-CV control firms with straight voting for board elections are selected through the BL matching process. We collect information on director characteristics in the pre-voting period and the post-voting period for both the treated and

[16] If there is just one seat to be filled in a board election, then the candidate favored by the largest shareholder would win regardless of straight voting or CV because of the dominance of the largest shareholder. Therefore we exclude such cases from our sample.

control groups. There are 5 CV-using firms and 2 matching non-CV firms that have no data available in the pre-voting period,[17] which have to be dropped. Therefore, under the BL matching procedure, the constructed sample consists of 1291 firm-year observations including 701 CV-using firm-year observations and 590 non-CV-using firm-year observations.[18]

Appendix Table A2 lists the basic descriptive statistics of the three key criteria variables used to construct the control group. Before the BL matching, the CV-using firms and the non-CV-using firms differ significantly in these key variables in the voluntary CV group (Panel A), the regulatory CV group (Panel B), and the whole sample (Panel C). After the matching, the CV-using firms and their control group firms no longer exhibit significant differences for all the four groups of firms.[19]

We use the above sample to analyze the differences in characteristics between CV directors and non-CV directors. The definitions of the main variables used in the empirical analysis are listed in Appendix Table A1. For the analysis of the effects of the CV adoption on firm value and tunneling activities, the sample used from the BL matching method

[17] In fact, these firms were newly listed in the sample period and had their first election of board directors through the CV rule.

[18] In our analysis, we include all firm-year observations in the pre- and post-voting periods, although they are somewhat different. We also conducted the same empirical analysis by dropping the firm-year observations that are present only in post periods, and all the results remain the same essentially. To save space, we mainly report the results based on the sample described above.

[19] Under the CEM matching process, both CV users and non-CV users have been pruned in order to balance the three key pretreatment covariates. After this process, 278 CV firms constitute the members of treated group at time period t=1, and there are also 278 matches belonging to the control group at this period. The number and composition of both treated and control groups at time period t=0 are the same. Thereby, the CEM matching process builds a sample with 1106 firm-year observations in total.

consists of 13034 firm-year observations, while the sample used from the CEM process consists of 7410 firm-year observations.

We define an elected executive director as a representative of one of top ten shareholders if that director is working or worked just before this election in a firm that the block shareholder controls. We use *Share1, Share2* and *Share2_5* to denote the proportions of executive directors as representatives of the controlling largest shareholder, those of the second largest shareholder and those of the second to the fifth largest shareholders in the board, respectively. The relative size of *Share2* and *Share2_5* vis-à-vis *Share1* can be an important indicator of power distribution in the boardroom and whether CV rule enhances the representation of non-controlling substantial shareholders.

To explore the influence of CV use on firm tunneling activities, we follow the literature (e.g., Cheung, et al. 2006, 2009) to examine the total related party transactions (TRPT), i.e., annual aggregate value of related-party transactions for each firm divided by the year-end total assets, the beneficial related-party transactions (BRPT), i.e., transactions from which the firm received cash, loans, or guarantees from the related party, and the harmful related-party transactions (HRPT), which are equal to TRPT subtracted by BRPT.

5. CV and the Power Distribution in the Board

5.1. Detecting Power Distribution in the Boardroom

We manually collect information on whether an executive director represents the controlling shareholder or a non-controlling substantial shareholder (i.e., the second to the tenth largest shareholder) for all the sample firms.

In analyzing the power distribution, we pay attention to the fact that some non-controlling substantial shareholders among the top ten shareholders may be related to the largest shareholder. In general, two blockholders are related parties if one party can solely or jointly control or exert substantial influence over the other party in corporate decision making, or the two parties have significant business relations. For example, one party can be the parent company or subsidiary of another party; two parties share a parent company or a large and influential investor; two parties have joint ventures or joint operating partners; two parties can have customer-supplier relationship, etc.[20] This gives rise to the complication that some executive directors indirectly represent the largest shareholder because the non-controlling substantial shareholders they represent are related to the controlling shareholder.

To address this concern, we resort to the CSMAR dataset that collects information from corporate annual reports, complemented by the information from the data provider's own study, on the existence of related parties among large shareholders.[21] The dataset contains a categorical variable that takes value one if there are no related parties among the top ten shareholders, value two if there are related parties, and value three if the company does not disclose this information or the CSMAR has no sufficient information to judge.

On the basis of this data, we form two subsamples. One subsample comprises firms without related parties among the top ten shareholders (*subsample 1*). There are 26 distinct

[20] The Ministry of Finance of China issued *Accounting Criteria of Corporations --- Related Parties and Related Transactions Disclosure* in 1997, and listed some situations for related parties to a listed company.
[21] In order to protect minority shareholder interests, the CSRC advised listed companies to make public statements in their annual reports on whether the top-ranking shareholders were related to each other. Nonetheless, compliance with this rule is also gradual. Quite many companies did not make explicit statements, especially in the early 2000s.

CV-using firms and 19 distinct control group firms.[22] The other subsample is the group of firms for which we can identify what non-controlling substantial shareholders are related parties of the largest shareholder (*subsample 2*).[23] There are 50 distinct CV-using firms and 42 control firms in this group. For the remaining sample firms, the CSMAR dataset and corporate reports do not disclose information on related parties among top ten shareholders.

For firms in *subsample 2*, we manually check their annual reports and find whether and which non-controlling substantial shareholders are related to and thus allies of the largest shareholder. The executive directors representing those related blockholders are treated as ally representatives of the largest shareholder. This procedure is especially powerful in identifying the indirect board representation of the largest shareholder. Meanwhile, we also identify the executive directors directly representing the largest shareholder. We then compare the direct and indirect representation of the largest shareholder in the board. This could be interesting roughly for two reasons. Firstly, a shift from direct to indirect representation can still be largely a window dressing tactic, but it can signify to some degree that the largest shareholder moves to control the board in a more circuitous manner as a concession to the pressures of minority shareholders. Secondly,

[22] The control firms for subsample 1 are re-matched based on all firms that do not adopt CV and have no related parties among top ten stockholders.

[23] Public companies often disclose whether there are related parties among top 10 largest shareholders in the part of Changes in Shares and Information about Shareholders of their annual reports. For example, Guangzhou Baiyun International Airport Co., Ltd (stock code: 600004) in their 2004 annual report mentions that Guangdong Airport Management Corporation (the largest shareholder) and Guangzhou Baiyun International Airport Co., Ltd (the 8th largest shareholder), and Guangzhou Transportation Investment Co., Ltd (the 6th largest shareholder) and Guangzhou Baiyun International Airport Co., Ltd (the 8th largest shareholder) are related parties.

under some circumstances, even the block shareholders related to the controlling shareholder may well have their own distinctive business interests. Thus, an enlarged indirect representation can still indicate a slightly diminishing control power of the largest shareholder.

5.2. Univariate Analysis

Panels A-B of Table 3 provide the mean and standard deviation of the proportion of executive directors representing the largest shareholder, the second largest shareholder, and the second to the fifth largest shareholders in the CV-using firms and their control group firms in the pre-voting and the post-voting periods in the whole sample and in *Subsample 1*, respectively.[24] From Panel A, we observe that the representatives of the largest shareholder dominate the board composition, accounting for the majority (approximately 55%) of the board in both the CV-using firms and the non-CV-using control firms, and in both the prior and post-voting periods. Nonetheless, the fractions of the representatives of other top shareholders in CV users increased by slightly larger percentage points than in control group firms in the post-voting periods.

Panel B presents a more striking pattern. The board representation of the largest shareholder in CV users decreased from 53.25% to below 50% (49.40%), whereas that of other block shareholders increased substantially after CV adoption in *Subsample 1* without related parties among blockholders, while the situations for their control group firms are opposite. Hence, the implementation of CV might enhance the representation of large

[24] We also did the same analysis for the second to the tenth largest shareholders and found similar results. For brevity, we do not report the results.

minority shareholders in the board at least for the firms whose block shareholders are known to be unrelated.

Subsample 1 is instrumental to our understanding of the effects of CV implementation on the balancing of board power structure. Because all the non-controlling substantial shareholders are unrelated to the largest shareholder, they are most likely to have a strong incentive to coordinate their votes to elect their common favored representatives onto the board. The strong results obtained for subsample 1 provide support to the effectiveness of CV in promoting a more balanced board power structure.

To have a better comparison, we carry out the DID-style univariate analysis of the power distribution in the board for the whole sample and *subsample 1* in Panels C and D of Table 3, respectively. We initially subtract the proportions of directors as representatives of the non-controlling substantial shareholders (the second, and the 2nd-5th) from that of the largest shareholder in the pre-voting and the post-voting periods for CV users and their control firms, respectively. We subsequently examine whether significant discrepancies exist in the mean differences between the two periods for each group. Finally, we subtract the differences between the two periods for the control group from those of the treated group, and test whether the results are significantly different from zero.

In Panel C, the results show that the difference in board representation of the largest shareholder and that of the second as well as the 2^{nd}-5^{th} largest shareholders narrowed for both the CV-using firms and the control firms in the whole sample in the post-voting period, and the CV-using firms narrowed more, although the differences are not statistically significant.

Panel D focuses on *subsample 1*. Although the size of this subsample is small, it still provides a clean setting to examine the impacts of CV on board representation. We find that the representation of the largest shareholder did drop significantly by half in the CV-using firms, while that of the control group firms rose by nearly 11 percentage points. The difference in the changes in the proportional representations between the two groups is a statistically significant and sizeable 33.7%. Similarly, the difference in the board representation between the largest shareholder and the 2nd-5th largest shareholders declined by more than 50% in the CV-using firms, whereas that in the control group increased quite much. The difference between the two groups is a statistically significant 32.4%.

Finally, we analyze subsample 2 in Panel E, i.e., the firms with identifiable related parties among the top ten shareholders. We focus on the direct and indirect board representation of the largest shareholder. Several observations are noteworthy. Firstly, we find that the direct board representation of the largest shareholder increased in both CV-using firm group and the non-CV-using control group in the post-voting periods, and the increase in the former group was larger, but the difference is not statistically significant. Secondly, the indirect representation increased in the CV-users but decreased in the control group, and the magnitude of the increase in the former group is similar to that of the decrease in the latter group. Thirdly, the sum of the direct representation and the indirect representation of the largest shareholder increased in the CV-using group but decreased slightly in the control group. The two groups had similar fractions of 65-66% of both direct and indirect representations in the post-voting period. Fourthly, the difference between the direct and indirect representation increased less in the CV-using firms than in the non-CV-

using control group. Finally, the board representation of the second to the fifth largest shareholders decreased with similar degree in both the CV-using firms and the control group firms.

Albeit statistically insignificant, the findings suggest that relative to the non-CV-using control group, CV-users produced a larger increment in both direct and indirect representations, and the control-group-adjusted increment in indirect representation is larger.

It is actually not surprising that the effects of CV on the board power distribution are weaker in *subsample 2* than in *subsample 1*. Given the dominance of the largest controlling shareholder in ownership structure, it typically requires the cooperation among non-controlling substantial shareholders to elect their representatives onto the board. In *subsample 1*, when substantial shareholders are unrelated to the largest shareholder, they have a larger incentive to pool together their votes for their common favored candidates. In contrast, in *subsample 2*, when some substantial shareholders are related to the largest shareholder, it is not likely for the related substantial shareholders to cooperate with unrelated substantial shareholders to elect the latter's representatives into board, which would be clearly an offense to the largest shareholder. In this situation, the likelihood of the representatives of the unrelated substantial shareholders to be elected onto the board would be much smaller in *subsample 2* than in *subsample 1*, and it would be much harder to detect the clear effect of CV in enhancing board power balance in *subsample 2*.

However, we still observe a relative increase in the indirect representation. On the one hand, it can be largely a window dressing tactic where the largest shareholder and its allies try to manipulate board election by partially substituting direct representation with indirect

representation. On the other hand, the increased indirect representation can reflect to some degree the potential incremental improvements brought about by CV voting: the largest shareholder concedes to minority shareholder pressures to control the company by indirect means, and the distinct interests of non-controlling substantial shareholders under some circumstances could mean a weakening of the control power of the largest shareholder.

5.3. Multivariate Regression Analysis

To better examine the impacts of CV implementation on power distribution in the boardroom, we carry out DID-style multivariate regressions. Panel A of Table 4 presents the regression results on the basis of the whole sample. The dependent variable is the representation of the largest shareholder in Columns (1) and (4), that of the second largest shareholder in Columns (2) and (5), and that of the 2nd-5th largest shareholders in Columns (3) and (6), respectively. Consistent with the univariate analysis, the use of CV did not significantly affect the representation of the largest shareholder or the representation of the 2nd-5th largest shareholders in the boardroom.

The implementation of CV scheme significantly increased the board representation of the second largest shareholder in Column (2), but the statistical significance disappears in Column (5) after a host of control variables are included.

To further analyze the impacts of the CV scheme on relative power distribution in the boardroom, we construct measures of the differences in the proportions of board representatives between the largest shareholder and the second largest shareholder (*Diff12*) and between the largest shareholder and the sum of the second to the fifth largest shareholders (*Diff125*). Panel B provides the full-sample regression results where these

measures of relative power distribution are employed as dependent variables. We find that *Diff12* and *Diff125* decreased in the post-CV period, albeit statistically insignificant. In Panel C, we conduct similar analysis as in Panel A for *Subsample 1* of firms without related parties among top ten shareholders. Strikingly, the CV adoption significantly reduced the representation of the controlling largest shareholder but raised that of the second largest shareholder. It also raised significantly the board representation of the 2nd-5th largest shareholders in Column (3), but the statistical significance is lost when all the control variables are included in Column (6).

To further substantiate the impact of CV on board representation, we conduct the regression analysis of the relative power distribution for *Subsample 1* in Panel D. Clearly, the implementation of CV consistently significantly reduced *Diff12* and *Diff125.*

Panel E presents the regression results for *subsample 2* on the effects of CV adoption on the proportions of board representatives of the largest shareholder, i.e., the direct representation (Columns (1) and (4)), the proportion of ally representatives of the largest shareholder, i.e., the indirect representation (Columns (2) and (5)), and the differences between the direct and indirect representations of the largest shareholder (Columns (3) and (6)), respectively. The estimation results suggest that CV adoption significantly raised the indirect representation of the controlling largest shareholder, and narrowed the differences between the direct and indirect representations in the post-CV period, although the latter results are not statistically significant.

With a stronger increase in indirect representation, the largest shareholder tends to control the board in a circuitous manner after CV adoption. This could still be a cosmetic gesture. Nonetheless, because of the potential divergence of interests between the largest

shareholder and its allies under some circumstances, this could suggest a weakening of the dominance of the largest shareholder in the board and an incremental improvement in board power balance.

The results from CEM matching method reinforce our findings on the basis of the whole sample. Appendix Table B2, especially Panel B, shows that the differences between the fractional representation of the largest shareholder and that of the second largest or the 2^{nd}-5^{th} largest shareholders narrowed in CV-using firms but enlarged in the control firms. Appendix Table B3 presents the regression results on power distribution in the board by using the CEM matching method. In Columns (1)-(3) on the basis of the whole sample, the proportion of executive directors representing the second largest shareholder has statistically significantly risen after the implementation of CV. In Columns (4)-(6) based on *subsample 1* without related top shareholders, the use of CV is shown to have statistically significantly increased the percentage of directors as representatives of the second largest shareholder and as representatives of the second to the fifth largest shareholders in the boardroom. The results derived from the two types of matching methods lend support to the claim that CV enhances the representation of large minority shareholders in the board to some degree.

6. CV and the "Independence" of Outside Directors

One important criterion in assessing the effectiveness of the CV mechanism is to examine whether the CV-elected outside directors are more independent in the sense that they are less likely to be closely related to the CEO or board chairperson than do those elected through straight voting. A thorough and exhaustive check of how closely outside directors are associated with corporate executives is impossible. Nonetheless, given data

limitations, we still partially address this issue by examining several striking observable connections between outside directors and corporate executives, i.e., the proportion of outside directors who are former colleagues of the CEO or board chairperson (*Former colleague*), the fraction of outside directors who are alumni/alumnae of the CEO or board chairperson in college including graduate-level programs (*College alumni(alumnae)*), and the combination of the two, i.e., the percentage of outside directors who are either former colleagues or alumni/alumnae (*Former colleague/college alumni(alumnae)*).

In Panel A of Table 5, Columns (1) and (2) examine, respectively, the interrelations between outside directors and corporate executives in the form of former colleagues and college alumni/alumnae, respectively, in the whole sample. Albeit statistically insignificant, CV-elected outside directors were less likely to be connected with CEO or board chairperson. Column (3) combines former colleagues and college alumni/alumnae together. CV-elected boards had a statistically significantly larger proportion of outside directors who were less closely connected with the CEO or board chairperson.

Appendix Table B4 presents the regression results based on the sample derived from the CEM matching method. Column (2) shows that a statistically significantly smaller fraction of CV-elected outside directors were alumni/alumnae of the CEO or board chairperson than that of non-CV-elected ones. Column (3) reinforces the results in Table 5 that there were a smaller proportion of outside directors who were former colleagues or alumni/alumnae of the CEO or board chairperson in the CV-elected boards than in the non-CV elected ones.

Panel B of Table 5 examines the disinterestedness of outside directors in *subsample 1* without related parties among top ten shareholders. From Column (2), we observe that CV-

using firms elected a smaller proportion of outside directors who were college alumni/alumnae of the CEO or board chairperson than those non-CV-using control firms. Column (3) shows that a significantly smaller fraction of elected outside directors in CV-using firms were either college alumni/alumnae or former colleagues of CEO or board chairperson.

Panel C of Table 5 looks at *subsample 2* where we can identify the relatedness of substantial shareholders to the controlling largest shareholder. The CV-using firms elected a larger proportion of outside directors who were not apparently connected to the top management. The results in Column (3) are statistically significant, i.e., CV-using firms elected a smaller fraction of outside directors who were either former colleagues or college alumni/alumnae of CEO or board chairperson.

This set of regression results provides evidence that CV adoption enhances the independence of outside directors to some degree. Since CEO and board chairperson are usually representatives of the largest shareholder who often dominates the corporate decision-making, a decline in the visible connections of selected outside directors with the top management suggests that the influence of the largest shareholder in appointing outside directors has diminished, or the largest shareholder develops self-discipline to avoid nominating obviously closely-connected candidates for the posts of outside directors. For *subsample 1*, the elevated disinterestedness of outside directors in CV-using firms can result from the enlarged influence of non-controlling substantial shareholders in board voting. For *subsample 2*, even if some substantial shareholders are related to the largest shareholder, CV mechanism still prompts the largest shareholder and its allies to concede to the pressures of minority shareholders to more likely appoint outside directors who do

not have visible connections with the top management. An enhanced balance in board power structure and an elevated independence of outside directors are presumably two central aspects of CV voting mechanism to reduce the dominance of the largest shareholder in corporate decision-making and raise the checks and balances in corporate governance. The incremental improvements detected in these two areas largely demonstrate that the CV reform has achieved some positive results.

7. CV and the Personal Characteristics of Elected Directors

7.1. CV and the Personal Characteristics of Executive Directors

Next, we examine whether CV brings about changes in the personal characteristics of executive directors. Panel A of Table 6 reports the results of the DID-style regressions that test for the existence of differences in educational qualifications and political capital between CV and non-CV-elected executive directors. As shown in Columns (1)-(3), the percentage of elected executive directors with a master's or higher degree increased following CV implementation. Meanwhile, the fraction of executive directors with relatively poor educational qualifications, such as junior college or below, significantly declined after the CV adoption.

From Columns (4)-(6), we observe that a smaller fraction of the CV-elected executive directors, compared with the non-CV directors, comprises former central government officials. Directors who are former bureaucrats may help the firm to seek some privileges such as access to bank loans or favorable regulatory treatment from the government (e.g., Agrawal and Knoeber 2001; Fisman 2001). This is especially the case for the Chinese economy characterized by massive government intervention. On the other hand,

bureaucratic directors may lack professional knowledge and business expertise. In this sense, a decreased fraction of directors with central government background may signal a diminishing bureaucracy and perhaps enhanced professionalism of CV-elected directors.

Panel B of Table 6 presents the empirical results on the differences in managerial and professional experiences between CV and non-CV executive directors. Several statistically significant findings emerge. A larger proportion of the CV-elected executive directors had CEO, board chairperson, corporate executive (CEO or board chairperson), or the same industry work experiences. The CV-elected executive directors were younger than non-CV-elected ones. In a developing and transition economy, younger directors indicate better exposure to market economy development. Nevertheless, no evidence shows that CV elections could significantly increase the fraction of executive directors who were professionals, such as accountants, lawyers, engineers, economists, etc.

In sum, we find that the CV-elected executive directors typically had richer managerial and industry experience, better education, and less political capital than did the non-CV-elected ones, thereby suggesting that CV might well have raised the likelihood of selecting executive directors with better business expertise and professionalism.

7.2. Personal Attributes of Executive Directors and Power Distribution in the Board

A further question is whether the CV-elected directors representing the controlling largest shareholder and the non-controlling substantial shareholders exhibit differences in individual attributes. Table 7 examines the changes in the attributes of CV-elected executive directors representing the non-controlling substantial shareholders relative to those of non-CV-elected ones. Panel A shows no significant differences in education

qualifications and political capital of CV-elected executive directors and non-CV-elected ones. Nonetheless, Panel B shows that CV-using firms had more executive directors with CEO or board chairperson experience and with the same industry working experience.

Table 8 presents regressions for elected executive directors representing the largest shareholder. Clearly, Panel A shows that CV user firms elected fewer executive directors with relatively poor education background and more with better education background than did the non-CV firms. At the same time, CV-using firms elected a smaller proportion of executive directors with central government working experience. Panel B, however, does not indicate any significant differences in the proportion of executive directors with business expertise and professional experience between CV-using firms and non-CV-using firms.

From these findings, we observe that the controlling shareholder placed more emphasis on education qualifications of directors, whereas large minority shareholders paid more attention to directors' business expertise and professionalism. In our opinion, business expertise is more relevant for firm operation than do education qualifications. In this sense, CV might have enabled non-controlling substantial shareholders to elect more of their representatives who would be potentially helpful to business operations onto the board.

7.3. CV and the Personal Characteristics of Outside Directors

Similarly, we investigate the educational qualifications, professional experiences, and political connections of outside directors. In Panel A of Table 9, no statistically significant differences in educational qualifications exist between the CV-elected and non-CV-elected

outside directors. Meanwhile, a larger fraction of the CV-elected outside directors had central government work experiences [Column (4)] or political connections in general [Column (6)]. It is likely that the rising political capital of CV-elected outside directors substituted for the diminishing bureaucratic background of CV-elected executive directors.

In Panel B of Table 9, a larger proportion of the CV-elected outside directors consisted of economists or professionals in general, compared with the non-CV-elected ones. Richer professional experiences can enable outside directors to better conduct monitoring and advising. However, no evidence shows that CV and non-CV outside directors exhibited significant differences in work experience in the same industry.

As CV-elected outside directors comprise a larger fraction of both professionals and former bureaucrats, CV-user firms tend to combine the strengths of the two types of outside directors, i.e., political capital can be an asset for firms to gain favorable treatments, whereas business experience can bring professional insights to the firms.

Appendix Table B5 lists the corresponding regression results on the sample derived from the CEM matching method. The CV-elected outside directors no longer had a significantly larger fraction with central government work experience or political connection in general. In contrast, a larger percentage of CV-elected outside directors were accountants, engineers or professionals in general than did non-CV-elected ones. The results derived from the samples based on two different matching methods point to the elevated professionalism of independent directors following the CV adoption.

Academics often serve as outside directors in China. Although they are presumably knowledgeable and capable, the investing public believes that they are not very active in

the discharge of their duties (see, e.g., Lin, et al. 2006).[25] In untabulated regression results, we find that the proportion of CV-elected outside directors coming from academic institutions was statistically significantly smaller than that of non-CV directors. The proportion of CV outside directors who were lawyers was also statistically significantly lower. We also investigate the difference in the percentage of outside directors whose research fields are highly relevant to the main business line of the firms on whose boards they sit in. No statistically significant differences are detected between the CV and non-CV firms.

As a robustness check, we also examine the above issues by conducting regressions at the individual director level. The results are consistent with those derived from firm-level analysis. Some parts deliver even stronger results. For example, in unreported results, we find statistically significant evidence that CV-elected outside directors were less likely to be former colleagues or related as college alumni/alumnae of CEOs or board chairperson.

8. CV and Firm Performance

In the basic analysis, we combine the BL matching sample and firm-level accounting and corporate governance data for the period 1999--2010. The firm performance measures we look at are Tobin's Q, ROA, market-to-book ratio, and ROE, which are all industry-adjusted ones. Figures 1-2 describe the evolution patterns of the first two performance

[25] A case for this is Jiahao Lu and the ZhengBaiWen event in 2010. Professor Jiahao Lu from Department of Foreign Languages of Zhengzhou University worked as an independent director at the ZhengBaiWen Company. The company was engaged in serious financial malpractice, and professor Lu, among twelve other board members, was found guilty. In his defense he said that he "knew nothing about the operation of the company" and that he "didn't have the ability to understand the accounting sheets". He worked for the company without remuneration; in fact an independent directorship was a prestigious title and brought fame to him. Nevertheless, he was fined 100,000 yuan for participation in financial malpractice. For more information, see http://finance.qq.com/a/20101109/003641.htm.

indicators for the CV-using firms and the non-CV-using firms in the period 1999-2010.[26] Clearly, the two groups of firms exhibited similar performance trends before CV adoption, which is consistent with the methodology of control group construction. After CV implementation, CV-using firms displayed a sharp increase in Tobin's Q in the following two years, whereas that of non-CV-using firms did not move up in the first post-voting year and began to rise in the second post year. The ROA of CV-using firms dropped in the first year and rebounded in the second year after CV adoption, whereas the ROA of the non-CV-using firms remained flat in the first post year and declined in the following two years.

The regression analysis for the full sample is conducted in Panel A of Table 10, which shows that CV adoption did not produce significant effects on any of the four performance measures, and even the signs of the estimated coefficients are not consistent.

In untabulated results, we carry out this regression analysis for the regulatory CV group and voluntary CV group, respectively. Neither of them produces significant effects of CV implementation on firm performances. Similarly, we re-run all of the regressions using the sample constructed through the CEM process, which produce qualitatively equivalent results, i.e., CV adoption did not produce significant effects on performances.

Next, we turn to *Subsample 1* without related parties among top ten shareholders. Figures 3 and 4 present the equivalents of Figures 1 and 2 for Subsample 1. Clearly, the Tobin's Q of CV-using firms displayed an upward movement in the first two post-voting

[26] The evolution patterns of the other two indicators are similar, and we do not report here to save space. For better illustration, Figures 1-4 are only based on those firms that implemented CV in year 2005 and their control group firms.

years, whereas that of non-CV-using firms remained largely flat. In contrast, the ROA of CV firms fluctuated in the post-voting years as did non-CV firms, albeit to a lesser extent.

In Panel B of Table 10, we conduct the same regression analysis for *Subsample 1*. Strikingly, CV-using firms exhibited statistically significant increment in Tobin's Q and market-to-book ratio. At the same time, CV implementation did not have significant effects on ROA and ROE. Thus, CV implementation generated significant positive effects on market-based firm valuation measures but no significant impacts on accounting-based performance indicators.

In addition, we do the same analysis for *Subsample 2*, but find no significant effects of CV implementation on firm performance. Moreover, we construct indicator variables for the changes in the individual attributes of directors and test whether CV implementation could affect firm performance through the changes in the characteristics of directors, but no robust significant results are found. We also do the similar analysis using continuous variables, instead of dummy variables, and the main results do not change.

Overall, the introduction of the CV rule into director elections has produced significantly positive impacts mainly on market-based firm performance indicators in *Subsample 1*. Since CV election reduced the proportional representation of the largest shareholder and raised that of non-controlling substantial shareholders in *Subsample 1*, it sent to the market a clear signal of improvement in the balance of power in the boardroom, and the market took on an optimistic view of the prospects of the CV-using firms, which leads to a higher Tobin's Q and market-to-book ratio. Nonetheless, the accounting performances of CV-using firms did not improve significantly. One possible explanation is that the positive changes in board composition might be still too small to produce

substantial improvements in corporate monitoring and advising to raise accounting performances. For instance, Table 3 presents the comparison results in the pre-CV period and the post-CV period between the proportional representation of the largest shareholder, that of the second largest shareholder, and that of the 2^{nd}-5^{th} largest shareholders respectively. Even for *Subsample 1*, the board representation of the largest shareholder truly declined in the post-CV period, but it still remained as high as 49.40%, whereas the combined representation of the 2^{nd}-5th largest shareholders was only 25.56%. For the whole sample, the board representation of the largest shareholder even increased slightly in the post-CV period and reached 56.60%, whereas the combined representation of the 2^{nd}-5th largest shareholders remained as small as 15.17%. Since the passage of a proposal in board voting typically requires at least 2/3 of votes, the veto power of the largest shareholder has not been shaken by CV implementation.

In contrast, the lack of improvements in market-based performance indicators for *Subsample 2* could reflect that the concern of investors over the nature of indirect board representation of the largest shareholder as a cosmetic gesture cancels out the potential improvement in the balance of board power distribution brought about by the indirect board representation.

Because the use of CV has not fundamentally changed the relative control power in the board, we cannot expect CV to produce substantial effects on corporate policies and firm performance. The following section examines the corporate policy changes around CV adoption.

9. CV and Corporate Policy Changes

9.1 CV and Tunneling Activities

An important angle in understanding the influence of CV adoption on firm performance is the examination of whether CV implementation has curbed related-party transactions, which are extensively regarded as primary indicators of tunneling or propping-up activities conducted by block shareholders. We construct three variables, namely, the ratio of the aggregate value of total related-party transactions to the firm's year-end total assets (*TRPT*), the ratio of aggregate value of beneficial related-party transactions to the firm's year-end total assets (*BRPT*), and the ratio of the aggregate value of harmful related-party transactions to the firm's year-end total assets (*HRPT*). *HRPT* is typically interpreted as reflecting tunneling activities, and *BRPT* propping-up ones.[27]

Panel A of Table 11 presents regressions based on the full sample panel data for 1999--2010 generated by the BL method. In Column (3), CV_{it} has negative but insignificant effects on tunneling (*HRPT*). Thus, the use of CV did not play an important role in curbing tunneling. However, in Column (2), CV adoption significantly encouraged propping-up activities in terms of beneficial related-party transactions (*BRPT*).

We also re-run this set of regressions in the two subsamples (voluntary and regulatory groups) partitioned as before. In unreported results, CV adoption still has no statistically significant influence in most of the regressions. Nonetheless, CV increased the potentially beneficial related-party transactions in both the voluntary and regulatory groups. For robustness check, we re-run all of the regressions using the sample constructed through the

[27] Following Cheung, et al. (2006, 2009), harmful related-party transactions (HRPT) is calculated as the difference between total related-party transactions and potentially beneficial related-party transactions(BRPT), where a related-party transaction is potentially beneficial for a firm if it received cash, loans or guarantees from the related party.

CEM process, which produce qualitatively equivalent results. The results suggest that CV-elected directors in the voluntary group might have introduced more beneficial related-party transactions.

We also attempt to examine whether CV adoption affects tunneling or propping-up activities through the characteristics of directors. We incorporate into regressions the interaction terms between the CV dummy and the indicator variables for the changes in director characteristics as previously mentioned. As shown in Column (4) of Panel A, Table 11, the CV-using firms that elected more directors with corporate executive experiences actually displayed an increase in *BRPT*. In Column (5), the CV-using firms that had more independent directors with working experience in the central government exhibited a decrease in *TRPT*.

In Panel B, we do not find significant effects of CV adoption on related-party transactions in the mandatory and voluntary subsamples in Columns (1) and (2), respectively. Columns (3)-(5) show the results for Subsample 1 or 2, and there are no significant results either.

Hence, CV did not saliently curb tunneling activities probably because the incremental improvements in the representation of non-controlling substantial shareholders and the attributes of board members in the CV-using firms were still insufficient to reduce significantly the dominance of the controlling shareholder in the boardroom. Meanwhile, the positive impacts of CV were mainly on propping-up activities under some situations. But the latter were not large enough to significantly promote firm performances in the post-CV period.

9.2. CV and Other Corporate Policies

We also examine some other corporate policies including executive compensation, financial policy (debt finance), etc. Corporate executives are typically representatives of or closely related to the largest shareholder. An excessive executive compensation could be harmful to the firm's long-term earnings capacity and minority shareholder interests. Corporate debt can constrain the agency costs of corporate insiders to some degree, e.g., it can force the payout of idle funds and prevent the misuse of corporate earnings by insiders.

We construct the variable of the sum of the compensation of the top 3 executives, as an indicator of executive compensation, and the variable of the industry-adjusted leverage ratio of long-term debt to total assets as an indicator of debt finance policy.

In unreported results, we do not find that CV implementation exhibited significant effects on these corporate policies. Moreover, we do not find significant effects of CV on the corporate policies in either the voluntary or the regulatory group. We also investigate whether CV adoption affects corporate policies through the changes in the attributes of the elected directors. In general, there are no consistently significant results.

10. Conclusion

CV scheme has long been regarded as potentially being able to enhance the protection of minority shareholder interests. Somewhat surprisingly, however, the effectiveness of CV scheme in strengthening minority shareholder rights has been rather controversial. This study addresses this issue by analyzing the recent CV reform experience of China.

Unlike the previous literature that only looks at firm performance changes or market reactions, we use hand-collected data to compare the individual characteristics of directors

elected under CV and straight voting. To the best of our knowledge, this is the first study to analyze the effects of CV scheme at the director level. This approach allows us to detect whether CV can generate some incremental improvements in board power structure, the "independence" of outside directors, the professionalism and business expertise of directors, etc., even when these improvements are not large enough to significantly raise firm performance.

We find that CV-elected boards produce a more balanced representation of shareholder interests than non-CV-elected boards. This is especially salient in the subsample of firms without related parties among top ten shareholders where non-controlling substantial shareholders have the strongest incentive to coordinate their votes to elect their common preferred candidates. Since balanced board representation is the direct objective of CV scheme, our findings depict a positive role played by CV in reducing the dominance of the largest shareholder in the boardroom.

In addition, CV-elected outside directors are more independent as they have less visible close relations with corporate executives. This enhanced disinterestedness of outside directors reflects the diminishing influence of the largest shareholder in selecting outside directors, which is another important objective of CV scheme. Moreover, CV-elected directors have stronger professional background and educational qualifications than the non-CV-elected directors, which indicate that CV adoption produces improvements in the quality of board directors elected.

Nonetheless, the incremental improvements have not fundamentally changed the dominance of the largest shareholder in board representation. They are not sufficient to generate salient positive changes in corporate policy making and firm performance.

Our findings help us understand the inconsistent findings in the literature about the effects of CV implementation. Only looking at firm performance or market value changes might miss quite much of the incremental improvements in corporate governance that CV scheme has brought about. The CV reform experience of China may have some useful implications for other economies, especially emerging market economies, in assessing the merits of CV scheme and the efficacy of corporate governance reforms.

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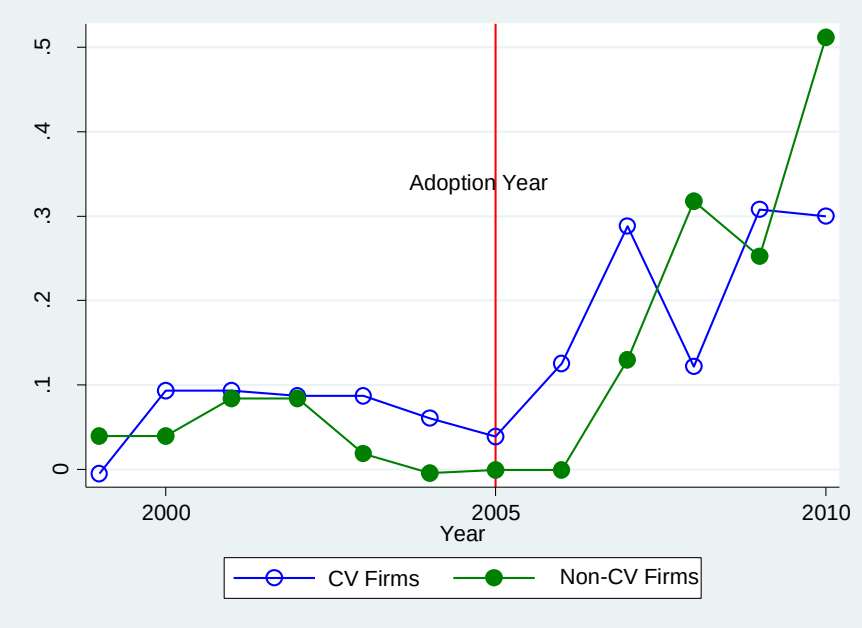

Fig. 1. This figure describes the relationship between CV adoption and Tobin's Q (industry-adjusted), based on the full sample.

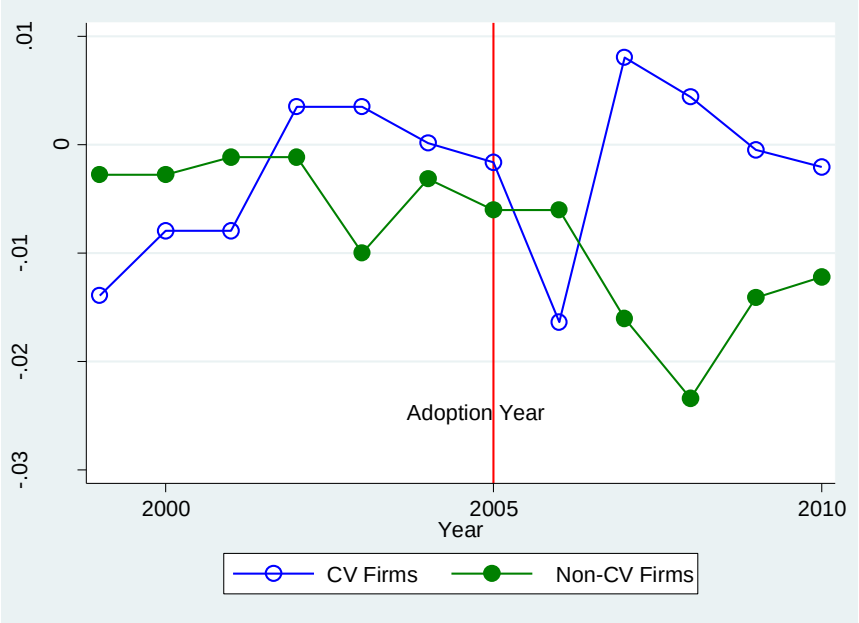

Fig. 2. This figure describes the relationship between CV adoption and ROA (industry-adjusted), based on the full sample.

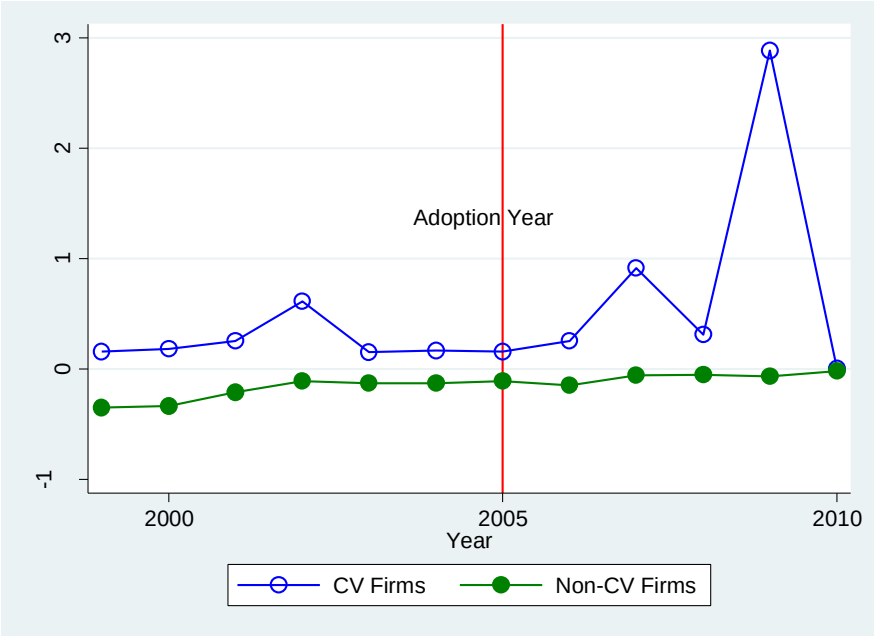

Fig. 3. This figure describes the relationship between CV adoption and Tobin's Q (industry-adjusted), based on sub-sample 1.

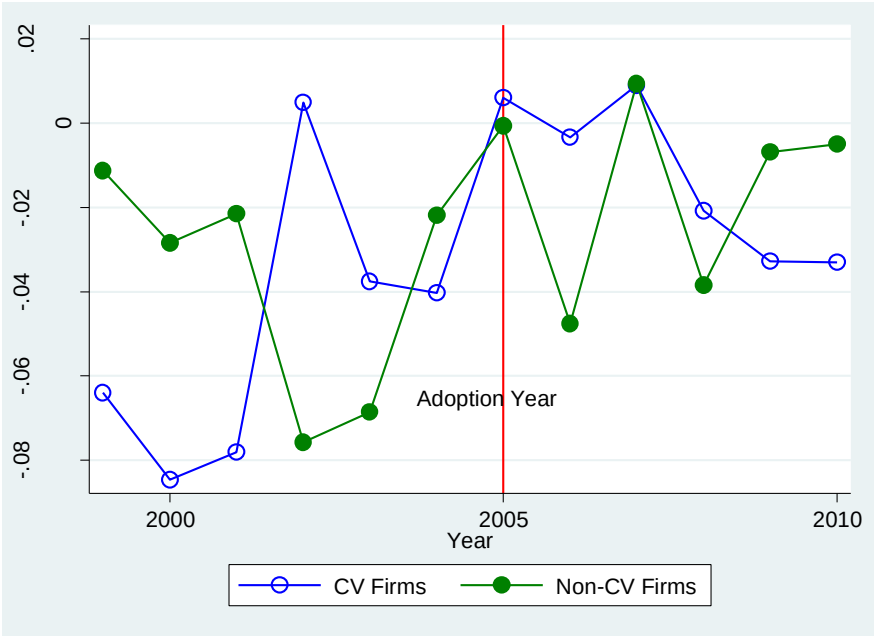

Fig. 4. This figure describes the relationship between CV adoption and ROA (industry-adjusted), based on sub-sample 1.

Table 1

The Factors Affecting CV Adoption

This table reports the probit regression results on the factors that may affect firms' CV adoption decisions. Variable ROA_{t-1} denotes industry-adjusted one period-lagged *ROA*; $\sum_{i=1}^{5}[Shareholder i]^2$ represents the sum of squares of the percentage points of shareholdings by the first to the fifth largest shareholders; *Board shareholding* stands for the logarithm of shares (plus 1) held by board directors; and *Management shareholding* presents the logarithm of shares (plus 1) held by the management. Column (1) presents the estimates using a Subsample in which the percentage of shares held by the largest shareholders is less than 30%, and Column (2) reports the estimates based on a Subsample in which the percentage of shareholdings by the largest shareholders is no less than 30%. Robust standard errors are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	CV (Shareholding1 < 30%)	CV (Shareholding1 ≥ 30%)
	(1)	(2)
ROA_{t-1}	-0.002*	-0.001*
	(0.00)	(0.00)
Shareholding1	0.012	-0.006
	(0.01)	(0.01)
Shareholding2	0.002	-0.003
	(0.01)	(0.00)
Firm size	0.005	-0.042**
	(0.02)	(0.02)
Firm age	-0.141**	-0.048
	(0.07)	(0.04)
Leverage	-0.008	-0.006
	(0.01)	(0.01)
Duality	0.109	0.001
	(0.07)	(0.06)
Board size	-0.005	0.008
	(0.01)	(0.01)
Board independence	0.135	-0.655*
	(0.57)	(0.36)
$\sum_{i=1}^{5}[\mathbf{Shareholder}i]^2$	-0.000	0.000
	(0.00)	(0.00)
Board shareholding	0.001	-0.004
	(0.01)	(0.01)
Management shareholding	-0.001	0.000
	(0.01)	(0.01)
Constant	-1.134*	0.465
	(0.61)	(0.52)
Industry	Controlled	Controlled
Year	Controlled	Controlled
Observations	4,606	7,076
Pseudo R^2	0.101	0.089

Table 2

Distribution of CV Firms over Sample Years

This table reports the distribution of the number of firms adopting the CV rule in each year during 2002–2005. Variable *Shareholding1* denotes the percentage of shares held by the largest shareholder.

Year	No. of CV Firms	Shareholding1<30%	Shareholding1≥30%
2002	24	4	20
2003	33	5	28
2004	30	5	25
2005	266	57	209
Total	353	71	282

Table 3

The Power Distribution in the Board: Univariate Analysis

This table reports the univariate analysis on the power distribution in the board (i.e., the fraction of board representation in percentage terms), using the sample constructed through the BL method. Panel A describes the means and standard deviations (in parentheses) of the proportion of the representatives of the top five shareholders in the board in the pretreatment and treatment periods, respectively, based on the full sample. Panel B presents the same analysis as panel A but is based on Subsample 1 consisting of firms with no related parties among top ten shareholders. Panels C, D and E present the univariate analysis of the DID-style comparison between the CV-using firms and their control firms before and after CV implementation, based on the whole sample, Subsample1, and Subsample2 (consisting of firms with identifiable related parties between the largest shareholder and other top ten shareholders), respectively. The comparison focuses on the differences in the proportion of representatives of the largest shareholder (*Share1*) and the proportion of those of the second largest shareholder (*Share2*) as well as the proportion of those of the second to the fifth largest shareholders (*Share2_5*). We initially subtract the proportion of directors as representatives of the non-controlling substantial shareholders (the second, the second to the fifth, respectively) from the proportion of the largest shareholder in the pretreatment and treatment periods for the treated and control groups, respectively. Variable *Allies* is the proportion of the directors representing those substantial shareholders who are related parties of the largest shareholder. Variable *Unrelated Share2_5* in Panel E refers to the proportion of those of the second to the fifth largest shareholders who are unrelated to the largest one. Then we examine whether significant discrepancies exist in the means of differences between the two periods for each group. Finally, we subtract the differences of the control group between the two periods from those of the treated group between the two periods, and test whether the results are significantly different from 0. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Descriptive Statistics of the Power Distribution in the Board: Full Sample

	Treatment Group		Control Group	
	Pretreatment period	Treatment period	Pretreatment period	Treatment period
Share1	55.726	56.598	55.393	55.300
	(28.97)	(32.07)	(25.40)	(25.57)
Share2	7.547	9.538	6.849	7.331
	(12.57)	(16.85)	(11.41)	(12.05)
Share2_5	13.811	15.167	13.934	14.281
	(19.06)	(22.09)	(17.01)	(17.63)

Panel B: Descriptive Statistics of the Power Distribution in the Board: Subsample 1

Share1	53.250	49.399	46.226	56.091
	(30.38)	(24.10)	(27.63)	(24.93)
Share2	8.196	20.200	7.793	6.798
	(10.70)	(25.30)	(8.85)	(9.17)
Share2_5	15.650	25.557	14.505	12.720
	(19.09)	(29.26)	(15.43)	(16.00)

Panel C: Univariate Analysis on the Power Distribution in the Board: Full Sample

		Pretreatment Period (1)	Treatment Period (2)	Diffs (3)	T Value (4)
The Largest Shareholder Versus the Second	Treatment Group	48.179	47.060	-1.119	-0.38
		(1.90)	(2.25)	(2.95)	
	Control Group	48.544	47.969	-0.576	-0.22
		(1.80)	(1.83)	(2.56)	

(continued)

Table 3 – *Continued*

Largest Shareholder	DID			-0.543 (3.98)	-0.14
The Largest Shareholder Versus the Second to the Fifth Largest Shareholder	Treatment Group	41.915 (2.24)	41.431 (2.53)	-0.483 (3.38)	-0.14
	Control Group	41.460 (2.13)	41.018 (2.14)	-0.441 (3.02)	-0.15
	DID			-0.042 (4.60)	-0.01
Panel D: Univariate Analysis on the Power Distribution in the Board: Subsample 1					
The Largest Shareholder Versus the Second Largest Shareholder	Treatment Group	45.055 (6.65)	22.199 (10.30)	-22.855* (12.26)	-1.86
	Control Group	38.433 (6.26)	49.293 (5.70)	10.861 (8.47)	1.28
	DID			-33.716** (14.90)	-2.26
The Largest Shareholder Versus the Second to the Fifth Largest Shareholder	Treatment Group	37.600 (8.53)	16.842 (11.15)	-20.758 (14.04)	-1.48
	Control Group	31.720 (7.02)	43.371 (6.88)	11.651 (9.83)	1.19
	DID			-32.410* (17.14)	-1.89
Panel E: Univariate Analysis on the Power Distribution in the Board: Subsample 2					
Share1	Treatment Group	52.434 (2.96)	56.105 (3.57)	3.671 (4.64)	0.79
	Control Group	56.336 (3.24)	57.494 (2.96)	1.158 (4.39)	0.26
	DID			2.513 (6.52)	0.39
Allies	Treatment Group	7.594 (1.41)	10.337 (2.37)	2.743 (2.76)	0.99
	Control Group	10.279 (2.18)	7.615 (1.81)	-2.664 (2.83)	-0.94
	DID			5.408 (3.95)	1.37
Share1 －Allies	Treatment Group	44.840 (3.65)	45.768 (5.11)	0.928 (6.28)	0.15
	Control Group	46.057 (4.81)	49.880 (4.10)	3.823 (6.32)	0.61
	DID			-2.895 (8.97)	-0.32
Share1 + Allies	Treatment Group	60.028 (2.87)	66.442 (3.26)	6.414 (4.34)	1.48
	Control Group	66.615 (2.72)	65.109 (2.71)	-1.506 (3.84)	-0.39
	DID			7.921 (5.976)	1.33

(continued)

Table 3 – *Continued*

Unrelated Share2_5	Treatment Group	14.115 (2.18)	12.806 (2.57)	-1.309 (3.37)	-0.39
	Control Group	14.979 (2.11)	13.759 (2.34)	-1.220 (3.15)	-0.39
	DID			-0.089 (4.71)	-0.02

Table 4

The Power Distribution in the Board: Multivariate Analysis

This table reports the multivariate analysis on the power distribution in the board, using the sample constructed through the BL method. Panels A and B present the DID estimates for testing whether CV adoption can change the absolute and relative power distributions, respectively, on the basis of the full sample. Similarly, Panels C and D report the DID estimates for testing whether CV adoption can change the absolute and relative power distributions, respectively, based on *Subsample 1* consisting of firms with no related parties among top ten shareholders. Panel E presents the DID estimates for testing whether CV adoption can decrease the absolute power of the largest shareholder and its allies, based on *subsample 2* consisting of firms in which the largest shareholder is related to some non-controlling substantial shareholders. *Share1*, *Share2*, and *Share2_5* are the proportions of the representatives of the largest, the second largest and the 2nd-5th largest shareholders in the board, respectively. We define the sum of the proportions of the directors representing those non-controlling substantial shareholders who are related parties of the largest shareholder as allies of the largest shareholder, denoted by *Allies*. *Share1 - Allies* is the difference between *Share1* and *Allies*. *Diff12* and *Diff125* are the difference between *Share1* and *Share2* and that between Share1 and Share2_5, respectively, which reflect relative power distribution in the board. We exclude *Foreign-holding dummy* from the regressions based on the two Subsamples, because there are only 2 and 1, respectively, foreign holding firms in the two Subsamples so that we cannot conduct meaningful analysis by incorporating the dummy. Variables *Board size, Board independence, Duality, State-holding dummy, Foreign-holding dummy, Firm size, Leverage,* and *Firm age*, are included and denoted as *Other controls* but their estimates are not reported to save space (for the regressions based on the two Subsamples, variable *Foreign-holding dummy* is not included in *Other controls*). Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Multivariate Analysis on the Absolute Power Distribution: Full Sample

	Share1	Share2	Share2_5	Share1	Share2	Share2_5
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	0.333	0.698	-0.122	-2.436	1.592	1.699
	(2.33)	(1.01)	(1.52)	(2.22)	(1.01)	(1.36)
$Post_t$	-0.093	0.482	0.348	0.805	0.479	0.389
	(0.85)	(0.48)	(0.57)	(0.94)	(0.49)	(0.66)
$CV_g \times Post_t$	0.966	1.509*	1.008	0.917	1.440	1.098
	(1.55)	(0.89)	(1.06)	(1.62)	(0.90)	(1.09)
Shareholding1				0.653***	-0.096**	-0.167***
				(0.10)	(0.04)	(0.06)
$\sum_{i=2}^{10}$ Shareholding$i$				-0.176	0.309***	0.580***
				(0.11)	(0.06)	(0.08)
Constant	55.393***	6.849***	13.934***	-29.602	28.768***	49.660***
	(1.73)	(0.76)	(1.13)	(21.46)	(10.61)	(13.95)
Other Controls						
	No	No	No	Yes	Yes	Yes
Observations	1,291	1,291	1,291	1,230	1,230	1,230
Adj. R^2	-0.002	0.004	-0.002	0.207	0.176	0.309

Panel B: Multivariate Analysis on the Relative Power Distribution: Full Sample

	Diff12	Diff125	Diff12	Diff125
	(1)	(2)	(3)	(4)
CV_g	-0.365	0.455	-4.028	-4.135
	(2.79)	(3.32)	(2.59)	(2.97)
$Post_t$	-0.576	-0.441	0.326	0.416
	(1.14)	(1.22)	(1.20)	(1.34)

(continued)

Table 4 – *Continued*

$CV_g \times Post_t$	-0.543	-0.042	-0.524	-0.181
	(2.07)	(2.23)	(2.10)	(2.28)
Shareholding1			0.749***	0.820***
			(0.12)	(0.13)
$\sum_{i=2}^{10}$ Shareholding$i$			-0.485***	-0.755***
			(0.14)	(0.16)
Constant	48.544***	41.460***	-58.370***	-79.263***
	(2.04)	(2.46)	(25.57)	(29.10)
Other Controls	No	No	Yes	Yes
Observations	1,291	1,291	1,230	1,230
Adj. R^2	-0.002	-0.002	0.260	0.309

Panel C: Multivariate Analysis on the Absolute Power Distribution: Subsample 1

	Share1	Share2	Share2_5	Share1	Share2	Share2_5
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	7.025	0.403	1.145	2.454	3.503	5.738
	(8.56)	(3.14)	(5.71)	(9.22)	(4.18)	(6.53)
$Post_t$	9.866***	-0.995	-1.786	11.022**	-1.577	-2.167
	(3.48)	(1.23)	(3.44)	(4.87)	(1.64)	(3.39)
$CV_g \times Post_t$	-20.717***	12.999***	11.693*	-17.758**	12.115**	9.080
	(7.17)	(5.00)	(6.68)	(8.36)	(5.14)	(6.34)
Shareholding1				0.961**	-0.059	-0.367
				(0.40)	(0.21)	(0.28)
$\sum_{i=2}^{10}$ Shareholding$i$				-0.286	0.505*	0.750*
				(0.51)	(0.26)	(0.39)
Constant	46.226***	7.793***	14.505***	-48.088	-7.462	8.073
	(6.11)	(2.32)	(4.28)	(98.14)	(62.61)	(66.89)
Other Controls	No	No	No	Yes	Yes	Yes
Observations	104	104	104	104	104	104
Adj. R^2	0.005	0.094	0.029	0.251	0.243	0.317

Panel D: Multivariate Analysis on the Relative Power Distribution: Subsample 1

	Diff12	Diff125	Diff12	Diff125
	(1)	(2)	(3)	(4)
CV_g	6.622	5.880	-1.049	-3.285
	(9.81)	(12.11)	(10.62)	(13.32)
$Post_t$	10.861	11.651*	12.599**	13.189*
	(4.30)	(6.29)	(6.01)	(7.56)
$CV_g \times Post_t$	-33.716***	-32.410**	-29.872**	-26.838**
	(10.74)	(12.57)	(11.46)	(13.20)
Shareholding1			1.019*	1.328**
			(0.51)	(0.56)
$\sum_{i=2}^{10}$ Shareholding$i$			-0.791	-1.036
			(0.68)	(0.80)

(continued)

Table 4 – *Continued*

Constant	38.433***	31.720***	-37.626	-53.161
	(7.18)	(8.54)	(140.06)	(151.81)
Other Controls	No	No	Yes	Yes
Observations	104	104	104	104
Adj. R^2	0.043	0.022	0.304	0.330

Panel E: Multivariate Analysis on the Power Distribution of the Largest Stockholder and its Allies: Subsample 2

	Share1	Allies	Share1-Allies	Share1	Allies	Share1-Allies
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	-3.902	-2.685	-1.217	-3.976	-3.109	-0.867
	(4.63)	(2.63)	(6.33)	(4.14)	(2.57)	(5.66)
$Post_t$	1.158	-2.664	3.823	-0.103	-2.533	2.430
	(3.11)	(1.86)	(4.41)	(2.77)	(1.98)	(4.15)
$CV_g \times Post_t$	2.513	5.408*	-2.895	2.426	5.555*	-3.129
	(4.92)	(3.06)	(6.88)	(4.73)	(3.15)	(6.70)
Shareholding1				0.224	0.162	0.062
				(0.15)	(0.10)	(0.20)
$\sum_{i=2}^{10}$ Shareholding$i$				-0.622***	0.410***	-1.032***
				(0.19)	(0.12)	(0.26)
Constant	56.336***	10.279***	46.057***	34.326	-8.918	43.244
	(3.55)	(2.22)	(5.17)	(42.97)	(29.87)	(62.22)
Other Controls	No	No	No	Yes	Yes	Yes
Observations	263	263	263	254	254	254
Adj. R^2	-0.006	-0.004	-0.009	0.136	0.073	0.135

Table 5

CV and the "Independence" of Outside Directors

This table reports the DID-style regressions for examining whether the outside directors elected under the CV rule have smaller likelihood of having close relationships with firm CEO or board chairperson than do those elected under straight voting, using the sample constructed through the BL method. We measure the relationship by three different variables—*Former Colleague*, *College Alumni (Alumnae)*, and *Former Colleague/College Alumni (Alumnae)*, respectively. To save space, we do not report the results on variables *Board size, Board independence, Duality, Related* (a categorical variable to denote the situations of related parties among top ten shareholders), *Shareholding1*, $\sum_{i=2}^{10} Shareholding i$, *State-holding dummy, Foreign-holding dummy, Firm size, Leverage, Firm age*, and industry-adjusted *ROA*, which are denoted as *controls* as a whole in the table. Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Former Colleague	College Alumni (Alumnae)	Former Colleague/ College Alumni (Alumnae)
	(1)	(2)	(3)
Panel A: The Disinterestedness of outside Directors: Full Sample			
CV_g	-1.750	-2.460	-3.961*
	(1.36)	(1.90)	(2.19)
$Post_t$	-0.036	0.028	0.155
	(0.67)	(0.84)	(0.95)
$CV_g \times Post_t$	-1.208	-1.565	-3.002**
	(1.00)	(1.27)	(1.52)
Constant	-2.314	-8.398	-11.158
	(13.19)	(18.89)	(21.69)
Controls	Yes	Yes	Yes
Observations	1,167	1,167	1,167
Adj. R^2	0.022	0.016	0.021
Panel B: The Disinterestedness of outside Directors: Subsample 1			
CV_g	-10.217	14.370**	4.153
	(6.36)	(6.98)	(9.32)
$Post_t$	-1.253	8.172*	6.919
	(3.68)	(4.13)	(6.40)
$CV_g \times Post_t$	1.352	-14.450**	-13.099*
	(2.98)	(7.056)	(7.72)
Constant	-76.709	-68.933	-145.642
	(62.97)	(95.18)	(118.16)
Controls	Yes	Yes	Yes
Observations	96	96	96
Adj. R^2	0.230	0.245	0.167
Panel C: The Disinterestedness of outside Directors: Subsample 2			
CV_g	-1.466	-2.103	-3.569
	(3.86)	(3.72)	(4.78)
$Post_t$	1.051	-0.614	0.437
	(1.75)	(1.70)	(2.20)

(continued)

Table 5 - *Continued*

$CV_g \times Post_t$	-4.312	-3.205	-7.517*
	(3.27)	(2.64)	(3.88)
Constant	1.453	1.812	-3.265
	(39.35)	(37.41)	(47.77)
Controls	Yes	Yes	Yes
Observations	240	240	240
Adj. R^2	0.120	0.084	0.129

Table 6

CV and the Personal Characteristics of Executive Directors

This table reports the DID-style regressions for examining whether CV adoption brought about changes in the personal characteristics of executive directors, using the sample constructed through the BL method. Panel A presents the DID regression estimates for examining whether the educational qualifications (i.e., *Junior college, Master's degree, Master's degree or above*) and political connections (i.e., *Central government*, *Local government*, or both (*General Government*)) of CV-elected executive directors are different from those of non-CV-elected ones. Panel B presents the DID estimates for testing whether the managerial and professional experiences (i.e., *CEO experience*, *Chairman experience*, *Executive experience*, *Industry experience*, *Professional*) of CV-elected executive directors differ from those of non-CV-elected ones, and whether difference in average age of directors exists under the two different voting rules. To save space, we do not report the results on variables *Board size*, *Board independence*, *Duality*, *Related* (a categorical variable to denote the situations of related parties among top ten shareholders), *Shareholding1*, $\sum_{i=2}^{10} Shareholding i$, *State-holding dummy*, *Foreign-holding dummy*, *Firm size*, *Leverage*, *Firm age*, and industry-adjusted *ROA*, which are denoted as *controls* as a whole in the table. Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Educational Qualifications and Political Connections

	Junior College	Master	Master or above	Central Govt	Local Govt	General Govt
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	4.873**	-1.148	-1.875	1.186*	-1.894	0.138
	(2.07)	(1.98)	(2.16)	(1.36)	(1.90)	(2.19)
$Post_t$	-1.037	0.360	0.272	-0.031	-0.666	-0.338
	(0.82)	(0.80)	(0.85)	(0.22)	(0.72)	(0.77)
$CV_g \times Post_t$	-5.156***	4.577***	5.055***	-0.968**	0.507	-0.669
	(1.36)	(1.37)	(1.38)	(0.40)	(1.09)	(1.23)
Constant	82.948***	-48.475**	-59.521***	-10.604*	4.644	-0.076
	(18.74)	(20.99)	(22.99)	(6.41)	(17.64)	(20.05)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,227	1,227	1,227	1,227	1,227	1,227
Adj. R^2	0.016	0.033	0.039	0.022	0.012	0.013

Panel B: Managerial Experience, Professionalism and Age

	CEO Exp	Chairman Exp	Executive Exp	Industry Exp	Professional	Director Age
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	1.547	-1.293	0.931	0.041	0.019	0.332
	(1.69)	(1.62)	(1.79)	(1.06)	(2.46)	(0.39)
$Post_t$	-0.379	0.516	0.264	0.627	-1.619*	0.433***
	(0.74)	(0.64)	(0.76)	(0.46)	(0.93)	(0.15)
$CV_g \times Post_t$	2.436*	2.125*	3.402**	3.467***	1.387	-1.078***
	(1.39)	(1.16)	(1.48)	(0.86)	(1.49)	(0.25)
Constant	6.897	40.475**	31.763*	76.357***	-31.970	21.903***
	(15.71)	(15.90)	(16.71)	(10.38)	(23.91)	(3.36)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,227	1,227	1,227	1,227	1,227	1,227
Adj. R^2	0.075	0.055	0.092	0.065	0.127	0.129

Table 7

CV and the Personal Characteristics of Executive Directors not Representing the Largest Shareholder

This table reports the DID-style regressions for examining whether CV brought about changes in the personal characteristics of executive directors not representing the largest shareholders, using the sample constructed through the BL method. Panel A presents the DID regression estimates for examining whether the educational qualifications (i.e., *Junior college, Master's degree, Master's degree or above*) and political connections (i.e., *Central government*, *Local government*, or both (*General Government*)) of CV-elected executive directors are different from those of non-CV-elected ones. Panel B presents the DID estimates for testing whether CV-elected executive directors differ from non-CV-elected ones in managerial and professional experiences (i.e., *CEO experience*, *Chairman experience*, *Executive experience*, *Industry experience*, *Professional*), and whether differences in average age of directors exist under the two different voting rules. To save space, we do not report the estimates on variables *Board size*, *Board independence*, *Duality*, *Related* (a categorical variable to denote the situations of related parties among top ten shareholders), *Shareholding1*, $\sum_{i=2}^{10} Shareholding i$, *State-holding dummy*, *Foreign-holding dummy*, *Firm size*, *Leverage*, *Firm age*, and industry-adjusted *ROA*, which are denoted as *controls* as a whole in the table. Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Educational Qualifications and Political Connections

	Junior College	Master	Master or above	Central Govt	Local Govt	General Govt
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	0.026	-0.006	-0.016	-0.005	-0.015	0.009
	(0.03)	(0.03)	(0.03)	(0.01)	(0.02)	(0.02)
$Post_t$	-0.016	0.011	0.013	-0.003	0.000	0.001
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)
$CV_g \times Post_t$	-0.024	0.031	0.029	0.004	0.001	0.002
	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Constant	0.735***	-0.269	-0.030	-0.068	-0.112	-0.104
	(0.24)	(0.30)	(0.33)	(0.10)	(0.22)	(0.26)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,074	1,074	1,074	1,074	1,074	1,074
Adj. R^2	0.012	0.020	0.026	0.024	0.020	0.019

Panel B: Managerial Experience, Professionalism

	CEO Exp	Chairman Exp	Executive Exp	Industry Exp	Professional
	(1)	(2)	(3)	(4)	(5)
CV_g	0.035	-0.012	0.023	0.030	0.050
	(0.03)	(0.03)	(0.05)	(0.02)	(0.03)
$Post_t$	-0.025**	-0.010	-0.035*	-0.004	-0.010
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
$CV_g \times Post_t$	0.045*	0.047*	0.092*	0.063***	0.011
	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)
Constant	0.252	0.118	0.369	0.771***	-0.062
	(0.29)	(0.24)	(0.41)	(0.21)	(0.32)
Controls	Yes	Yes	Yes	Yes	Yes

(continued)

Table 7 - *Continued*

Observations	1,074	1,074	1,074	1,074	1,074
Adj. R^2	0.034	0.025	0.044	0.038	0.043

Table 8

CV and the Personal Characteristics of Executive Directors Representing the Largest Shareholder

This table reports the DID-style regressions for examining whether CV brought about changes in the personal characteristics of executive directors representing the largest shareholders, using the sample constructed through the BL method. Panel A presents the DID regression estimates for examining whether the educational qualifications (i.e., *Junior college, Master's degree, Master's degree or above*) and political connections (i.e., *Central government*, *Local government*, or both (*General Government*)) of CV-elected executive directors are different from those of non-CV-elected ones. Panel B presents the DID estimates for testing whether CV-elected executive directors differ from non-CV-elected ones in managerial and professional experiences (i.e., *CEO experience*, *Chairman experience*, *Executive experience*, *Industry experience*, *Professional*), and whether differences in average age of directors exist under the two different voting rules. To save space, we do not report the estimation results on variables *Board size*, *Board independence*, *Duality*, *Related* (a categorical variable to denote the situations of related parties among top ten shareholders), *Shareholding1*, $\sum_{i=2}^{10} Shareholding i$, *State-holding dummy*, *Foreign-holding dummy*, *Firm size*, *Leverage*, *Firm age*, and industry-adjusted *ROA*, which are denoted as *controls* as a whole in the table. Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Educational Qualifications and Political Connections

	Junior College	Master	Master or above	Central Govt	Local Govt	General Govt
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	0.095**	-0.041	-0.059	0.020*	0.003	0.032
	(0.04)	(0.05)	(0.05)	(0.01)	(0.02)	(0.02)
$Post_t$	0.000	-0.001	-0.010	0.004	-0.014	-0.005
	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)
$CV_g \times Post_t$	-0.075***	0.061***	0.071***	-0.017***	-0.000	-0.018
	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Constant	0.691**	-0.501	-0.756	-0.238	-0.079	-0.101
	(0.28)	(0.49)	(0.49)	(0.16)	(0.36)	(0.40)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,147	1,147	1,147	1,147	1,147	1,147
Adj. R^2	0.024	0.010	0.021	0.014	-0.000	0.004

Panel B: Managerial Experience, Professionalism

	CEO Exp	Chairman Exp	Executive Exp	Industry Exp	Professional
	(1)	(2)	(3)	(4)	(5)
CV_g	0.024	0.048	0.072	0.049	-0.003
	(0.05)	(0.05)	(0.09)	(0.09)	(0.08)
$Post_t$	0.011	0.016	0.027	0.015	-0.021
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
$CV_g \times Post_t$	0.021	0.001	0.022	0.008	0.019
	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)
Constant	0.350	1.171***	1.521**	0.615	-0.678
	(0.39)	(0.36)	(0.66)	(0.72)	(0.70)
Controls	Yes	Yes	Yes	Yes	Yes

(continued)

Table 7 - *Continued*

Observations	1,147	1,147	1,147	1,147	1,147
Adj. R^2	0.013	0.028	0.024	-0.001	0.022

Table 9

CV and the Personal Characteristics of Outside Directors

This table reports the DID-style regressions for examining whether CV adoption brought about changes in the personal characteristics of outside independent directors, using the sample constructed through the BL method. Panel A presents the DID regression estimates for examining whether the educational qualifications (i.e., *Junior college, Master's degree, Master's degree or above*) and political connections (i.e., *Central government*, *Local government*, or both (*General Government*)) of CV-elected executive directors are different from those of non-CV-elected ones. Panel B presents the DID estimates for investigating whether the professional experiences (i.e., *CEO experience*, *Chairman experience*, *Executive experience*, *Industry experience*, *Professional*) of CV-elected executive directors differs from those of the non-CV-elected ones. To save space, we do not report the results on variables *Board size*, *Board independence*, *Duality*, *Related* (a categorical variable to denote the situations of related parties among top ten shareholders), *Shareholding1*, $\sum_{i=2}^{10} Shareholding i$, *State-holding dummy*, *Foreign-holding dummy*, *Firm size*, *Leverage*, *Firm age*, and industry-adjusted *ROA*, which are denoted as *controls* as a whole in the table. Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Educational Qualifications and Political Connections

	Junior College	Master	Master or above	Central Govt	Local Govt	General Govt
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	2.271	-1.050	-2.998	-3.515**	-1.991	-4.938*
	(1.72)	(2.46)	(3.03)	(1.77)	(2.37)	(2.81)
$Post_t$	-0.626	1.303	1.710	-0.811	-1.066	-2.213**
	(0.85)	(1.06)	(1.16)	(0.84)	(0.93)	(1.09)
$CV_g \times Post_t$	0.882	-0.538	-1.017	2.164*	0.097	3.010*
	(1.30)	(1.73)	(1.96)	(1.15)	(1.47)	(1.75)
Constant	16.918	76.425***	88.888***	-28.592	-5.208	-23.306
	(17.02)	(24.06)	(28.58)	(18.23)	(21.47)	(25.76)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,167	1,167	1,167	1,167	1,167	1,167
Adj. R^2	0.008	0.010	0.008	0.032	-0.004	0.012

Panel B: Professional Experience

	Accountant	Lawyer	Engineer	Economist	Professional	Industry Exp
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	6.006***	1.922	-1.083	-3.116**	5.392*	0.721
	(1.72)	(1.59)	(1.68)	(1.55)	(2.83)	(0.91)
$Post_t$	1.791*	-0.094	0.172	-1.235**	0.289	-0.736*
	(0.97)	(0.69)	(0.76)	(0.57)	(1.12)	(0.42)
$CV_g \times Post_t$	1.358	1.217	1.149	1.701*	5.025***	0.159
	(1.50)	(1.15)	(1.18)	(0.98)	(1.81)	(0.71)
Constant	46.677***	-4.038	-19.358	5.074	36.753	-15.863
	(16.05)	(15.83)	(14.90)	(14.22)	(26.15)	(10.89)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,167	1,167	1,167	1,167	1,167	1,227
Adj. R^2	0.067	0.004	0.018	0.027	0.025	0.041

Table 10

CV Adoption and Firm Performance

This table reports the DID-style regressions for testing whether the use of CV can enhance firms' accounting-based performances or market-based performances, using the sample constructed through the BL method. Panel A presents the DID regression estimates based on the full sample. Panel B presents the DID estimates based on the Subsample in which there are no related parties among top ten shareholders. All outcome variables in the table are industry-adjusted ones (by subtracting the industry median of the original variables). The firm performance measures (Columns (1), (2), (3), and (4)) are *Tobin's Q, Market-to-book ratio, ROA,* and *ROE,* respectively. To save space, we do not report the results on variables *State-holding dummy* and *Foreign-holding dummy,* and call them other controls in the table. Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Tobin's Q	Market-to-book ratio	ROA	ROE
	(1)	(2)	(3)	(4)
Panel A: Full Sample Case				
CV_{it}	-0.012	-0.003	0.003	0.010
	(0.04)	(0.04)	(0.00)	(0.01)
Firm size	-0.524***	-0.511***	0.021***	0.002
	(0.04)	(0.04)	(0.01)	(0.01)
Firm age	0.044	0.033	-0.021***	-0.044***
	(0.06)	(0.06)	(0.01)	(0.01)
Leverage	0.657***	0.688***	-0.157***	0.039
	(0.08)	(0.08)	(0.01)	(0.03)
Constant	10.632***	10.373***	-0.355***	-0.035
	(0.79)	(0.76)	(0.13)	(0.21)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Observations	6,422	6,422	6,267	6,454
Adj. R^2	0.196	0.194	0.192	0.006
Panel B: Subsample Case				
CV_{it}	0.325*	1.144**	-0.011	-0.121
	(0.17)	(0.48)	(0.03)	(0.08)
Firm size	-1.001***	-0.548	0.043**	-0.039
	(0.17)	(0.37)	(0.02)	(0.03)
Firm age	0.140	0.478	-0.089**	-0.059
	(0.26)	(0.54)	(0.04)	(0.11)
Leverage	0.045***	-0.065**	-0.003*	0.006***
	(0.01)	(0.03)	(0.00)	(0.00)
Constant	20.621***	11.494	-0.789*	0.740
	(3.49)	(7.74)	(0.41)	(0.67)
Other controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Observations	506	506	511	515
Adj. R^2	0.481	0.048	0.103	0.033

Table 11

Propping-up and Tunneling Activities

This table reports the DID-style regressions for testing whether the use of CV can curb tunneling activities or promote propping-up activities. Panel A presents the empirical results based on the whole BL sample. The first three columns of Panel A present the estimates without considering the interactions between director characteristics and CV dummy; Column (4) and (5) present the results with interactions between director characteristics and CV dummy. Here variables *TRPT*, *BRPT* and *HRPT* denote total related party transactions, beneficial related party transactions and harmful related party transactions, respectively. *Dexp* equals 1 if the percentage of executive directors with executive experience has increased in the board in the post-CV period, and 0 otherwise; *Dcen* equals 1 if the proportion of independent directors with central government work experience has increased in the post-CV period, and 0 otherwise. Panel B gives the estimates based on the voluntary CV group and the regulatory CV group in the first two columns, respectively, and presents the estimates based on the Subsample consisting of firms in which there are no related parties among top ten shareholders in the last three columns. To save space, we do not report the results on the control variables *Firm size*, *Leverage*, *Duality*, *Board size*, *Board independence*, *Shareholding1*, *Market-to-book ratio*, *State-holding dummy*, and *Foreign-holding dummy*, and call them *Controls* in the table. Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Full Sample Case					
	TRPT	BRPT	HRPT	BRPT	TRPT
	(1)	(2)	(3)	(4)	(5)
CV_{it}	0.038	0.019**	-0.004	0.003	0.046
	(0.03)	(0.01)	(0.03)	(0.01)	(0.03)
Dexp				-0.006	
				(0.01)	
CV_{it} ×Dexp				0.045**	
				(0.02)	
Dcen					0.053
					(0.05)
CV_{it} ×Dcen					-0.148*
					(0.08)
Constant	3.150***	0.826***	1.579***	0.839	3.149***
	(1.05)	(0.22)	(0.50)	(0.22)	(1.05)
Controls	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Observations	5,978	5,978	5,978	5,978	5,978
Adj. R^2	0.044	0.063	0.018	0.065	0.044
Panel B: Subsample Cases					
	TRPT	TRPT	TRPT	BRPT	HRPT
	(1)	(2)	(3)	(4)	(5)
CV_{it}	0.034	0.044	7.466	7.381	0.085
	(0.06)	(0.04)	(6.67)	(6.68)	(0.18)
Constant	5.642**	2.176***	185.698	184.510	1.187
	(2.23)	(0.79)	(171.55)	(171.63)	(1.46)
Controls	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Observations	1,520	4,458	470	470	470
Adj. R^2	0.071	0.033	-0.002	-0.003	0.010

Appendix A. Variable Definitions and the Descriptive Statistics on the BL Criteria

Table A1

Brief Definitions and Sources of Main Variables

This table briefly defines the main variables. The data sources are as follows: (i) ASINA: Extraction from director resumes obtained from firm annual reports disclosed by Shanghai Stock Exchange, Shenzhen Stock Exchange, and Sina Finance; and (ii) CSMAR: the China Stock Market & Accounting Research database.

Variable	Definition	Source
Panel A: Main Outcome Variables on Director Characteristics		
Share1	The percentage of executive directors representing the largest shareholder.	ASINA
Share2	The percentage of executive directors representing the second largest shareholder.	ASINA
Share2_5	The percentage of executive directors representing the second to the fifth largest shareholders.	ASINA
Diff12	The difference between the proportion of the executive directors as representatives of the largest and that of the second largest shareholder.	ASINA
Diff125	The difference between the proportion of the executive directors as representatives of the largest shareholder and that of the second to the fifth largest shareholders.	ASINA
CEO Exp	The percentage of executive directors with CEO work experience.	ASINA
Chairman Exp	The percentage of executive directors with board chairperson work experience.	ASINA
Executive Exp	The percentage of executive directors with CEO or board chairperson work experience.	ASINA
Industry Exp	The percentage of directors with work experience in the same industry.	ASINA
Accountant	The percentage of directors being accountants.	ASINA
Lawyer	The percentage of directors being lawyers.	
Engineer	The percentage of directors being engineers.	ASINA
Economist	The percentage of directors being economists.	ASINA
Professional	The percentage of directors with professional experience (accountant, lawyer, engineer, economist, etc.).	ASINA
Junior College	The percentage of directors with junior college or lower educational qualifications.	ASINA
Master	The percentage of directors with a master's degree	ASINA

(continued)

Table A1 - *Continued*

Master or above	The percentage of directors with master or higher educational qualifications.	ASINA
Central Govt	The percentage of directors with central government work experience.	ASINA
Local Govt	The percentage of directors with local government work experience.	ASINA
General Govt	The percentage of directors with local or central government work experience.	ASINA
Academe	The proportion of independent directors from academe.	ASINA
Director Age	Average age of elected directors	ASINA
Former Colleague	The proportion of outside directors who are former colleagues of the firm's current CEO or chairperson.	ASINA
College Alumni (Alumnae)	The proportion of outside directors who are college alumni or alumnae of the firm's current CEO or chairperson.	ASINA
Former Colleague/ College Alumni (Alumnae)	The proportion of outside directors who are former colleagues, or college alumni/alumnae of the firm's current CEO or chairperson.	ASINA
Panel B: Main Outcome Variables on Firm Value and Corporate Policies		
Tobin's Q	The industry-adjusted Tobin's Q, which is defined as the difference between the original Tobin's Q and its industry median. The original Tobin's Q is a ratio with the numerator being the book value of total assets plus the market value of equity, and then minus the book value of equity and the denominator being the book value of total assets.	CSMAR
Market-to-book ratio	The industry-adjusted market-to-book ratio, which is the original market-to-book ratio minus its industry median. The original market-to-book ratio is the market value of equity plus book value of debt divided by the total assets.	CSMAR
ROA	The industry-adjusted ROA, which is the difference between the usual ROA (Net income/Total assets) and its industry median.	CSMAR
ROE	The industry-adjusted ROE, which is the difference between the usual ROE (Net income/Equity) and its industry median.	CSMAR
TRPT	The aggregate value of total related party transactions divided by the firm year-end total assets.	CSMAR

(continued)

Table A1 - *Continued*

BRPT	The aggregate value of potential beneficial related party transactions divided by the firm year-end total assets.	CSMAR
HRPT	The difference between TRPT and BRPT.	CSMAR
Panel C: Independent and Control Variables		
CV_g	The CV dummy taking the value of 1 for CV users, and 0 otherwise.	ASINA
CV_{it}	An indicator equaling 1 if a firm has adopted CV in director election by year t, and 0 otherwise.	ASINA
$Post_t$	A period dummy taking the value of 1 for the post-CV period, and 0 otherwise.	ASINA
Firm size	Logarithm of the book value of total assets.	CSMAR
Leverage	Long term debt divided by total assets.	CSMAR
Firm age	Logarithm of (the number of listing years + 1)	CSMAR
Duality	A binary variable equaling 1 if the CEO and board chairperson are the same person in a firm, and 0 otherwise.	CSMAR
Board size	The number of directors in the board of directors.	CSMAR
Board independence	The ratio of the number of outside independent directors to Board size.	CSMAR
Shareholding1	The largest stockholder's ownership (%) at the year-end	CSMAR
$\sum_{i=2}^{10} \mathbf{Shareholder}i$	The percentage shares held by the second to the tenth largest shareholders	CSMAR
$\sum_{i=1}^{5} [\mathbf{Shareholder}i]^2$	The sum of squares of the percentage of shareholdings of the top five largest shareholders.	CSMAR
Related	A categorical variable that equals 1 if there are no related parties among top ten shareholders, 2 if there are related parties among them, and 3 if it is unclear whether such case exists or not.	CSMAR
State-holding dummy	A dummy being 1 if the controlling shareholder is government-related, and 0 otherwise.	CSMAR
Foreign-holding dummy	An indicator equaling 1 if the firm is controlled by Foreigners, and 0 otherwise.	CSMAR

Table A2

Descriptive Statistics of the Three Key Control Variables

This table reports the t test results on the means of the three key variables (standard deviations in parentheses) as the criteria of the BL matching method before and after matching process, respectively. Variable *Firm size* denotes firms' year-end total assets in RMB. The variables ROA_{t-1} and *Shareholding1* are expressed in percentage terms, where t-1 denotes the variables being one-period lagged. Column (4) presents the difference between Columns (2) and (3). ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable	Mean		Diffs	t Value
	Non-CV Firms	CV Firms		
Panel A: Before the BL Matching with Shareholding1 < 30				
ROA_{t-1}	-2.190	-0.267	-1.924**	-2.06
	(20.84)	(11.34)		
Firm size	5.85×10^9	5.17×10^9	6.73×10^8	0.33
	(4.42×10^{10})	(2.61×10^{10})		
Shareholding1	23.691	24.298	-0.607	-1.56
	(5.65)	(5.45)		
Panel B: Before the BL Matching with Shareholding1 ≥ 30				
ROA_{t-1}	0.809	1.401	-0.592**	-2.10
	(8.59)	(7.06)		
Firm size	4.12×10^9	2.66×10^9	1.46×10^9**	3.40
	(1.99×10^{10})	(3.22×10^{10})		
Shareholding1	50.024	52.120	-1.096**	-2.39
	(12.43)	(12.78)		
Panel C: Before the BL Matching with Shareholding1 in (0,100]				
ROA_{t-1}	-0.402	1.125	-1.546***	-4.67
	(14.95)	(7.95)		
Firm size	4.82×10^9	3.08×10^9	1.74×10^9**	2.91
	(1.99×10^{10})	(3.22×10^{10})		
Shareholding1	40.013	47.530	-7.517**	-14.90
	(16.88)	(15.75)		
Panel D: After the BL Matching with Shareholding1 < 30				
ROA_{t-1}	0.866	-1.802	2.667	1.51
	(5.48)	(14.44)		
Firm size	6.53×10^9	4.87×10^9	1.66×10^9	0.30
	(4.07×10^{10})	(2.62×10^{10})		
Shareholding1	24.419	24.101	0.318	0.38
	(16.88)	(15.75)		
Panel E: After the BL Matching with Shareholding1 ≥ 30				
ROA_{t-1}	1.339	0.844	0.495	0.73
	(7.96)	(9.20)		
Firm size	3.27×10^9	2.93×10^9	3.40×10^8	1.11
	(4.12×10^9)	(3.78×10^9)		
Shareholding1	50.464	51.096	0.633	-0.65
	(11.91)	(12.83)		
Panel F: After the BL Matching with Shareholding1 in (0,100]				

(continued)

Table A2 - *Continued*

ROA_{t-1}	1.248 (10.42)	0.344 (7.54)	0.904	1.40
Firm size	3.87×10^{9} (1.79×10^{10})	3.29×10^{9} (1.18×10^{10})	5.80×10^{8}	0.55
Shareholding1	45.465 (14.00)	46.067 (15.80)	-0.602	-0.55

Appendix B. The "Coarsened Exact Matching" Method

Appendix B.1. The CEM Matching Process

We also employ a novel matching approach called "coarsened exact matching" (CEM) for robustness purpose. Generating a comparable control group is a quite difficult but very important task for non-experimental data. Fortunately, there are several matching methods developed to construct control group for non-experimental data. CEM is a relatively novel matching method with lots of good statistical properties, developed by Iacus et al. (2012). We apply this method for its various advantages. As Iacus et al. (2012) noted, CEM is part of general class methods termed "monotonic imbalance bounding" (MIB) (Iacus et al., 2011), which has advantageous statistical properties as compared to current widely-used matching methods such as propensity score and Mahalanobis matching, which belong to the class of matching methods known as "equal percent bias reducing" (EPBR) models (Rubin, 1976). MIB eliminates many of assumptions required for unbiased estimates of treatment effects and dominates commonly used existing matching methods (EPBR and others) in its ability to reduce imbalance, model dependence, estimation error, bias, variance, mean square error, and other criteria, as Iacus et al. (2012) mentioned. A crucial difference in practice rests with the order of data pre-possessing: EPBR models such as propensity score matching require determining *ex ante* the matched sample size, and then producing some level of reduction in imbalance between the treated and control groups *ex post*, whereas CEM determines the imbalance between the matched treated and control groups *ex ante*. Moreover, CEM works in sample and requires no assumptions on the data generating process.

The basic idea of CEM is to "coarsen" each variable of a set of observable covariates by recoding so that substantively indistinguishable values are grouped and assigned the same

numerical value, then to apply the "exact matching" algorithm to the coarsened data to determine the matches and to "prune" unmatched observations, and run estimations using the original but pruned uncoarsened data. The main goal of any matching process is to guarantee that the treated and control groups are constructed as balanced as possible in the sense that the empirical joint distributions of their covariates are as similar as possible.

In our environment, ownership concentration is an essential variable to impact CV adoption as aforementioned. So we first divided our raw data into two groups—voluntary and regulatory groups as before. As suggested by Doidge et al. (2004), Bebchuk et al. (2011) and Lu and Shi (2012) *Firm size, Firm age,* and *Leverage* are closely related to both firm value and different corporate governance variables. Then we focus on the three key pre-treatment covariates, *Firm size, Leverage,* and *Firm age*, coarsening them year by year to generate treated and control group samples. Following Iacus et al. (2011), we use the L_1 distance to measure the multivariate differences between the empirical distributions of treated and control groups both before and after the CEM process. The multivariate imbalance measure L_1 is defined as

$$L_1(f, g) = \frac{1}{2}\sum_{l_1,\ldots,l_k \in H(X)} \left| f_{l_1,\ldots,l_k} - g_{l_1,\ldots,l_k} \right| \quad \text{(B. 1)}$$

where f and g are the relative empirical frequency distributions for the treated and control groups. In equation (B.1), $H(X)$ is the Cartesian product $H(X_1) \times \cdots \times H(X_K)$, while $H(X_i)$ is the set of distinct values generated by binning on the covariate X_i, that is, the set of intervals into which the support of variable X_i has been cut. Denote by f_m and g_m the empirical distributions for the matched treated and control groups after the CEM process corresponding to the unmatched f and g distributions before the CEM process. Then a desirable matching method should have $L_1(f_m, g_m) \leq L_1(f, g)$.

A nice interpretation is as follows. If the two distributions of data are completely different, then L_1 = 1; if the two distributions are exactly the same, then L_1 = 0. In all other cases, $L_1 \in (0, 1)$. The values of L_1 provide relative information on our matching results. If, for example, L_1 = 0.4, then 60% of the density of the two distributions overlap. We show the outcome of our application of the CEM process in Table B1 as follows.

After the CEM process, the imbalance between treated and control firms is improved strikingly for the two Subsamples and for all years, and the least improvement exceeds 10%, while the most improvement reaches 98%, measured by the L_1 metric, as shown in Table B1. Therefore, our application of the CEM method seems to be successful.

Under the CEM matching process, both CV users and non-CV users have been pruned to balance the three key pretreatment covariates. After this process, 278 CV firms constitute the treated group in the treatment period. A total of 278 matches belong to the control group in this period, but no relevant information on directors is available for three of the 278 matches in the treatment period; thus, we eventually obtain 275 matches left in the treatment period. The number and composition of the treated and control groups in the pretreatment period are 273 and 278, respectively. Data on five of the 278 CV firms in the pretreatment period are unavailable; thus, the CEM matching process builds a sample with 1,106 firm-year observations in total.

Table B1

Comparison of the Imbalance before and after the CEM Process

This table reports the comparison of data imbalance in terms of the three key variables, *Firm size*, *Leverage*, and *Firm age* before and after the CEM process. We divide our raw data into two Subsamples according to the magnitude of the percentage shares held by the largest shareholder for each firm. The partition rule is that if the largest shareholder holds shares that are less than 30% of the total shares, then the firm belongs to the subsample called "Voluntary Group", and it falls in the Subsample called "Regulatory Group" otherwise.

Year	Voluntary Group		Regulatory Group	
	L_1 (before)	L_1 (after)	L_1 (Before)	L_1 (after)
2002	0.951	0.000	0.908	0.185
2003	0.907	0.333	0.790	0.321
2004	0.978	0.000	0.860	0.217
2005	0.707	0.386	0.653	0.551

Appendix B.2. Main Empirical Results Based on the CEM Sample

Table B2

The Power Distribution in the Board: Univariate Analysis

This table reports the univariate analysis on the power distribution in the board, using the sample constructed through the CEM method. Panel A describes the means and standard deviations (in parentheses) of the proportion of the representatives of the top five shareholders in the board in the pretreatment and treatment periods, respectively. Panels B presents the univariate analysis of the DID-style comparison between the CV-using firms and their control firms before and after CV implementation. The comparison focuses on the differences in the proportion of representatives of the largest shareholder and the proportion of those of the second largest shareholder as well as the proportion of those of the second to the fifth largest shareholders. We initially subtract the proportion of directors as representatives of the non-controlling substantial shareholders (the second, the second to the fifth, respectively) from the proportion of the largest shareholder in the pretreatment and treatment periods for the treated and control groups, respectively. Then we examine whether significant discrepancies exist in the means of differences between the two periods for each group. Finally, we subtract the differences of the control group between the two periods from those of the treated group between the two periods, and test whether the results are significantly different from 0. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Descriptive Statistics of the Power Distribution in the Board

	Treatment Group		Control Group	
	Pretreatment period	Treatment period	Pretreatment period	Treatment period
Share1	55.099	56.772	53.602	54.894
	(28.97)	(31.95)	(27.03)	(27.17)
Share2	7.275	9.576	6.836	7.012
	(12.75)	(17.71)	(10.38)	(11.25)
Share2_5	13.997	15.915	14.650	14.567
	(19.62)	(23.20)	(17.32)	(17.86)

Panel B: Univariate Analysis on the Power Distribution in the Board

		Pretreatment Period (1)	Treatment Period (2)	Diffs (3)	T Value (4)
The Largest Shareholder Versus the Second Largest Shareholder	Treatment Group	47.824	47.197	-0.628	-0.19
		(2.16)	(2.59)	(3.37)	
	Control Group	46.765	47.882	1.116	0.41
		(1.91)	(1.93)	(2.71)	
	DID			-1.744	-0.40
				(4.32)	
The Largest Shareholder Versus the Second to the Fifth Largest Shareholder	Treatment Group	41.102	40.857	-0.245	-0.06
		(2.56)	(2.94)	(3.89)	
	Control Group	38.951	40.327	1.376	0.42
		(2.31)	(2.32)	(3.27)	
	DID			-1.620	-0.32
				(5.09)	

Table B3

The Power Distribution in the Board: Multivariate Analysis

This table reports the multivariate analysis on the power distribution in the board, using the sample constructed through the CEM method. The results in Columns (1) – (3) are based on the whole sample, while those in Columns (4) – (6) are based on the Subsample including only the firms in which no related parties exist among top ten shareholders. To save space, we do not report the results on variables *Board size, Board independence, Duality, State-holding dummy, Foreign-holding dummy, Firm size, Leverage,* and *Firm age*, which are denoted as *Other controls* as a whole in the table. Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Share1	Share2	Share2_5	Share1	Share2	Share2_5
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	-1.400	1.183	0.880	7.385	-4.202	-2.740
	(2.32)	(0.98)	(1.37)	(7.28)	(2.69)	(3.73)
$Post_t$	0.676	-0.017	0.154	-5.850	-2.418	-2.286
	(1.03)	(0.47)	(0.62)	(5.10)	(2.67)	(3.11)
$CV_g \times Post_t$	1.641	2.133**	1.874	-0.529	11.046**	8.715*
	(1.78)	(0.97)	(1.18)	(9.06)	(4.25)	(4.81)
Shareholding1	0.587***	-0.064	-0.166***	0.969***	-0.056	-0.060
	(0.11)	(0.04)	(0.06)	(0.28)	(0.10)	(0.16)
$\sum_{i=2}^{10}$ Shareholding$i$	-0.206*	0.337***	0.640***	0.054	0.375***	0.799***
	(0.12)	(0.06)	(0.08)	(0.32)	(0.12)	(0.19)
Constant	-38.540*	28.492***	49.335***	27.710	0.297	31.960
	(22.30)	(10.39)	(13.59)	(72.49)	(38.86)	(38.70)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,051	1,051	1,051	140	140	140
Adj. R^2	0.216	0.202	0.355	0.184	0.304	0.425

Table B4

CV and the "Independence" of Outside Directors

This table reports the DID-style regressions for examining whether the outside independent directors elected under the CV rule have smaller likelihood of being closely related to firm CEO or board chairperson than those elected under straight voting, using the sample constructed through the CEM method. We measure the close relationship by three different variables—*Former Colleague*, *College Alumni (Alumnae)*, and *Former Colleague/College Alumni (Alumnae)*, respectively. To save space, we do not report the results on variables *Board size, Board independence, Duality, Related* (a categorical variable to denote the situations of related parties among top ten shareholders), *Shareholding1*, $\sum_{i=2}^{10} Shareholding i$, *State-holding dummy, Foreign-holding dummy, Firm size, Leverage, Firm age*, and industry-adjusted *ROA*, which are denoted as *controls* as a whole in the table. Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Former Colleague	College Alumni (Alumnae)	Former Colleague/ College Alumni (Alumnae)
	(1)	(2)	(3)
CV_g	-3.072*	-1.56	-3.986*
	(1.60)	(2.03)	(2.38)
$Post_t$	-0.372	0.971	0.693
	(0.53)	(1.02)	(1.08)
$CV_g \times Post_t$	-1.007	-3.574**	-4.716***
	(1.03)	(1.46)	(1.72)
Constant	9.627	-16.245	-3.264
	(16.40)	(18.49)	(22.56)
Controls	Yes	Yes	Yes
Observations	991	991	991
Adj. R^2	0.025	0.004	0.017

Table B5

CV and the Personal Characteristics of Outside Directors

This table reports the DID-style regressions for examining whether CV adoption brought about changes in the personal characteristics of independent directors, using the sample constructed through the CEM method. Panel A presents the DID regression estimates for examining whether the educational qualifications and political connections of CV-elected executive directors are different from those of non-CV-elected ones. Panel B presents the DID estimates for investigating whether the professional experiences of CV-elected executive directors differ from those of non-CV-elected ones. To save space, we do not report the results on variables *Board size*, *Board independence*, *Duality*, *Related* (a categorical variable to denote the situations of related parties among top ten shareholders), *Shareholding1*, $\sum_{i=2}^{10} Shareholding i$, *State-holding dummy*, *Foreign-holding dummy*, *Firm size*, *Leverage*, *Firm age*, and industry-adjusted *ROA*, which are denoted as *controls* as a whole in the table. Standard errors (in parentheses) are heteroskedasticity consistent and clustered at the firm level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Educational Qualifications and Political Connections

	Junior College	Master	Master or above	Central Govt	Local Govt	General Govt
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	1.117	0.787	0.579	-2.293	-0.484	-1.760
	(1.83)	(2.67)	(3.12)	(1.68)	(2.29)	(2.79)
$Post_t$	0.506	0.192	0.908	0.040	-0.110	0.366
	(0.91)	(1.02)	(1.27)	(0.72)	(0.86)	(1.07)
$CV_g \times Post_t$	-0.247	-0.218	-0.065	0.605	-0.469	0.443
	(1.55)	(1.92)	(2.27)	(1.17)	(1.63)	(1.95)
Constant	32.644*	53.744**	83.575***	-46.026***	-21.674	-29.362
	(17.06)	(20.79)	(28.94)	(15.93)	(19.64)	(25.65)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	991	991	991	991	991	991
Adj. R^2	0.024	0.007	0.022	0.044	-0.000	0.003

Panel B: Professional Experience

	Accountant	Lawyer	Engineer	Economist	Professional	Industry Exp
	(1)	(2)	(3)	(4)	(5)	(6)
CV_g	4.369**	0.214	-2.036	0.391	4.178	3.074
	(1.77)	(1.76)	(1.75)	(1.44)	(2.91)	(2.25)
$Post_t$	-0.682	-0.939	-0.631	0.067	-2.036	0.671
	(0.95)	(0.73)	(0.85)	(0.63)	(1.33)	(0.85)
$CV_g \times Post_t$	3.840**	2.040	2.421*	0.570	8.351***	0.360
	(1.67)	(1.33)	(1.33)	(1.20)	(2.09)	(1.67)
Constant	49.466***	12.911	-30.850*	9.969	48.186	-14.213
	(16.48)	(15.54)	(15.76)	(16.54)	(30.22)	(29.43)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	991	991	991	991	991	991
Adj. R^2	0.052	0.008	0.033	0.018	0.047	0.021