Does granting minority shareholders direct control over corporate decisions help reduce value decreasing corporate decisions in firms with concentrated share ownership? A natural experiment from China

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Does granting minority shareholders direct control over corporate decisions help reduce value decreasing corporate decisions in firms with concentrated share ownership? A natural experiment from China

Abstract

Using a 2004 Chinese securities regulation that requires equity offering proposals to seek the separate approval of minority shareholders, we examine whether giving minority shareholders direct control over corporate decisions helps reduce value decreasing corporate decisions in firms with concentrated share ownership. We find that the regulation deters management from submitting value decreasing equity offering proposals in firms with higher mutual fund ownership but not in firms with higher ownership by either other institutions or individuals. There is also weak evidence that minority shareholders are more likely to veto value decreasing equity offering proposals in firms with higher mutual fund ownership in the post-regulation period. Overall, our evidence suggests that the effect of granting minority shareholders direct control over corporate decisions on the quality of corporate decisions depends on the composition of minority shareholders.

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1.   Introduction

Corporate ownership in many countries is highly concentrated and controlling shareholders are typically part of firm management (see e.g., La Porta et al. 1999; Claessens et al. 2000). Hence, the agency conflict between management and controlling shareholders is minimal and the major agency problem in such firms is the expropriation of minority shareholders by management/controlling shareholders (hereafter referred to as insiders or management for brevity) (see Shleifer and Vishny 1997; La Porta et al. 1997, 1998; Djankov et al. 2008). As minority shareholders will price protect by incorporating the effect of future expropriation in current stock prices, insiders' expropriation increases a firm's cost of raising new equity capital from outside investors to finance positive NPV projects and could also hinder a country's financial market development and economic growth (see, e.g., Shleifer and Vishny 1997; Wurgler 2000; Shleifer and Wolfenzon 2002). Therefore, an important research question in the international corporate governance literature is how to protect minority shareholders from corporate insiders' expropriation.[1]

As minority shareholders usually delegate major corporate decisions to insiders, a common solution to insiders' expropriation is to design monitoring mechanisms (e.g., board of directors, auditors, etc.) to align the interests between insiders and minority shareholders. Due to the failure of many common monitoring mechanisms in controlling for insiders' expropriation of minority shareholders, there is a growing interest among activist minority shareholders in shifting the corporate decision making power from insiders to minority shareholders (see, e.g.,

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[1] If minority shareholders price protect and thus corporate insiders ultimately have to bear all the costs associated with the expropriation of minority shareholders, one may wonder why firms domiciled in weak investor protection countries do not voluntarily commit themselves to good corporate governance. One theory suggested by Doidge et al. (2007) is that weak country-level investor protection (e.g., lack of judicial independence) directly increases the costs that firms incur to bond themselves to good governance.

Vascellaro and Tibken 2008). Regulators around the world have also been busy introducing legislation to combat perceived agency problems of insiders. In addition to enacting new laws to strengthen the effectiveness of existing monitoring mechanisms, regulators are showing an increasing willingness to propose regulations that would grant minority shareholders direct control over corporate decisions (e.g., Scannell 2009; Ridley and Menon 2009).

However, whether minority shareholders should be granted direct control over corporate decisions is still hotly debated (see, e.g., Vascellaro and Tibken 2008; Scannell 2009; Holz and Berman 2010).[2] Proponents (see, e.g., Bebchuk 2005) argue that granting minority shareholders direct control over corporate decisions is necessary to combat widespread agency problems of insiders and increase shareholder value. Opponents (see, e.g., Bainbridge 2006) counter that minority shareholders' direct participation in corporate decisions reduces shareholder value because minority shareholders either lack the requisite knowledge and expertise to make effective decisions or have incentives to make value decreasing decisions (e.g., Porter 1992). Furthermore, even if minority shareholders are granted increased control rights over corporate decisions by law, there is no guarantee that they will have the incentive to exercise the granted control rights (see Listokin 2010) or be able to effectively exercise such legal rights in countries with weak law enforcement.

The objective of this study is to use a unique 2004 securities regulation issued by the China Securities Regulatory Commission (CSRC) to provide direct evidence on the effect of giving minority shareholders direct control over corporate decisions on the quality of corporate decisions in firms with concentrated share ownership. Prior to the 2004 regulation insiders of

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[2] Harris and Raviv (2010) offer an excellent analytic discussion on the costs and benefits of granting minority shareholders direct control over corporate decisions.

publicly traded Chinese firms frequently expropriated minority shareholders using various mechanisms, including issuing new equity followed by the tunneling of the equity offering proceeds to controlling shareholders. The new regulation intends to reduce the extent of insiders' expropriation by requiring several types of major corporate decisions (the most common of which is equity offering proposals) subject to the *separate* approval of minority shareholders.

We conduct three types of empirical analyses. Our first analysis uses the equity offering proposals over the period 1/1/2004-6/30/2005 to test whether the 2004 regulation has a deterrence effect by discouraging insiders from submitting value decreasing proposals. As insiders' expropriation will directly reduce the amount of cash flows available to minority shareholders, which in turn will result in a decline in stock prices, an equity offering proposal is defined to be value decreasing or low quality (value increasing or high quality) if the stock market reaction to the announcement of the proposal (CAR) is negative (positive).[3] Our second analysis examines the difference in the quality of the equity offering proposals that insiders actually *submitted* to shareholders' meetings for approval across the pre- and post-regulation periods. Our third analysis uses the detailed voting data available in the post-regulation period to examine two important questions related to minority shareholders' voting behavior: (a) Which minority shareholders are more likely to participate in the voting; and (b) whether minority shareholders' voting decisions are correlated with proposal quality.

We conjecture that the effect of the 2004 regulation on the quality of corporate decisions should depend on the effectiveness with which minority shareholders are expected to exercise

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[3] Our definition of proposal quality is consistent with the definition of shareholder value in the existing governance literature (see, e.g., Shleifer and Vishny 1997), which is defined as a shareholder's cash flow rights associated with her stock ownership. The cash flow rights of stock ownership are available to both minority shareholders and controlling shareholders. However, a controlling shareholder could also enjoy private control benefits, which are not available to minority shareholders.

their newly granted control power. Hence, we also examine the influence of minority shareholder composition in the empirical analyses. We focus on the top 10 minority shareholders because the ownership of the top 10 minority shareholders is required to be disclosed quarterly. More importantly, economic theory suggests that large minority shareholders have a stronger incentive than small minority shareholders to exercise their voting rights. We decompose the top 10 minority shareholders into institutional investors and individual investors because the former are often regarded as more sophisticated and better informed. We further decompose institutional investors into mutual funds and other miscellaneous institutions because mutual funds are believed to be more independent and thus should have a greater incentive to monitor firm management (Brickley et al. 1988; Chen et al. 2007).

Our primary results can be summarized as follows. The 2004 regulation has a strong deterrence on value decreasing equity offering proposals in firms with higher mutual fund ownership but not in firms with higher ownership by either other institutional investors or individual investors. There is no evidence that the 2004 regulation has any significant effect on management's likelihood of submitting value increasing equity offering proposals.

Consistent with the deterrence effect of the 2004 regulation, we find that the mean CAR for the submitted proposals is significantly negative in the pre-regulation period but becomes significantly positive in the post-regulation period. The difference in CAR across the two periods is significant and increases with mutual fund ownership but not with the other institutions' ownership or individual investor ownership.

With regard to minority shareholders' voting behavior in the post-regulation period, we find that consistent with economic theory, minority shareholders with lower stock ownership levels are less likely to vote on submitted proposals. Among the top 10 minority shareholders,

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individual shareholders are less likely to vote on submitted proposals than mutual funds and other institutional investors. The median voting participation rate is 62.8% for mutual funds, 48.8% for other institutions, but only 18.3% for individual shareholders. The top 10 individual shareholders' extremely low voting participation rate suggests that they are not active in corporate governance.

We find mixed evidence on the association between proposal quality and minority shareholders' veto decisions in the post-regulation period. We find no evidence of a negative association between proposal quality and minority shareholders' veto decisions for the full sample. However, there is weak evidence of a negative association for firms with higher mutual fund ownership. Though counterintuitive, this mixed evidence does not suggest that the 2004 regulation is ineffective. Instead, it is consistent with an equilibrium where insiders are deterred from submitting value decreasing proposals and therefore minority shareholders do not face the need to veto submitted proposals.

We conduct a series of robustness checks and find no evidence that our results are attributable to alternative explanations, such as other contemporaneous regulatory announcements or a general improvement in investor protection. Overall, our results suggest that giving minority shareholders direct control over corporate decisions can help reduce value decreasing corporate decisions but only when there are large and independent institutional investors.

Our study makes several important contributions. First, we contribute to a growing international corporate governance literature following La Porta et al. (1997, 1998) that analyzes the effect of legal environment on shareholder value and financial market development. A general finding from this literature is that strong country-level investor protections are associated

with improved earnings quality, higher shareholder value and faster financial market development (see, e.g., Hung 2001; Djankov et al. 2008). Most studies in this literature examine a country's legal environment as a whole (typically using the indices from La Porta et al. 1998) and do not examine the specific mechanisms through which law affects financial markets. In addition, the majority of the studies use cross-country regressions and therefore their conclusions are subject to the well-known concerns of endogeneity, measurement error, and correlated omitted variables (see La Porta et al. 2008). A key contribution of our study is to directly demonstrate the effect of adopting one specific investor protection mechanism (i.e., the shift of corporate control from insiders to minority shareholders) on the quality of corporate decisions.[4] In addition, as detailed in Section 2, our unique setting allows us to overcome several common methodological challenges the extant literature faces in establishing the causal effect of changing minority shareholders' control over corporate decisions on the quality of corporate decisions.

Second, our results are also relevant to a growing literature on the proxy voting decisions of mutual funds (see, e.g., Davis and Kim 2007; Cremers and Romano 2007). An interesting finding from this literature is that mutual funds often support management in proxy voting (see Cremers and Romano 2007), raising questions about the governance role of mutual funds. However, the evidence from our study suggests that a key governance role of mutual funds is to deter management from submitting value decreasing proposals.[5] Therefore, a narrow focus on

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[4] Given that many Chinese laws and regulations are ineffective, the positive effect of the 2004 regulation is really surprising. One potential explanation is that the 2004 regulation is privately enforced by minority shareholders themselves rather than publicly enforced by government agencies. La Porta et al. (2006) show that laws that facilitate private enforcement are more effective in protecting minority shareholder interests than laws that require public enforcement.

[5] Using a private database consisting of the correspondence between TIAA-CREF and 45 firms it contacted about governance issues between 1992 and 1996, Carleton et al. (1988) find that TIAA-CREF is able to reach agreements with targeted companies more than 95 percent of the time. In more than 70 percent of the cases, this agreement is reached without shareholders voting on the proposal. Our results are consistent with Carleton et al. (1988) despite the significant differences in investor protection between China and the U.S.

mutual funds' actual voting behavior would significantly understate the governance role of mutual funds (see Section 4.2 for a more detailed discussion of this issue).

Third, our study contributes to understanding the governance role of institutional investors in emerging markets with weak country-level investor protections. Despite the potential institutional frictions and agency conflicts that may hinder mutual funds' participation in corporate governance (e.g., Firth et al. 2010), our results suggest that mutual funds can play a positive role in strengthening the corporate governance of publicly traded firms in countries with weak investor protections.

Finally, we provide timely information to government regulators around the world who are debating about the costs and benefits of granting minority shareholders direct control over corporate decisions. The evidence from our study suggests that giving minority shareholders a direct say on corporate decisions can help improve the quality of corporate decisions, but only in firms with large and independent institutional investors.

The rest of the paper is organized as follows. Section 2 discusses the institutional background and related research. Section 3 discusses the effect of the regulation on management's proposal submission decision. Section 4 analyzes minority shareholders' voting behavior in the post-regulation period. Section 5 concludes.

2. Institutional background and related research

2.1. Institutional background

Prior to China's split share structure reform beginning in May 2005 that makes all shares tradable, domestically listed Chinese firms (often referred to as A share firms) had two types of common stocks: non-tradable shares and tradable shares. Non-tradable shares are largely owned

by a controlling shareholder (typically a local government, the central government, or an SOE) and typically represent two thirds of a firm's share capital. Tradable shares are listed on one of the two domestic stock exchanges and can be owned by Chinese citizens, domestic institutions and qualified foreign institutional investors. We refer to the tradable shareholders as minority shareholders in this paper. Except for the difference in tradability, the non-tradable shares and tradable shares enjoy equal voting rights. Chen and Yuan (2006) find that the non-tradable shares owned by controlling shareholders of A share firms are very illiquid (typically selling for less than 20% of the market price), thus limiting the ownership benefits of equity to the controlling shareholders if they wish to sell in the short run. However, the controlling shareholders are likely long term shareholders in many firms and thus can still reap the ownership benefits of equity via future cash dividends.

Due to lack of investor protections (see Allen et al. 2005), controlling shareholders (i.e., non-tradable shareholders) of A share firms have a strong incentive to instruct their appointed management to tunnel the resources of A share firms to themselves (e.g., Jian and Wong 2008; Berkman et al. 2010; Fan et al. 2007; Jiang et al. 2010). Prior to the issuance of the 2004 regulation, management of A share firms often issued new equity and then tunneled the proceeds of the equity offerings to controlling shareholders through various channels including related party transactions and related party loans (CSRC 2004).[6]

To curb such egregious expropriation behavior, the CSRC issued a regulation in 2002 that required A share firms to seek the separate approval of tradable shareholders for any new

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[6] Equity offerings in China were typically priced at a discount relative to prevailing market prices to induce minority shareholders to participate. However, controlling shareholders rarely participated in the offerings because the new shares they acquire would be treated as non-tradable shares even though they had to pay the same price as minority shareholders for the new shares.

share issuance that exceeds 20% of the firm's total common shares outstanding. Unfortunately this regulation turned out to be ineffective because the 20% threshold is too high and most firms easily circumvented the regulation by simply issuing new equity below the 20% threshold. Hence, the CSRC issued a tougher new regulation entitled "*Provisions on Strengthening the Protection of the Rights and Interests of the General Public Shareholders*" on December 7, 2004 that subjected several major corporate decisions (e.g., equity offering, major corporate restructuring, and overseas listing of subsidiaries) to the separate approval of tradable shareholders (often referred to as segmented voting regulation). The new regulation applied to all domestically listed firms and took effect on December 7, 2004. The 2004 regulation was intended to be a temporary measure to combat widespread abusive equity offerings prior to the split share structure reform that would make non-tradable shares tradable. The 2004 regulation expired automatically upon the completion of the split share structure reform, which ended by the end of 2007 for most A share firms (see Li et al. 2010).

2.2. Related research

Not much is known from the extant literature on the economic effects of granting minority shareholders direct control over corporate decisions in firms with concentrated share ownership. One stream of research relevant to us is the large and growing international corporate governance literature following La Porta et al. (1997, 1998) that examines the cross-sectional association between country-level investor protections (typically defined using the indices from La Porta et al. (1998)) and shareholder value and financial market development (see La Porta et al. 2008 for a review). The evidence from this literature suggests that strong country-level investor protections are associated with improved capital allocation (Wurgler 2000), higher

shareholder value and faster financial market development (see, e.g., La Porta et al. 1997, 1998, 2002; La Porta et al. 2006; Djankov et al. 2008). However, this literature does not examine the specific channels through which law affects financial markets.[7] More importantly, this literature does not distinguish investor protection provisions that facilitate minority shareholders' monitoring of insiders who makes corporate decisions from investor protection provisions that shift the control over corporate decisions from insiders to minority shareholders.[8] In addition, many studies in this literature suffer from the problems of correlated omitted variables, measurement error and endogeneity (see La Porta et al. 2008 for a discussion of these issues). We believe it is still an open question whether improving a country's investor protections would naturally lead to an improvement in the quality of corporate decisions, especially in weak investor protection countries.

In response to recent corporate scandals (e.g., Enron) and the 2007 financial crisis, both U.S. federal and state governments have proposed regulatory rules that would grant shareholders an increased say on many important corporate issues such as executive compensation and director nomination (e.g., Scannell 2009). For example, the U.S. House of Representatives passed a Say-on-Pay Bill in 2007, which allows shareholders to have an annual advisory vote on executive compensation. Cai and Walkling (2010) find that the market reaction to the passage of

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[7] A notable exception is Atanasov et al. (2010) who study the effect of a 2002 Bulgarian law change that prohibits dilutive equity offerings, freezeouts and going-private transactions. However, they do not consider the issue of how granting minority shareholders direct control over corporate decisions affects the quality of corporate decisions.

[8] Due to the widespread use of plurality voting rules in the U.S. (i.e., director elections do not require a majority shareholder vote), most director elections in U.S. firms are uncontested. Nevertheless, Cai et al. (2009) and Fischer et al. (2009) show that firms whose elected directors receive fewer shareholder votes are more likely to experience CEO and board turnover, lower CEO compensation, better investment decisions, and a higher likelihood of removing anti-takeover defenses. Their evidence suggests that even when minority shareholders do not gain direct control over corporate decisions, their mere expression of displeasure could significantly affect firm behavior. Casual observations suggest that their conclusions are unlikely to apply to many weak investor protection countries where share ownership is concentrated and insiders' expropriation of minority shareholders is rampant despite the loud and frequent complaints by minority shareholders (e.g., the period prior to the 2004 regulation in China).

the Say-on-Pay Bill was significantly positive for firms with high abnormal CEO compensation, with low pay-for-performance sensitivity, and responsive to shareholder pressure. In most publicly traded U.S. firms, stock ownership is diversified and the major agency conflict is management versus shareholders. Hence, it is difficult to determine whether the evidence in Cai and Walkling can be readily extended to countries where corporate ownership is highly concentrated and the major agency conflict is controlling shareholders versus minority shareholders.

With respect to publicly traded Chinese firms, Berkman et al. (2010) examine the abnormal stock returns to the announcements of three Chinese securities regulations within a two-month period in 2000.[9] Berkman et al. find that firms with weaker governance experienced significantly larger abnormal returns around the announcements of the three regulations than did firms with stronger governance. While their results suggest that the three regulations help increase the degree of investor protections, it is difficult to determine whether the three regulations result in a significant increase in minority shareholders' direct control over corporate decisions.

Another stream of research relevant to us is the U.S. literature on shareholder activism. Again, it is difficult to determine whether the U.S. evidence on shareholder activism can be readily extended to countries with concentrated stock ownership. The common corporate issues targeted by activist shareholders include executive compensation, board structure, shareholder voting rights, and anti-takeover provisions in corporate charters (see, e.g., Johnson et al. 1997;

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[9] The first regulation allows shareholders with more than 5% voting rights to propose motions for discussion at the shareholders' annual meeting and prohibits shareholders involved in a related party transaction from voting on the transaction. The second regulation prohibits listed firms from issuing loan guarantees to their shareholders, shareholders' controlled or affiliated companies, or any individual. The third regulation requires the board to perform a rigorous due diligence on any material asset acquisition or disposal.

Gordon and Pound 1993). As noted in a survey paper by Gillian and Starks (2007), there is no conclusive evidence that shareholder activism has a significant impact on firm operations, earnings or stock returns. Gillian and Starks (2007) show that one important reason for the mixed evidence is the methodological challenges that researchers face in establishing the causal effect of changing minority shareholders' control over corporate decisions on shareholder value. First, minority shareholders' control over corporate decisions often changes slowly. Therefore, a researcher may find it difficult to reliably measure a small change in minority shareholders' control or detect the effect of the small change on shareholder value.

Second, most changes in minority shareholders' control over corporate decisions deal with general corporate governance issues (e.g., board structure or voting procedures) rather than specific corporate decisions. Hence, it is difficult to directly attribute any observed change in managerial behavior (e.g., change in corporate investment) to a change in minority shareholders' control.

Third, even if a change in minority shareholders' control deals with a specific corporate decision, a researcher generally cannot observe the outcome of the specific decision made by minority shareholders and thus has to infer the impact of the change in minority shareholders' control from aggregate performance outcomes such as stock prices or accounting earnings. As stock prices and accounting earnings reflect the effects of multiple economic forces, any association between changes in minority shareholders' control and changes in stock prices or earnings could be subject to alternative explanations.

The experiment setting of our study can overcome all of these methodological challenges. In particular, the 2004 regulation represents a significant shift in the control over corporate decisions from management to minority shareholders and deals with specific corporate decisions

(i.e., equity offering proposals). In addition, we can observe the outcomes of the specific decisions made by minority shareholders. Therefore, it is relatively straightforward to establish the causal link between an increase in minority shareholders' control over corporate decisions and the change in the quality of the targeted corporate decisions in our setting.

3. The effect of the 2004 regulation on management's equity offering proposal submission decision

3.1. The sample and data sources

Although the 2004 regulation requires several types of managerial proposals (e.g., equity offering, major corporate restructuring, and overseas listing of subsidiaries) to be separately approved by tradable shareholders, we only use the equity offering proposals (including general offerings, rights offerings, and convertible bond offerings) for the following reasons. First, equity offerings were one of the most common methods corporate insiders employed to expropriate minority shareholders prior to 2004. Second, the frequency of equity offering proposals is considerably higher than that of any of the other managerial proposals. During our sample period the number of equity offering proposals is more than 200 but the number of the other types of managerial proposals such as the overseas listing of a subsidiary is less than a dozen and thus cannot be used to conduct a meaningful study. Third, for certain types of corporate proposals (e.g., major corporate restructuring), management can easily avoid the approval of tradable shareholders by manipulating the terms of the proposals. Hence, the sample of such proposals is severely biased. Finally, mixing different types of managerial proposals could create difficulty in identifying suitable control variables in our research design and the interpretation of our empirical results.

We limit our empirical analysis to the eligible firm months over the period 1/1/2004-6/30/2005. In principle a firm can submit a proposal on any date and therefore our following regression analysis should be run using daily data. We choose to aggregate the data to the monthly level because running the regression analysis using daily data requires too much computational power. Our sample starts on 1/1/2004 because data on the detailed top 10 minority shareholder ownership are not available before 2004. Our sample ends on 6/30/2005 because very few firms submitted equity offering proposals for shareholder approval after June 2005, likely reflecting management's anticipation that the CSRC would not process equity offerings proposals due to the split share structure reform. Note that all equity offering proposals approved by shareholders require the final approval of the CSRC.[10]

We follow various CSRC regulations to identify all the A share firm months that are eligible to propose equity offerings (general offerings, rights offerings, or convertible bond offerings) as of the beginning of each observation month (see Appendix A for the details of the identification method). After deleting observations missing control variables, there are 21,512 firm months during our sample period and 11,924 (55.4%) firm months representing 855 unique firms are deemed eligible to propose equity offerings. The inferences in Table 2 are qualitatively similar if we include all of the firm-month observations. We used WIND (a leading Chinese firm data provider) to identify the sample of equity offering proposals submitted in our sample period and hand collected all the relevant information on the equity offering proposals, such as the announcement date, voting date, and the voting outcomes. All the financial data used in this study are obtained from WIND and CSMAR (another leading Chinese firm data provider).

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[10] In fact most equity offering proposals announced in our post-regulation period were not processed by the CSRC due to the split share structure reform that started in April 2005. As a result, we cannot compare how the proceeds from the equity offerings are used differently in the pre- and post-regulation periods.

3.2. Methodology

For all the A share firm months eligible to propose equity offering proposals over the period 1/1/2004-6/30/2005, we use the following multinomial logit model to test the effect of the 2004 regulation on management's decision to submit value increasing versus value decreasing equity offering proposals:

$$SUBMISSION_{it} = a + b * AFTER + c * CONTROL_{it} + \varepsilon_{it} \tag{1}$$

where *i* and *t* are firm and month indicators, respectively. $SUBMISSION_{it}$ is 0 if firm i does not submit a proposal in month t, 1 if firm *i* submits a value increasing (i.e., CAR>0) proposal in month *t*, and 2 if a firm *i* submits a value decreasing (i.e., CAR≤0) proposal in month t. CAR is the market adjusted cumulative abnormal return over the [-2, +10] trading days around the proposal announcement date.[11,12] As we have emphasized in the Introduction, our definition of proposal quality is consistent with the notion of shareholder value commonly referred to in the extant governance literature (see Shleifer and Vishny 1997), which focuses on the cash flow rights of stock ownership as reflected in CAR. The difference between the proposal announcement date and the proposal voting date is at least 20 trading days for all but one proposal. For this one proposal, the holding period of CAR is 9 trading days only that end in the day before the voting date.

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[11] To allow the possibility of information leakage, we also start the CAR measurement from trading day -5 and find similar inferences (untabulated). We also remove from CAR the effect of two material confounding events (i.e., earnings and dividend news) that occurred during the CAR measurement window and find similar inferences (untabulated).

[12] One limitation of CAR as a proposal quality proxy is that it may not be very negative due to the stock market's anticipation of minority shareholders' vetoing of value decreasing proposals, even though management may continue to submit a large number of value decreasing equity offering proposals in the post-regulation period. However, this anticipation effect does not appear to be severe in our sample because as shown in Section 4.2, only a small number of equity offering proposals were vetoed by minority shareholders in the post period.

We extend the holding period of CAR to 10 trading days after the proposal announcement for several reasons. First, the Chinese stock exchanges limit the maximum daily stock price movement to be $\pm$10% only so that a short window CAR may not fully capture the quality of a proposal. Second, equity offering is a complex business decision and thus minority shareholders may need more time to digest the information included in the proposal and search for private information to evaluate the merits of the proposal. This is especially important in China because management usually does not provide detailed information on equity offering proposals. Finally, the Chinese stock market is dominated by small retail investors and there are not enough sophisticated investors such as financial analysts or institutional investors who can help quickly impound into stock prices the value implications of an equity offering proposal. Consistent with this argument, Ma (2004) finds a significant drift in the Chinese stock market's reactions to announcements of many major corporate decisions, including equity offering proposals. Hence, we believe that an abnormal return measured over a longer period should better capture proposal quality.[13]

AFTER is a dummy variable that is equal to one for the 7 months in the post-regulation period (i.e., December 2004 and after), and zero for the 11 months in the pre-regulation period.[14,15] *CONTROL* is a list of common determinants of equity offerings discussed below.

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[13] Prior China related event studies also use relatively long periods to measure abnormal returns (see, e.g., Fan et al. 2008; Berkman et al. 2010).

[14] Even though the regulation became effective on December 7, 2004, we treat the entire December 2004 as part of the post period. There were no equity offering proposals announced over December 1, 2004-December 6, 2004.

[15] Upon the release of the exposure draft of the regulation on September 27, 2004, some firms might have attempted to avoid the final regulation by accelerating future equity offering proposals to the period 9/27/2004-12/7/2004. As a robustness check, we also define AFTER using September 2004 as a cutoff and find similar inferences. Empirically, we find little evidence of acceleration of value decreasing proposals from the post-regulation period to the pre-regulation period. This finding could be due to two reasons. First, the 2004 regulation was proposed and passed quickly. Second, the CSRC requires a minimum gap of 30 days between the mailing date and voting date of a managerial proposal submitted to shareholders for approval. As a result, management could find it difficult to

If minority shareholders have the incentive to use their newly granted control power to veto value decreasing proposals, rational management should be deterred from submitting value decreasing proposals (i.e., the coefficient on AFTER should be negative for value decreasing proposals). This is because insiders (i.e., management and controlling shareholders) cannot obtain any benefit from submitting a proposal if they knew the proposal would be vetoed by minority shareholders. More importantly, there are significant costs associated with submitting a proposal that will be vetoed for sure. One cost is the nontrivial time and resources devoted to the preparation of the proposal that could be otherwise spent in more productive activities. Another cost is the damage to management and directors' reputation resulting from the vetoing of a value decreasing proposal. In addition, management may also be forced to face the media and investors to explain the reasons for the veto, which could be embarrassing to management (see, e.g., "Equity Offering Proposal Vetoed, Fuyao Inc. Has to Look For Alternative Financing Sources", China Mining Journal, June 23, 2004).

To the extent that they are rational, minority shareholders should not veto value increasing equity offering proposals and therefore we should not expect the 2004 regulation to have a deterrence effect on value increasing equity offering proposals (i.e., the coefficient on AFTER should not be negative for value increasing proposals).

To make sure that the coefficient on AFTER is not due to systematic differences in the characteristics of the sample firms across the two time periods, we follow existing corporate finance research (see, e.g., Jung et al. 1996; Berger et al. 1997; Myers 2003; Leary and Roberts 2010) by including the following common equity financing determinants (see Table 1 for variable definitions). All control variables are defined using the most recently available

accelerate value decreasing proposals to avoid the 2004 regulation.

information as of the beginning of month t. *Q* is a proxy for investment opportunities. We expect

higher *Q* firms to be more likely to raise equity capital. *CASH* and *CFO* are proxies for the

availability of internal funds. Firms with higher *CASH* and *CFO* are expected to be less likely to

raise equity capital. *LEV* is a proxy for debt capacity and financial distress. We expect higher

LEV firms to be more likely to raise equity capital. *VOLATILITY* is a proxy for the financial

distress risk. We expect firms with higher *VOLATILITY* to be more likely to raise equity rather

than debt. *AR12* is a proxy for the inverse of information asymmetry or stock price overvaluation.

We expect firms with higher *AR12* to be more likely to issue equity capital.[16] *ASSETS* is the

natural logarithm of total assets at the end of the quarter prior to month t. *ASSETS* is a proxy for

the inverse of information asymmetry and also controls for potential size effects. Finally, we

include industry fixed effects (INDCD in CSMAR) because firms in certain industries may have

a stronger need to raise equity.[17]

We conjecture that the efficacy of the 2004 regulation should hinge on whether and how

minority shareholders are expected to vote on submitted managerial proposals. Hence, we also

examine whether the effect of *AFTER* varies with a firm's minority shareholder ownership

structure. We consider the following three minority shareholder ownership variables defined

using the most recent available data as of the beginning of month t. *MUTUAL_OWN* is the total

stock ownership (as a percentage of the total outstanding tradable shares) of all the open ended

and close ended mutual funds ranked among the top 10 minority shareholders.

OTHERINST_OWN is the total stock ownership (as a percentage of the total outstanding tradable

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[16] We also used the 12-month raw return or both AR12 and the 12-month market return and found similar inferences (untabulated).

[17] As a sensitivity check, we also follow Li et al. (2009) by including two additional control variables that are unique to China in the regression models of Tables 2 and 3: a dummy variable for state-controlled firms and a regional institutional development index developed by Fan and Wang (2004) and find similar inferences.

shares) of all the other institutional investors ranked among the top 10 minority shareholders.[18]

INDIVIDUAL_OWN is the total stock ownership (as a percentage of the total outstanding tradable shares) of all the individual investors ranked among the top 10 minority shareholders. Economic theory suggests that the incentive to participate in shareholder voting should increase with a shareholder's stock ownership (see Section 4.1 for direct confirmation evidence). Thus, we focus on the stock ownership of the top 10 minority shareholders, which is required to be disclosed quarterly since the end of 2003. We decompose the top 10 minority shareholders into individual investors and institutional investors because institutional investors are commonly believed to enjoy economy of scale, information advantage, and high level of sophistication and therefore are expected to be more likely to participate in the voting and make more informed decisions than individual investors.

Institutional investors in China include mutual funds (open ended or close ended), securities firms, national social security trust funds, insurance companies, foreign institutions, etc. The results in Brickley et al. (1988) and Chen et al. (2007) suggest that relative to other institutional investors who may have existing or potential business relations with the listed firms (e.g., insurance companies) or who may have non-value maximizing social objectives (e.g., national social security trust funds), mutual funds are more independent and thus should be more likely to monitor firm management.[19] In addition, mutual funds should face greater pressure from retail investors to increase the return on their invested capital. Hence, we further decompose institutional investors into mutual funds and other institutional investors. However,

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[18] We do not break out foreign shareholder ownership because there were very few foreign investors during our sample period, which predated the launch of China's Qualified Foreign Institutional Investor Program.

[19] Mutual funds may also have business ties with the firms in their investment portfolio, but Davis and Kim (2007) find no evidence that business ties negatively affect U.S. mutual funds' independence (see also Cremers and Romano (2007)).

we do not make any ex ante predictions on the differential effects of mutual funds versus other institutional investors because investor protections are weak in China and Chinese mutual funds are typically controlled by state-related entities and hence they may not be as independent as those in the U.S.[20]

3.3. Results

Table 1 shows the descriptive statistics for the relevant regression variables of model (1). Approximately 0.9% of the firm months proposed value increasing equity offerings while 1% of the firm months proposed value decreasing equity offerings. The median size of the equity offerings (defined as the proposed dollar value of an offering scaled by the average market value of the tradable shares during the 20 calendar days before the equity offering announcement) is not significantly different over the pre- and post- regulation periods (untabulated).

Among the top 10 minority shareholders, the mean mutual fund ownership is 4.6% of the total outstanding tradable shares while the mean stock ownership of all the other institutional shareholders is 6.3% of the total outstanding tradable shares. These percentages are economically meaningful but are much lower than the mean total institutional ownership in listed U.S. firms. The mean individual shareholder ownership (INDIVIDUAL_OWN) is 2% of the total outstanding tradable shares, much smaller than that of MUTUAL_OWN or OTHERINST_OWN. This finding suggests that most individual investors are not large shareholders even though they dominate the Chinese stock market in terms of numbers.

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[20] We do not further decompose each top 10 minority shareholder type (e.g., mutual funds) by investment horizon. This is because value decreasing equity offering proposals, if approved, would result in an immediate decline in stock prices. Therefore, both long-horizon and short-horizon independent top 10 minority shareholders would have an incentive to veto such proposals. In addition, the level of aggregate stock ownership by each top 10 minority shareholder type is very stable over our sample period (the AR(1) correlation is always greater than 70%), even though the investment horizons of individual shareholders within each top 10 minority shareholder type could vary.

The small aggregate ownership of the top 10 institutional investors raises an interesting question on the effectiveness of these institutional investors as monitors. We believe this is not a concern in our setting because under the 2004 regulation the equity offering proposals must be *separately* approved by the minority shareholders who participate in the voting. We find in Section 4.1 that in the post-regulation period non-top 10 minority shareholders rarely participated in the voting of equity offering proposals while the majority of the top 10 institutional investors did actively participate in the voting. Hence, the small aggregate ownership of the top 10 institutional investors could still have a substantial impact on the voting outcomes under the 2004 regulation.

Panel A of Table 2 shows the regression results of the multinomial logit regression model (2) for the value increasing equity offering proposals in column (1) and value decreasing equity offering proposals in column (2). Note that the reference group in both columns is always the firms that do not have any equity offering proposals in a month. The coefficients on the control variables are generally consistent with our predictions though not always significant. The only exception is the coefficient on VOLATILITY in column (2).

The insignificant coefficient on AFTER in column (1) suggests that there is no evidence that increasing minority shareholders' control over corporate decisions affects management's likelihood of submitting value increasing equity offering proposals. The coefficient on AFTER in column (2) is significantly negative, suggesting that management is less likely to submit value decreasing equity offering proposals in the post-regulation period. Overall, these results suggest that the 2004 regulation significantly improves the quality of equity offering proposals by deterring management from submitting value decreasing equity offering proposals.

Panel B of Table 2 shows the results of model (1) that allows the coefficient on AFTER to vary with the top 10 minority shareholder ownership characteristics. The interpretation of the coefficients on the interaction terms in nonlinear regression models is being debated. Two influential papers Ai and Norton (2003) and Norton et al. (2004) argue that the marginal effect of an interaction term in nonlinear models cannot be evaluated by simply looking at the sign, magnitude and significance of the coefficient on the interaction term. They show that the sign, magnitude and significance of the marginal effect of an interaction variable in a nonlinear model could vary across observations and does not simply depend on the sign of the coefficient on the interaction variable. In particular, the marginal effect of the interaction variable could be significantly different from zero even if the coefficient on the interaction variable is zero. However, two recent working papers by Greene (2009) and Kolasinski and Siegel (2010) directly challenge the view of Ai and Norton (2003) and Norton et al. (2004). In particular, Kolasinski and Siegel (2010) argue that it is still appropriate to directly rely on the significance of the coefficient on the interaction term to draw inference on the interaction effect as long as researchers are interested in proportional rather than absolute marginal interaction effects. Kolasinski and Siegel (2010) argue that proportional marginal interaction effects provide a more intuitive and economically meaningful interpretation of the interaction term than absolute marginal interaction effects.

Because of the disagreement in the correct way to interpret an interaction effect in nonlinear models, we present both the regression coefficient and the Ai and Norton (2003) style marginal effect for each interaction term in the multinomial logit model (see Appendix B for the formulas).[21] Following Norton et al. (2004), we graph the distribution of the marginal effects and

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[21] The STATA codes for computing the marginal effect of an interaction term in multinomial models are available at

associated z-statistics for each interaction variable over the entire range of predicted probabilities for all observations in Figure 1. We also report the mean marginal effect and mean z-statistic of each interaction variable in Panel C of Table 2. With respect to our specific models, the good news is that we reach similar inferences using both methods.

There is no evidence that minority shareholder composition affects management's likelihood of submitting value increasing proposals in the post-regulation period relative to the pre-regulation period. The coefficients on AFTER*MUTUAL_OWN, AFTER*OTHERINST_OWN, and AFTER*INDIVIDUAL_OWN for value increasing proposals in Panel B of Table 2 are all insignificant at the 10% two-tailed level. The mean z-statistics for the three interaction terms shown in Panel C of Table 2 are also insignificant at the 10% two-tailed level (see also Panel A of Figure 1).

There is evidence that management of firms with higher mutual fund ownership (but not management of firms with higher other institutional investor ownership) is less likely to submit value decreasing equity offering proposals in the post-regulation period relative to the pre-regulation period. Specifically, the coefficient on AFTER*MUTUAL_OWN (but not AFTER*OTHERINST_OWN) for value decreasing proposals in Panel B of Table 2 is significantly negative at the 10% significance level. In addition, as shown in Panel C of Table 2 and Panel B of Figure 1, the mean Ai and Norton marginal effect of AFTER*MUTUAL_OWN is significantly negative at the 10% two-tailed level (mean z-statistic=-1.818).[22] The marginal effect of AFTER*OTHERINST_OWN is insignificant at the 10% level for all observations.

[22] It is unlikely that the significant interaction effect for AFTER*MUTUAL_OWN can be explained by mutual funds' stock picking ability. If this were the case, the coefficient on MUTUAL_OWN should be significantly negative rather than insignificant for the pre-regulation period in column (2) of Table 2, Panel B.

With regard to top 10 individual minority shareholder ownership, the coefficient on AFTER*INDIVIDUAL_OWN for value decreasing proposals is significantly negative in Panel B of Table 2. In addition, the Ai and Norton marginal effect of AFTER*INDIVIDUAL_OWN for value decreasing proposals is significantly negative for many observations. The mean marginal effect of AFTER*INDIVIDUAL_OWN is significantly negative at the 10% two-tailed level (mean z-statistic=-1.803). This result suggests that management of firms with higher individual minority shareholder ownership is also less likely to submit value decreasing proposals in the post-regulation period relative to the pre-regulation period.

3.4. Quality of proposal submissions before and after the regulation

Given that the 2004 regulation helps deter value decreasing equity offering proposals as shown in Table 2, we should also expect the average quality of *submitted* equity offering proposals to be higher in the post-regulation period than in the pre-regulation period. We test this prediction by comparing the stock market reactions to announcements of equity offering proposals (CAR) across the two time periods. We expect the average CAR to be more positive in the post-regulation period. It is important to note that we cannot automatically infer the results in Table 2 based on the confirmative evidence in Table 3. This is because Table 3 does not distinguish value decreasing versus value increasing proposals. For example, the increase in CAR across the two periods in Table 3 could be caused by the increase in the number of value increasing proposals but there could be no change in the pattern of value decreasing proposals in the two periods.

Panel A of Table 3 shows the results of CAR for the pre- and post- regulation periods. The results suggest that proposal quality is higher in the post-regulation period. The mean and

median CAR are both significantly negative in the pre-regulation period using the t-test and rank-sum test. In contrast, the mean and median CAR are both positive in the post-regulation period and significantly different from zero using the t-test. In addition, the mean and median CAR are significantly different over the two time periods using either a t-test or rank-sum test.

Panel B of Table 3 provides further evidence on the impact of the top 10 minority shareholder composition on the quality of submitted proposals across the two time periods.[23] Since management had absolute control over equity offering decisions in the pre-regulation period, it may not be surprising to observe that none of the coefficients on MUTUAL_OWN, OTHERINST_OWN, and INDIVIDUAL_OWN is significant. Consistent with the evidence in Table 2, the coefficient on AFTER*MUTUAL_OWN is significantly positive, suggesting that mutual fund shareholders play an effective governance role in the post-regulation period by improving the quality of submitted proposals. There is no evidence of an improvement in proposal quality over the two time periods in firms with higher other institutional or higher individual shareholder ownership. The result for AFTER*INDIVIDUAL_OWN in Table 3 is not consistent with the result for AFTER*INDIVIDUAL_OWN in Table 2.[24] For this reason, we do not draw any strong conclusion on the effect of individual investor ownership in our overall inference.

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[23] For both Panels A and B of Table 3, we do not control for the firm characteristics in Table 2 because any improvement in CAR in the post-regulation period is due to the change in the types of firms that propose equity offerings. Thus, controlling for these firm characteristics would take away a portion of the effect we wish to capture. However, the results in Table 3 are robust to controlling for the firm characteristics (untabulated).

[24] Given that the 2004 regulation helps reduce management's incentive to propose value decreasing equity offerings in firms with higher mutual fund ownership, one may wonder whether the 2004 regulation also encourages mutual funds to increase their investment in firms with greater managerial agency problems so that they can capture the stock price gain from vetoing value decreasing managerial proposals in such firms. Using the amount of inter-corporate loans from the listed firm to its parent company (see Jiang et al. 2010) or the average CAR of equity offering proposals submitted prior to the 2004 regulation as a proxy for the extent of managerial agency problems, we find no supporting evidence for the above prediction (results untabulated).

3.5. Further analysis on the role of mutual fund ownership

Although the regression results in Tables 2 and 3 show that the effect of the 2004 regulation increases with mutual fund ownership, they do not directly demonstrate whether the effect of the 2004 regulation is significant in the absolute sense for firms with low mutual fund ownership. Hence, we also rerun the analyses in Panel A of Table 2 and Panel A of Table 3 for two approximately equal-size samples based on the median MUTUAL_OWN in each month. The results are reported in Panels A and B of Table 4, respectively. For brevity, we omit the coefficients on the control variables in Panel A of Table 4. As shown in Panel A of Table 4, for the sample with higher mutual fund ownership, the coefficient on AFTER is still significantly negative for value decreasing proposals, but for the sample with lower mutual fund ownership, the coefficient on AFTER is insignificantly different from zero. We reach a similar conclusion for the analysis in Panel B of Table 4. These results suggest that the deterrence effect of the 2004 regulation exists only in firms with high mutual fund ownership.

3.6. Robustness checks

We conduct two types of sensitivity checks to demonstrate the robustness of our results in Tables 2 and 3. First, we check whether our inferences are robust to modifications in the definition of proposal quality CAR. In Table 2 we use negative values of CAR as a proxy for value decreasing proposals resulting from management's expropriation of minority shareholders. However, Myers and Majluf (1984) show that due to information asymmetry between management and outside investors, CAR could be negative even when there are no managerial agency problems. In addition, CAR could be nonzero for volatile stocks even when the

announcement of an equity offering proposal contains no new information. To deal with these two issues, we create a standardized CAR (denoted SCAR, which is defined as $\frac{CAR}{\sqrt{N}\sigma}$, where N is number of trading days in the CAR window, and σ is standard deviation of daily market-adjusted returns over the [-280,-31] trading days prior to the equity offering proposal announcement date). Then we redefine a value decreasing (value increasing) proposal as one whose SCAR is below (above) the median SCAR of -8.89% of all the equity offering proposals in our entire sample period. Our inferences for Tables 2 and 3 are similar using this alternative definition of proposal quality (untabulated). In particular, for the interaction effect model in Table 2, the coefficient on our key variable of interest AFTER*MUTUAL_OWN is still significantly negative (two-tailed p=0.007) with a mean z-statistic of -1.684 for value decreasing proposals. For the interaction effect model in Table 3, the coefficient on AFTER*MUTUAL_OWN is significantly positive (two-tailed p=0.007).

Second, we examine whether the results in Table 2 are due to the inclusion of too many firm months that did not announce equity offering proposals. Conceptually our regression is a hazard model and thus it is correct to include all eligible non-equity offering firm months in our sample. In addition, we cluster all our standard errors by firm and thus statistical inference should not be affected by the inclusion of multiple non-equity offering months for the same firm. Nevertheless, we redo the regressions in Table 2 using an industry and firm size matched sample. Specifically, for each firm that submitted an equity offering proposal in a month, we retain only the not-equity offering submitting firms in that month that are in the same industry as the submitting firm and whose total assets fall in the range of 90%-110% of the submitting firm's total assets.[25] While the sample size for this matched subsample drops to 3,399 (28.5% of the full

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[25] Results are similar if we use 80%-120% and 95%-105% as alternative cutoffs.

sample in Table 2), the coefficient on AFTER for the model in Panel A of Table 2 is still significantly negative (two-tailed p=0.033). Moreover, the coefficient on AFTER*MUTUAL_OWN is significantly negative (two-tailed p=0.005) and the mean Ai and Norton marginal effect is significant (the mean z-statistic is -1.781) (untabulated).

3.7. Alternative explanations

The 2004 segmented voting regulation took effect at the same time for all domestically listed Chinese firms. Hence, a legitimate concern is whether the documented results in Tables 2 and 3 are due to the regulation per se or other confounding factors. In this section we perform a battery of sensitivity checks to rule out such alternative explanations for the results. Before discussing the sensitivity checks, we would like to point out that the interaction effects results in Tables 2 and 3 are difficult to explain using alternative explanations, even though the main effect of AFTER in Panel A of Table 2 and Panel A of Table 3 could be due to a time trend.

Our first type of sensitivity checks examines whether the results in Tables 2 and 3 are due to management's anticipation of future securities regulations that occurred after December 7, 2004. The most significant securities reform in China following the 2004 regulation is the split share structure reform in 2005. The CSRC announced the first pilot batch of four companies for the reform in April 2005 and another pilot batch of 42 companies in May 2005, but the reform was expanded to all listed firms by August 2005 (Li et al. 2010). Although the split share reform was launched fairly suddenly, some corporate managers might have anticipated the launch of the reform, which in turn might have affected their incentive to submit equity offering proposals. There are two potential effects of the anticipated reform. The first effect is that the CSRC will cease processing equity offering proposals upon the launch of the reform and therefore

management may have a lower incentive to announce equity offering proposals in the post-regulation period (both value increasing and value decreasing). This prediction is not supported in Table 2 because we find different results for value increasing and value decreasing proposals. In addition, our results in Table 2 are robust to excluding the 46 pilot firms from our sample or excluding the 2nd quarter of 2005, which is more likely subject to the anticipation effect of the reform.

The second effect of the split share structure reform is that the increased liquidity of non-tradable shares post the reform should help align the interests between controlling shareholders (especially those with a larger ownership of non-tradable shares) and minority shareholders and therefore controlling shareholders of A share firms may have a weaker incentive to expropriate minority shareholders (e.g., announcing value decreasing equity offering proposals) in our post-regulation period, which predates the completion of the reform. To rule out this alternative explanation, we rerun the regressions in Tables 2 and 3 after including NONTRADE_OWN (defined as the stock ownership of all non-tradable shareholders) and its interaction with AFTER. To the extent that the documented results in Tables 2 and 3 are due to this alternative explanation, the coefficient and Ai and Norton marginal effect of AFTER*NONTRADE_OWN for value decreasing proposals should be significantly negative for the model in Table 2 and the coefficient of AFTER*NONTRADE_OWN should be significantly positive for the model in Table 3. In addition, including AFTER*NONTRADE_OWN would reduce the marginal effects of AFTER*MUTUAL_OWN in Tables 2 and 3.

As shown in Table 5, the coefficient and mean Ai and Norton marginal effect of AFTER*NONTRADE_OWN are never significantly different from zero, suggesting no evidence of an anticipation effect of the reform. More importantly, as shown in Panels A and B of Table 5,

the coefficient and mean Ai and Norton marginal effect of AFTER*MUTUAL_OWN for value decreasing proposals remain significantly negative for the regression model in Table 2. In addition, the coefficient on AFTER*MATUAL_OWN for the model in Table 3 remains significantly positive in Panel C of Table 5. These results suggest that our results in Tables 2 and 3 are not driven by management's anticipation of the split share restructure reform.

Our second type of sensitivity checks examines whether the results in Tables 2 and 3 could be explained by China's gradual improvement in investor protection during our sample period. This is a legitimate concern for two reasons. First, there is a possibility (though low in our opinion) that Chinese firms might have voluntarily improved their corporate governance during our sample period. Second, the Chinese government might have introduced competing investor protection regulations around the same time as the segmented voting regulation. While we are not aware of any competing regulation issued around the passage of the segmented voting regulation that would *directly* limit management's ability to submit value decreasing proposals, we cannot rule out the possibility that there are competing regulations that may have an *indirect* effect on management's incentive to expropriate minority shareholders. For example, even the segmented voting regulation contains four additional minor investor protection provisions.[26]

We perform several types of analyses to rule out this alternative explanation. First, we examine whether there is a time trend in the mean/median CAR over our sample period. To the extent that our results in Tables 2 and 3 are due to China's gradual improvement in investor

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[26] The four minor investor protection provisions are as follows: (a) strengthening the role of independent directors by requiring material related party transactions and the hiring and dismissal of the company auditor subject to the approval of at least one half of the independent directors; (b) improving investor relations by encouraging management to improve the quality of corporate disclosures and investor communications; (c) encouraging listed firms to adopt a regular dividend policy and prohibiting listed firms that have not distributed cash dividends in the past three years from issuing new equity; and (d) holding controlling shareholders and company executives to the standard of fiduciary duty for minority shareholders and increasing the administrative penalties for violation of such fiduciary duty.

protection, we should observe similar findings even for the period prior to the 2004 regulation. As shown in Figure 2, there is no evidence of a time trend in the mean/median CAR over our sample period except for the jump in CAR coincident with the 2004 regulation.

Second, we replicate the interaction effects regressions in Tables 2 and Table 3 using a pseudo *AFTER* over the following three alternative 18-month time periods prior to the 2004 regulation: (a) January 2003-June 2004; (b) April 2003-September 2004; and (c) July 2003-November 2004.[27] As the regulation took effect on December 7, 2004, the last pseudo period contains only 17 months. We choose a gap of 3 months between the starting months of the three pseudo periods. Similar to the definition of *AFTER*, the pseudo *AFTER* is zero for the first 11 months and one for the remaining months. The results are shown in Table 6. For brevity, Table 6 only shows the coefficients and Ai and Norton marginal effects for the relevant interaction terms. For all the replications using the three alternative time periods, we find no results similar to those in Tables 2 and 3. Overall, these sensitivity results suggest that the results in Tables 2 and 3 are not due to a gradual improvement in investor protection.

Third, we examine whether the investor protection provision (c) noted in footnote 26 explains the results of Table 2. As provision (c) prohibits listed firms that have not paid any cash dividends in the past three years from issuing new equity, it will directly affect the sample of eligible firms for our Table 2. We do not believe that this provision is binding because management can easily circumvent provision (c) by paying a nominal amount of dividends before issuing new equity. Nevertheless, we rerun the regressions in Table 2 by restricting our

[27] As minority shareholder ownership data are unavailable before the fourth quarter of 2003, we assume that the values of MUTUAL_OWN, OTHERINST_OWN, and INDIVIDUAL_OWN for the months prior to the 4th quarter of 2003 are equal to those at the end of the 4th quarter in 2003. This is a reasonable assumption because the top-10 minority shareholder ownership is very stable in our sample period (see footnote 20).

sample firms to those that paid cash dividends in at least one of the past three years. Our inferences are not changed (untabulated). This may not be surprising because this restriction only results in a small reduction in our sample from 11,924 to 10,317.

Fourth, we examine whether there is a decline in the extent of inter-corporate loans from A share firms to their controlling shareholders in the post-regulation period. Jiang et al. (2010) show that inter-corporate loans are a common tunneling mechanism that controlling shareholders use to expropriate minority shareholders of publicly traded A share firms. While a general improvement in investor protection (e.g., the investor protection provisions of the 2004 regulation noted in footnote 26) may reduce controlling shareholders' incentive to expropriate minority shareholders using both inter-corporate loans and value decreasing equity offering proposals, the segmented voting regulation does not directly limit management's ability to expropriate minority shareholders using inter-corporate loans. Therefore, to the extent that the results in Tables 2 and 3 are due to a general improvement in investor protection rather than the segmented voting regulation, we should also observe a similar decline in the extent of outstanding inter-corporate loans post the 2004 regulation in our sample period. We use the following OLS regression model to test this prediction:

$$OREC_{it} = \beta_i + \beta_1 * AFTER + \beta_2 * LNTA_{it} + \varepsilon_{it} \tag{2}$$

where i and t are firm and quarter indicators, respectively. OREC (defined as gross other receivables deflated by year-end total assets) is a proxy for the inter-corporate loans per Jiang et al. (2010).[28] AFTER is equal to one for the fiscal quarters after the 4th quarter of 2004 and zero

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[28] Inference is similar if OREC is defined using other receivables net of the allowance for bad debt expense. We prefer to use gross other receivables because the reporting for the allowance for bad debt expense is subject to considerable managerial discretion.

otherwise. Because OREC is scaled by total assets, we include LNTA (defined as the natural logarithm of year-end total assets) to control for size effects. The model includes firm fixed effects, but inference is similar without the firm fixed effects. To determine whether minority shareholder composition affects the coefficient on AFTER, we also allow the coefficient on AFTER to vary with MUTUAL_OWN, OTHERINST_OWN, and INDIVIDUAL_OWN.

Table 7 shows the regression results of OREC for all publicly traded A share firms over our sample period 1/1/2004-6/30/2005.[29] Inference is similar if the sample in Table 7 is limited to firms whose OREC at the 2003 year-end is above the median or only the firms included in Table 2. To avoid alternative explanation resulting from a change in the mix of the sample firms over time, we require each firm to have non-missing observations in each of the 6 quarters over our sample period. This sample restriction results in a loss of 740 firm quarters in column (1) and 641 firm quarters in column (2). As shown in column (1), the coefficient on AFTER is significantly positive. In addition, the coefficients on the interaction terms between AFTER and the three minority shareholder ownership structure variables are insignificant. These results are inconsistent with the alternative hypothesis that the level of controlling shareholders' expropriation using inter-corporate loans declined after the 2004 regulation. Overall, the results in Table 7 reduce the concern that our results in Tables 2 and 3 are due to a general improvement in investor protection over our sample period. Our results are consistent with Jiang et al. (2010) who find that the inter-corporate loan problem was not resolved until November 7, 2006 when eight Chinese government ministries issued a joint announcement that would hold the top

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[29] Jiang et al. (2010) also find that the level of OREC is negatively associated with the listed firm's future earnings performance. This negative relation holds in our sample as well. In addition, the negative relation is similar for both the pre- and post-regulation periods, suggesting that the nature of OREC is similar over the two time periods.

management of controlling shareholders personally accountable for failing to pay back inter-corporate loans to A share firms.

4. Minority shareholders' voting behavior in the post-regulation period

In this Section we use the detailed minority shareholder voting data available in the post-regulation period to address two questions. First, we examine the factors that affect a minority shareholder's incentive to participate in the voting of submitted proposals (Section 4.1). Second, conditional on the equity offering proposals submitted to shareholders' meetings for approval, we examine whether minority shareholders' likelihood of vetoing a proposal is negatively correlated with the quality of the proposal, especially in firms with higher mutual fund ownership (Section 4.2).

4.1. Determinants of minority shareholders' participation in the voting

We consider the importance of two factors in affecting a minority shareholder's incentive to participate in the voting: a) the minority shareholder's ownership level; and b) the minority shareholder's identity (i.e., mutual fund, other institution or individual shareholder).[30] Panel A of Table 8 shows the descriptive statistics on minority shareholders' participation rate. PARTICIPATE_ALL is the number of tradable shares that participated in the voting as a fraction of all the outstanding tradable shares on the voting date. Recall that minority shareholders in this paper refer to tradable shareholders. The other participation rate variables are defined similarly except that they are defined for different subsets of tradable shareholders. For example, PARTICIPATE_MUTUAL is defined as the number of tradable shares owned by mutual funds

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[30] We find no evidence that proposal quality CAR is a significant determinant of minority shareholders' voting participation decision (untabulated).

who are among the top 10 tradable shareholders on the voting date and participated in the voting as a fraction of the total number of tradable shares owned by mutual funds who are among the top 10 tradable shareholders on the voting date. We have all the data needed to compute PARTICIPATE_ALL, but we cannot directly compute the other participation rate variables due to lack of data on the top 10 tradable shareholders on the voting date. Therefore, we use the algorithm explained in the notes to Table 8 to infer the top 10 tradable shareholders who are eligible to vote on the voting date.

As shown in Panel A of Table 8, the median participation rate is only 13.3% for all minority shareholders as a whole. This low rate is largely driven by non-top 10 minority shareholders as evidenced by the very low median participation rate of 4.4% for non-top 10 minority shareholders. The median participation rate for the top 10 minority shareholders is 62.8%, much higher than that of non-top 10 minority shareholders. This finding is consistent with the economic intuition that minority shareholders with lower ownership benefit less from the voting participation. Among the top 10 minority shareholders, institutional investors' participation rates are much higher than individual shareholders' participation rate. The median participation rate is 65.6%, 48.8%, and 18.3% for mutual funds, other institutions, and individual shareholders, respectively.

Panel B of Table 8 directly models the determinants of voting participation using all the top 10 minority shareholders who are eligible to vote on the voting date. As expected, minority shareholders with lower stock ownership are less likely to vote. However, even after controlling for stock ownership, it is interesting to observe that both mutual funds and other institutions are still more likely to vote than individual shareholders. The coefficient on MUTUAL is also significantly different from the coefficient on OTHERINST (two-tailed p-value=0.025),

suggesting that mutual funds are more actively participating in the shareholder voting than other institutions. These results are consistent with the findings in Tables 2 and 3.

4.2. Proposal quality and minority shareholders' voting behavior

Due to the recent availability of mutual fund proxy voting data in the U.S., there is a growing interest in studying the actual voting behavior of mutual funds. However, as we illustrate below for our case of equity offering proposals, this approach is problematic to assess the governance role of mutual funds. First, for firms whose voting minority shareholders are not independent and thus will not exercise their veto power (e.g., other institutions), managers will continue to submit value decreasing proposals and such proposals will be always approved. Second, for firms whose voting minority shareholders are independent and thus will exercise the veto power (e.g., mutual funds), rational managers will not submit value decreasing proposals. Accordingly, all submitted proposals must be value increasing and therefore should be approved by rational minority shareholders. Hence, in the extreme we should not observe any vetoing or a negative association between proposal quality and minority shareholders' veto decisions in equilibrium, even for firms with higher mutual fund ownership.[31] However, this latter prediction does not imply that the 2004 regulation is ineffective for firms with higher mutual fund ownership. For this reason, we believe it is not appropriate to rely on the association between proposal quality and minority shareholders' voting decisions to draw strong conclusions about the governance role of mutual funds.

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[31] To the extent that minority shareholders still veto submitted proposals, it must be due to either that minority shareholders are irrational and veto value increasing proposals or that managers are irrational and continue to submit value decreasing proposals which are vetoed by minority shareholders.

With this caveat in mind, we now proceed to use the following logit model to examine the empirical relation between proposal quality and minority shareholders' voting in the post-regulation period:

$$VETO_{it} = a + b*DCAR_{it} + \varepsilon_{it} \tag{3}$$

where i and t are proposal and date indicators, respectively. *VETO* is a dummy variable that equals 1 if a proposal is vetoed by minority shareholders in the post-regulation period, and zero if it is passed by minority shareholders in the post-regulation period. DCAR is a dummy variable that is equal to one if for value increasing equity offering proposals (i.e., CAR>0) and zero otherwise. Regression model (3) is different from regression model (1) in that we do not compare the regression coefficients across the pre- and post-regulation periods. As management had an absolute say on the equity offering decision in the pre-regulation period, any proposals submitted by management would be passed without exception. Therefore, it is not meaningful to run regression model (3) in the pre-regulation period (i.e., the coefficient on DCAR should be always zero).

We prefer to use DCAR instead of CAR as a proxy for proposal quality for two reasons. First, the relation between CAR and VETO is unlikely to be a linear function. While minority shareholders should care about whether a proposal is value increasing or value decreasing (i.e., the sign of CAR), they should be less concerned about the magnitude of proposal quality (i.e., the magnitude of CAR). For example, two value decreasing proposals' CARs could differ significantly (e.g., -10% versus -20%), but we expect minority shareholders to veto both with equal likelihood. Thus, we believe that using DCAR is more appropriate for regression model (3). Second, CAR is subject to greater endogeneity than DCAR due to stock price's anticipation of minority shareholders' voting outcomes in the post-regulation period. Brickley et al. (1988)

argue that DCAR can be used as an exogenous instrument for the endogenous CAR. While the magnitude of CAR could be affected by the stock market's anticipation of the likelihood of minority shareholders' voting outcome, it is likely that CAR is still negative (positive) for value decreasing (increasing) proposals considering the fact that there is still some uncertainty on the eventual voting outcome by minority shareholders. Thus, DCAR should have the ability to separate value increasing (CAR>0) proposals from value decreasing (CAR<0) proposals and thus could serve as a valid (though may not be a perfect) exogenous instrument for proposal quality. Consistent with this argument, we find that the marginal effects of DCAR and DCAR*MUTUAL_OWN in models 1 and 2 of Table 9 respectively are insignificant if DCAR is replaced with CAR.

We also examine whether the level of stock ownership by each of the three types of top 10 minority shareholders affects the effect of DCAR on VETO. Specifically, we allow the coefficient on DCAR to vary with *MUTUAL_OWN*, *OTHERINST_OWN* and *INDIVIDUAL_OWN*, all of which are measured at the fiscal quarter end immediately before the proposal voting date. Top 10 minority shareholders can affect a proposal's voting outcome directly by casting their own votes in a certain way or indirectly by influencing other shareholders' voting behavior (e.g., by releasing their private information about the quality of a proposal). For the reason noted at the beginning of this Section, we do not have any predictions on the coefficient on DCAR or the coefficients on the interaction terms.

There are 82 equity offering proposals that were voted on by minority shareholders in the post-regulation period. We exclude three proposals withdrawn prior to minority shareholder voting dates. Results are similar if we treat the withdrawn proposals as vetoed proposals. Ten out of the 82 proposals (12%) were vetoed by minority shareholders (untabulated), suggesting that

minority shareholders did exercise the newly granted veto power in equilibrium.[32] Six of the 10 vetoed proposals have negative CARs, suggesting that minority shareholders did exercise their veto power when value decreasing proposals were submitted. It is interesting to observe that four of the 10 vetoed proposals have positive CARs. We find that two of the four vetoed proposals with positive CARs were resubmitted to a subsequent shareholders' meeting (with no material changes to the original proposals) and approved, suggesting that miscommunication could be a reason for the initial veto. For the remaining two vetoed proposals with positive CARs, they were vetoed by individual minority shareholders (suggesting irrationality on the part of minority shareholders) and never resubmitted. Among the six vetoed proposals with negative CARs, only one was submitted to a subsequent shareholders' meeting again after management reduced the offering size by about 20% and approved. To the extent that a reduction in the offering size would reduce the amount of free cash flow available to corporate insiders for tunneling, this example suggests that granting minority shareholder the veto power help improve the quality of corporate decisions.

We formally test the association between proposal quality and minority shareholders' voting decisions in Table 9. Model 1 in Panel A of Table 9 shows the regression result of model (3). The coefficient on DCAR in Panel A of Table 9 is negative but insignificant. Thus, conditional on the proposals submitted by management, on average there is no association between proposal quality and minority shareholders' voting decisions. This finding is consistent with the rational equilibrium discussed at the beginning of this Section.

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[32] If the CAR at the proposal announcement is positive (negative) but the proposal is vetoed, we should expect the CAR at the voting outcome announcement to be negative (positive). Consistent with this prediction, we find that the correlation of CARs at the proposal announcement and voting outcome announcement is significantly negative (two-tailed p=0.092) for the 10 vetoed proposals. As expected, the same correlation is insignificant for the approved proposals.

Model 2 in Panel A of Table 9 reports the logit regression coefficients of model (3) that allows the coefficient on DCAR to vary with MUTUAL_OWN, OTHERINST_OWN, and INDIVIDUAL_OWN. As this is a logit model, we also report the mean Ai and Norton marginal effects and associated mean z-statistics for the three interaction variables in Panel B of Table 9 (see Appendix B for the formula). The coefficient and mean Ai and Norton marginal effect of DCAR*MUTUAL_OWN are significantly negative at the 10% two-tailed level or lower, suggesting that minority shareholders are more likely to veto value decreasing proposals in firms with higher mutual fund ownership. In particular, the significantly positive coefficient on MUTUAL_OWN suggests that when managers do submit value decreasing (i.e., DCAR<0) proposals, minority shareholders are more likely to veto the proposals in firms with higher mutual fund ownership. In contrast, the significantly negative sum of the coefficients on MUTUAL_OWN and DCAR*MUTUAL_OWN suggests that when managers submit value increasing (i.e., DCAR>0) proposals, minority shareholders are less likely to veto the proposals in firms with higher mutual fund ownership. This latter finding is unexpected but does suggest the governance role of mutual funds. With the exception of the significantly negative sum of the coefficients on OTHERINST_OWN+DCAR*OTHERINST_OWN, we find no significant effects for the other institutions and individual shareholders. [33] Overall, there is only weak evidence of a negative association between proposal quality and minority shareholders' vetoing of submitted equity offering proposals in firms with higher mutual fund ownership. Though

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[33] We also replicate Table 9's models using AGREE (defined as the number of tradable shares that agreed with the managerial proposal as a fraction of the total number of tradable shares that voted on the proposal) as an alternative dependent variable. Untabulated Tobit's regression results show that the coefficient on DCAR in model 1 is still insignificant while the coefficients on MUTUAL_OWN and DCAR*MUTUAL_OWN in model 2 become insignificant.

counterintuitive, the mixed finding in Table 9 is consistent with the equilibrium model discussed at the beginning of this Section.

5. Conclusion

The objective of this study is to examine whether a Chinese regulation that requires managerial equity offering proposals to seek the separate approval of tradable shareholders (referred to as minority shareholders) helps improve the quality of equity offering proposals. We find that the regulation helps deter management from submitting value decreasing equity offering proposals in firms with higher mutual fund ownership but not in firms with higher ownership by either other institutional investors or individual investors. In addition, the mean CAR for the *submitted* proposals is significantly more positive in the post-regulation period than in the pre-regulation period for firms with higher mutual fund ownership but not for firms with higher other institutions' ownership or higher individual investor ownership. We also find weak evidence that proposal quality is negatively related to minority shareholders' veto decisions in firms with higher mutual fund ownership but not in firms with higher ownership by either other institutions or individual shareholders. Overall, our results suggest that the regulation helps improve the quality of equity offering proposals but only in firms with higher mutual fund ownership.

Our study provides valuable information to the debate on the costs and benefits of granting minority shareholders direct control over corporate decisions. Our results are directly relevant to the Chinese securities regulator (CSRC) who faces a daunting task of protecting minority shareholders' interests and developing the country's domestic financial market. Given China's poor record of investor protection and weak law enforcement, it is a comfort and also a surprise to find that the 2004 regulation worked remarkably well in reining in value decreasing

equity offerings proposals. To our knowledge, we are the first study to show how strengthening minority shareholders' direct control over corporate decisions affect the quality of corporate decisions in firms with concentrated share ownership. Our results should be of interest to investors and regulators in other countries who are contemplating proposals that would strengthen minority shareholders' control over corporate decisions.

Our study also suggests several possible avenues for future research. First, it would be interesting to examine how the 2004 regulation affects management's incentives to explore alternative methods of expropriation. This question is relevant to assessing the overall (direct and indirect) effects of the regulation on shareholder value. The evidence in Table 7 is a good starting point but more research is warranted to understand the full magnitude of such indirect effects. Second, it is interesting to examine how the 2004 regulation affects the total combined gain of both minority shareholders and controlling shareholders. It is possible that the 2004 regulation merely represents a wealth transfer from controlling shareholders to minority shareholders without improving the overall economic efficiency of the firm. Nevertheless, demonstrating the direct effect of the 2004 regulation on the quality of equity offering proposals is a necessary first step in our quest to understand the overall efficiency effects of any regulatory change to the firm and the economy.

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Appendix A. The procedures used to identify the firms eligible to propose equity offerings

We rely on the following regulations issued by the Chinese Securities Regulatory Commission (CSRC) to identify the firms that are eligible to propose an equity offering (a general offering, a rights offering, or a convertible bond offering): a) Measures for the Administration of New Share Issuance by Listed Companies (Order No. 1 [2001] of the CSRC); b) Notice on the Administration of New Share Issuance by Listed Companies (Order No. 43 [2001] of the CSRC; c) Implementation Measures for Listed Companies′ Issuing Convertible Corporate Bonds (Order No. 2 [2001] of the CSRC); d) The Interim Measures for the Administration of Convertible Corporate Bonds (Order No. 16 [1997] of the Securities Committee of the State Council; e) Notice on the Administration of Convertible Corporate Bond Issuance by Listed Companies (Order No. 115 [2001] of the CSRC); f) Notice on the Conditions for the Additional Issuance of Securities by Listed Companies (Order No. 2 [2002] of the CSRC); and g) Notice of the China Securities Regulatory Commission on Several Issues Concerning Major Purchases, Sales and Exchanges of Assets by Listed Companies (Order No. 105 [2001] of the CSRC). Under these regulations firms that wish to propose an equity offering are required to meet several qualitative and quantitative requirements. Though the quantitative requirements are generally straightforward, most qualitative requirements are subjective and difficult to measure using publicly available data. Hence, we rely on the quantitative requirements to determine a firm's equity offering eligibility. Specifically, a firm is deemed eligible to propose a *rights offering* if it satisfies the following two conditions: a) the average return on equity (ROE) over the past three years is no less than 6%; and b) the firm has not conducted any rights offering in the previous year. A firm is deemed eligible to propose a *general offering* if it satisfies the following two conditions: a) the average ROE (based on an unknown formula specified by the CSRC) over the past three years is no less than 10%;[34] and b) the ROE in the previous year is no less than 10%. However, under the CSRC regulations a firm is also deemed eligible to propose a general offering if it experiences a "significant" restructuring in any of the previous three years. A restructuring is deemed significant if the restructuring's deal value is no less than 50% of the firm's gross total assets. A firm is deemed eligible to propose a *convertible bond offering* if it

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[34] As we do not have access to the CSRC's ROE formula, we define ROE as annual net income divided by the average shareholder's equity.

satisfies the following two conditions: a) the average ROE over the past three years is no less than 10% or the average ROE based on net income excluding non-recurring items over the past three years is no less than 6%; and b) the firm does not report a loss in any of the previous three years. Again, under the CSRC regulations a firm is also deemed eligible to propose a convertible bond offering if it experiences a "significant" restructuring in any of the previous three years.

A firm year is excluded from our sample of eligible firms if it does not satisfy the eligibility requirements for a general offering, a rights offering, or a convertible bond offering. If we literally follow the above eligibility requirements, a significant number of firm years that did propose equity offerings would be excluded. As a result, we relax the quantitative thresholds by reducing the 10% threshold to 9%, the 6% threshold to 5%, and the 50% threshold to 40%. With those relaxed thresholds, all but one equity offering proposals are retained in our final sample.

Appendix B. The Ai and Norton (2003) marginal effects of interaction variables in nonlinear regressions

A. The marginal effects of interaction terms for the multinomial logit model in Table 2

The multinomial logit model in Panel B of Table 2 is as follows:

$$\Phi_J \equiv \Pr[Y=J] = \frac{e^{Z_J}}{1+\sum_{j=1}^{2} e^{Z_j}} \tag{A}$$

where J=1 for value increasing proposals and 2 for value decreasing proposals, and

$$
\begin{aligned}
Z_J \equiv{}& a_J + b_{J,1} MUTUAL\_OWN + b_{J,2} OTHERINST\_OWN + b_{J,3} INDIVIDUAL\_OWN + \\
& c_J AFTER + \\
& d_{J,1} AFTER * MUTUAL\_OWN + d_{J,2} AFTER * OTHERINST\_OWN + \\
& d_{J,3} AFTER * INDIVIDUAL\_OWN + \gamma_J CONTROL + e_J
\end{aligned}
$$

Denote $\Phi_J[0] = \Phi_J[AFTER=0]$ and $\Phi_J[1] = \Phi_J[AFTER=1]$

The three marginal effects of AFTER*MUTUAL_OWN, AFTER*OTHERINST_OWN, and AFTER*INDIVIDUAL_OWN in the multinomial logit model are defined as follows:

$$
\frac{\partial[\Phi_J[1]-\Phi_J[0]]}{\partial MUTUAL\_OWN}
$$
$$
= \Phi_J[1]\left[(b_{J,1}+d_{J,1}) - \sum_{j=1}^{2}\left[\Phi_j[1]\cdot(b_{j,1}+d_{j,1})\right]\right] - \Phi_J[0]\cdot\left[b_{J,1} - \sum_{j=1}^{2}\Phi_j[0]b_{j,1}\right] \tag{A1}
$$

$$
\frac{\partial[\Phi_J[1]-\Phi_J[0]]}{\partial OTHERINST\_OWN}
$$
$$
= \Phi_J[1]\left[(b_{J,2}+d_{J,2}) - \sum_{j=1}^{2}\left[\Phi_j[1]\cdot(b_{j,2}+d_{j,2})\right]\right] - \Phi_J[0]\cdot\left[b_{J,2} - \sum_{j=1}^{2}\Phi_j[0]b_{j,2}\right] \tag{A2}
$$

$$
\frac{\partial[\Phi_J[1]-\Phi_J[0]]}{\partial INDIVIDUAL\_OWN}
$$
$$
= \Phi_J[1]\left[(b_{J,3}+d_{J,3}) - \sum_{j=1}^{2}\left[\Phi_j[1]\cdot(b_{j,3}+d_{j,3})\right]\right] - \Phi_J[0]\cdot\left[b_{J,3} - \sum_{j=1}^{2}\Phi_j[0]b_{j,3}\right] \tag{A3}
$$

B. The marginal effects of interaction terms for the logit model in Table 9 (a special case of the multinomial logit model)

The logit model in Panel B of Table 9 is as follows

$$\Phi \equiv \Pr[VETOED] = \frac{e^Z}{1+e^Z} \tag{B}$$

where

$$Z = a + b_1 MUTUAL\_OWN + b_2 OTHERINST\_OWN + b_3 INDIVIDUAL\_OWN + c \cdot DCAR +$$
$$d_1 DCAR * MUTUAL\_OWN + d_2 DCAR * OTHERINST\_OWN +$$
$$d_3 DCAR * INDIVIDUAL\_OWN + e$$

Denote $\Phi[0] = \Phi[DCAR = 0]$ and $\Phi[1] = \Phi[DCAR = 1]$.

The three marginal effects of DCAR*MUTUAL_OWN, DCAR*OTHERINST_OWN, and DCAR*INDIVIDUAL_OWN in the logit model are defined as follows:

$$\frac{\partial[\Phi[1] - \Phi[0]]}{\partial MUTUAL\_OWN} = \Phi'[1] \cdot [b_1 + d_1] - \Phi'[0] \cdot b_1 \tag{B1}$$

$$\frac{\partial[\Phi[1] - \Phi[0]]}{\partial OTHERINST\_OWN} = \Phi'[1] \cdot [b_2 + d_2] - \Phi'[0] \cdot b_2 \tag{B2}$$

$$\frac{\partial[\Phi[1] - \Phi[0]]}{\partial INDIVIDUAL\_OWN} = \Phi'[1] \cdot [b_3 + d_3] - \Phi'[0] \cdot b_3 \tag{B3}$$

Table 1. Descriptive Statistics (N=11,924 firm-month observations)

The sample covers the firm months that are eligible to issue new equity over January 2004 to June 2005. CAR is the market adjusted cumulative abnormal return over the [-2, +10] trading days around the equity offering proposal announcement date. SUBMISSION = 0 if a firm does not submit a proposal in month t, 1 if a firm submits a value increasing (i.e., CAR>0) proposal in month t, and 2 if a firm submits a value decreasing (i.e., CAR≤0) proposal in month t. MUTUAL_OWN is the total stock ownership (as a percentage of the total outstanding tradable shares) of all the open ended and close ended mutual funds ranked among the top 10 minority shareholders at the end of the quarter prior to month t. OTHERINST_OWN is the total stock ownership (as a percentage of the total outstanding tradable shares) of all the other institutional investors ranked among the top 10 minority shareholders at the end of the quarter prior to month t. INDIVIDUAL_OWN is the total stock ownership (as a percentage of the total outstanding tradable shares) of all the individual investors ranked among the top 10 minority shareholders at the end of the quarter prior to month t. Q is the natural logarithm of a firm's Tobin's Q at the end of the quarter prior to month t. Q is defined as the market value minus the book value of shareholders' equity plus total assets divided by total assets. Results are similar if the market value of non-tradable shares is assumed equal to their book value in the Q definition. CFO is cash flows from operations over four quarters divided by the average total assets at the end of the quarter prior to month t. LEV is total debts divided by total assets at the end of the quarter prior to month t. CASH is cash and marketable securities divided by total assets at the end of the quarter prior to month t. ASSETS is the natural logarithm of total assets at the end of the quarter prior to month t. VOLATILITY is the standard deviation of daily stock returns over a one year period that ends in the beginning of month t. AR12 is the buy and hold equally weighted market adjusted abnormal return over a one-year period that ends at the beginning of month t.

Variable name	Mean	Std	Min	Q1	Median	Q3	Max
SUBMISSION=1	0.009	0.093	0.000	0.000	0.000	0.000	1.000
SUBMISSION=2	0.010	0.099	0.000	0.000	0.000	0.000	1.000
MUTUAL_OWN	0.046	0.081	0.000	0.000	0.004	0.055	0.851
OTHERINST_OWN	0.063	0.134	0.000	0.003	0.018	0.063	0.996
INDIVIDUAL_OWN	0.020	0.020	0.000	0.004	0.017	0.030	0.179
Q	0.574	0.357	-0.135	0.328	0.512	0.759	6.435
CASH	0.172	0.118	0.002	0.084	0.142	0.228	0.584
CFO	0.071	0.107	-0.354	0.017	0.072	0.126	0.426
LEV	0.466	0.188	0.056	0.340	0.467	0.588	2.685
VOLATILITY	0.023	0.011	0.002	0.018	0.021	0.025	0.288
AR12	0.018	0.302	-2.145	-0.160	-0.007	0.189	1.312
ASSETS	21.430	1.080	14.686	20.736	21.312	22.016	27.169

Table 2. The effect of the 2004 regulation on management's incentive to submit value increasing and value decreasing equity offering proposals (N=11,924 firm-month observations)

The sample covers the firm months that are eligible to issue new equity over January 2004 to June 2005. AFTER is a dummy variable that is equal to one for the 7 firm-month observations after the regulation (i.e., December 2004 and after), and zero otherwise. See Table 1 for other variable definitions. Two-tailed robust p values clustered at the firm level are reported in parentheses for Panels A and B. The mean marginal effects and z-statistics are computed using the formulas in Appendix B.

Panel A. Main effects model

	SUBMISSION=1 (value increasing)		SUBMISSION=2 (value decreasing)	
	coefficient	p-value	coefficient	p-value
AFTER	0.188	*(0.322)*	-0.464	*(0.016)*
LEV	1.443	*(0.001)*	0.872	*(0.040)*
Q	-0.544	*(0.160)*	-0.100	*(0.745)*
CFO	0.991	*(0.266)*	1.464	*(0.135)*
VOLATILITY	-19.609	*(0.346)*	-26.365	*(0.045)*
AR12	1.602	*(0.000)*	0.596	*(0.024)*
CASH	-2.218	*(0.024)*	-3.690	*(0.000)*
ASSETS	-0.170	*(0.162)*	-0.110	*(0.315)*
Industry fixed effects		YES		
Pseudo R-square		0.0325		

Panel B. Interaction effects model

	SUBMISSION=1 (value increasing)		SUBMISSION=2 (value decreasing)	
	coefficient	p-value	coefficient	p-value
MUTUAL_OWN	0.635	(0.726)	1.480	(0.320)
OTHERINST_OWN	0.634	(0.529)	-0.354	(0.699)
INDIVIDUAL_OWN	3.907	(0.572)	9.867	(0.059)
AFTER	0.443	(0.246)	0.866	(0.078)
AFTER*MUTUAL_OWN	1.144	(0.595)	-10.438	(0.003)
AFTER*OTHERINST_OWN	-1.332	(0.414)	-2.016	(0.380)
AFTER*INDIVIDUAL_OWN	-18.277	(0.141)	-38.813	(0.037)
LEV	1.545	(0.001)	0.867	(0.068)
Q	-0.665	(0.110)	-0.036	(0.908)
CFO	0.869	(0.335)	1.625	(0.096)
VOLATILITY	-17.741	(0.373)	-25.892	(0.052)
AR12	1.415	(0.000)	0.755	(0.012)
CASH	-2.225	(0.027)	-3.611	(0.000)
ASSETS	-0.240	(0.112)	-0.057	(0.695)

Industry fixed effects	YES
Pseudo R-square	0.0405

Panel C. Ai and Norton marginal interaction effects

	SUBMISSION=1 (value increasing)		SUBMISSION=2 (value decreasing)	
	Mean marginal effect	Mean Z-statistic	Mean marginal effect	Mean Z-statistic
AFTER*MUTUAL_OWN	0.012	(0.597)	-0.088	(-1.818)
AFTER*OTHERINST_OWN	-0.011	(-0.757)	-0.015	(-0.607)
AFTER*INDIVIDUAL_OWN	-0.160	(-1.240)	-0.339	(-1.803)

Table 3. The effect of the 2004 regulation on equity offering proposal quality

The sample contains the equity offering proposals announced over the period 1/1/2004-6/30/2005. All the variables are defined as in Tables 1 and 2 and measured at the end of the quarter prior to the equity offering proposal announcement date. Two-tailed robust p values shown in Panel C are clustered at the firm level.

Panel A. The market reactions to announcements of equity offering proposals in the pre- and post- regulation periods

| | mean (median) [S.D.] | | | |
| | CAR in the pre-regulation period | CAR in the post-regulation period | Two-tailed p value on the test of the difference | |
			t-test	rank-sum test
	-0.014 (-0.018) [0.068]	0.014 (0.018) [0.066]	0.003	0.004
Two-tailed p value of one-sample t-test	0.012	0.069		
Two-tailed p value of one-sample rank-sum test	0.005	0.119		

Panel B. OLS regression result of CAR: interaction effects model (N=228)

	Coefficient	(p-value)
MUTUAL_OWN	0.007	(0.933)
OTHERINST_OWN	0.009	(0.790)
INDIVIDUAL_OWN	0.070	(0.703)
AFTER	-0.006	(0.748)
AFTER*MUTUAL_OWN	0.368	(0.002)
AFTER*OTHERINST_OWN	0.032	(0.602)
AFTER*INDIVIDUAL_OWN	0.355	(0.615)
Industry fixed effects	YES	
Adjusted R-square	0.101	

Table 4. Replication of Panel A of Table 2 and Panel A of Table 3 for firms with high and low MUTUAL_OWN separately

For the estimation of the regression model in Panel A of Table 2, high and low MUTUAL_OWN are defined based on the median MUTUAL_OWN in each month. For the analysis in Panel B of Table 3, high and low MUTUAL_OWN is defined based on the median MUTUAL_OWN in the pre- and post- regulation periods, respectively. For brevity, we only report the coefficient on AFTER for the two regressions in Panel A. See Tables 2 and 3 for other variable definitions.

Panel A. Replication of Panel A of Table 2

	SUBMISSION=1 (value increasing)		SUBMISSION=2 (value decreasing)	
	coefficient	p-value	coefficient	p-value
AFTER for high MUTUAL_OWN firms	0.256	(0.298)	-0.594	(0.020)
AFTER for low MUTUAL_OWN firms	0.067	(0.837)	-0.330	(0.259)

Panel B. Replication of Panel A of Table 3 for high and low MUTUAL_OWN separately

mean (median) [S.D.]

	CAR in the pre-regulation period	CAR in the post-regulation period	Two-tailed p value on the test of the difference	
			t-test	rank-sum test
Firms with high MUTUAL_OWN	-0.014 (-0.008) [0.072]	0.034 (0.033) [0.070]	0.001	0.001

	CAR in the pre-regulation period	CAR in the post-regulation period	Two-tailed p value on the test of the difference	
			t-test	rank-sum test
Firms with low MUTUAL_OWN	-0.015 (-0.025) [0.064]	-0.006 (-0.014) [0.057]	0.470	0.427

Table 5. The effect of the 2004 regulation on management's incentive to submit value increasing and value decreasing equity offering proposals: controlling for the effect of the 2005 split share structure reform (N=11,924 firm-month observations)

The Table shows only the coefficients and mean Ai and Norton marginal interaction effects for the relevant interaction variables from the regression models of Panel B of Table 2 and Panel B of Table 3 after adding NONTRADE_OWN and AFTER*NONTRADE_OWN. NONTRADE_OWN is the stock ownership of all non-tradable shareholders at the end of the quarter prior to month t. See Tables 1 and 2 for other variable definitions. The sample in Panels A and B covers the firm months that are eligible to issue new equity over January 2004 to June 2005. The sample in Panel C covers the equity offering proposals announced over the period 1/12004-6/30/2005. Two-tailed robust p values clustered at the firm level are reported in parentheses for Panels A and C. The mean marginal effects and z-statistics in Panel B are computed using the formulas in Appendix B.

Panel A. Coefficients (p-values) of the key variables of interest in Panel B of Table 2

	SUBMISSION=1 (value increasing)		SUBMISSION=2 (value decreasing)	
	Coefficient	(p-value)	coefficient	(p-value)
AFTER*MUTUAL_OWN	0.827	(0.707)	-10.356	(0.004)
AFTER*OTHERINST_OWN	-1.108	(0.495)	-2.034	(0.365)
AFTER*INDIVIDUAL_OWN	-21.011	(0.104)	-38.898	(0.043)
AFTER*NONTRADE_OWN	1.598	(0.255)	-0.342	(0.804)

Panel B. Mean Ai and Norton interaction effect (mean Z-stat) of the key variables of interest in Panel C of Table 2

	SUBMISSION=1 (value increasing)		SUBMISSION=2 (value decreasing)	
	Mean marginal effect	Mean Z-statistic	Mean marginal effect	Mean Z-statistic
AFTER*MUTUAL_OWN	0.009	(0.439)	-0.087	(-1.734)
AFTER*OTHERINST_OWN	-0.009	(-0.632)	-0.015	(-0.634)
AFTER*INDIVIDUAL_OWN	-0.186	(-0.133)	-0.338	(-1.722)
AFTER*NONTRADE_OWN	0.015	(1.028)	-0.005	(-0.340)

Panel C. Coefficients (p-values) of the key variables of interest in Panel C of Table 3

	Dependent variable=CAR	
	coefficient	(p-value)
AFTER*MUTUAL_OWN	0.374	(0.000)
AFTER*OTHERINST_OWN	0.062	(0.236)
AFTER*INDIVIDUAL_OWN	0.396	(0.569)
AFTER*NONTRADE_OWN	0.078	(0.285)

Table 6. Replication of the interaction effects models shown in Tables 2 and 3 using three alternative time periods prior to the 2004 regulation's effective date

The three alternative 18-month time periods are (a) January 2003-June 2004; (b) April 2003-September 2004; and (c) July 2003-November 2004, respectively. Since the 2004 regulation took effect on December 7, 2004, the last pseudo period contains only 17 months. Similar to the definition of *AFTER*, the pseudo *AFTER* is one for the first 11 months and zero for the remaining months. See Tables 2 and 3 for other variable definitions.

Panel A. Replication of Panel B of Table 2 using pseudo AFTER: coefficients (p-values) of the key variables of interest

	January 2003 – June 2004 (AFTER=1 for December 2003–June 2004)		April 2003 – September 2004 (AFTER=1 for March 2004–September 2004)		July 2003 – November 2004 (AFTER=1 for June 2004 – November 2004)	
	SUBMISSION=1 (value increasing)	SUBMISSION=2 (value decreasing)	SUBMISSION=1 (value increasing)	SUBMISSION=2 (value decreasing)	SUBMISSION=1 (value increasing)	SUBMISSION=2 (value decreasing)
AFTER*MUTUAL_OWN	1.080 (0.761)	2.602 (0.290)	3.686 (0.283)	-0.162 (0.942)	-3.60 (0.321)	1.103 (0.675)
AFTER*OTHERINST_OWN	1.357 (0.422)	0.668 (0.700)	0.227 (0.899)	3.583 (0.019)	0.105 (0.959)	2.722 (0.057)
AFTER*INDIVIDUAL_OWN	11.177 (0.163)	12.033 (0.147)	18.766 (0.066)	3.467 (0.672)	-29.580 (0.165)	5.613 (0.561)

Panel B. Replication of Panel C of Table 2 using pseudo AFTER: mean Ai and Norton marginal effects (mean z-statistics) of the key variables of interest

	January 2003 – June 2004 (AFTER=1 for December 2003–June 2004)		April 2003 – September 2004 (AFTER=1 for March 2004–September 2004)		July 2003 – November 2004 (AFTER=1 for June 2004 – November 2004)	
	SUBMISSION=1 (value increasing)	SUBMISSION=2 (value decreasing)	SUBMISSION=1 (value increasing)	SUBMISSION=2 (value decreasing)	SUBMISSION=1 (value increasing)	SUBMISSION=2 (value decreasing)
AFTER*MUTUAL_OWN	0.011 (0.466)	0.026 (0.959)	0.024 (1.071)	0.003 (0.146)	-0.022 (-0.870)	0.008 (0.302)
AFTER*OTHERINST_OWN	0.007 (0.613)	0.004 (0.226)	0.000 (0.040)	0.032 (1.830)	0.000 (0.0418)	0.025 (1.665)
AFTER*INDIVIDUAL_OWN	0.0800 (1.373)	0.134 (1.444)	0.132 (1.575)	0.049 (0.596)	-0.179 (-1.242)	0.034 (0.347)

Panel C. Replication of Panel B of Table 3 using pseudo AFTER: the coefficients (p values) of the key variables of interest

	Coefficient (two-tailed p-value)		
	January 2003 – June 2004 (AFTER=1 for December 2003–June 2004)	April 2003 – September 2004 (AFTER=1 for March 2004–September 2004)	July 2003 – November 2004 (AFTER=1 for June 2004–November 2004)
AFTER*MUTUAL_OWN	-0.029 (0.867)	0.079 (0.662)	-0.015 (0.932)
AFTER*OTHERINST_OWN	-0.011 (0.877)	-0.1406 (0.028)	-0.092 (0.128)
AFTER*INDIVIDUAL_OWN	0.551 (0.153)	-0.116 (0.833)	-1.178 (0.008)

Table 7. The regression result of inter-corporate loans

OREC is gross other receivables divided by year-end total assets. LNTA is the natural logarithm of year-end total assets. AFTER is one for the quarters after 1/1/2005 and zero otherwise. All variables are winsorized at the 1% and 99% percentiles. See Table 1 for other variable definitions. MUTUAL_OWN, OTHERINST_OWN, and INDIVIDUAL_OWN are measured at the beginning of the quarter. The sample in each column includes all A share firms that have nonmissing data in each of the 6 quarters over 1/1/2004-6/30/2005. Two-tailed robust p values clustered at the firm level are reported in parentheses.

	Dependent variable = OREC	
	(1) Coefficient (p-value)	(2) Coefficient (p-value)
AFTER	0.008 (0.000)	0.006 (0.035)
MUTUAL_OWN		0.010 (0.409)
OTHERINST_OWN		-0.020 (0.127)
INDIVIDUAL_OWN		-0.151 (0.065)
After*MUTUAL_OWN		-0.009 (0.504)
AFTER*OTHERINST_OWN		-0.001 (0.960)
AFTER*INDIVIDUAL_OWN		0.077 (0.412)
LNTA	-0.047 (0.005)	-0.047 (0.007)
Firm fixed effects	YES	YES
Adj. R-square	0.89	0.89
N	6,906	6,879

Table 8, Minority shareholders' voting participation rate in the post-regulation period

PARTICIPATE_ALL is the number of tradable shares that participated in the voting as a fraction of all the outstanding tradable shares on the voting date. The other participation rate variables are defined similarly except that they are defined for different subsets of tradable shareholders. For example, PARTICIPATE_MUTUAL is defined as the number of tradable shares owned by mutual funds who are among the top 10 tradable shareholders on the voting date and participated in the voting as a fraction of the total number of tradable shares owned by mutual funds who are among the top 10 tradable shareholders on the voting date. The top 10 tradable shareholders who are eligible to vote on the voting date are derived indirectly using the following algorithm. First, for each equity offering proposal voted in quarter t, we identify the top 10 tradable shareholders as disclosed at the beginning and end of quarter t and the top 10 voting tradable shareholders as disclosed in the voting outcome announcement. Second, if the voting date is exactly at the end of quarter t, we assume that the top 10 tradable shareholders as disclosed by the company's periodic report at the end of quarter t are the top 10 tradable shareholders eligible to vote on the voting date. Third, if the voting date falls during quarter t and a tradable shareholder is among the top 10 tradable shareholders either at the beginning or at the end of quarter t or both, we compare VOL1 (defined as all tradable shareholders' trading volume from the beginning of quarter t to the voting date) and VOL2 (defined as all tradable shareholders' trading volume from the voting date to the end of quarter t). If VOL1<VOL2, we assume that the top 10 tradable shareholders at the beginning of quarter t have not sold their shares by the voting date and therefore are eligible to vote on the voting date. If VOL1≥VOL2, we assume that the top 10 tradable shareholders at the end of quarter t are the shareholders eligible to vote on the voting date. Fourth, we rank the tradable shareholders identified in step (2) through (3) above along with the top 10 voting tradable shareholders based on their stock ownership. It is important to include the top 10 voting tradable shareholders in the ranking because our steps (2) and (3) may miss some top 10 tradable shareholders who might have turned over their shares quickly around the voting date. Those who are ranked among the top 10 are assumed to be the top 10 tradable shareholders eligible to vote on the vote date. VOTE is a dummy variable that equals one if a minority shareholder voted in a submitted proposal and zero otherwise. MUTUAL is a dummy variable that equals one if the minority shareholder is a mutual fund. OTHERINST is defined similarly for other institutions. OWN is the percentage of tradable shares held by a minority shareholder. There are 82 proposals minority shareholders voted on in the post-regulation period, but the sample sizes in Panels A and B are smaller due to missing data. The unit of observation is a proposal in Panel A and a top 10 tradable shareholder in Panel B.

Panel A. Descriptive statistics on minority shareholders' voting participation

Variable	N	Mean	S.D.	25%	50%	75%
PARTICIPATE_ALL	80	0.161	0.129	0.061	0.133	0.235
PARTICIPATE_TOP10	76	0.550	0.277	0.365	0.628	0.780
PARTICIPATE_NONTOP10	76	0.089	0.104	0.015	0.044	0.135
PARTICIPATE_MUTUAL	56	0.635	0.358	0.456	0.656	1.000
PARTICIPATE_OTHERINST	64	0.476	0.416	0.000	0.488	0.912
PARTICIPATE_INDIVIDUAL	51	0.270	0.307	0.000	0.183	0.409

Panel B. Determinants of top 10 minority shareholders' voting participation

	Dependent variable = VOTE	
	Coefficient	(p value)
MUTUAL	0.9648	(0.009)
OTHERINST	0.5107	(0.034)
OWN	0.2805	(0.000)
CONSTANT	-1.0431	(0.000)
Pseudo R-square	0.0930	
N	751	
Two-tailed p value for Ho: MUTUAL=OTHERINST	0.025	

Table 9. Proposal quality and the likelihood of minority shareholders' veto in the post-regulation period (N=82 proposals)

The sample contains the equity offering proposals that minority shareholders voted on in the post-regulation period. The dependent variable is VETO, a dummy variable that is 1 if a proposal is vetoed by minority shareholders, and zero if it is passed by minority shareholders. DCAR is a dummy variable equals to one if CAR>0 and zero otherwise. CAR is the market adjusted cumulative abnormal return over the [-2, +10] trading days around the proposal announcement date. MUTUAL_OWN, OTHERINST_OWN and INDIVIDUAL_OWN are defined as in Table 1 except that all of them are measured at the end of the fiscal quarter immediately prior to the proposal voting date. Two-tailed robust p values clustered at the firm level are reported in parentheses in Panel A. The mean marginal effects and z-statistics in Panel C are computed using the formulas in Appendix B.
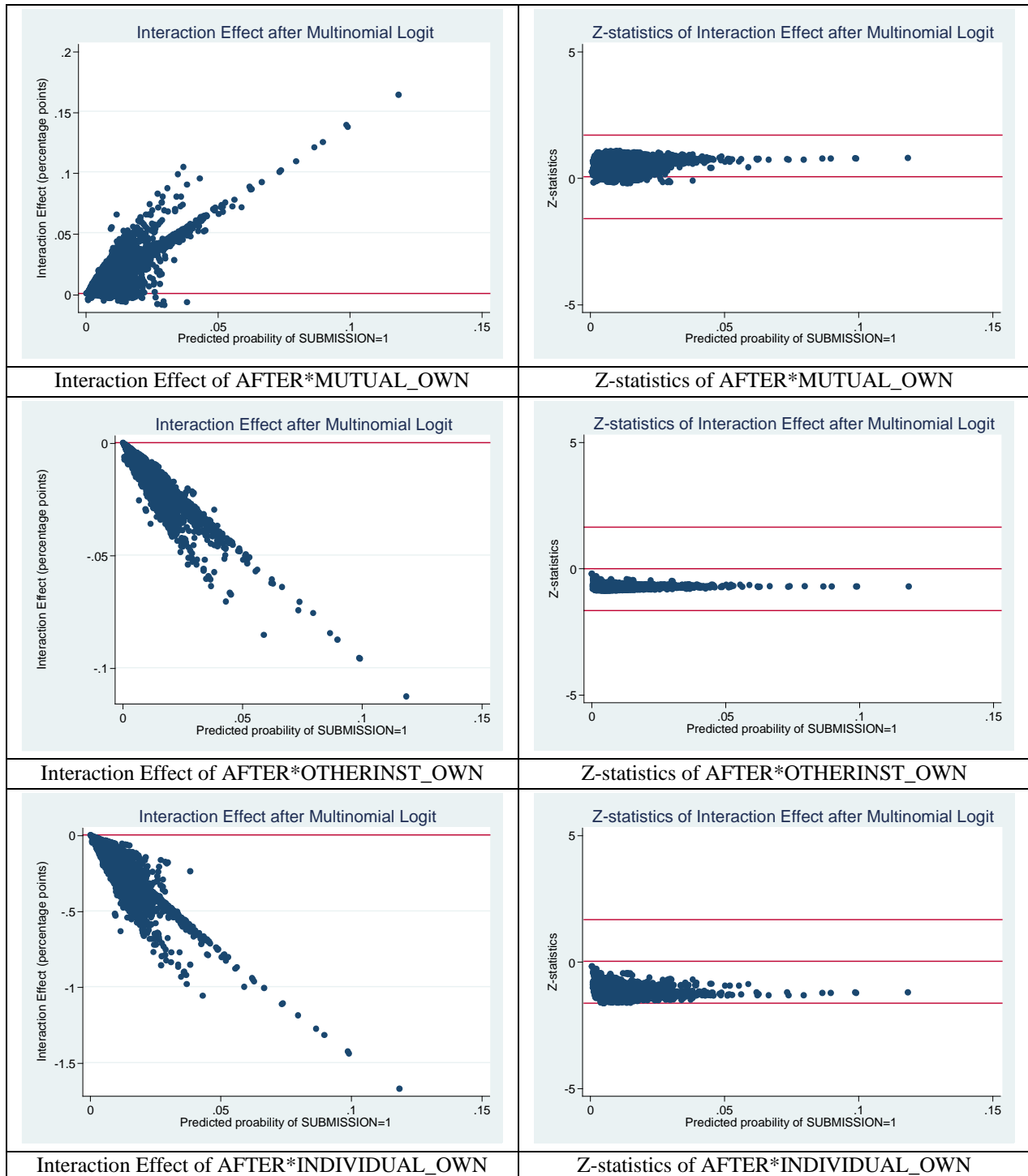
Panel A. Logit regression results

	Model 1 (main effects)	Model 2 (interaction effects)
	Coefficient (p-value)	Coefficient (p-value)
CONSTANT	-1.576 (0.000)	-1.759 (0.077)
DCAR	-0.799 (0.255)	4.313 (0.129)
MUTUAL_OWN		0.116 (0.084)
OTHERINST_OWN		-0.026 (0.389)
INDIVIDUAL_OWN		-0.178 (0.544)
DCAR*MUTUAL_OWN		-0.634 (0.035)
DCAR*OTHERINST_OWN		-0.172 (0.107)
DCAR*INDIVIDUAL_OWN		-1.037 (0.313)
Pseudo R-square	0.023	0.254

Test of Hypotheses

MUTUAL_OWN+DCAR*MUTUAL_OWN		-0.518 (0.075)
OTHERINST_OWN+DCAR*OTHERINST_OWN		-0.198 (0.053)
INDIVIDUAL_OWN+DCAR*INDIVIDUAL_OWN		-1.215 (0.213)

Panel B. Mean Ai and Norton marginal effect (mean Z-statistic)

DCAR*MUTUAL_OWN		-0.063 (-1.785)
DCAR*OTHERINST_OWN		-0.015 (-0.444)
INDIVIDUAL_OWN		-0.086 (-0.425)

Figure 1. The effect of the 2004 regulation on management's incentive to submit value increasing and value decreasing equity offering proposals by the top 10 minority shareholder ownership

The following graphs display the marginal effects and corresponding *z*-statistics on the interaction variables between AFTER and the top 10 minority shareholder ownership characteristics (MUTUAL_OWN, OTHERINST_OWN, and INDIVIDUAL_OWN) reported in Panel B of Table 2, estimated using the formulas shown in Appendix B. Panel A plots the graphs for the value increasing proposals and Panel B the graphs for the value decreasing proposals. The lines above and below 0 on the figures located on the right side represent the 10% two-tailed significance level (±1.65).

Panel A. Interaction effects for value increasing proposals (i.e., SUBMISSION=1)

Interaction Effect of AFTER*MUTUAL_OWN	Z-statistics of AFTER*MUTUAL_OWN
Interaction Effect of AFTER*OTHERINST_OWN	Z-statistics of AFTER*OTHERINST_OWN
Interaction Effect of AFTER*INDIVIDUAL_OWN	Z-statistics of AFTER*INDIVIDUAL_OWN

Panel B. Interaction effects for value decreasing proposals (i.e., SUBMISSION=2)

| Interaction Effect of AFTER*MUTUAL_OWN | Z-statistics of AFTER*MUTUAL_OWN |

| Interaction Effect of AFTER*OTHERINST_OWN | Z-statistics of AFTER*OTHERINST_OWN |

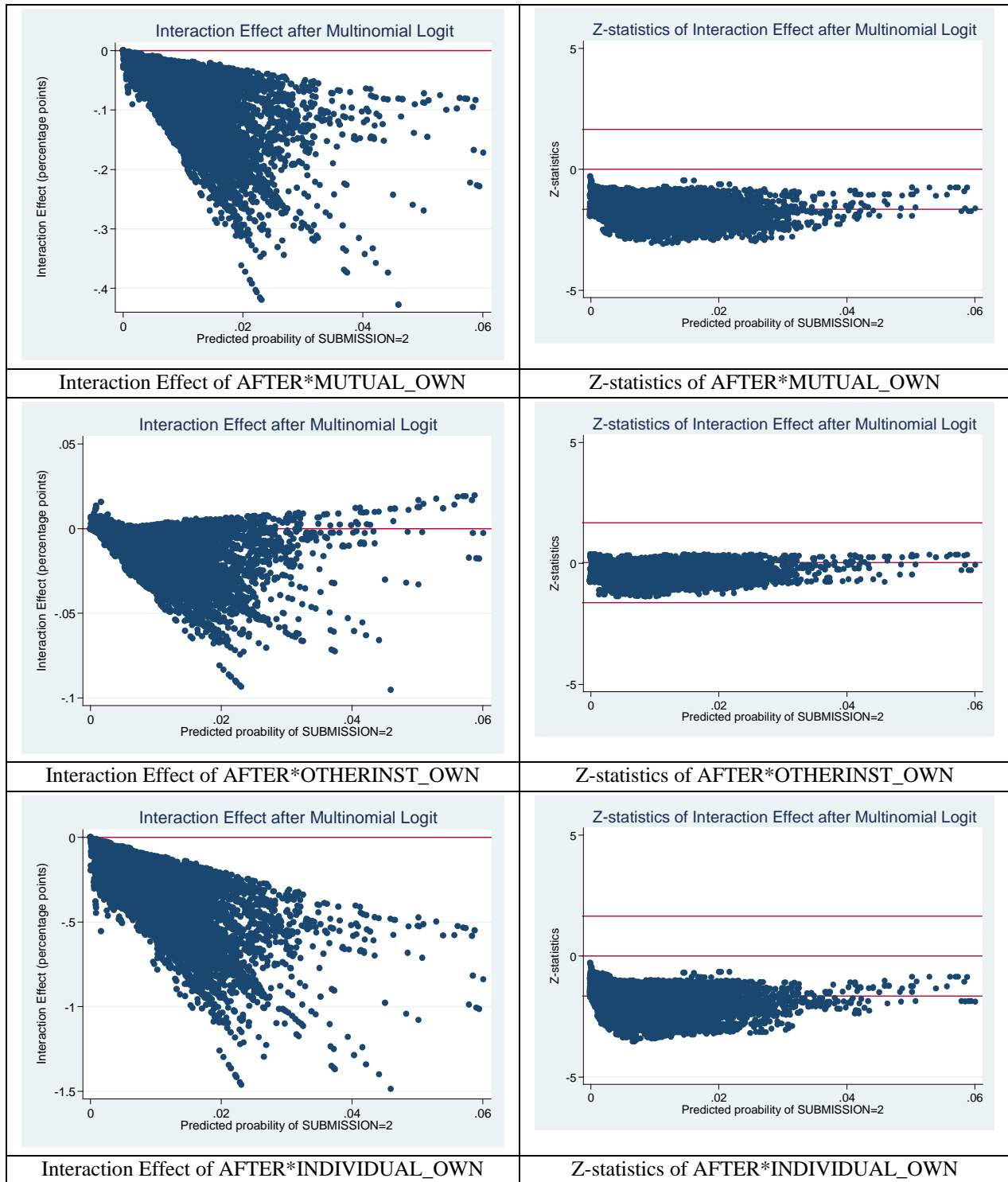| Interaction Effect of AFTER*INDIVIDUAL_OWN | Z-statistics of AFTER*INDIVIDUAL_OWN |

Figure 2. Stock market reactions to equity offering proposal announcements by calendar quarter

See Table 1 for the definition of CAR. The mean/median CAR is computed by calendar quarter. The proposals submitted on or after December 7 in the 4th quarter of 2004 are treated as proposals submitted in the 1st quarter of 2005.