The Role of Agency in Mitigating Expropriation: Firm-level Evidence from Contract Renegotiations.*

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Abstract

Firm-level bargaining outcomes of contract renegotiations prompted by an exogenous policy shock in China in 2005 reveal that minority shareholders receive more favorable outcomes in cities where informal payments to local officials are high. Bureaucrat CEOs are shown to respond to private benefits in the bargaining game and, moreover, their responsiveness is greater in cities where informal payments are commonplace. These results are consistent with agency or economic capture within low quality bureaucracies. Since we might also expect greater risk of expropriation from low quality vertical institutions, the findings suggest agency can serve to restrain a government's ability to exercise unilateral power.

1 Introduction

Empirical studies of the 2005 reform of firm ownership in China – the conversion of nontradable to tradable shares – have revealed insights about the quality of firm-level corporate governance. For a large majority of firms, the owners together agreed to a contract renegotiation whereby the owners of tradeable shares were compensated for the shock to the supply of tradables with some fraction of nontradable shares.[1] A compensation ratio was determined at the firm level as the outcome of a bargaining game between the nontradable and tradable shareholders.[2] One observation common to these studies, such as Li et al. (2008) and Wang (2009), is that the compensation ratio is higher for state controlled firms than for privately controlled firms. This finding is surprising when viewed in the light of Acemoglu and Johnson's (2005) view that vertical institutions may exert their unilateral power and offer reduced property rights protection relative to the protection offered in contracts between private citizens. In this paper we explore variation in the compensation ratio among state controlled firms to investigate why minority shareholders in these firms were able to extract, on average, higher levels of compensation.

One key difference between state and privately controlled firms is that, in the former, the nontradable shareholders are represented by a bureaucrat CEO employed by the local government to manage the firm and hence the firm-level reform process. A 2004 World Bank survey measures entertainment and travel costs at the city level by aggregating firm-level survey responses within cities. They note that these cost items serve as a conduit for informal payments to officials. We show that compensation ratios are higher, that is, the outcome of the reform process favors minority shareholders, when the firm is located in a city where informal payments to officials tend to be high. This finding raises the suggestion that bureaucrat CEOs have fewer incentives to act in the interest of the state in these regions or that minority shareholders are able to influence CEO actions in certain institutional environments. We hypothesize that the compensation ratio is affected by the coherence of the bureaucrat CEO's incentives with the local government's interests. The possibility of agency comes about because, while observable, the bargaining outcome is not perfectly verifiable ex post because the state cannot judge the extent to which the agreed compensation ratio is appropriate. The result is consistent with agency or economic capture of the bureaucrat CEO in areas where bribery is commonplace.

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[1] Since tradable shares generally accounted for only 40% of all shares, holders of tradable shares are minority shareholders. We use the terms minority shareholders and tradable shareholders interchangeably throughout the paper.

[2] The compensation ratio is defined in section 3.

There is variation across firms in the private incentives faced by bureaucrat CEOs, independent of city-level entertainment costs. Salary, personal ownership of nontradable shares, and career concerns provide incentives to act in the interests of the principal, the local government, and achieve lower compensation ratios. We find that when entertainment costs are high, the compensation ratio is associated with the CEO's private incentives. The compensation ratio is highest when entertainment costs in the city are high and when the CEO faces fewer incentives to act in the interest of the local government. In cities where entertainment costs are relatively low, some measures of personal incentives are unrelated to the observed outcome. We infer from these interactions that agency problems are particularly prevalent in cities where entertainment costs are high.

Event studies suggest that the stock markets draw similar inferences from firm-level variation in CEO private benefits and city-level entertainment costs for the value of tradable shares. Two different events relating to the reform are shown to significantly affect tradables returns. At the time the policy was first announced, high levels of CEO nontradable shareholdings were associated with abnormal negative returns. When the details about the bargaining process were announced, revealing the role of the bureaucrat CEO, the extent of CEO nontradable shareholding was associated with further declines in tradables' returns. In addition, firms located in cities where entertainment costs were high experienced positive abnormal returns at this time.

Acemoglu and Johnson (2005) and Cull and Xu (2005) emphasize the importance of the quality of vertical institutions for economic outcomes. They argue that higher quality vertical institutions protect against expropriation, and this affects outcomes because it is not possible for private individuals to circumvent unilateral government power. The World Bank (2006) suggests that the entertainment costs index studied here correlate negatively with local government efficiency. This paper hence finds empirical evidence consistent with there being at least one other dimension of the quality of vertical institutions, in that high quality governments are able to avoid bureaucrat agency. The theory of organizations has paid limited attention to the internal organization of government (Tirole, 1994). While some recent theory papers present models of incentives within bureaucracies, such as Prendergast (2003, 2005) and Acemoglu et al. (2008), empirical study is still rare. If the vertical institutions most prone to attempt expropriation are also those where agency is particularly prevalent, then private citizens have a potential channel through which they can protect themselves. This might help explain the puzzling fact (Svensson, 2005) that empirical evidence of the relationship between the quality of vertical institutions and economic outcomes is

limited.[3]

The World Bank defines corruption as "abuse of public office for private gain."[4] Many papers analyze the negative effects of corruption on the economy.[5] Our finding that the compensation ratio is associated with measures of private gain for bureaucrat CEOs in high entertainment cost cities in a way that is detrimental to the state is hence evidence consistent with the presence of corruption in these cities.[6] Political scientists have described how corruption within a government can help mitigate the impact of a government whose actions might otherwise have negative consequences.[7] Leff (1964), Huntingdon (1968), and De Soto (1989) make this "efficient corruption" argument. However, to the best of our knowledge, empirical evidence of this has not yet been documented. Our results suggest that the ease of economic capture of bureaucrat CEOs facing private incentives is negatively associated with measures of vertical institutions quality, which may help explain why poor quality institutions and economic growth need not be mutually exclusive.

Li, Feng and Jiang (2006) describe how institutional entrepreneurs generate positive spillovers in an economy by finding ways to circumvent existing institutional barriers and hence shape de facto institutions. They do not however discuss explicitly whether institutional entrepreneurs in China pay bribes to the government officials to avoid bad policies or unreasonable regulations. Cai et al. (2005) find that the World Bank's entertainment cost index, which they interpret as levels of bureaucrat bribery, is negatively correlated with firm performance. The negative relationship is however less pronounced in cities where firms receive lower quality government service. This is consistent with our inference that bureaucrat agency coexists with corrupt governments. Entertainment costs facilitate state bureaucrat capture when institutions are low quality, allowing firms to achieve relatively high performance in these regions.

Section 2 of the paper describes the background to the ownership reform and the process of reform. Section 3 motivates the agency problem in the context of the bargaining game played by the owners of nontradable and tradable shares of state controlled firms. Section 4 describes the data used in the study, section 5 presents the results and section 6 describes some robustness tests.

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[3]For example, Mauro (1995) finds that while corruption – which he shows is highly positively correlated with expropriation risk – is negatively associated with economic growth, the result is not particularly robust to the inclusion of relevant controls.

[4]See footnote 1 in the following document: http://www1.worldbank.org/publicsector/anticorrupt/corruptn/cor02.htm

[5]See Rose-Ackerman (1978, 1999), Bardhan (1997), Svensson (2005), and Banerjee et al. (2009) for surveys.

[6]This theme comes up in Huang (2003) in the context of the price agreed by bureaucrats in the sale of state owned assets to multinational firms.

[7]Other definitions of corruption require that the abuse of power be an inducement to wrong, or have illegitimate ends. In the case where agency is serving to mitigate expropriation, we might argue that these ends are entirely legitimate and so these bureaucracies are not strictly corrupt. However, any evidence of agency in the bureaucracy fits the World Bank definition of a corrupt government.

Section 7 concludes.

2 The Policy Shock

This section presents a parsimonious summary of the relevant background to ownership reform and how the policy was implemented in state controlled firms.

Many of China's state owned firms were partially privatized through share issue privatizations, starting in 1990 when securities markets were established in Shanghai and Shenzhen. The government (including local and central government) typically maintained substantial – usually majority – holdings in most firms. The ownership structure consisted of both tradable and nontradable shares and both types had the same voting and cash flow rights. For the most part, government-owned shares of publicly listed firms were nontradable due to ideological considerations. Trading restrictions also applied to a subset of shares in the privately controlled listed firms that had appeared in the late 1990s. Hence, prior to April, 2005, when the specific nationwide reform studied here began, the controlling shareholder's shares in both state and privately controlled firms were nontradable.

At the time of the reform, nontradables accounted for an average of 62% of all firms' outstanding shares. This proportion was similar for state and privately controlled firms. Nontradability was thought to have multiple negative effects on corporate governance and firm value, see Wu (2004) for a book-length description. The central government had attempted ownership reform in 2001 but the reform process was cancelled in 2002 since it was felt that the shock to the supply of tradable shares would destabilize Chinese stock markets. Calomiris et al. (2009) contains an empirical analysis of the effects of these policy changes.

Figure 1 resembles the first figure in Li et al. (2008) and summarizes the sequence of the key events studied in this paper. There are two main announcements of interest.

First, on April 29, 2005, the CSRC (the Chinese equivalent of the SEC) announced the "Notice of the China Securities Regulatory Commission on Piloting the Share-trading Reform of Listed Companies"[8] which stated that the sale of nontradable shares would be permitted in the future subject to the agreement of tradable shareholders. The CSRC did not actually announce a general government policy – rather, each individual firm was responsible for its ownership reform. The most important signal from this announcement was that nontradables shareholders would have to compensate tradable shareholders for the right to sell their nontradable shares into the stock market. Since the existing financial contract between nontradables and tradables shareholders specified

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[8]http://www.lawinfochina.com/law/displayModeTwo.asp?ID=4160&DB=1&keyword=

that the former could not sell their shares into the stock market, this reform constituted a contract renegotiation between the two groups. Thus this policy announcement initiated a nationwide bargaining game between nontradable and tradable shareholders in all listed firms. It became common knowledge that the CEO of the firm would bargain with tradable shareholders about the details at the firm-level. The exact role of each participant in the bargaining game (senior management, tradable shareholders, board of directors, regulation agencies, financial intermediaries) remained unclear. This date is defined as Event 1 in our study.

Second, on September 4, 2005, the CSRC issued the "Measures for the Administration of the Share-trading Reform of Listed Companies".[9] Relative to the announcement on April 29, the September announcement made relatively detailed requirements of each listed firm's ownership reform: the bargaining/reform procedure, principles governing setting up the reform plan, information disclosure of important news during this reform, and the role of financial intermediaries. The role of senior managers in the reform process had become much clearer by this time since 37 firms had successfully carried out their reforms, the details of which were publicized in the financial media. Furthermore, this announcement made it very clear that senior managers were the main players in the bargaining game on behalf of nontradables shareholders. This date is defined as Event 2 in our study.

These two announcements were viewed by market participants in China as the two milestone policy announcements governing the nationwide reform among listed firms. As is generally the case for other macroeconomic policies in China, these policy announcements were unexpected by the market and there was no lobbying during this process, as described in Calomiris et al. (2009). In our study of the tradable stock price reaction to these events, we use two-day and one-day windows centered on the announcement dates themselves.

3   The Bargaining Game and Empirical Approach

In this section we set up a simple illustration of the bargaining game instigated by the reform process. We derive several testable implications for the relationship between the compensation ratio and observed firm-level and city-level characteristics under different hypotheses about the relative importance of each party's incentives. For state controlled firms, there are three parties represented in the game: the local government which is the controlling nontradables shareholder, the bureaucrat CEO who is the agent of the government, and the group of minority tradable shareholders. Figure

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[9]http://www.lawinfochina.com/law/display.asp?db=1&id=4552&keyword=

2 maps out the structure of the game.

Jones et al. (1999) and Megginson and Netter (2001) describe empirical evidence of the political economy motivation for share issue privatizations. The local government has multiple potential goals, and we refrain from taking a stand on what these are and how they are weighed in the government's objective function. Instead, we analyze variation in the compensation ratio attempting to control for unobserved variation in the government objective function.

The second party in the bargaining game – and the focus of this paper – is the bureaucrat CEO, employed to represent the interests on the local government, and who faces multiple private costs and benefits. We know whether the firm is located in a city where informal payments to officials are commonplace. We infer that this measure tells us how likely it is that the CEO will be offered payments by minority shareholders in return for agreeing to a higher compensation ratio. Our data also contain information on each CEO's tradable and nontradable shareholdings in the firm, their salary, and their short term career trajectory after the reform process.[10]

When the bureaucrat CEO owns shares of either type his incentives relating to the compensation ratio are clear. He benefits from a lower compensation ratio if he owns nontradable shares and from a higher compensation ratio if he owns tradable shares. Since he is paid a salary by the state controlled firm and his performance may have implications for his career trajectory within the bureaucracy, there may well be indirect incentives to act in the interests of the government. We might think it hard to assess CEO ability and/or his effort, or hold him accountable for either, from the level of the compensation ratio achieved.[11] Nonetheless, the CEO's salary and career path may be somehow affected by his outcome.

A higher salaried CEO may be higher ability. Alternatively, a higher salary might encourage the CEO to exert more effort on behalf of his employer, or be less open to economic capture from minorities because he wants to retain his position – an efficiency-wage type argument. In simplified terms, higher salaries may offset agents' incentives to shirk or accept side payments from minorities. Third, a higher salary may reduce the extent to which CEOs can be captured due to a diminishing marginal utility of income theory. Any of these three channels predicts a negative association between compensation ratio and CEO salary. We can also ask whether job retention (in the short term) is affected by the bargaining game outcome by looking at the probability of CEO turnover following the reform. We note, however, that turnover is an endogenous outcome so even in the

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[10]The CEO salary measure used in this paper is actually total CEO compensation. We refer to this variable as CEO salary rather than compensation to avoid confusion between the outcome variable of interest, the compensation ratio, and CEO compensation, which is a key independent variable.

[11]Hence the possibility of agency arises in this game.

absence of an observed empirical relationship between turnover and compensation ratio, the threat of being fired may still have affected CEO behavior.

Svensson (2005) asks whether higher public sector wages are the solution to internal government corruption, as predicted under certain conditions in Becker and Stigler (1974). If bureaucrat CEOs' actions are more skewed toward their own private interests relative to those of the state in cities where bribery is rife, we expect to see CEO salary having a particularly strong effect on compensation ratios in cities with high entertainment costs. We examine whether there is an interaction effect between salary and city-level entertainment costs on the compensation ratio. In effect, we ask whether poorly paid bureaucrats more open to economic capture where bribing of officials is common-place. If we are willing to accept the assumption that city-level entertainment costs are unrelated to firm-level CEO ability, any interaction effect suggests that variation in the compensation ratio within high entertainment cost cities is related to one or both of the last two reasons given above for variation in outcome. That is, variation in CEO ability cannot explain any observed relationship between salary and compensation ratio.

The third party in the bargaining game is minority shareholders. This group is better off with a higher compensation ratio. A higher ratio means minority shareholders are compensated to a greater extent for the supply shock arising from the ownership reform. It is possible that this group is also subject to internal agency. For example, side payments may be made from nontradables shareholders to tradables shareholders (see Wang, 2009). For the purposes of this paper, we include the concentration of ownership of the nontradables shares as a control variable in our analysis and focus on the issue of agency within government.

4   Data

The firm-level compensation ratio data, CEO and chairman of board of directors' holdings of non-tradable and tradeable shares, top 10 (if any) nontradable shareholders' shareholdings, top 10 tradable shareholders' shareholdings and the proportion of total nontradable shares over outstanding shares of the firm all come from each listed firm's reform plan document.[12],[13] Wind Information Corporation, a Shanghai-based provider of financial data for listed firms in China also provides some

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[12] CEO holdings of nontradable shares should have different incentive effects from holdings of tradable shares. Thus we collected this information manually based on each listed firm's annual reports and its reform plan document. Standard databases such as Chinese Listed Firms Corporate Governance Database at CSMAR do not contain this subtle disaggregation of ownership information. All firm-level financial variables are pre-reform data unless otherwise mentioned.

[13] These documents are available online at gqfz.p5w.net.

information on this nationwide reform, permitting a check of data accuracy. Data on CEO turnover after the reforms took place was also taken from WIND. Stock return data, ROA, the log of sales, the proportion of independent directors' and senior managers' compensation was gathered from the Corporate Governance database and the Financial Statements Database at CSMAR maintained by the Guo Tai An Information Technology Company (GTA) located in Shenzhen City.[14]

The compensation ratio is the main dependent variable of interest in this paper.[15] The denominator is the number of total shares that are tradable before the policy reform. The numerator is the number of total shares that were granted to the owners of tradable shares to compensate them for the supply side shock to the value of the shares they owned. For example, if there were 70 nontradable shares and 30 tradable shares in a listed firm and the compensation ratio was set at 0.3, which is around the average level, then nontradables shareholders would give 30 x 0.3 = 9 shares to the owners of the formerly tradable shares. Thus, after this bargaining, the owners of the formerly nontradable shares could begin to sell their remaining 61 shares in the stock market, while the former minority shareholders will now own 39 tradable shares.

State controlled firms make up 71.7% of our total sample. Summary statistics for the compensation ratio – along with the independent variables of interest and controls – for all firms, then for all state firms, and then for all state firms for which we could match city-level variables, are given in Table 1, panel A. There are 1086 firms that had passed the reform with a compensation ratio by July 18, 2007.[16] The mean compensation ratio was 0.305, the standard deviation 0.078. Among state controlled firms, the mean was 0.311 and the standard deviation was 0.064. Among the state controlled firms located in one of the 120 cities for which the measure of entertainment costs is available, the mean is 0.309 and the standard deviation was 0.068.

The independent variables of interest include firm-level and city-level variables. First, is a variable indicating state control. It is equal to 1 if the firm's controlling shareholder is a state bureau, as disclosed in the firm's annual report. This data was gathered from annual reports downloaded from the Shanghai and Shenzhen stock exchange websites for the year prior to firm

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[14]Part of the Corporate Governance database is now available through WRDS at Wharton School.

[15]Although both CSMAR and WIND provide compensation ratio information in their databases, Haveman and Wang (2009) show that they are not consistently defined and so instead collect these values by hand from each listed firm's reform document. These hand-collected measures are used in this paper. The sample mean and standard deviation are very similar to the sample taken from WIND used in Li et al. (2008), as shown in their table 1.

[16]These firms account for 88% of the 1238 firms that have passed their ownership reforms. (The 1238 firms account for 94% of all the listed firms that underwent this reform). The other 12% (i.e. 152 firms) used different means of compensating tradable shareholders: offering call or put warrants, guaranteeing stock buy-backs at pre-set prices, or cancelling a fraction of non-tradable shares. Late-reforming firms (i.e. those reforming after July 18, 2007) excluded from our analysis either had complex ownership structures (B, H, or N shares in addition to A shares and non-tradable shares) or performed poorly ("Special Treatment" firms).

reform.

The city-level measure of entertainment costs is taken from a 2004 survey conducted by the World Bank (published in 2006). It is the average firm-level proportion of sales spent on entertainment and travel in each of 120 cities.[17] The survey notes, on pages 13 to 14, that these expenditures can serve as a conduit for informal payments to officials. Cai et al. (2005) describe this index as including a combination of "grease money" for better government services and "protection money" to guard against expropriation.

A set of firm-level and city-level control variables, thought to have independent effects on compensation ratio, are used throughout the analysis. Firm-level controls related specifically to the reform are the fraction of nontradable shares, the proportion of independent directors, the concentration of the top 10 owners of nontradable shares and the concentration of the top 10 owners of tradable shares. The fraction of nontradable shares in the firm is predicted to have a positive effect on the compensation ratio since it measures the magnitude of the supply shock on the price of tradable shares. The proportion of independent directors is also predicted to have a positive effect on the compensation ratio since independent directors are thought to safeguard the interests of the minority shareholders. The concentration levels of the top 10 owners of tradables (nontradables) could be positively or negatively associated with bargaining outcomes, as described in Wang (2009). A high concentration ratio means fewer individuals each face a larger incentive to increase (decrease) the compensation ratio. On the other hand, a high concentration ratio suggests there are a few key individuals open to side payments leading to a decreased (increased) compensation ratio. We control for these effects to focus on the additional effects of agency among nontradables shareholders.

Table 1, panel B presents pairwise correlation coefficients between the independent variables of interest, entertainment costs and CEO monetary incentives, and the various control variables at the firm-level. We note that while firms in cities with high entertainment costs tend to have lower levels of CEO shareholdings and salaries, the magnitudes of the correlation coefficients are small. Other firm-level controls include the log of firm sales to proxy for size and the return on assets to proxy for performance. Also included is the time between the initial policy reform announcement

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[17]This report also provides a city-level "property rights index", however, this index is a general contracting index which doesn't distinguish between government expropriation risk and the quality of private contracting institutions as in Acemoglu and Johnson (2005). Cull and Xu (2005) find that a third variable in some World Bank surveys, "government help", is positively associated with firm reinvestment decisions. However, this variable is not available in the 2004 round of the survey. For cities surveyed in both rounds, we found that this variable is negatively correlated with our variable of interest, "entertainment costs". That is, the inverse of "government help" is positively correlated with the "entertainment costs" index discussed here.

and the firm-level bargaining agreement.

City-level controls include the log of GDP per capita and the log of city population. This data comes from the CSMAR Regional Economy Database. These variables may be correlated with local government preferences in some way. City fixed effects are included in some specifications. Table 1, panel B, shows that the entertainment costs variable is negatively correlated with both the log of GDP per capita and the log of city population, but the correlation coefficients are again relatively small.

In each empirical specification, the unit of analysis is the firm. We conduct ordinary least squares regressions, with standard errors clustered at either the 3-digit SIC industry code or at the city level, using the compensation ratio and returns in tradable shares as the dependent variables of interest. For the analysis of CEO turnover, we use probit analysis where the dependent variable is equal to 1 if the CEO loses his position in the year following the firm-level reform. Since the initial policy announcement is exogenous to any one firm, and arguably unexpected by all, we attribute causality to significant coefficients.

5   Results

5.1   Compensation Ratio

Table 2 confirms the result shown in previous studies that the compensation ratio for state controlled firms is significantly higher than for privately controlled firms. Column 2 includes controls for characteristics of the firm: firm size (proxied with the log of sales) and firm performance (proxied with ROA). Column 3 also includes factors reflecting aspects of the bargaining game: the percentage of nontradable shares, the concentration ratio of the top 10 owners of nontradable and tradable shares, and the fraction of independent directors. Columns 4 and 5 add controls for city-level factors: the logs of GDP per capita and population, and then city fixed effects. In each specification, state controlled firms are shown to have a compensation ratio which is 2 to 3 percent higher than privately controlled firms.

As has been documented elsewhere (for example, Li et al. (2008)), high performing firms – here measured by ROA – have smaller compensation ratios. The length of time taken to pass the firm-level reform is negatively associated with the resulting compensation ratio. The proportion of firm shares that were formerly nontradable has a positive effect on the compensation ratio, reflecting the magnitude of the supply shock experienced by the tradables shareholders. The concentration

of nontradable shares among the top 10 tradable shareholders is negatively associated with the compensation ratio.

Table 3 examines variation in the compensation ratio among state controlled firms. Including the same controls as in table 2, we see that the World Bank's city-level measure of entertainment and travel costs is positively associated with the compensation ratio. When the proportion of sales spent on entertainments cost is one percentage point higher, the firm's compensation ratio is 1.6 percent greater.

The share of independent directors for the firm is positively associated with the compensation ratio for state controlled firms. Independent directors of state controlled firms are thought to represent the interest of the minority shareholders, and serve to monitor the activities of the controlling shareholder. It is interesting to note that the concentration of ownership among the top 10 tradable and nontradable shareholders are negatively and positively associated with the compensation ratio, respectively. This suggests that key individuals within each group are not willing or able to bargain for outcomes that favor the interests of each group and is explored in further detail in Wang (2009).

We now investigate further whether the positive association between the compensation ratio and entertainment costs is due to bureaucrat agency. As described in section 3, the bureaucrat CEOs differ across firms in their private benefits from the outcome of the firm-level bargaining game. Columns 2 to 4 of table 4 show that CEO nontradable shareholding leads to a lower compensation ratio, suggesting that state bureaucrats do act in their private interest in the bargaining game. Entertainment costs continue to have a positive and significant influence on compensation ratios while CEO tradables shareholdings have a positive but insignificant effect.[18]

Column 1 of table 4 reveals the fact that higher salaried executives obtain lower compensation ratios. This could be because CEO salary is (a) positively correlated with ability or (b) positively correlated with the CEO's incentives to retain their position, or (c) negatively correlated with the CEO's receptiveness to economic capture. Columns 5 and 6 of table 4 offer evidence consistent with (b) or (c). The interaction of entertainment costs and CEO salary is negative and significant and the coefficient on CEO compensation is now positive and insignificant. This suggests that higher paid CEOs are representing the interests of their employer only in cities where governments are

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[18]CEOs of listed firms in China generally hold a very small fraction of tradable shares. It is hence unsurprising to see that the effect of tradables held by CEOs on compensation ratio is not significant. CEOs of state-controlled firms hold very few tradable shares at least for two reasons. First, they may be wary of signalling an intention to carry out a management buy out. This would be frowned upon by the government which is concerned about protecting state assets. Second, they seek to above suspiscion of insider trading. In section 6, we discuss the possibility that relatives of the bureaucrat CEO may, nonetheless, own tradable shares.

more corrupt. It is unlikely that bureaucrats in these cities are systematically higher ability.[19]

Bureaucrat CEO behavior may be influenced by personal career concerns, as suggested in reason (b) given above for the relationship between CEO salary and outcome. The results of a probit analysis given in table 5 show that there is no significant relationship between the probability of CEO turnover in the year following the firm-level reform and the compensation ratio achieved. In column 5, we see that the coefficient on the relationship between compensation ratio and turnover is positive but not significant. We also note that the interaction between entertainments costs and compensation ratio is negative, so higher compensation ratios are less likely to lead to turnover in the most corrupt cities, but this coefficient is insignificant. These findings suggest that the ex post likelihood of retaining the CEO position is not closely related to the bargaining game outcome, although the threat of turnover may play a role in CEO behavior ex ante.

5.2   Event Studies

The event study analysis corroborates our interpretation of the results in the previous subsection. We analyze the response of returns in tradable shares to the two separate events described in section 2. The first event is the announcement made by the central government on April 29, 2005 about the policy reform. This outlined the reform process in relatively vague terms. While the details were unclear, it was understood that the group of nontradables shareholders and the group of tradables shareholders would have to bargain over an agreement. When the bureaucrat CEO faced private incentives to push for a lower compensation ratio because he owned nontradable shares, this fact is reflected in the response of tradable share prices to this announcement. Table 6 shows that traded shares showed abnormal negative returns over different windows centered on the announcement date when the state bureaucrat owned nontradable shares. We also note that CEO holdings of tradable shares affects returns positively, which is again consistent with the market anticipating the agency issue for CEOs implementing policy on behalf of local governments. There is no association between entertainment costs and changes in returns following this announcement, possibly due to the reason that market investors have no information about the internal conflicts within the local government at that time.

The second event took place on September 4, 2005 and was a central government announcement

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[19]Similar regressions including the interaction of CEO shareholdings and entertainment costs do not find a significant association between the interaction and the compensation ratio due to high multicollinearity. A regression including entertainment cost interacted with CEO shareholdings, including the entertainment costs variable, but excluding the level of CEO shareholding, generates a negative and significant coefficient on the interaction term.

of more detailed reform plans. The response of traded shares of state controlled firms to this announcement is given in table 7. State controlled firms where the CEO owned nontradables experienced a further negative abnormal return in response to this announcement, although smaller in magnitude. Firms in cities with high entertainment costs showed a small but significant positive abnormal return at the same time.

6   Robustness tests and alternative explanations

6.1   There is no association between entertainment costs and the compensation ratio in privately controlled firms.

As mentioned in the introduction, the city-level entertainment costs index is viewed by the World Bank as a measure of informal payments to local officials. We therefore expect it to be unrelated to the outcome of the policy bargaining game for privately controlled listed firms. In contrast, the compensation ratio agreed by owners of tradable and nontradables shares in privately controlled firms is the outcome of bargaining game between private individuals and is likely to be influenced by the quality of "horizontal institutions" (Acemoglu and Johnson, 2005) in the relevant city. Table 8 examines the city level factors associated with compensation ratios for privately controlled firms.

Columns 1 to 4 of table 8 confirm that the entertainment costs index is unrelated to the compensation ratio in privately controlled firms. In each case the relevant coefficient is negative and insignificant. If anything, then, higher city-wide levels of informal payments lead to lower compensation ratios in privately controlled firms. Columns 2 to 4 show that CEO compensation and tradable shareholding is also generally negatively associated with the compensation ratio in private firms.[20] This finding serves to undermine the suggestion that there is some omitted variable correlated with both entertainment costs and CEO private interests across all firms which serves to explain our findings for state controlled firms. It also suggests that while there may certainly be agency problems at work in the bargaining game between private individuals (see Wang, 2009), they look very different than for state controlled firms.

The next five columns of table 8 examine the relationship between the quality of city-level

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[20]We note that privately controlled listed firms are in general run by the controllers themselves. The main agency problem within privately controlled firms with high ownership concentration is the conflict of interest between the controlling shareholder and the minority shareholders. (See Morck et al (2005) for a survey). In privately controlled firms with very diversified ownership, the main agency problem is between the shareholders and the CEO. This difference means compensation may measure CEO private incentives with error in this sample.

contracting institutions and compensation ratios achieved in privately controlled firms. These measures of horizontal institutional quality are taken from the World Bank (2006) or from Cull and Xu (2005).[21] The quality of the courts is positively associated with the compensation ratio, suggesting more favorable outcomes for minority shareholders when local contracting institutions are higher quality.[22] Further when we replicate event study 1 for privately controlled firms, we find that this institutional variable has a significant positive effect on returns. This indicates that market investors expect to fare better from this reform when firms are located in a city with higher quality private contracting institutions.

Conversely, the quality of local contracting institutions for private individuals is predicted to have no association with the bargaining outcome in state controlled firms. The final column of table 8 shows that the compensation ratio for state controlled firms is unrelated to quality of the local courts.

6.2 Other city-level factors are unrelated to variation in the compensation ratio

Next we explore possible alternative explanations for the findings in section 5. It is possible that variation in local government objectives regarding the reform is correlated with variation in entertainment costs. We have included city-level population and GDP per capita in all the main regressions in case these variables are related to both the ideal compensation ratio from the point of view of the state and the measures of government corruption. The local government's objective function may also be affected by the relative importance of each state controlled firm to the local economy. We re-run all the specifications including the percentage of all firms that are privately controlled in the city as a control variable, using data from the same World Bank survey. Including this variable does not qualitatively change our main results.

A further concern is that cities with high entertainment costs may have inefficient governments that are more likely to agree to a high compensation ratio because of competition for capital among local governments (see Qian and Roland (1998) and Montinola et al. (1995) and several others) rather than because of bureaucrat agency. According to this theory, an inefficient local government

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[21]The 2004 World Bank survey includes a different set of indicators than in the 2003 World Bank survey used in Cull and Xu (2005).

[22]This is not inconsistent with Acemoglu and Johnson (2005) or Cull and Xu (2005). Private contracting institutions matters in our context mainly because this nationwide reform is a shock for all firms. Thus it is difficult for tradable shareholders in privately controlled firms to take any actions before this reform to buffer themselves against private expropriation.

may want to signal to outside investors through this reform that they will receive better future treatment.[23] We conduct additional tests to investigate this possibility. First, under this hypothesis, we expect that cities with lower GDP growth in the past 5 years (or 3 years) should have a stronger incentive to set higher compensation ratios to attract more investment. We collect city-level GDP data from the CSMAR Regional Economy database and for each city calculate GDP growth in the past 5 years (and 3 years) before the reform. This variable has no effect on the compensation ratio. We also interact GDP growth with entertainment costs. Under the local government competition hypothesis, we expect a negative effect of this interaction term on compensation ratio. However, the coefficient on this variable is not significantly different from zero.

We next examine the impact of the city-level fiscal deficit on compensation ratios. While a large fiscal deficit may create a short term incentive to expropriate, a less myopic local government with large fiscal deficit might have a much stronger incentive to set higher compensation ratios to attract outside investment so as to collect more taxes in the future. Again this city-level variable, defined as average fiscal deficits deflated by GDP of that city in the past 5 (or 3) years, has no effect on compensation ratio. We also look at the interaction term between the fiscal deficit and entertainment costs, and find that it has no impact on compensation ratio. Although these tests are unable to rule out the local government competition hypothesis, our empirical evidence regarding bureaucrat CEO private interests favors the agency within the public sector hypothesis.

A second alternative explanation for why a low quality government in a city with high entertainment costs might set a high compensation ratio is if they are behaving strategically in order to extract rents from investors via some other channels. This explanation, however, cannot explain why CEO remuneration-related variables should play any role in determining the compensation ratio. More importantly, tradable shareholders are free to leave the market at any time (compared to firms with large fixed assets located within the jurisdiction of a given local government), limiting other possible channels for minority shareholder expropriation.

A third alternative is that tradables shareholders in cities with poor quality vertical institutions may be more likely to be politically connected. For example, it may be that individual investors may be related to local government officials. If this is the case, the results shown in section 5 could reflect tunneling directly from the government to the agent's relatives. We have two comments about this hypothesis. First, tradable shareholders are very diversified. If government officials did seek to tunnel revenues to family members, it would be more effective for them to choose a different

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[23]Theoretically this is very possible given the fiscal decentralization in China. Cai and Treisman (2006), however, find little empirical evidence of local government competition of this form.

channel by which to do so such as providing insider information. Second, we may then expect that the interaction of individual ownership among top 10 tradable shareholders with entertainment costs has a positive effect on compensation ratio, all else equal.[24] However, the coefficient on this interaction term is negative and also insignificant.

6.3   The findings are robust to different estimation specifications

Our final set of robustness tests explore the choice of estimation methodology. We winsorize the main dependent variable – the compensation ratio – at both the 1% percentile and the 99% percentile to rule out the possibility that extreme observations drive our results. The results of these robustness tests, and others not presented in the accompanying tables, are available on request.

7   Conclusion

This paper shows that firm-level responses in state controlled firms to an exogenous policy shock are consistent with agency within the bureaucracy. Minority shareholders achieve more favorable outcomes in cities where local government is less efficient, as measured by the extent of informal payments made to local officials. Within cities where these payments are particularly high, the minority shareholders obtain even better outcomes when bureaucrat CEOs face lower private incentives to serve the interests of the local government.

These findings are robust to including other firm and city level variables thought to have independent effects on the outcomes of the bargaining game prompted by the ownership reform. We also find that the city-level measures of payments to officials and CEO incentives have no effect on the compensation ratio in privately controlled firms. In contrast, the quality of contracting institutions at the city level affect the compensation ratio in privately controlled firms. These variables have no impact on the outcome in state controlled firms.

North (1981) makes the theoretical distinction, and Acemoglu and Johnson (2005) the empirical distinction, between institutions related to contracting (horizontal institutions) and those designed to safeguard property rights (vertical institutions). Since government power is unilateral, poor quality vertical institutions are thought to be particularly harmful to economic outcomes. Introducing agency to the local government provides a channel through which expropriative objectives may be

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[24]We look at invidual ownership within the top 10 tradable shareholders because: the incentive for local government officials to set a high compensation ratio to benefit their relatives is reduced if their relatives' holdings of tradable shares are very low; and second, we only observe individual ownership for the top 10 tradable shareholders.

thwarted. If agency is particularly common within poor quality institutions, private citizens have some protection against expropriation.

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Figure 1: The Event Tree

Announcement of the first reform plan
(stock stops trading)

⬇

Announcement the revised reform plan
(stock resumes trading)

⬇

Stock stops trading again. Ownership
registration takes place, and then
tradable shareholders vote.

⬇

Announcement of voting results and
stock resumes trading.

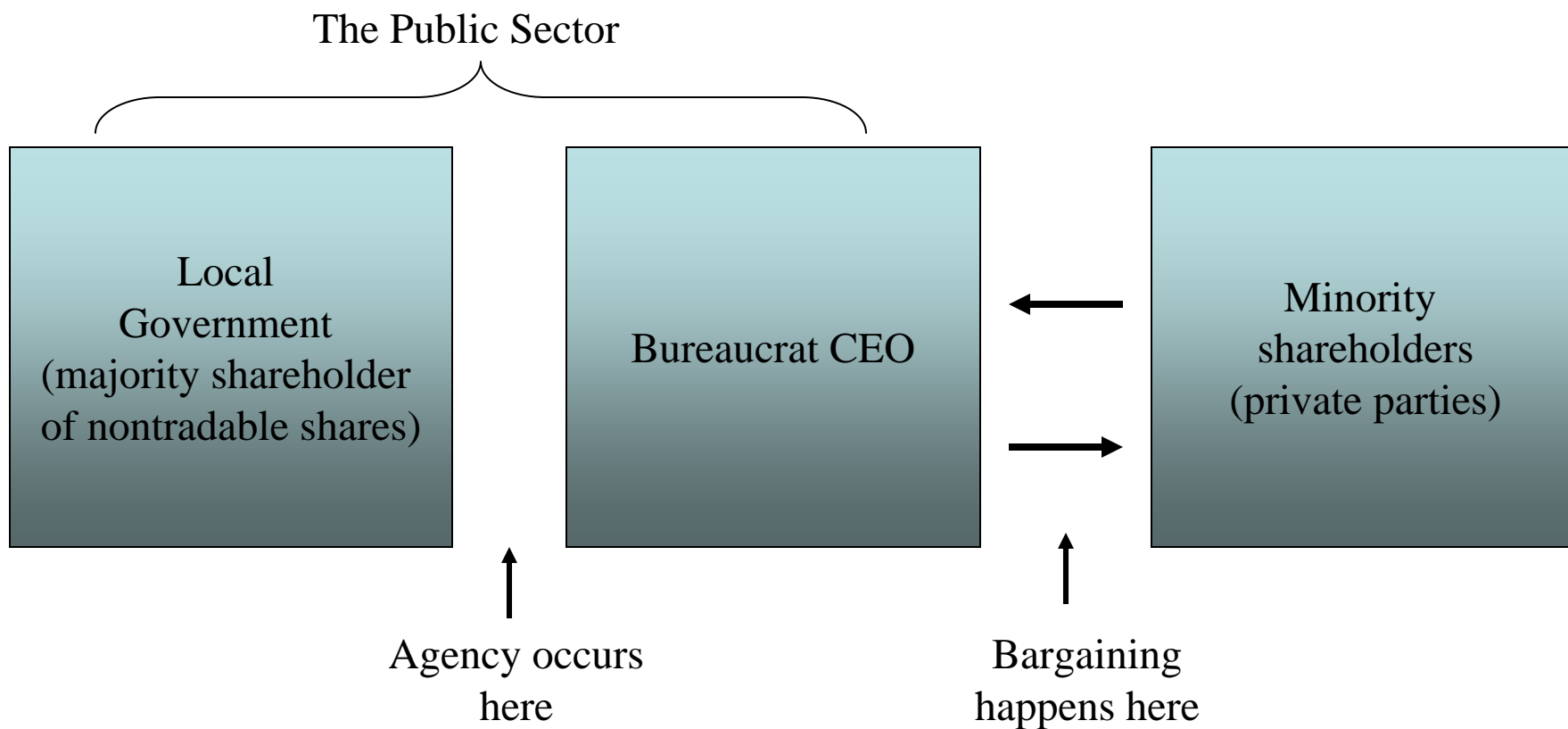# Figure 2: The Bargaining Game Structure for a State Controlled Firm

The Public Sector

| Local Government (majority shareholder of nontradable shares) | Bureaucrat CEO | Minority shareholders (private parties) |

Agency occurs here

Bargaining happens here

Table 1A - Summary Statistics

All Firms

Variable	Mean	SD	Min	Max	Obs
CR	0.305	0.078	0.050	1.270	1086
Entertainment costs	1.164	0.457	0.300	2.400	911
CEO Salary*100	0.042	0.057	0.000	1.117	1058
CEO NT-shares*100	0.561	3.288	0.000	35.521	1067
CEO T-shares*100	0.005	0.025	0.000	0.490	1067
Ind-Directors	0.342	0.048	0.000	0.667	1072
Log(Sales)	20.609	1.326	13.609	27.407	1084
ROA	0.013	0.101	-1.459	0.707	1086
Nontradables	0.613	0.110	0.211	0.944	1085
Log(Time)	5.828	0.407	3.892	6.697	1086
Top10_NT	0.600	0.274	0.049	1.000	1086
Top10_T	0.006	0.030	0.000	0.786	1086
Log(GDP/Capita)	9.494	0.619	7.800	10.511	911
Log(Population)	6.491	0.646	4.840	7.927	911
State Dummy	0.717	0.451	0.000	1	1086

State-controlled Firms

Variable	Mean	SD	Min	Max	Obs
CR	0.311	0.064	0.050	0.700	779
Entertainment costs	1.171	0.434	0.300	2.400	652
CEO Salary*100	0.036	0.043	0.000	0.597	761
CEO NT-shares*100	0.054	0.848	0.000	21.135	769
CEO T-shares*100	0.003	0.012	0.000	0.160	769
Ind-Directors	0.338	0.047	0.000	0.667	773
Log(Sales)	20.800	1.277	15.818	27.407	778
ROA	0.020	0.073	-0.433	0.707	779
Nontradables	0.614	0.108	0.211	0.944	778
Log(Time)	5.861	0.370	4.094	6.697	779
Top10_NT	0.649	0.273	0.094	1.000	779
Top10_T	0.006	0.034	0.000	0.786	779
Log(GDP/Capita)	9.479	0.626	7.800	10.511	652
Log(Population)	6.543	0.632	4.840	7.927	652
CAR[-1, 1]: Event 1	-0.046	0.054	-0.299	0.147	766
CAR[0, 1]: Event 1	-0.034	0.044	-0.199	0.169	766
CAR[-1, 1]: Event 2	0.004	0.036	-0.076	0.222	776
CAR[0, 1]: Event 2	-0.006	0.030	-0.071	0.202	776
CAR[-30,1]: Event 3	0.076	0.145	-0.483	0.656	777
CAR[-15,1]: Event 3	0.067	0.121	-0.415	0.533	777
CAR[-1, 1]: Event 3	0.047	0.089	-0.355	0.299	777

State-controlled Firms with matched World Bank city-level index

Variable	Mean	SD	Min	Max	Obs
CR	0.309	0.068	0.050	0.700	653
Entertainment costs	1.171	0.434	0.300	2.400	651
CEO Salary*100	0.038	0.045	0.000	0.597	637
CEO NT-shares*100	0.063	0.924	0.000	21.135	646
CEO T-shares*100	0.003	0.011	0.000	0.160	646
Ind-Directors	0.338	0.047	0.083	0.667	648
Log(Sales)	20.843	1.272	16.916	27.407	651
ROA	0.020	0.075	-0.433	0.707	652
Nontradables	0.612	0.111	0.211	0.944	651
Log(Time)	5.865	0.354	4.585	6.644	652
Top10_NT	0.645	0.272	0.094	1.000	652
Top10_T	0.007	0.037	0.000	0.786	652
Log(GDP/Capita)	9.480	0.626	7.800	10.511	651
Log(Population)	6.544	0.632	4.840	7.927	651
CAR[-1, 1]: Event 1	-0.046	0.055	-0.299	0.147	644
CAR[0, 1]: Event 1	-0.034	0.045	-0.199	0.169	644
CAR[-1, 1]: Event 2	0.004	0.036	-0.076	0.222	650
CAR[0, 1]: Event 2	-0.006	0.030	-0.071	0.202	650
CAR[-30,1]: Event 3	0.076	0.148	-0.483	0.656	650
CAR[-15,1]: Event 3	0.066	0.123	-0.415	0.533	650
CAR[-1, 1]: Event 3	0.049	0.090	-0.236	0.299	650

Notes: CR is the compensation ratio, defined as the ratio of shares former tradable shareholders get for free from former nontradable shareholders over former total tradable shares; Entertainment costs is a city-level corruption/government expropration index from World Bank (2006); CEO Salary is total cash and bonus senior managers get scaled by total assets; CEO NT-shares is the proportion of nontradable shares held by senior managers; CEO T-shares is the proportion of tradable shares held by senior managers; Ind-Directors is the proportion of independent directors among all directors; Log(Sales) is the log value of total sales before the reform for each firm; ROA is the ratio of net profits (after taxes) over total assets before the reform; Nontradables is the proportion of nontradable shares over total shares; Log(Time) is the log value of time the firm takes to complete its reform relative to April 29, 2005 when this nationwide reform was allowed by the central government; Top10_NT is the ownership concentration of top 10 nontradable shareholders (if any) among nontradable shares; Top10_T is the ownership concentration of top 10 tradable shareholders among all the tradable A-shares; Log(GDP/Capita) is the log value of GDP per capita of each city; Log(Population) is the log value of total population of each city; CARs are cumulative abnormal event returns ov

Table 1B - Summary Statistics, Pairwise Correlations

State-controlled Firms

	Entertainment costs	CEO Compensation	CEO NT-shares	CEO T-shares	Ind-Directors	Log(Sales)	ROA	Nontradables	Log(Time)	Top10_NT	Top10_T	Log(GDP/Capita)
CEO Salary	-0.0316											
CEO NT-shares	-0.0071	0.0656										
CEO T-shares	-0.0926	0.0852	-0.0173									
Ind-Directors	-0.0791	0.0378	0.0036	0.0186								
Log(Sales)	-0.1106	-0.3547	-0.0535	-0.0034	0.0568							
ROA	-0.1019	-0.0357	0.0382	0.0018	0.0700	0.2535						
Nontradables	0.0544	0.0351	0.0478	-0.1259	0.0208	-0.0113	0.1265					
Log(Time)	0.0519	0.0879	-0.0756	-0.0775	-0.0664	-0.1546	-0.3102	-0.1185				
Top10_NT	-0.0447	-0.1525	-0.0791	-0.0023	0.0094	0.1952	-0.0129	-0.0679	-0.1798			
Top10_T	0.0340	-0.0077	0.0153	-0.0167	0.0095	0.0529	0.0481	-0.0346	0.0300	0.0227		
Log(GDP/Capita)	-0.1982	0.1133	0.0245	0.0031	0.1494	0.1556	0.1150	0.0104	-0.1558	-0.0190	-0.0170	
Log(Population)	-0.0178	0.0152	0.0112	-0.0250	0.0242	0.0759	0.0456	0.0995	-0.0761	0.0533	-0.0023	0.3054

All Firms

	Entertainment costs	CEO Compensation	CEO NT-shares	CEO T-shares	Ind-Directors	Log(Sales)	ROA	Nontradables	Log(Time)	Top10_NT	Top10_T	Log(GDP/Capita)
CEO Salary	-0.0531											
CEO NT-shares	-0.0318	0.1193										
CEO T-shares	-0.0161	-0.0005	-0.0322									
Ind-Directors	-0.0622	0.0819	0.0719	0.0031								
Log(Sales)	-0.0828	-0.3676	-0.053	0.0491	-0.0387							
ROA	-0.0712	-0.1252	0.0669	0.0157	-0.0279	0.3017						
Nontradables	0.0187	0.0961	0.1495	-0.1145	0.019	-0.0442	0.0883					
Log(Time)	0.0656	0.0206	-0.2821	-0.0373	-0.0695	-0.1126	-0.3326	-0.1779				
Top10_NT	-0.0199	-0.2179	-0.1937	0.0801	-0.0277	0.2603	0.0069	-0.1001	-0.0537			
Top10_T	0.0249	0.0023	0.0215	-0.0095	0.0039	0.0595	0.0471	-0.0266	0.0279	0.0206		
Log(GDP/Capita)	-0.2367	0.1446	0.0511	0.0142	0.1199	0.1134	0.0504	0.0079	-0.1297	-0.0211	-0.0204	
Log(Population)	-0.0668	-0.0137	-0.0153	-0.0027	0.0091	0.0904	0.0484	0.0878	-0.0247	0.0674	0.0077	0.2536

Table 2 - Regresions of compensation ratio on the state-controlled indicator variable

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: CR				
State-controlled	0.019***	0.032***	0.029***	0.026***	0.023***
	(0.006)	(0.007)	(0.007)	(0.008)	(0.008)
ROA		-0.118**	-0.128***	-0.162***	-0.159***
		(0.047)	(0.043)	(0.049)	(0.049)
Log(Sales)		-0.004**	-0.003	-0.001	-0.002
		(0.002)	(0.002)	(0.002)	(0.003)
Log(Time)		-0.054***	-0.041***	-0.044***	-0.038***
		(0.007)	(0.007)	(0.008)	(0.009)
Ind-directors			0.057	0.064	0.064
			(0.053)	(0.061)	(0.067)
Nontradables			0.277***	0.271***	0.282***
			(0.022)	(0.024)	(0.027)
Top10_NT			0.014	0.017	0.019
			(0.011)	(0.012)	(0.015)
Top10_T			-0.195***	-0.185***	-0.167***
			(0.054)	(0.049)	(0.046)
Log(GDP/Capita)				0.004	
				(0.004)	
Log(Population)				0.006*	
				(0.003)	
Fixed Effects	No	No	Industry	Industry	Industry&City
Observations	1086	1084	1069	897	1060
R-squared	0.01	0.10	0.25	0.25	0.37

Notes: The dependent variable CR, compensation ratio, is the number of total shares given to tradables shareholders from the nontradables shareholders over all tradable A-shares before this compensation; State-controlled is a dummy variable indicating whether the listed firm is controlled by the state; ROA is the ratio of net profits over total assets in the previous year; Log(Sales) is the log value of total sales in the previous year; Log(Time) is the log value of reforming time at the firm level, where the ending point is the day when the firm passed its reform plan and the starting point is April 29, 2005; Log(GDP/Capita) is the log value of GDP per capita of each city; Log(Population) is the log value of total population of each city. Standard errors are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 3 - Effects of entertainment costs on compensation ratio in state controlled firms

	Dependent variable: CR		
	(1)	(2)	(3)
Entertainment costs	0.016***	0.016***	0.016***
	(0.005)	(0.005)	(0.005)
Log(Sales)	0.000	0.000	0.000
	(0.002)	(0.002)	(0.002)
ROA	-0.204***	-0.204***	-0.204***
	(0.061)	(0.068)	(0.062)
Ind-Directors	0.108**	0.108**	0.108*
	(0.054)	(0.051)	(0.059)
Log(Time)	-0.040***	-0.040***	-0.040***
	(0.007)	(0.007)	(0.008)
Nontradables	0.243***	0.243***	0.243***
	(0.026)	(0.030)	(0.027)
Top10_NT	0.019**	0.019**	0.019**
	(0.009)	(0.008)	(0.008)
Top10_T	-0.171***	-0.171***	-0.171***
	(0.034)	(0.029)	(0.034)
Log(GDP/Capita)	0.003	0.003	0.003
	(0.004)	(0.005)	(0.004)
Log(Population)	0.008*	0.008*	0.008*
	(0.004)	(0.005)	(0.004)
Clustering At Which Level	No	City	SIC-2
Industry Effect	Yes	Yes	Yes
Observations	647	647	647
R-squared	0.30	0.30	0.30

Notes: The dependent variable CR, compensation ratio, is the number of total shares given to tradables shareholders from the nontradables shareholders over all tradable A-shares before this compensation; Independent Directors is the ratio of independent directors over all the directors of the focal firm; Entertainment costs is a city-level index based on the survey by World Bank (2006), which reflects the general corruption atmosphere in the city where the focal firm is headquatered; ROA is the ratio of net profits over total assets in the previous year; Log(Sales) is the log value of total sales in the previous year; Log(Time) is the log value of reforming time at the firm level, where the ending point is the day when the firm passed its reform plan and the starting point is April 29, 2005. Nontradables is the percentage of non-tradable shares; Log(GDP/Capita) is the log value of GDP per capita of each city; Log(Population) is the log value of total population of each city. Standard errors are given in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%。

Table 4 - Regresions of compensation ratio on CEO compensation and entertainment costs in state controlled firms

	Dependent Variable: CR					
	(1)	(2)	(3)	(4)	(5)	(6)
CEO Salary	-8.201*		-8.641**	-8.641*	10.061	10.061
	(4.708)		(4.267)	(4.607)	(10.126)	(8.861)
CEO nontradable shareholdings		-0.206**	-0.185**	-0.185*	-0.186**	-0.186*
		(0.099)	(0.080)	(0.093)	(0.079)	(0.095)
CEO tradable shareholdings		28.345	24.770	24.770	25.450	25.450
		(25.134)	(33.751)	(23.536)	(35.319)	(25.018)
Ind-Directors	0.105**	0.115**	0.113*	0.113**	0.114*	0.114**
	(0.052)	(0.050)	(0.058)	(0.050)	(0.057)	(0.050)
Entertainment costs	0.015***	0.016***	0.015***	0.015***	0.021***	0.021***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)
Entertainment costs *CEO Salary					-16.638*	-16.638*
					(9.005)	(9.683)
Log(Sales)	-0.000	0.000	-0.000	-0.000	-0.000	-0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Log(Time)	-0.042***	-0.039***	-0.040***	-0.040***	-0.040***	-0.040***
	(0.008)	(0.007)	(0.010)	(0.008)	(0.009)	(0.008)
ROA	-0.223***	-0.200***	-0.218***	-0.218***	-0.214***	-0.214***
	(0.066)	(0.068)	(0.062)	(0.067)	(0.062)	(0.067)
Nontradables	0.241***	0.244***	0.242***	0.242***	0.243***	0.243***
	(0.030)	(0.031)	(0.029)	(0.031)	(0.029)	(0.031)
Top10_NT	0.017**	0.020**	0.018**	0.018**	0.017**	0.017**
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Top10_T	-0.170***	-0.170***	-0.170***	-0.170***	-0.174***	-0.174***
	(0.027)	(0.028)	(0.033)	(0.027)	(0.034)	(0.027)
Log(GDP/Capita)	0.003	0.003	0.003	0.003	0.002	0.002
	(0.005)	(0.005)	(0.004)	(0.005)	(0.004)	(0.005)
Log(Population)	0.008*	0.008*	0.008*	0.008*	0.009*	0.009*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Clustering at which level	City	City	SIC-2	City	SIC-2	City
Observations	636	644	633	633	633	633
R-squared	0.30	0.30	0.30	0.30	0.30	0.30

Notes: The dependent variable CR, compensation ratio, is the number of total shares given to tradables shareholders from the nontradables shareholders over all tradable A-shares before this compensation; CEO Compensation is total cash and bonus senior managers get scaled by total assets; Independent Directors is the ratio of independent directors over all the directors of the focal firm; Entertainment costs is a city-level index based on the survey by World Bank, which reflects the general corruption atmosphere in the city where the focal firm is headquatered; ROA is the ratio of net profits over total assets in the previous year; Log(Sales) is the log value of total sales in the previous year; Log(Time) is the log value of reforming time at the firm level, where the ending point is the day when the firm passed its reform plan and the starting point is April 29, 2005. Nontradables is the percentage of non-tradable shares. Log(GDP/Capita) is the log value of GDP per capita of each city; Log(Population) is the log value of total population of each city. Standard errors are given in parentheses.* significant at 10%; ** significant at 5%; ***

Table 5 - Effects of compensation ratio on managerial turnover in state-controlled firms

	Dependent variable: Turnover Dummy				
	(1)	(2)	(4)	(4)	(5)
Log(Sales)	-0.036	-0.036	-0.061**	-0.038	-0.038
	(0.024)	(0.024)	(0.030)	(0.025)	(0.025)
ROA	-1.121	-1.175	-1.374	-1.866*	-1.873*
	(0.918)	(0.923)	(1.139)	(1.028)	(1.031)
Compensation Ratio		-0.338	-0.352	0.026	0.935
		(0.791)	(0.941)	(0.832)	(0.638)
Entertainment costs				-0.013	0.234
				(0.129)	(2.532)
Entertainment costs * Compensation Ratio					-0.787
					(1.996)
Fixed Effect	Industry	Industry	Industry & City	Industry	Industry
Observations	728	728	530	612	612
Pseudo R2	0.03	0.03	0.09	0.03	0.03

Notes: Probit regressions. The dependent variable Turnover Dummy, is a dummy variable indicating whether there is any turnover of CEO or Chairman within one year after the firm's reform. Compensation ratio is the number of total shares given to tradables shareholders from the nontradables shareholders over all tradable A-shares before this compensation; Entertainment costs is a city-level index based on the survey by World Bank (2006), which reflects the general corruption atmosphere in the city where the focal firm is headquatered; ROA is the ratio of net profits over total assets for post-reform year; Log(Sales) is the log value of total sales for the post-reform year. Industry is defined at the SIC-2 level. Standard errors are given in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%。

Table 6 - Event Study 1 (April 29, 2005)

	CAR[-1,1]	CAR[-1,1]	CAR[0,1]	CAR[0,1]
	(1)	(2)	(3)	(4)
	State controlled firms			
Entertainment costs	0.002	0.002	-0.001	-0.001
	(0.005)	(0.003)	(0.004)	(0.003)
CEO nontradable shareholdings	-0.586***	-0.586***	-0.431***	-0.431***
	(0.152)	(0.161)	(0.160)	(0.163)
CEO tradable shareholdings	24.085	24.085	38.918*	38.918*
	(24.473)	(23.404)	(20.857)	(19.904)
CEO Salary	-2.801	-2.801	-0.726	-0.726
	(4.124)	(3.303)	(3.893)	(4.267)
Log(Sales)	0.003	0.003	0.003*	0.003*
	(0.002)	(0.002)	(0.002)	(0.002)
ROA	0.146***	0.146***	0.116***	0.116***
	(0.042)	(0.038)	(0.031)	(0.029)
Ind-Directors	0.050	0.050	0.075*	0.075**
	(0.052)	(0.044)	(0.041)	(0.036)
Nontradables	0.023	0.023	0.010	0.010
	(0.020)	(0.021)	(0.017)	(0.019)
Top10_NT	0.010	0.010	0.005	0.005
	(0.008)	(0.009)	(0.007)	(0.006)
Top10_T	0.078***	0.078***	0.071**	0.071**
	(0.027)	(0.029)	(0.031)	(0.032)
Log(GDP/Capita)	0.000	0.000	0.002	0.002
	(0.004)	(0.003)	(0.003)	(0.002)
Log(Population)	0.001	0.001	0.002	0.002
	(0.004)	(0.003)	(0.003)	(0.002)
Clustering at Which level	No	City	No	City
Industry Effect	Yes	Yes	Yes	Yes
Observations	631	631	631	631
R-squared	0.13	0.13	0.11	0.11

Notes: The dependent variable CARs are abnormal event returns around the first policy announcement (April 29, 2005) when the central government allowed this nationwide reform; CEO Compensation is total cash and bonus senior managers get scaled by total assets; Independent Directors is the ratio of independent directors over all the directors of the focal firm; Entertainment costs is a city-level index based on the survey by World Bank, which reflects the general corruption atmosphere in the city where the focal firm is headquatered; ROA is the ratio of net profits over total assets in the previous year; Log(Sales) is the log value of total sales in the previous year; Log(Time) is the log value of reforming time at the firm level, where the ending point is the day when the firm passed its reform plan and the starting point is April 29, 2005. Nontradables is the percentage of non-tradable shares. Log(GDP/Capita) is the log value of GDP per capita of each city; Log(Population) is the log value of total population of each city. Standard errors are given in parentheses.* significant at 10%; ** significant at 5%; *** significant at 1%

Table 7 - Event Study 2 (Sep 04, 2005)

	CAR[-1,1]	CAR[-1,1]	CAR[0,1]	CAR[0,1]
	(1)	(2)	(3)	(4)
	State controlled firms			
Entertainment costs	0.006*	0.006**	0.005*	0.005*
	(0.003)	(0.003)	(0.003)	(0.003)
CEO nontradable shareholdings	-0.118*	-0.118**	-0.126**	-0.126**
	(0.063)	(0.058)	(0.059)	(0.055)
CEO tradable shareholdings	2.757	2.757	-3.710	-3.710
	(15.420)	(13.729)	(17.763)	(16.293)
CEO Salary	-1.108	-1.108	-3.113	-3.113
	(2.756)	(3.072)	(2.434)	(2.494)
Log(Sales)	-0.002*	-0.002**	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
ROA	-0.057*	-0.057**	-0.027	-0.027*
	(0.029)	(0.028)	(0.018)	(0.015)
Ind-Directors	-0.007	-0.007	0.003	0.003
	(0.029)	(0.022)	(0.024)	(0.020)
Nontradables	-0.002	-0.002	-0.002	-0.002
	(0.013)	(0.010)	(0.010)	(0.009)
Top10_NT	-0.006	-0.006	-0.003	-0.003
	(0.005)	(0.006)	(0.004)	(0.005)
Top10_T	0.197***	0.197***	0.178**	0.178**
	(0.066)	(0.066)	(0.071)	(0.070)
Log(GDP/Capita)	0.004*	0.004*	0.004**	0.004**
	(0.002)	(0.002)	(0.002)	(0.002)
Log(Population)	0.007***	0.007***	0.005***	0.005**
	(0.002)	(0.002)	(0.002)	(0.002)
Clustering at Which level	No	City	No	City
Industry Effect	Yes	Yes	Yes	Yes
Observations	632	632	632	632
R-squared	0.12	0.12	0.14	0.14

Notes: The dependent variable CARs are abnormal event returns around the second milestone policy announcement (September 4, 2005) when the central government described the detailed rules governing the bargaining process; CEO Compensation is total cash and bonus senior managers get scaled by total assets; Independent Directors is the ratio of independent directors over all the directors of the focal firm; Entertainment costs is a city-level index based on the survey by World Bank, which reflects the general corruption atmosphere in the city where the focal firm is headquatered; ROA is the ratio of net profits over total assets in the previous year; Log(Sales) is the log value of total sales in the previous year; Log(Time) is the log value of reforming time at the firm level, where the ending point is the day when the firm passed its reform plan and the starting point is April 29, 2005. Nontradables is the percentage of non-tradable shares. Log(GDP/Capita) is the log value of GDP per capita of each city; Log(Population) is the log value of total population of each city. Standard errors are given in parentheses.* significant at 1

Table 8 - Robustness Checks

	(1)*	(2)*	(3)*	(4)*	(5)	(6)	(7)	(8)	(9)
				Dependent variable: CR					
Entertainment costs (%)	-0.024	-0.023	-0.023	-0.022					
	(0.018)	(0.019)	(0.019)	(0.019)					
CEO Salary		-0.585		0.085					
		(12.786)		(12.777)					
CEO nontradable shareholdings			0.010	0.012					
			(0.100)	(0.101)					
CEO tradable shareholdings			-10.636*	-9.794					
			(6.040)	(5.942)					
Court solving (%)					0.661**			0.721***	-0.036
					(0.291)			(0.227)	(0.033)
Legal Protection of Contract						0.124		-0.017	-0.039**
						(0.206)		(0.124)	(0.015)
Using formal Contract							0.159	0.307	0.000
							(0.251)	(0.177)	(0.040)
Log(Sales)	-0.004	-0.004	-0.003	-0.003	-0.015	-0.014	-0.015	-0.015	0.002
	(0.005)	(0.006)	(0.006)	(0.006)	(0.013)	(0.010)	(0.010)	(0.013)	(0.005)
ROA	-0.099	-0.108	-0.099	-0.106	-0.193*	-0.164	-0.159	-0.213**	-0.200**
	(0.093)	(0.092)	(0.093)	(0.092)	(0.093)	(0.105)	(0.117)	(0.095)	(0.078)
Log(Time)	-0.042***	-0.042***	-0.042**	-0.042**	-0.012	-0.009	-0.011	-0.014	-0.049***
	(0.014)	(0.014)	(0.016)	(0.016)	(0.028)	(0.026)	(0.025)	(0.028)	(0.013)
Nontradables	0.325***	0.322***	0.323***	0.320***	0.334**	0.424**	0.425**	0.309**	0.277***
	(0.051)	(0.049)	(0.051)	(0.050)	(0.120)	(0.182)	(0.171)	(0.108)	(0.072)
Top10_NT	0.014	0.011	0.018	0.016	0.076	0.081	0.086	0.088	0.023
	(0.033)	(0.033)	(0.039)	(0.038)	(0.121)	(0.128)	(0.134)	(0.125)	(0.016)
Top10_T	-0.622	-0.644	-0.623	-0.647	-1.094	-1.223	-0.965	-0.812	-0.137***
	(0.384)	(0.390)	(0.406)	(0.412)	(0.687)	(0.892)	(0.742)	(0.663)	(0.021)
Sample	Private	Private	Private	Private	Private	Private	Private	Private	**State**
Industry Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	250	249	249	248	71	71	71	71	179
R-squared	0.24	0.24	0.24	0.24	0.35	0.25	0.25	0.36	0.36

Notes: The dependent variable CR, compensation ratio, is the number of total shares given to tradables shareholders from the nontradables shareholders over all tradable A-shares before this compensation; Entertainment costs is a city-level index based on the survey by World Bank (2006), which reflects the general corruption atmosphere in the city where the focal firm is headquatered; CEO Compensation is total cash and bonus senior managers get scaled by total assets; "Confidence in courts" is from the World Bank 120-city survey, so includes more observations; Court Solving, "Legal Protection of Contract" and "Using formal Contract" are all from Cull and Xu (JFE), which is based on a smaller-scale survey in China. ROA is the ratio of net profits over total assets in the previous year; Log(Sales) is the log value of total sales in the previous year; Log(Time) is the log value of reforming time at the firm level, where the ending point is the day when the firm passed its reform plan and the starting point is April 29, 2005. Nontradables is the percentage of non-tradable shares. Standard errors, given in parentheses, are clustered at the city level.* significant at 10%; ** signi

*Also includes the share of independent directors (positive but insignificant)