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Corporate governance of Chinese privatized firms: Evidence from a survey of non-listed enterprises ☆

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ABSTRACT

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By using a dataset containing over 1200 Chinese non-listed firms, this study examines the corporate governance of privatized firms. Based on the summary statistics for 22 governance structures, I find that privatized domestic private firms have set up stronger governance than domestic private firms that have not experienced privatization. I propose seven hypotheses to explain the leading performance of privatized firms on corporate governance. I find that while some differences are explained by the diversity of firm-level characteristics, privatized firms' better performance on setting up a board of directors and providing the CEO with company shares is highly robust. Finally, I find strong correlations between local governments' fiscal conditions in the privatization year and privatized firms' governance, which suggests a significant role played by local governments in shaping corporate governance during the privatization process. *Journal of Comparative Economics* **43** (4) (2015) 1101–1121. School of Economics and Management, Tongji University, 1239 Siping Road, Shanghai 200092, PR China .

1. Introduction

Privatization has been a crucial step in China's great transition from a planned economy toward a market economy in the past decade. Through privatization, thousands of companies have been restructured from state to private ownership.[1] It is generally found that privatization has quickly led to improvements in firm efficiency and profitability (e.g. Megginson et al., 1994; Boubakri and Cosset, 1998; Aivazian et al., 2005). Nevertheless, by acknowledging the short-run gains, many studies also highlight the importance of corporate governance development to achieve the long-run successes of privatization (e.g. Qian, 1995; Black et al., 1999; Boubakri et al., 2005).

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[1] As a result, the shares of the state sector and the private sector in the economy have reversed. For example, in 1988, the state sector's share of total urban employment was 70%; but in 2008, the private sector's share became 77% (MLSS, 2009). The private sector now also contributes two-thirds of China's industrial value-added.

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Have privatized firms established sound corporate governance structures? To answer this question, this study examines a firm-level dataset from a 2006 survey of 1268 enterprises in 12 Chinese cities. Except for 56 firms, all sample organizations are non-listed enterprises. In the sample, there are 251 domestic private enterprises that have experienced privatization (privatized DPEs hereafter). I compare these firms with state-owned enterprises (SOEs) and domestic private firms that have been privately owned ever since their founding (non-privatized DPEs) on the set-up of 22 corporate governance structures. These structures cover five governance aspects, namely information disclosure and financial transparency, CEO contracts, ownership structures, boards and its functioning, and firm charters and its contents. Unlike listed companies that have to obey certain regulations by setting governance, non-listed companies such as the sample firms establish governance structures voluntarily. Hence, it is meaningful to make these comparisons.

The basic summary statistics show that on most of the 22 structures privatized DPEs perform better than SOEs. Moreover, they show better performance than non-privatized DPEs on half of the 22 structures (on the other half, the two groups are not significantly different). The leading performance of privatized DPEs over SOEs on corporate governance is easily understood. Compared with public (state) owners, private owners have stronger incentives to adopt governance structures to protect their interests. However, it is not straightforward to explain the leading performance of privatized DPEs over non-privatized DPEs because these two kinds of firms are similar in the sense that private owners hold the majority of company shares. Moreover, privatized DPEs still keep some features of SOEs that perform poorly in governance set-up. Therefore, one could expect that, on average, privatized DPEs would have worse performance than non-privatized DPEs on governance adoption.

Corporate governance is a costly investment that is made mainly to protect investors and discipline managers, and the payoffs from the adoption of governance mechanisms differ across firms (Aggarwal et al., 2010). This argument suggests that the differences between privatized DPEs and non-privatized DPEs can affect the payoffs and costs of their governance set-up. Accordingly, I propose seven hypotheses to explain the gaps in governance by firm-level characteristics.

To start with, corporate governance deals with agency problems, implying that the level of the separation of ownership and control in a firm primarily determines the benefits of its governance set-up. The first hypothesis is that agency problems are more serious in privatized DPEs, which generates demand for higher levels of governance and shareholder protection.

Next, some factors are able to partially replace internal governance structures and mitigate agency problems, including external finance providers and product market competition. The second hypothesis is formulated based on the fact that privatized and non-privatized DPEs rely on different major finance sources. Similar to Chinese SOEs, Chinese privatized firms have better access to bank finance; by contrast, non-privatized DPEs rely more on equity finance. These differences in corporate finance could have led to differences in governance mechanisms (e.g. Williamson, 1988). The third hypothesis concerns external product market competition, which can discipline managers who work contrary to the wishes of shareholders (Demsetz and Lehn, 1985). Since privatized DPEs enjoy greater market power than non-privatized DPEs, their external governance is weaker and thus they might set up stronger internal structures to compensate for governance power.

In addition, some internal and external factors affect the ease or costs of governance adoption. The fourth hypothesis is that privatized DPEs, like SOEs, attract better educated managers and employees who are more likely to understand better the benefits of modern corporate governance and to participate in setting governance mechanisms (OECD, 2006). The fifth hypothesis is based on labor power. Employees in privatized DPEs are more powerful than those in non-privatized DPEs due to the encouraged employee participation in China's privatization process; as a result, they may have played a larger role in shaping corporate governance. The sixth and seventh hypotheses are that due to their origins as SOEs, privatized DPEs have a stronger sense of corporate social responsibility (CSR) as well as stronger political connections, which may contribute to a higher level of governance.

To test each hypothesis, I construct related measures or proxies, the summary statistics of which demonstrate that the two groups are significantly different on these dimensions. Then, I add the measures set by set into the regressions, observing whether the estimated differences between privatized and non-privatized DPEs in governance are significantly reduced. The results support several of the hypotheses by suggesting that differences in the levels of agency problems, labor power, and CSR awareness could be part of the reasons for the differences in governance. Moreover, corporate finance and market competition measures are also strongly correlated with governance aspects, although the addition of these measures does not significantly affect the estimated gaps in governance (a more detailed summary is provided in Section 5). Following these tests, I also match the privatized DPEs and non-privatized DPEs samples by their industry and firm size and conduct regressions on the matched sample, finding that the leading performance of privatized DPEs remains on some governance aspects. In particular, in regressions with various specifications, privatized DPEs always perform significantly better in terms of the CEO holding company shares and the presence of a board of directors.

After examining the explanatory power of firm-level factors, I provide some evidence suggesting that the privatization process is related to privatized firms' governance. My conjecture is that the local governments who owned these firms have significantly affected their governance during privatization. Chinese local governments' economic decisions, including those on privatization, hinge largely on macroeconomic conditions. Therefore, in order to explore this idea, I merge the data on privatized firms with the privatization-year macroeconomic indicators of the province in which they are located. I find that local governments' fiscal conditions are positively related to firms' governance.

This study makes several potential contributions to the literature. First, to the best of my knowledge, it is among the few existing studies that carefully examine the corporate governance of non-listed firms. Compared with listed firms, external discipline in non-listed firms is much weaker because their key information is not public and they are not exposed to so many regulations. Therefore, the development of internal governance mechanisms is even more crucial for non-listed firms to prevent their managers from taking opportunistic actions at the cost of company successes. However, mainly due to data limitations, the

governance structures of non-listed firms are vastly under-researched compared with those of listed firms. A good starting point of such research is a comprehensive description of their governance structures, which is a goal this study aims to achieve.

Second, this paper explores the possible causes for the differences in governance between privatized firms and firms of other types of ownerships. For that, I apply existing theories on corporate governance, forming and testing seven hypotheses. In these tests, I examine the correlations between two dozen firm-level factors and governance structures. These correlations do not necessarily imply causality. Nevertheless, these results may serve as a good reference for later studies that focus on understanding the determinants of corporate governance in emerging economies.

Recently, there has been increasing interest in understanding why some firms establish high quality governance even in economies with incomplete public governance institutions (e.g. Hugill and Siegel, 2012). Emerging economies such as China are typically characterized by the absence of a well-functioning market for corporate control (i.e. takeovers or proxy fights are costly and fewer) and a well-established managerial labor market; moreover, their legal systems are often poorly enforced due to prevalent corruption. The absence of these external institutional environments is believed to weaken the effects of internal governance, thereby reducing firms' incentives to establish corporate governance. Regarding this issue, empirical findings of this study indicate some benefits of governance set-up. In particular, sound governance is strongly correlated with more contact with external private equity investors, with a bigger chance of regularly receiving trade credits from suppliers, and with more exports. These results may provide some clues to the puzzling sound internal governance adopted in a weak public governance environment.

Third, I find some evidence suggesting an important role played by local governments in shaping the internal governance of privatized firms. Shleifer and Vishny (1997) claim that "recent research has shown that, historically, political pressures are as important in the evolution of corporate governance systems as the economic ones" (p. 771). My findings suggest that this statement holds for privatized firms in transitional China. In particular, the linkages between Chinese local governments' political objectives and firm-level corporate governance development are worthy of further exploration.

Finally, this study complements the literature on privatization in China. Issues related to agency problems are particularly serious in privatized firms. This is because new owners take charge of the company in privatization; and the government typically still has some controlling power over the firm, even after the privatization. In addition, most of the original SOEs' CEOs were able to keep their positions after privatization, thanks to their information advantage on firm operations. Therefore, how to align the interests of management with the various kinds of owners and whether privatized firms have developed corporate governance conducive to long-term firm growth are common questions raised in the literature on privatization both in China (e.g. Song and Yao, 2006) and in other countries. By documenting the governance structures of these firms, this study adds knowledge regarding the privatization process in China.

The remainder of this paper is organized as follows. Section 2 introduces the firm data and presents the summary statistics for corporate governance and the major characteristics of firms with different ownerships. Section 3 proposes and tests the seven hypotheses to explain the differences in governance between privatized and non-privatized DPEs. Section 4 examines the effects of the privatization-year macroeconomic indicators of local governments on privatized firms' governance. Finally, Section 5 concludes.

2. Differences between privatized firms and private firms in governance

2.1. The data

My data come from a survey conducted by the International Finance Corporation (IFC) of the World Bank Group in the spring of 2006. The survey, titled "The Sustainability of the Private Sector in China," was conducted on 1268 firms in 12 Chinese cities (from north to south): Changchun, Dandong, Chifeng, Beijing, Shijiazhuang, Xi'an, Zibo, Chongqing, Shiyan, Wujiang, Hangzhou, and Shunde. The choice of the 12 cities was based on the principle of representation rather than on randomness.[2]

The National Bureau of Statistics (NBS) was commissioned to carry out the survey. In each city, around 100 firms were selected randomly from the firms that had an annual sales volume of more than 5 million Yuan.[3] A stratified sampling strategy was adopted to select the sample firms. The first stratum was firm ownership. Firms were divided into three categories: SOEs, DPEs, and foreign-invested enterprises (FIEs). SOEs are firms in which the state has a controlling share.[4] DPEs are companies with a majority of private shares. FIEs are firms that have foreign shares including shares held by Hong Kong, Macao, and Taiwanese businesses. The shares of these three categories of firms in a city were used in the sampling. The second stratum was firm size, which also included three categories: large, medium, and small firms. The definitions of these three size categories were the same as those used by the NBS in its routine statistics, which were defined by the State Economic and Trade Commission (SETC,

[2] There are three categories of cities in China: provincial level, prefectural level, and county level. Beijing and Chongqing are two provincial-level cities. Changchun, Shijiazhuang, Xi'an, and Hangzhou are the provincial capitals of Jilin, Hebei, Shannxi, and Zhejiang, respectively. Wujiang and Shunde are county-level cities. The other cities are medium-sized prefecture-level cities. Beijing, Wujiang, Hangzhou, and Shunde are located on the coast; Chifeng, Xi'an, Shiyan, and Chongqing are located in the country's western region; and the rest are located in the central region. Changchun, Xi'an, and Chongqing used to be among China's industrial powerhouses, but have gone through a painful transformation in the past two decades because of the economic shift from the hinterland to the booming coastal regions. Beijing, Hangzhou, Wujiang, and Shunde are experiencing fast growth in industries and services. Zibo is catching up in industrial development, but its service sector is relatively lagging behind.

[3] Since the NBS only maintains a database for firms with a sales volume above this level.

[4] There are also collectively owned enterprises, but their number was relatively small, so they were combined with SOEs.

2003). The shares of firms of these three size categories in a city were used in the sampling. By using this sampling strategy, the survey obtained a representative sample for the 12 cities.

The NBS's local offices administered a questionnaire completed by the firm managers. Training was provided before the survey. The questions were related to firms' CSR awareness and performance in labor protection, quality control, corporate governance, and environmental protection. There were also questions about market conditions and external finance. In addition, the NBS provided data for most sample firms' annual employment, fixed assets, profits and taxes, and sales income for the period of 2003–2006.

The questionnaires were completed by the firm managers. Some sections were answered by department managers and others by the CEO. One could be worried about biased self-reporting. To mitigate this concern, first the managers were informed before the survey that information of individual firms would be confidential to academic researchers and would not be accessed by either governments or business agencies except for the NBS. Managers were also informed that the data would be used only in academic works. So, there were no specific reasons that a certain type of firm would be inclined to give a certain biased report. Second, at the end of each section of the questionnaire, the survey asked the managers to estimate the conditions in other local firms. For example, the survey asked each firm to report whether they provided written contracts to their employees; then it asked them to estimate "Among other local firms in your industry, is it common for them to sign contracts with their employers? 1 = few; 2 = some; 3 = very common." By aggregating and comparing the answers from the two sources, one can get a rough sense on the seriousness of self-report biases. The work done by Shen and Yao (2009) finds that answers from different sources are generally quite consistent. Finally, this dataset has been used by several published papers that examine correlations between various firm aspects (e.g., Yao and Zhong, 2013; Yang and Yao, 2012; Xu and Yang, 2010). If the managers have been careless in filling out the survey questionnaires and thus the data are very noisy, these papers (as well as this one) would not be able to find some strong correlations that are highly consistent with correspondent theoretical predictions. Based on these reasons, we believe that the self-report biases are not a big concern and that the data are largely reliable.

2.2. Corporate governance of firms with various ownerships

In the questionnaire, one question asked "Is your company a privatized firm; and if so, in which year was your company privatized?" Based on this information, 285 sample firms were identified as privatized firms. Among them, 251 had become DPEs and the remaining 34 were FIEs. In this study, I focus on examining the 251 privatized firms that are now DPEs (privatized DPEs herein), comparing them with the 563 DPEs that have been privately owned ever since their founding (non-privatized DPEs). I also provide some analyses comparing the 34 privatized FIEs with the 235 FIEs that have not experienced privatization. However, the small number of privatized FIEs reduces the representativeness of this sample, meaning that the results should not be relied on heavily. Further, 101 SOEs were also in the sample.

Table 1 presents the summary statistics for the 22 governance structures across different ownerships. The 22 governance structures belong to five governance categories, namely financial transparency and information disclosure, managerial incentives, ownership structures, a board of directors and its functioning, and firm charters and its contents. Detailed definitions of the 22 structures are in Table 1.

Let us first compare privatized DPEs (column 3) with SOEs (column 1). Privatized DPEs perform better on 20 governance aspects. The two exceptions are that a larger proportion of SOEs hire external auditors and grant the largest shareholders veto right.[5] Second, we compare privatized DPEs with non-privatized DPEs (column 2). On 11 of the 22 governance structures, privatized DPEs perform significantly better (t-statistics are reported in column 6). However, the largest shareholders of non-privatized DPEs are more likely to have the veto right. On the remaining 10 governance dimensions, which include ownership structure measures such as the number of large shareholders and CEO holding the company shares, the two groups are not significantly different. Third, columns 4, 5, and 7 compare privatized FIEs with non-privatized FIEs. In general, the two groups are quite similar. The most significant differences are related to CEO contracts and incentives. A large proportion of privatized FIEs have specified their CEO's contract length and let their CEO hold company shares. It is also noteworthy that among the five types of firms in Table 1, privatized FIEs have the highest score on 12 of the 22 governance aspects (regardless of significance), while non-privatized FIEs have the highest score on seven governance aspects, mainly related to the firm charter.

Finally, we find some common features for privatized DPEs and privatized FIEs. Compared with SOEs, non-privatized DPEs, and non-privatized FIEs, privatized firms perform best on holding a shareholder conference at least once a year, CEOs having a written contract, adopting the one share one vote rule instead of one shareholder one vote as the voting rule of board, and the firm charter containing specific terms regulating the decision process and internal transactions.

The finding that the governance of privatized DPEs is sounder than that of SOEs is not surprising. SOEs are ultimately controlled by state bureaucrats. Because their main concern is to achieve political objectives (Shleifer and Vishny, 1994), corporate governance that serves the profit maximization target is usually not well established in SOEs. By comparison, because private owners place greater emphasis on profits, they have stronger incentives to establish sound governance in order to make sure that their investments achieve reasonable rewards. Regarding the better performance of FIEs over DPEs in governance, there are few studies of the relationships between foreign ownership and corporate governance; nevertheless, one may guess that foreign

[5] Whether the largest shareholders holding the veto right benefits the firm needs more carefully discussions and empirical tests, which is beyond the scope of this study. I include this governance aspect because it could prevent managers from hurting shareholders' interests.

Table 1
Corporate governance of sample firms divided by their ownerships.

	(1) SOEs	(2) Non-privatized DPEs	(3) Privatized DPEs	(4) Non-privatized FIEs	(5) Privatized FIEs	(6) *T*-statistics	(7) T-statistics
Number of sample firms	97	560	251	211	34	(2)–(3)	(4)–(5)
(proportion)	8.41	48.57	21.77	18.38	2.95		
Panel 1-1: Information disclosure and financial transparency							
External_audit (0, 1)	0.82	0.70	0.76	0.93	0.94	−1.76	−0.24
Balance_sheet (0, 1)	0.57	0.78	0.79	0.93	0.94	−0.20	−0.22
Regular_report (0, 1)	0.50	0.82	0.84	0.89	0.97	−0.91	−1.37
Risk_disclosure (0, 1)	0.48	0.56	0.59	0.63	0.52	−0.66	1.15
Share_conference (0, 1)	0.11	0.66	0.75	0.65	0.74	−2.30	−0.93
Panel 1-2: CEO contracts							
CEO_contract (0, 1)	0.36	0.47	0.60	0.57	0.61	−3.36	−0.39
CEO_contractlength (0, 1)	0.43	0.33	0.46	0.47	0.67	−3.55	−2.12
Panel 1-3: Ownership structure							
CEO_share (0, 1)	0.16	0.78	0.80	0.46	0.64	−0.93	−1.92
No_large_shareholders	0.85	2.40	2.21	1.96	2.33	1.61	−1.61
Panel 1-4: Boards and its functioning							
Board of director (0, 1)	0.20	0.66	0.80	0.89	0.97	−3.93	−1.40
No_independent_directors	2.38	3.14	3.68	3.64	4.26	−2.41	−1.46
One_share_one_vote (0, 1)	0.14	0.32	0.43	0.23	0.35	−2.42	−1.29
Veto (0, 1)	0.78	0.78	0.69	0.79	0.73	2.04	0.61
Board_conference (0, 1)	0.56	0.63	0.74	0.53	0.55	−2.45	−0.13
Panel 1-5: Firm charters and its contents							
Charter (0, 1)	0.66	0.87	0.92	0.98	0.97	−1.85	0.42
(1) Decision process (0, 1)	0.58	0.71	0.77	0.75	0.81	−1.85	−0.72
(2) Internal transactions (0, 1)	0.20	0.42	0.51	0.47	0.53	−2.35	−0.68
(3) Information disclosure (0, 1)	0.28	0.42	0.42	0.49	0.55	0.06	−0.62
(4) Profit allocation (0, 1)	0.43	0.69	0.72	0.76	0.76	−1.02	0.02
(5) Financial management (0, 1)	0.70	0.78	0.82	0.88	0.88	−1.36	0.09
(6) Managers assignment (0, 1)	0.64	0.74	0.78	0.82	0.73	−1.40	1.28
(7) Disputes solving (0, 1)	0.41	0.54	0.61	0.65	0.53	−1.55	1.31

Definitions of each governance variable are as follows:

Panel 1-1: Information disclosure and financial transparency	
External_audit (0, 1)	Takes value 1 if the firm hires external auditors
Balance_sheet (0, 1)	Takes value 1 if the firm provides shareholders with an audited financial balance sheet
Regular_report (0, 1)	Takes value 1 if the firm regularly reports to shareholders on important operating and strategic decisions
Risk_disclosure (0, 1)	Takes value 1 if the firm regularly estimates the potential large risks, informs shareholders, and takes proper actions
Share_conference (0, 1)	Takes value 1 if the firm holds a shareholders conference at least once a year
Panel 1-2: CEO contracts	
CEO_contract (0, 1)	Takes value 1 if the company signs a written contract with its CEO
CEO_contractlength (0, 1)	Takes value 1 if the length of the CEO's contract is specified
Panel 1-3: Ownership structure	
CEO_share (0, 1)	Takes value 1 if the CEO holds company equity
No_large_shareholders	The number of shareholders who hold more than 10% of company shares
Panel 1-4: Board and functioning	
Board_of_director (0, 1)	Takes value 1 if the firm sets up a board
(The following four variables have values conditional on a board being set up.)	
No_independent_directors	The number of independent directors
One_share_one_vote (0, 1)	Takes value 1 if the voting rule taken by the board is one share one vote, and value 0 if the rule is one shareholder one vote
Veto (0, 1)	Takes value 1 if the largest shareholder has the veto right
Board_conference	Takes value 1 if the firm holds a board conference at least once a year
Panel 1-5: Firm charters	
Charter (0,1)	Takes value 1 if the firm has firm charters
(1) Decision_ processes (2) Internal_transactions (3) Information_disclosure (4) Profit_allocation (5) Financial_ management (6) Managers_assignment (7) Dispute_resolution	Conditional on a firm having firm charters, these dummies indicate whether the charter contains the following aspects (1_Yes, 0_No): (1) decision processes; (2) internal transactions (e.g. shares transfer); (3) information disclosure; (4) profit allocation; (5) financial management; (6) manager assignment; (7) ways of dispute resolution

Notes: This table compares the governance structures of sample firms divided by their ownerships. SOEs are firms in which the state has a controlling share. Non-privatized DPEs are companies that have been privately owned ever since their founding. Non-privatized FIEs are firms that have foreign shares, including those held by Hong Kong, Macao, and Taiwanese businesses, and that have not experienced privatization. Privatized DPEs and privatized FIEs are DPEs and FIEs that have experienced privatization. The table also reports the *t*-statistics for the differences in means between privatized DPEs and non-privatized DPEs and between privatized FIEs and non-privatized FIEs.

owners who mainly come from developed economies bring in modern corporate governance mechanisms together with their investments. This finding is probably related to the common fact that foreign ownership is associated with better firm performance and higher efficiency (e.g. Boubakri et al., 2005; Bai et al., 2004).

Nonetheless, it is not easy to explain the leading performance of privatized DPEs over non-privatized DPEs on governance set-up, since both kinds of firms are held mainly by private owners. Moreover, given the origins of SOEs that perform poorly in setting up governance, one may expect the governance of privatized DPEs to be no better than that for non-privatized DPEs.

2.3. Major characteristics of firms with various ownerships

Thus, how can we explain the differences between privatized DPEs and non-privatized DPEs in governance? To answer this question, we must first describe the differences in terms of major firm-level characteristics. For that purpose, Tables A1 and A2 in the appendix describe ownership distributions by sub-category and industry distribution and Table 2 presents the summary statistics on their basic characteristics as well as seven sets of firm factors.

First, both privatized and non-privatized DPEs are categorized by the NBS as private firms, since private owners hold the majority of shares. Yet, by sub-category ownership type, there are still differences, which are reported in Table A1. The first category in the table is "Private Enterprises", which means all shares are held by private owners. About 75% of non-privatized DPEs are of this type in comparison with 50% of privatized DPEs. If we look further into the forms of business, we can find that the major difference is in the form of "Limited Liability"; 55% of non-privatized DPEs and 36% of privatized DPEs are organized in this form. Then, the bottom half of the table reports statistics on mixed ownership categories. We see that 20% of privatized DPEs are in the form of Corporations Ltd. and 24% are Limited Liability, exceeding the correspondent proportions for non-privatized DPEs by about 10% on both types. In brief, non-privatized DPEs are "purer", whereas privatized DPEs are more "mixed" in terms of ownership. To take into account these differences, I include a set of dummies on sub-category ownerships in all regressions.

Next, Table A2 describes the sector distributions. All sample firms belong to three industry classifications, according to their one-digit industry codes. Non-privatized and privatized DPEs have quite close distributions, with about 98% of them in the manufacturing industry. Fewer than 1% of them are utilities companies; as a comparison, 21% of SOEs are in the utilities industry, which is highly monopolistic and regulated in China. In all regressions, I control for a set of industry dummies based on 33 different two-digit industry codes.

Table 2 further presents the summary statistics on 25 firm-level factors. Panel 2-1 describes two basic characteristics. We can see that privatized DPEs are much larger in terms of *Total Employment* and lower in *Capital Intensity* (per worker fixed capital). The average employment of privatized DPEs is 832, more than double that of non-privatized DPEs. The difference in capital intensity is not significant. Privatized and non-privatized DPEs are also significantly different on some of the other aspects reported in Table 2, which are examined later with the correspondent hypotheses.

Before introducing and testing the hypotheses, I run a set of simple OLS regressions on the 22 governance structures, controlling only for sub-category ownership, industry, and location fixed effects. First, differences in ownership are expected to affect corporate governance, even at the sub-category level. Second, industry affiliation is found to explain a significant part of the cross-firm differences in ownership concentration (e.g. Boubakri et al., 2005). Third, the governance of a single firm is affected by local corporation practices, legal protection for investors, and economic development. For example, Doidge et al. (2007) find that country variables explain 39–73% of firm-level governance variance. As the sample firms are distributed in 12 cities in different regions of China, this result may also apply to them. The regressions are conducted in the sample of privatized DPEs and non-privatized DPEs. Therefore, the *privatized DPEs* dummies capture the differences in governance between the two groups. The results are reported in Panel 1 of Table 3. The *privatized DPEs* dummies are significant in the functions of seven governance aspects, which are mainly related to CEO contracts and incentives, the presence of a board and its functioning.

Table 3 also contains the estimates of the privatized DPEs dummies, number of observations, and *R*-squared values for the regressions using the other eight specifications. Specifically, Panels 2–7 report the results of the regressions that add different sets of variables separately into the previous regressions controlling for only three sets of fixed effects; the variables are to be introduced later on with the corresponding hypotheses. Panel 8 reports the results of the regressions containing all variables, while Panel 9 reports the results for the matched samples.

It is noteworthy that the significance of *privatized DPEs* is highly consistent across the various specifications. In particular, except for *Internal_transactions* being included in the firm charter, if *privatized DPEs* is not significant for a certain governance aspect in Panel 1, it is not significant with the addition of the other control variables or in the matched regression. *Internal_transactions* is only marginally significant in three specifications. Furthermore, I check the robustness of the results by adding FIEs (i.e. I compare the group of (privatized DPEs + privatized FIEs) with the group of (non-privatized DPEs + non-privatized FIEs)). The results are reported in Table A4 in the appendix. All the results are largely similar to those in Table 3. To save space, in the remaining analyses, I only report the results of the six governance aspects on which the *privatized DPEs* dummy has significantly effects in Panel 1 in both Table 3 and Table A4, namely: *CEO_contract*, *CEO_contractlength*, *CEO_share*, *Board of director*, *No_independent_directors*, and *One_share_one_vote*. The full results are available upon request.

3. Explaining the differences in governance based on firm-level characteristics

To further explain the differences in corporate governance, we must understand the major determinants of the governance practices of the sample Chinese non-listed firms. However, related empirical evidence is scarce. In this section, I aim to link the

Table 2
Firm characteristics of sample firms with different ownerships.

	(1) SOEs	(2) Non-privatized DPEs	(3) Privatized DPEs	(4) Non-privatized FIEs	(5) Privatized FIEs	(6) *T*-statistics	(7) *T*-statistics
Number of sample firms	97	560	251	211	34	(2)–(3)	(4)–(5)
(proportion)	8.41	48.57	21.77	18.38	2.95		
Panel 2-1: Basic characteristics							
Total employment (100 people)	21.6	3.1	8.3	8.5	13.9	−3.45	−0.99
Capital intensity (thousand RMB)	129.1	119.5	75.7	157.5	144.2	0.93	0.30
Panel 2-2: Proxies of managerial discretion							
CEO power	0.99	0.98	1.01	0.97	0.94	−1.26	0.58
Sales 2005 (million RMB)	976.8	159.6	366.9	580.1	463.9	−1.88	−1.59
Fixed asset_Sale	1.48	0.40	0.59	0.56	0.66	−3.88	−0.94
EBIT margin 2005	0.05	0.08	0.08	0.07	0.11	−0.15	−2.04
Panel 2-3: Corporate finance							
Bank loans (%)	19.90	17.98	21.72	16.00	23.26	−1.86	−1.54
Equity finance (%)	15.70	39.59	30.37	35.68	31.54	3.41	0.62
Status of listing (1–4)	1.22	1.37	1.50	1.45	1.85	−2.25	−2.82
PE contacts	0.28	0.70	0.56	0.48	0.53	0.87	−0.19
Supplier tradecredits (0, 1)	0.65	0.64	0.67	0.71	0.79	−0.93	−1.06
Customer tradecredits (0, 1)	0.53	0.61	0.61	0.63	0.62	−0.02	0.09
Panel 2-4: Product market competition							
Market competition (1–3)	2.55	2.74	2.80	2.78	2.85	−1.71	−0.85
Provincial market share (1–6)	4.24	3.48	4.38	3.96	4.27	−5.96	−0.84
Export (1–6)	0.51	0.67	0.59	2.41	1.33	0.81	2.73
Panel 2-5: Education level							
CEO education (1–5)	3.10	2.74	2.85	3.04	2.94	−2.14	0.73
Management education (1–4)	2.69	2.20	2.24	2.66	2.74	−0.45	−0.30
Employee education (1–4)	1.59	1.45	1.37	1.69	1.53	1.44	0.97
Panel 2-6: Labor power							
Unionization (0, 1)	0.94	0.58	0.83	0.67	0.85	−6.89	−2.18
Share of migrant workers	1.24	2.17	1.62	2.70	1.91	5.54	3.02
Panel 2-7: CSR awareness and political connection							
CSR awareness (1–3)	1.91	1.84	1.86	1.89	2.13	−0.43	−1.73
CSR plan (0–2)	0.58	0.63	0.69	0.65	0.72	−1.21	−0.49
PC or PPCC membership (0, 1)	0.52	0.34	0.52	0.27	0.61	−4.80	−4.03
Shareholder political (0, 1)	0.05	0.06	0.14	0.04	0.12	−3.36	−1.82

Definitions of firm characteristics are as follows:

Panel 2-1: Basic characteristics	
Total employment	The average number of total employment as in 2005
Capital intensity	Per worker fixed capital in 2005
Panel 2-2: Proxies of managerial discretion	
CEO power	Comes from a question asking the Human Resources manager to score the importance of the CEO and the largest owner in making operational decisions for the company, with 3 = very important, 2 = moderate, and 1 = not important; the variable is constructed by dividing the answer for "CEO" by that for "the largest shareholder", thus reflecting the relative power of the CEO compared with the owner
Log (sales)	Log of sales
Fixed asset_Sale	fixed assets / sales
EBIT margin	(profits + tax)/sales
Panel 2-3: Corporate finance	
Bank loans (%)	The percentage of bank loans in total assets
Equity finance (%)	The percentage of equity in total assets
Status of listing (1–4)	Firms' status in public listing, from 4 to 1 representing already listed, in the process of being listed, plans to be listed, and no such plan, respectively
PE contacts	Number of a firm's contacts with external private equity investors over the past 3 years
Supplier tradecredit (0, 1)	A dummy indicating whether a firm regularly receives trade credits from its supplier
Customer tradecredit (0, 1)	A dummy indicating whether a firm regularly provides trade credits to its customers
Panel 2-4: Product market competition	
Market competition (1–3)	Comes from the question asking about the competition level of the market for the firm's major production, with 1–3 denoting low, moderate, and fierce, respectively
Provincial market share (1–6)	Comes from the six categorical answers provided by the questionnaire and takes values of 1–6 representing, respectively, the shares of 0–1%, 1–3%, 3–5%, 5–10%, 10–20%, and above 20%
Export (1–6)	Comes from the question asking about a firm's share of exports in its sales, with 1–6 denoting 0%, 0–20%, 20–40%, 40–60%, 60–80%, and 80–100%, respectively
Panel 2-5: Education level	
CEO education (1–5)	Takes values 1–5, indicating the CEO's education level of secondary school or below, high school, bachelor, master, and Ph.D., respectively
Management education (1–4)	Takes values 1–4, indicating the share of employees or management with college or higher diplomas of 0–20%, 20–40%, 40–60%, and more than 60%, respectively
Employee education (1–4)	

(*continued on next page*)

Table 2 (*continued*)

	(1) SOEs	(2) Non-privatized DPEs	(3) Privatized DPEs	(4) Non-privatized FIEs	(5) Privatized FIEs	(6) *T*-statistics	(7) *T*-statistics
Panel 2-6: Labor power							
Unionization (0, 1)	A dummy indicating whether the firm is unionized						
Share of migrant workers	The share of migrant workers, with 1–5 denoting, respectively, less than 20%, 20–40%, 40–60%, 60–80%, and 80–100%						
Panel 2-7: CSR awareness and political connection							
CSR awareness (1–3)	The response by the manager to the question: "Are you aware of any standards on CSR such as SA8000?" 1. No; 2. Have heard of it, but do not know it well; 3. I know it well						
CSR plan (0–2)	the response by the manager to the question: "Has your company prepared a plan to implement CSR?" 0. No; 1. In the process of preparing it; 2. Yes						
PC or PPCC membership (0, 1)	A dummy indicating the owner or the CEO of a company holds a position in the People's Congress of China (PC) or the People's Political Consultation Conference of China (PPCC)						
Shareholder political (0, 1)	A dummy indicating the largest shareholder once worked in the government						

Notes: This table compares the firm characteristics of sample firms divided by their ownerships. SOEs are firms in which the state has a controlling share. Non-privatized DPEs are companies that have been privately owned ever since their founding. Non-privatized FIEs are firms that have foreign shares, including those held by Hong Kong, Macao, and Taiwanese businesses, and that have not experienced privatization. Privatized DPEs and privatized FIEs are DPEs and FIEs that have experienced privatization. The table also reports the *t*-statistics for differences in means between privatized DPEs and non-privatized DPEs, and between privatized FIEs and non-privatized FIEs.

existing understanding on governance practices in developed economies with the features of Chinese privatized firms, forming and testing seven hypotheses. Before presenting the results, however, I need to warn the reader that, because the data is cross-sectional, all results are more indicative of correlations than causal relationships.

As mentioned in Section 1, differences in governance are caused by the differential costs and payoffs of governance adoption, which is further determined by 1) the level of agency problems; 2) the existence of substitutes for internal governance, which affects payoffs; and 3) the costs of setting up governance. These three aspects are discussed in detail in the following.

3.1. Agency problems

Corporate governance originates from the separation of ownership and control. Therefore, the first hypothesis is that privatized DPEs and non-privatized DPEs suffer from different degrees of separation, which requires different levels of shareholder protection.

Compared with non-privatized DPEs, privatized DPEs have more serious agency problems because privatization is commonly accompanied by new investors taking charge of a firm while the original CEOs were often kept in their position. As a result, in a privatized firm, the CEO and the largest shareholder are usually not the same person. By contrast, such a separation of ownership and control is less severe in non-privatized DPEs, especially in small or medium-sized private firms that are managed by their owners or family members. The previous comparisons of sub-category ownerships also indicate the levels of agency problems. Privatized DPEs are more "mixed"; this more complicated ownership structure may increase large shareholders' incentives to set up sound governance structures.

To test this hypothesis, I employ the variable *CEO Power*, which reflects the relative power of a CEO in comparison with the largest shareholder. *CEO Power* being higher than one indicates the CEO is more important than the largest shareholder. I also employ the five measures of managerial discretion used by Himmelberg et al. (1999). Among them, *log* (*sales*) is used to measure firm size. The ratio of fixed assets to sales is used to measure the alleviation of agency problems because such assets are easily monitored. As in Himmelberg et al. (1999), I also control for the square terms of *log* (*sales*) and *Fixed asset_Sale* to allow for non-linear relationships between governance and these two factors. Finally, I control for the *EBIT margin*, or (profits + tax)/sales, which is used to capture the amount of gross cash flows available from operations. The detailed definitions and summary statistics of these variables are provided in Table 2.

Measured by *CEO Power*, CEOs in privatized DPEs are the most powerful among the five types of firms, which confirms that conflicts between shareholders and managers are more serious. The sales volume of privatized DPEs is more than double that of non-privatized DPEs, also indicating greater managerial discretion. Moreover, privatized DPEs have a higher fixed assets to sales ratio, probably due to their SOE origin such as employing capital-intensive production skills. Finally, privatized DPEs are not significantly different from non-privatized DPEs in profitability measured by *EBIT margin*.

I add this set of variables into the previous regressions controlling for only three sets of fixed effects; the new results are reported in Table 4 (and also briefly in Panel 2 of Table 3). *CEO Power* is strongly positive in the function of CEO holding company share (*CEO_share)* and is negatively associated with the largest shareholder holding the veto right (*veto*). *Log* (*sales*) and its square term are significant on *CEO_share*, the presence of a *Board_of_directors*, and the firm charter containing terms of *Profit_ Allocation* and *Financial_Management*, suggesting the non-linear effects of firm size on these aspects. *Fixed asset_Sales* and its square term show non-linear effects on hiring *External_auditors*, a formal and written CEO contract (*CEO_contract* and *CEO_contractlength*), *Board_of_directors* and *Board_conference* being held at least once a year. Finally, *EBIT margin* is significantly positive on all governance structures related to information disclosure (as listed in Panel 1-1 in Table 1), *CEO_contractlength*, the board adopting

Table 3.
Summary table of the regressions using various firm-level factors.

	Variables	(1) External_audit	(2) Balance_sheet	(3) Regular_report	(4) Risk_ disclosure	(5) Share_ conference	(6) CEO_contract
Panel 1.	Privatized_DPEs	0.013	−0.038	−0.005	−0.000	0.048	0.080*
		[0.034]	[0.035]	[0.034]	[0.040]	[0.040]	[0.043]
Industry fixed effects +	No. of industries	33	33	33	33	33	33
Location fixed effects +	Observations	787	765	758	765	811	761
Ownership fixed effects	*R*-squared	0.12	0.16	0.15	0.11	0.16	0.13
Panel 2.	Privatized_DPEs	−0.016	−0.046	−0.014	−0.022	0.050	0.062
Proxies of agency		[0.041]	[0.035]	[0.032]	[0.040]	[0.041]	[0.042]
Problem +	Observations	785	763	756	763	809	759
Three fixed effects	*R*-squared	0.15	0.17	0.16	0.14	0.16	0.14
Panel 3.	Privatized_DPEs	0.020	−0.032	0.000	0.011	0.060	0.087**
Corporate finance +		[0.031]	[0.034]	[0.033]	[0.038]	[0.039]	[0.043]
Three fixed effects	Observations	784	763	756	763	808	758
	R-squared	0.17	0.19	0.18	0.16	0.17	0.14
Panel 4.	Privatized_DPEs	0.007	−0.036	−0.005	−0.007	0.044	0.106**
Product market		[0.037]	[0.034]	[0.041]	[0.047]	[0.044]	[0.045]
Competition +	Observations	697	677	669	676	708	678
Three fixed effects	*R*-squared	0.17	0.19	0.17	0.16	0.18	0.17
Panel 5.	Privatized_DPEs	0.039	−0.019	0.008	0.025	0.050	0.084*
Education+		[0.031]	[0.033]	[0.031]	[0.041]	[0.045]	[0.044]
Three fixed effects	Observations	764	743	738	743	782	739
	R-squared	0.18	0.19	0.19	0.16	0.18	0.16
Panel 6.	Privatized_DPEs	0.013	−0.059	−0.021	−0.010	0.028	0.064
Labor power +		[0.039]	[0.037]	[0.039]	[0.037]	[0.042]	[0.048]
Three fixed effects	Observations	731	713	705	711	746	710
	R-squared	0.13	0.17	0.17	0.12	0.19	0.15
Panel 7.	Privatized_DPEs	0.005	−0.049	−0.021	−0.031	0.042	0.094*
CSR + political +		[0.032]	[0.029]	[0.032]	[0.040]	[0.035]	[0.051]
Three fixed effects	Observations	726	710	703	708	740	703
	R-squared	0.19	0.20	0.18	0.17	0.18	0.15
Panel 8.	Privatized_DPEs	0.007	−0.037	0.008	0.007	0.057	0.079
All measures +		[0.034]	[0.027]	[0.033]	[0.047]	[0.044]	[0.054]
Three fixed effects	Observations	690	671	667	671	701	670
	R-squared	0.29	0.30	0.28	0.26	0.23	0.24
Panel 9.	Privatized_DPEs	−0.022	−0.044	−0.016	0.046	0.059	0.106
In matched sample		[0.061]	[0.050]	[0.048]	[0.063]	[0.056]	[0.068]
Agency problem +	Observations	418	412	404	396	433	407
Three fixed effects	*R*-squared	0.23	0.26	0.24	0.20	0.21	0.21
	Variables	(7) CEO_ contractlength	(8) CEO_ share	(9) No_large_ shareholder	(10) Board_of_ directors	(11) No_indepen_ directors	(12) One_share_ one_vote
Panel 1.	Privatized_DPEs	0.092**	0.086**	−0.133	0.106**	0.467**	0.105**
		[0.043]	[0.037]	[0.143]	[0.039]	[0.217]	[0.048]
Industry fixed effects +	No. of industries	33	33	33	33	31	32
Location fixed effects +	Observations	757	782	663	757	415	450
Ownership fixed effects	*R*-squared	0.15	0.13	0.13	0.19	0.16	0.14
Panel 2.	Privatized_DPEs	0.073	0.100**	−0.113	0.085**	0.443**	0.100**
Proxies of agency	[0.046]	[0.037]	[0.127]	[0.038]	[0.186]	[0.048]	
Problem +	Observations	755	780	661	755	413	448
Three fixed effects	*R*-squared	0.17	0.2	0.14	0.21	0.18	0.16
Panel 3.	Privatized_DPEs	0.089**	0.094**	−0.11	0.111***	0.496**	0.096**
Corporate finance +	[0.042]	[0.041]	[0.142]	[0.038]	[0.226]	[0.049]	
Three fixed effects	Observations	754	779	660	754	413	449
	R-squared	0.17	0.15	0.14	0.22	0.17	0.15
Panel 4.	Privatized_DPEs	0.088*	0.072**	−0.127	0.091**	0.354	0.076
Product market	[0.048]	[0.035]	[0.148]	[0.044]	[0.255]	[0.051]	
Competition +	Observations	675	691	597	671	371	401
Three fixed effects	*R*-squared	0.19	0.15	0.17	0.24	0.19	0.19

(*continued on next page*)

Table 3. (*continued*)

	Variables	(7) CEO_ contractlength	(8) CEO_ share	(9) No_large_ shareholder	(10) Board_of_ directors	(11) No_indepen_ directors	(12) One_share_ one_vote
Panel 5.	Privatized_DPEs	0.090**	0.100**	−0.13	0.113***	0.528**	0.084
Education +		[0.042]	[0.040]	[0.154]	[0.039]	[0.240]	[0.056]
Three fixed effects	Observations	734	759	645	737	407	439
	R-squared	0.18	0.16	0.15	0.21	0.17	0.15
Panel 6.	Privatized_DPEs	0.091**	0.099***	−0.129	0.073**	0.258	0.122**
Labor power +		[0.041]	[0.035]	[0.149]	[0.035]	[0.261]	[0.047]
Three fixed effects	Observations	705	726	619	705	386	425
	R-squared	0.16	0.14	0.15	0.22	0.20	0.18
Panel 7.	Privatized_DPEs	0.085**	0.072*	−0.085	0.093***	0.429**	0.072
CSR + political +	[0.041]	[0.039]	[0.135]	[0.034]	[0.205]	[0.045]	
Three fixed effects	Observations	701	718	618	700	386	422
	R-squared	0.16	0.13	0.16	0.21	0.16	0.19
Panel 8.	Privatized_DPEs	0.063	0.109**	−0.095	0.075**	0.413*	0.078
All measures +		[0.049]	[0.046]	[0.136]	[0.038]	[0.242]	[0.055]
Three fixed effects	Observations	667	682	587	667	370	403
	R-squared	0.23	0.25	0.21	0.3	0.24	0.24
Panel 9.	Privatized_DPEs	0.045	0.139***	−0.211	0.119*	−0.092	0.161**
In matched sample	[0.058]	[0.042]	[0.130]	[0.061]	[0.510]	[0.070]	
Agency problem +	Observations	410	422	353	401	230	242
Three fixed effects	*R*-squared	0.26	0.24	0.24	0.25	0.24	0.28
	Variables	(13) Veto	(14) Board_ conference	(15) Charter	(16) Decision_ process	(17) Internal_ transactions	(18) Information_ disclosure
Panel 1.	Privatized_DPEs	−0.041	0.092*	0.029	0.021	0.063	−0.020
		[0.057]	[0.052]	[0.033]	[0.034]	[0.045]	[0.051]
Industry fixed effects +	No. of industries	32	32	33	33	33	33
Location fixed effects +	Observations	473	480	797	715	713	713
Ownership fixed effects	*R*-squared	0.13	0.15	0.19	0.14	0.12	0.11
Panel 2.	Privatized_DPEs	−0.017	0.079	0.020	0.013	0.062	−0.026
Proxies of agency		[0.050]	[0.052]	[0.031]	[0.037]	[0.051]	[0.056]
Problem +	Observations	471	478	795	713	711	711
Three fixed effects	*R*-squared	0.15	0.16	0.19	0.15	0.13	0.13
Panel 3.	Privatized_DPEs	−0.050	0.092*	0.031	0.027	0.071*	−0.013
Corporate finance +		[0.061]	[0.050]	[0.033]	[0.037]	[0.042]	[0.052]
Three fixed effects	Observations	471	478	794	713	711	711
	R-squared	0.14	0.16	0.20	0.16	0.13	0.14
Panel 4.	Privatized_DPEs	−0.063	0.067	0.018	0.034	0.053	−0.033
Product market		[0.068]	[0.064]	[0.038]	[0.030]	[0.043]	[0.054]
Competition +	Observations	419	424	700	633	631	631
Three fixed effects	*R*-squared	0.18	0.19	0.23	0.15	0.18	0.15
Panel 5.	Privatized_DPEs	−0.046	0.080	0.038	0.014	0.066	−0.007
Education +		[0.054]	[0.053]	[0.031]	[0.034]	[0.050]	[0.052]
Three fixed effects	Observations	460	468	772	694	692	692
	R-squared	0.15	0.19	0.21	0.17	0.14	0.15
Panel 6.	Privatized_DPEs	−0.064	0.086	0.025	0.013	0.032	−0.039
Labor power +		[0.061]	[0.063]	[0.038]	[0.034]	[0.048]	[0.059]
Three fixed effects	Observations	441	448	735	665	663	663
	R-squared	0.15	0.17	0.21	0.15	0.14	0.14
Panel 7.	Privatized_DPEs	−0.023	0.068	0.020	0.036	0.082*	−0.027
CSR + political +		[0.062]	[0.050]	[0.028]	[0.035]	[0.045]	[0.051]
Three fixed effects	Observations	444	447	730	654	652	652
	R-squared	0.15	0.17	0.21	0.14	0.12	0.14
Panel 8.	Privatized_DPEs	−0.035	0.064	0.025	0.042	0.091	−0.005
All measures +		[0.051]	[0.063]	[0.027]	[0.044]	[0.055]	[0.065]
Three fixed effects	Observations	419	424	692	629	627	627
	R-squared	0.22	0.25	0.27	0.20	0.19	0.21
Panel 9.	Privatized_DPEs	−0.003	0.074	0.009	0.060	0.098	−0.060
In matched sample		[0.078]	[0.081]	[0.055]	[0.062]	[0.069]	[0.098]
Agency problem +	Observations	250	259	427	386	381	383
Three fixed effects	*R*-squared	0.21	0.25	0.26	0.27	0.18	0.21

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Table 3. (*continued*)

	Variables	(19) Profit_ allocation	(20) wFinancial_ management	(21) Managers_ assignment	(22) Disputes_ solving
Panel 1.	Privatized_DPEs	0.015	0.021	−0.018	0.040
		[0.045]	[0.032]	[0.030]	[0.042]
Industry fixed effects +	No. of industries	33	33	33	33
Location fixed effects +	Observations	714	714	714	702
Ownership fixed effects	*R*-squared	0.13	0.13	0.16	0.11
Panel 2.	Privatized_DPEs	0.017	0.032	−0.022	0.046
Proxies of agency		[0.048]	[0.033]	[0.032]	[0.045]
Problem +	Observations	712	712	712	700
Three fixed effects	*R*-squared	0.14	0.14	0.17	0.12
Panel 3.	Privatized_DPEs	0.025	0.032	−0.011	0.053
Corporate finance +		[0.041]	[0.030]	[0.031]	[0.040]
Three fixed effects	Observations	712	712	712	700
	R-squared	0.15	0.14	0.18	0.15
Panel 4.	Privatized_DPEs	0.033	0.031	−0.008	0.025
Product market		[0.049]	[0.034]	[0.037]	[0.046]
Competition +	Observations	632	632	632	621
Three fixed effects	*R*-squared	0.15	0.15	0.17	0.12
Panel 5.	Privatized_DPEs	0.007	0.012	−0.015	0.046
Education +		[0.047]	[0.032]	[0.028]	[0.042]
Three fixed effects	Observations	693	693	693	681
	R-squared	0.15	0.15	0.19	0.14
Panel 6.	Privatized_DPEs	0.012	0.036	0.000	0.017
Labor power +		[0.057]	[0.035]	[0.034]	[0.046]
Three fixed effects	Observations	664	664	664	652
	R-squared	0.13	0.14	0.16	0.13
Panel 7.	Privatized_DPEs	0.027	0.027	−0.018	0.063
CSR + political +		[0.048]	[0.037]	[0.031]	[0.040]
Three fixed effects	Observations	653	653	653	641
	R-squared	0.13	0.13	0.16	0.11
Panel 8.	Privatized_DPEs	0.040	0.046	0.024	0.078
All measures +		[0.052]	[0.040]	[0.029]	[0.047]
Three fixed effects	Observations	628	628	628	616
	R-squared	0.18	0.19	0.23	0.22
Panel 9.	Privatized_DPEs	0.051	0.053	0.011	0.060
In matched sample		[0.073]	[0.050]	[0.045]	[0.070]
Agency problem +	Observations	383	386	386	373
Three fixed effects	*R*-squared	0.22	0.26	0.27	0.22

Standard errors are robust and clustered at the industry level, and are presented in parentheses. Significance at 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

the *One_share_one_vote* rule, and on the terms of *Financial_Management* and *Manager_assignments* appearing in the firm charter. These results suggest that shareholders of profitable firms have stronger incentives to strengthen financial transparency and to participate in the firm management.

Next, let us go back to Table 3 and compare the results in Panel 1 with those in Panel 2. With the inclusion of these agency problem proxies: 1) the *R*-squared values generally increase by 1–2% (particularly increasing from 13% to 20% on *CEO_share*); 2) the dummies of *privatized DPEs* are no longer significant on *CEO_contract* and *CEO_contractlength*; 3) on the other four governance dimensions, the dummies of *privatized DPEs* are still significant; 4) on *CEO_share*, the estimated magnitude increases from 8.6% to 10%, which suggests that CEOs in a privatized DPE have a 10% greater chance of obtaining company shares than those in non-privatized DPEs; and 5) on the other dimensions, the estimated magnitudes of *privatized DPEs* are largely the same. We may conclude from this set of analyses that hypothesis one is supported. Difference of managerial discretion is a potential cause for some of the differences in governance, especially in those related to CEO contracts and incentives, but not all of them.

3.2. Existence of substitutes for governance

3.2.1. Corporate finance

The second hypothesis is that privatized DPEs and non-privatized DPEs rely on different sources of finance, which causes their differences in governance. The summary statistics in Table 2 (Panel 2-3) suggest that privatized DPEs rely more on bank finance, while non-privatized DPEs rely much more on equity finance. In the literature on corporate governance in developed countries, it is well known that debt liability is an imperfect substitute for corporate governance (e.g. Williamson, 1988). This is because the

Table 4.
Explaining differences in governance: agency problems.

Variables	(1) CEO_ contract	(2) CEO_ contractlength	(3) CEO_ share	(4) Board of directors	(5) No_indepen_ directors	(6) One_share_ one_vote
Privatized DPEs	0.062	0.073	0.100**	0.085**	0.443**	0.100**
	[0.042]	[0.046]	[0.037]	[0.038]	[0.186]	[0.048]
CEO power	0.015	−0.047	0.182***	0.043	0.069	0.052
	[0.065]	[0.055]	[0.039]	[0.041]	[0.435]	[0.073]
Log (sales 2005)	−0.109	0.003	0.173***	0.168**	−0.248	−0.116
	[0.130]	[0.125]	[0.057]	[0.076]	[0.787]	[0.158]
(Log (sales 2005)) 2	0.005	0	−0.011***	−0.006*	0.024	0.006
	[0.006]	[0.005]	[0.003]	[0.003]	[0.031]	[0.007]
Fixed asset_Sale	0.081	0.152***	−0.092**	0.104***	−0.106	−0.05
	[0.059]	[0.040]	[0.047]	[0.036]	[0.581]	[0.072]
Fixed asset_Sale ^{2}	−0.013**	−0.018***	0.002	−0.009**	0.095	0.001
	[0.005]	[0.004]	[0.004]	[0.004]	[0.191]	[0.006]
EBIT margin 2005	0.354	0.383*	0.029	0.183	−0.716	0.369*
	[0.234]	[0.231]	[0.260]	[0.165]	[1.311]	[0.219]
Ownership + location	Yes	Yes	Yes	Yes	Yes	Yes
No. of industries	33	33	33	33	31	32
Observations	759	755	780	755	413	448
R-squared	0.14	0.17	0.2	0.21	0.18	0.16

Standard errors are robust and clustered at the industry level, and are presented in parentheses.
Significance at 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

Table 5.
Explaining differences in governance: corporate finance.

Variables	(1) CEO_ contract	(2) CEO_ contractlength	(3) CEO _share	(4) Board of directors	(5) No_indepen _directors	(6) One_share _one_vote
Privatized DPEs	0.087**	0.089**	0.094**	0.111***	0.496**	0.096**
	[0.043]	[0.042]	[0.041]	[0.038]	[0.226]	[0.049]
Bank loans	−0.001	−0.001	0.000	−0.001	−0.007*	−0.000
	[0.001]	[0.001]	[0.001]	[0.001]	[0.004]	[0.001]
Equity finance	0.001*	−0.000	0.001**	0.001**	−0.000	−0.000
	[0.000]	[0.001]	[0.000]	[0.000]	[0.003]	[0.001]
Status of listing	0.045	0.067**	−0.062**	0.072***	−0.129	0.049*
	[0.030]	[0.031]	[0.024]	[0.023]	[0.149]	[0.027]
PE contacts	0.005	0.008	0.009	0.006	0.117*	−0.018**
	[0.009]	[0.010]	[0.008]	[0.007]	[0.062]	[0.008]
Supplier tradecredits	0.051	0.124***	0.034	0.118***	0.060	0.045
	[0.053]	[0.034]	[0.040]	[0.041]	[0.288]	[0.082]
Customer tradecredits	−0.027	−0.118***	0.044	−0.013	−0.170	−0.016
	[0.059]	[0.040]	[0.037]	[0.050]	[0.232]	[0.075]
Ownership + location	Yes	Yes	Yes	Yes	Yes	Yes
No. of industries	33	33	33	33	31	32
Observations	758	754	779	754	413	449
R-squared	0.14	0.17	0.15	0.22	0.17	0.15

Standard errors are robust and clustered at the industry level, and are presented in parentheses.
Significance at 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

obligations of interest payments reduce the cash flows that managers can access; moreover, as a large debt-holder, banks have strong incentives to monitor firm operation. However, in China monitoring and disciplining by banks is much less effective. In particular, for SOEs or privatized firms that shoulder some policy burdens such as maintaining a low local unemployment rate, the budget constraints can be soft. These firms may actually conduct strategic defaults, waiting for the government to write off their debts. Therefore, it is not clear whether debt is hard governance on the managers of the sample privatized firms.

External shareholders, potential investors, and other suppliers of finance could, for their own sakes, monitor a firm, serving as substitutes for internal governance. Hence, I include a measure showing the status of public listing, the number of contacts that a firm had with external private equity investors over the past 3 years, and two dummies indicating whether a firm can regularly receive (provide) trade credits from its major suppliers (for its major customers). Privatized DPEs are significantly higher than non-privatized DPEs on the status of public listing. On the other three aspects, however, the two groups are not significantly different.

The results of the regressions containing these factors are reported in Table 5 (and briefly in Panel 3 of Table 3). A higher ratio of *bank loans* to total assets is negatively associated with a smaller *No_of_independent_directors* and with the firm charter not containing the terms of *Internal_transactions* and *Profit_allocation*. These results suggest that bank loans do replace some governance in Chinese firms. By contrast, a higher ratio of *equity finance* to total assets is associated with all governance aspects regarding

information disclosure, *CEO_contract* and *CEO_share*, and a *Board*. These results are consistent with the common findings in developed economies that equity finance increases demand for governance, while debt finance reduces it. *Status of listing* has quite similar results to those for *equity finance*, especially on the governance aspects of information disclosure. More contact with external private equity investors (*PE contacts*) is positively correlated with *External_auditors* and with the one shareholder one vote rule being adopted by the board as opposed to the *One_share_one_vote* rule. The latter could be because the one shareholder one vote rule gives small shareholders greater power, thus attracting external investors. Regularly receiving trade credits from suppliers (*supplier tradecredits*) is positively related to several aspects of information disclosure, a *Board*, *CEO_contractlength*, and the firm charter specifying more aspects. All these governance aspects can strengthen suppliers' confidence to provide credits. By contrast, regularly providing trade credits for customers (*customer tradecredits*) has the opposite effect to *supplier tradecredits* (yet they are not as significant).[6]

Let us then compare Panel 1 with those in Panel 3 in Table 3. With the inclusion of these corporate finance measures: 1) the *R*-squared values increase by 1–5%; the 5% increase occurs in the function of *External_auditor* (12–17%) and *Risk_disclosure* (11–16%), which suggest strong correlations between a firm's finance features with its financial transparency and information disclosure; and 2) both the significance and the magnitude of the *privatized DPEs* dummies are similar to those in Panel 1. Therefore, we may conclude that although corporate finance features are strongly related to corporate governance in the sample Chinese firms, they cannot explain the gaps between privatized DPEs and non-privatized DPEs.

3.2.2. Product market competition

Except for debt liability and external finance providers, competitive product markets can also discipline managers and serve as a substitute for internal governance (Demsetz and Lehn, 1985). This is because in competitive product markets it is easy to obtain information regarding the average profit rate of a certain industry, which facilitates the discovery of managers' misbehaviors. Both privatized and non-privatized DPEs operate in product markets of different competition levels. Due to their origins as SOEs that were often monopolists in product markets, privatized DPEs have greater market power. Yet, market power reduces competition level, and it is thus regarded as a strong indication of large managerial discretion (Himmelberg et al., 1999). My third hypothesis is that since external governance is weak, the major shareholders of privatized DPEs may want to set up stronger internal governance to compensate for governance power.

To measure market power, I use a measure indicating the *market competition* level for the firm's major production. I also include a more objective measure indicating a firm's *provincial market share*. Table 2 (Panel 2-4) shows that, although privatized DPEs' self-reported market competition level is close to that of non-privatized DPEs, their provincial market shares (also self-reported) are actually significantly higher. Moreover, I include a measure reflecting the share of *exports* in total sales. A big share of *exports* indicates more involvement in global product market competition. As the competition is usually fierce, it disciplines managers more strictly than China's domestic markets. Moreover, exporters are more likely to comply with certain international governance codes such as the OECD Principles of Corporate Governance. Hence, a big share of *exports* probably indicates greater pressure on governance adoption coming from markets in advanced economies. On the share of *exports*, non-privatized DPEs have a much higher average value than privatized DPEs, though the gap is not significant due to big variance.

Three sets of dummies are generated based on *market competition, provincial market share*, and *exports*, and these are put into the regressions reported in Table 6 (and briefly in Panel 3 of Table 3). *Market competition* level is positively related to two governance aspects regarding financial transparency (*External_auditor* and *Balance_sheet*) and two regarding formal CEO contracts (*CEO_contract* and *CEO_contractlength*), and to *Information_disclosure* being included in the firm charter. However, I find no consistent results for the five *provincial market share* dummies. There is only very weak evidence indicating that market share could be positively related to *No_independent_directors*. The results of *market competition* and *provincial market share* provide almost no support to the conjecture that China's domestic product market is a substitute for internal governance. One of the potential reasons is that, for privatized DPEs, their large market shares do not come from fighting competition in the market. Therefore, the relationship between market share and governance is not as clear as, or is even contrary to, that in developed economies. Moreover, Liu (2006) argues that whether competition can be an effective mechanism depends on the efficiency of the institutional infrastructure; in China, rigorous law enforcement is not in place, meaning that firms are able to use unethical behaviors to gain competitive advantages, which also reduces the disciplining effects of market competition. All these arguments and findings suggest the need for a careful examination of the impacts of China's domestic product market competition on firm-level governance.

On the measure of *export*, I find fairly strong evidence showing that compared with firms with no exports, exporting firms are more likely to set up a *Board_of_directors*. This finding shows the influence of global product markets (mainly markets in advanced economies) on the adoption of the fundamental governance structures of Chinese domestic firms.

Let us then compare Panel 1 with those in Panel 4 in Table 3. With the inclusion of these market competition measures: 1) the *R*-squared values increase by 1–6%; these increases are most significant on the governance aspects related to *Boards* and its functioning; 2) the estimates of the *privatized DPEs* dummies on *No_independent _directors* and *One_share_one_vote* are now marginally significant with the magnitudes reduced by about one-third; and 3) the magnitude of the *privatized DPEs* dummy on the CEO having a written contract increases from 80% to 106%. The other results remain largely the same. In conclusion, while

[6] The literature has no related discussions on these results. Without any further evidence, my conjecture is that entrenched managers provide more trade credits to customers in order to enhance sales volume and firm performance.

Table 6.
Explaining differences in governance: product market competition.

Variables	(1) CEO_ contract	(2) CEO_ contractlength	(3) CEO_ share	(4) Board of directors	(5) No_indepen _directors	(6) One_share _one_vote
Privatized DPEs	0.106**	0.088*	0.072**	0.091**	0.354	0.076
	[0.045]	[0.048]	[0.035]	[0.044]	[0.255]	[0.051]
Market competition_moderate	0.396***	0.283**	0.178	−0.023	−0.193	0.040
	[0.087]	[0.104]	[0.286]	[0.144]	[0.820]	[0.211]
Market competition_fierce	0.454***	0.324***	0.164	−0.020	0.024	0.120
	[0.092]	[0.103]	[0.278]	[0.148]	[0.723]	[0.223]
Provincial market share_1–3%	−0.045	0.080	−0.086	−0.023	0.724*	0.151
	[0.062]	[0.056]	[0.066]	[0.089]	[0.400]	[0.134]
Provincial market share_3–5%	−0.080	−0.121**	−0.166***	−0.078	0.808	0.009
	[0.088]	[0.058]	[0.051]	[0.075]	[0.514]	[0.099]
Provincial market share_5–10%	−0.025	−0.003	−0.057	−0.004	0.911**	−0.009
	[0.074]	[0.050]	[0.060]	[0.064]	[0.366]	[0.099]
Provincial market share_10–20%	−0.041	0.042	−0.037	0.078	0.723	0.084
	[0.098]	[0.069]	[0.055]	[0.072]	[0.471]	[0.100]
Provincial market share_above 20%	−0.049	0.132**	−0.048	0.017	1.001***	0.154
	[0.052]	[0.051]	[0.054]	[0.070]	[0.284]	[0.098]
Export_dummy 0–20%	0.005	−0.015	−0.084	0.103*	−0.157	0.073
	[0.054]	[0.051]	[0.052]	[0.061]	[0.323]	[0.079]
Export_dummy 20–40%	0.192**	−0.016	−0.124	0.169**	0.079	0.069
	[0.071]	[0.065]	[0.103]	[0.075]	[0.555]	[0.106]
Export_dummy 40–60%	0.124	0.000	−0.049	0.206**	0.172	−0.034
	[0.076]	[0.083]	[0.110]	[0.088]	[0.531]	[0.105]
Export_dummy 60–80%	0.014	−0.010	0.053	0.358***	0.876	0.314**
	[0.143]	[0.105]	[0.139]	[0.071]	[0.821]	[0.153]
Export_dummy 80–100%	0.055	0.080	0.022	0.110	0.711	−0.031
	[0.099]	[0.092]	[0.073]	[0.104]	[0.807]	[0.161]
Ownership + location	Yes	Yes	Yes	Yes	Yes	Yes
No. of industries	33	33	33	33	30	31
Observations	678	675	691	671	371	401
R-squared	0.17	0.19	0.15	0.24	0.19	0.19

Standard errors are robust and clustered at the industry level, and are presented in parentheses.
Significance at 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

the gaps between privatized DPEs and non-privatized DPEs on some governance structure aspects are reduced by the inclusion of the market competition measures, I find weak and mixed evidence suggesting a clear relationship between external market competition and internal governance for the sample Chinese firms.

3.3. Costs of governance adoption

Except for corporate finance and product market competition, some factors that are not direct substitutes for governance rather affect the costs of governance adoption. Here, I claim that these factors include the education level of managers and workers, labor power, CSR awareness, and political connections.

3.3.1. Education level

Some studies suggest that modern corporate governance in China is still a new concept; especially in non-listed firms, most managers and boards often confuse governance with general management (IFC, 2005). Moreover, a few reports (e.g. OECD, 2006) propose that the Chinese government can help companies improve their governance by sponsoring specific training and education programs. They argue that well-educated managers and employees are more likely to understand better the benefits of modern corporate governance and thus contribute to the adoption of governance mechanisms.

The summary statistics in Table 2 (panel 2-5) show that CEOs in privatized DPEs are significantly better educated, but the differences in management education and employee education are not significant. Accordingly, hypothesis four is that the higher education levels of privatized DPEs' CEOs contribute to their governance set-ups.

Because the measures of the education level of CEO, management, and employees are all categorical, I include a set of dummies on all three in the regressions reported in Table 7. I find some strong results for *CEO education*. As a CEO's education level improves, a firm is more likely to hire external auditors and specify a CEO's contract length, but is less likely to have shares held by the CEO. The last result is intriguing. Yet, note that compared with a CEO with only a secondary school education, a CEO with a Ph.D. degree has a 57% higher chance of getting a contract with a specified length and a 53.5% lower chance of holding company shares. This may be because highly educated people are more risk-averse and tend to work on fixed contracts rather than ones based on incentives. Moreover, there is weak evidence suggesting *CEO education level* is positively correlated with adopting *One_share_one_vote* as opposed to the one shareholder one vote rule. With the increase in *management education level*, a firm is more likely to hire external auditors and to disclose major business risk regularly. Similarly, *employee education level* is positively

Table 7.
Explaining differences in governance: education.

Variables	(1) CEO_ contract	(2) CEO_ contractlength	(3) CEO _share	(4) Board of directors	(5) No_indepen _directors	(6) One_share _one_vote
Privatized DPEs	0.084*	0.090**	0.100**	0.113***	0.528**	0.084
	[0.044]	[0.042]	[0.040]	[0.039]	[0.240]	[0.056]
CEO education_High school	0.162	0.219***	−0.068	−0.067	−0.089	0.109
	[0.108]	[0.070]	[0.056]	[0.095]	[0.434]	[0.124]
CEO education_Bachelor	0.225**	0.278***	−0.135	0.008	0.513	0.146
	[0.099]	[0.066]	[0.080]	[0.108]	[0.431]	[0.108]
CEO education_Master	0.337**	0.366***	−0.179**	0.085	0.100	0.228*
	[0.130]	[0.084]	[0.089]	[0.115]	[0.583]	[0.127]
CEO education_Ph.D.	0.213	0.571***	−0.535**	0.064	−0.301	0.237
	[0.163]	[0.201]	[0.208]	[0.181]	[0.612]	[0.340]
Management education_20–40%	0.008	0.059	−0.045	−0.093*	−0.089	0.006
	[0.053]	[0.052]	[0.030]	[0.051]	[0.286]	[0.075]
Management education_40–60%	−0.025	−0.049	0.034	−0.083	−0.087	−0.044
	[0.058]	[0.055]	[0.036]	[0.051]	[0.454]	[0.086]
Management education_above 60%	0.078	0.054	−0.087**	−0.012	−0.399	−0.074
	[0.077]	[0.052]	[0.034]	[0.053]	[0.465]	[0.066]
Employee education_20–40%	0.046	0.042	0.068	0.039	0.607	0.009
	[0.048]	[0.052]	[0.043]	[0.036]	[0.384]	[0.044]
Employee education_40–60%	−0.068	−0.091	0.136**	0.075	0.412	0.120
	[0.128]	[0.077]	[0.061]	[0.073]	[0.781]	[0.153]
Employee education_above 60%	0.201**	0.199*	−0.093	0.029	−0.032	−0.029
	[0.079]	[0.115]	[0.125]	[0.092]	[0.546]	[0.156]
Ownership + location	Yes	Yes	Yes	Yes	Yes	Yes
No. of industries	33	33	33	33	30	32
Observations	739	734	759	737	407	439
R-squared	0.16	0.18	0.16	0.21	0.17	0.15

Standard errors are robust and clustered at the industry level, and are presented in parentheses.
Significance at 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

correlated with *External_auditor* and the terms of *Information_disclosure* included in the firm charter. It seems that better educated internal stakeholders (such as management and employees) require better governance in terms of financial transparency and information disclosure.

Then, let us compare the results in Panel 5 with those in Panel 1 in Table 3. With the inclusion of the education measures: 1) the *R*-squared values increase by 1–6%, most significantly on the information disclosure measures; 2) the *privatized DPEs* dummy is now marginally significant on *one_share_one_vote*, on which *CEO education* has some significant impacts; and 3) the *privatized DPEs* dummies are still significant on five governance structures with the estimated magnitudes largely unchanged. These results indicate that education level is likely to affect the establishment of some governance aspects, but the differences in education between the two groups do not explain the differences in governance.

3.3.2. Labor power

As a major stakeholder, employees are fairly likely to affect corporate governance. To the best of my knowledge, existing related evidence is mainly from Germany. I am aware of no research providing evidence from China. My hypothesis is that employees in Chinese privatized DPEs are more powerful than those in non-privatized DPEs and therefore may play a larger role in shaping corporate governance. This is because, first, to reduce ideological resistance as well as other related political risks, China's local governments strongly encourage employees to participate in the privatization process, which includes purchasing company shares. It is also required by the *Corporate Law* of China that during the privatization process, an employee representative conference must be held and detailed plans of the privatization be approved by the conference (code 18). Furthermore, the Supreme Court of China rules that the settlement of labor claims is the first priority when a firm undergoes ownership restructuring or bankruptcy (Garnaut et al., 2005). These rights that employees in privatized firms are granted formally or informally may enhance their influence on firm governance.

To reflect labor power, I use a dummy for the presence of unionization. I also include share of migrant workers. Some recent research suggests that Chinese labor unions influence firms' operations, [7] although there is no evidence of these directly affecting governance practices. The summary statistics in Table 2 (Panel 2-6) show that privatized DPEs have a union density 25% higher than that in non-privatized DPEs. On the contrary, non-privatized DPEs have a significantly higher share of migrant workers. In China, migrant workers do not have the local *hukou*, or residential registration, and thus they often work under conditions

[7] For example, Lu et al. (2010) find significant effects of China's labor unions in improving labor welfare. Lee (2009) shows that management in Chinese firms has begun to take unions seriously and settle work-related issues in collective bargaining; moreover, wage negotiations have created a greater degree of immediate interest among workers. Furthermore, Yao and Zhong (2013) find evidence that suggests that promoting formal written contacts and collective wage contracts are major channels through which China's labor unions exert their influences.

Table 8.
Explaining differences in governance: labor power.

Variables	(1) CEO_ contract	(2) CEO_ contractlength	(3) CEO_ share	(4) Board of directors	(5) No_independent _ directors	(6) One_share_ one_vote
Privatized DPEs	0.064	0.091**	0.099***	0.073**	0.258	0.122**
	[0.048]	[0.041]	[0.035]	[0.035]	[0.261]	[0.047]
Unionization (0, 1)	0.036	0.017	−0.026	0.127***	0.871**	−0.044
	[0.044]	[0.042]	[0.024]	[0.045]	[0.352]	[0.059]
Share of migrant workers_20–40%	−0.013	−0.033	0.084	0.002	0.272	0.025
	[0.040]	[0.064]	[0.051]	[0.046]	[0.331]	[0.086]
Share of migrant workers_40–60%	−0.044	−0.048	0.060	0.016	−0.741*	−0.070
	[0.070]	[0.060]	[0.057]	[0.060]	[0.404]	[0.071]
Share of migrant workers_60–80%	0.004	0.019	−0.008	−0.120	0.256	0.043
	[0.061]	[0.074]	[0.082]	[0.083]	[0.528]	[0.099]
Share of migrant workers_80–100%	−0.078	0.014	0.117*	−0.031	−0.086	−0.218***
	[0.093]	[0.101]	[0.062]	[0.082]	[0.558]	[0.070]
Ownership + location	Yes	Yes	Yes	Yes	Yes	Yes
Observations	710	705	726	705	386	425
R-squared	0.15	0.16	0.14	0.22	0.20	0.18

Standard errors are robust and clustered at the industry level, and are presented in parentheses.
Significance at 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

inferior to those of local workers and they are discriminated in the labor market (Friedman and Lee, 2010). Hence, a higher share of migrant workers also indicates the lower labor power in non-privatized DPEs.

The results of the regressions containing the labor power measures are reported in Table 8 (and also briefly in Panel 6 of Table 3). *Unionization* is positively related to regularly providing shareholders with balance sheets and reporting major decisions to them, the presence of a *Board, No_independent_directors*, and the firm charter specifying more terms. These results indicate the possible influences that powerful workers exert on the firm to improve corporate governance. However, the dummies for *share of migrant workers* show no consistent results.

Then, we compare the results in Panel 6 with those in Panel 1 in Table 3. With the inclusion of this set of labor power measures: 1) the *R*-squared values increase by 1–4%, most significantly on governance aspects related to the boards and its functioning (as listed in Panels 1-4 in Table 1), once again suggesting the potential impacts of labor power on the establishment and operation of the board of directors; 2) the *privatized DPEs* dummy is no longer significant on *No_independent_directors*, on which *unionization* has a very strong effect; 3) the estimated magnitude of *privatized DPEs* in the function of *CEO_contract* reduces, which makes it now marginally significant; and 4) the estimates on the other four governance structures are largely the same. In conclusion, the differences in the labor power of privatized DPEs and non-privatized DPEs may have caused a larger number of independent directors in privatized DPEs, whereas the gaps in the four governance structures remain.

3.3.3. CSR awareness and political connections

The sixth and seventh hypotheses are related to the interactions between a firm and its external social and political environment. Hypothesis six is that privatized firms that used to undertake social burdens might have a stronger sense of CSR, which facilitates the adoption of governance. To test this hypothesis, I use two measures. The first one comes from the question about managers' awareness of CSR. The second measure is a more objective one, and it inquires about whether the firm has prepared a plan for implementing CSR. However, Panel 2-7 in Table 2 shows that, on both measures, privatized DPEs are not significantly different from non-privatized DPEs.

Hypothesis seven is based on the fact that privatized firms have stronger political connections. The statistics on the two variables in panel 2-7 confirm this. The first one is a dummy indicating whether the CEO or owners of a firm hold a position in the People's Congress (PC), China's legislative body, or the People's Political Consultation Conference (PPCC), which is similar to a house of nobility in the Chinese political system. It is found that a CEO holding a position in these two political bodies brings tangible gains to firms, especially private firms (Chan, 2000). More importantly, Fan et al. (2007) find that firms led by politically connected CEOs are more likely to appoint other bureaucrats to the board of directors, highlighting the effects on corporate governance of Chinese listed firms. The second dummy indicates whether the largest shareholder once served as a government official. Large shareholders are expected to work hard for a good governance structure in order to protect their interests and investments (Shleifer and Vishny, 1997). However, the issue is complicated if they have a close relationship with the government. Some research (e.g. Clarke, 2003) suggests that when business and politics are mixed, businesspeople tend to seek short-term rents, ignoring the establishment of corporate governance.

The results of the CSR measures and political connections are reported in Table 9 (and also briefly in Panel 7 in Table 3). *CSR plan* has much stronger results than *CSR awareness*. In general, if a firm has a stronger sense of CSR, it does better on information disclosure, providing the CEO with formal contracts, and adopting the *One_share_one_vote* rule. *PC or PPCC membership* is positively related to *No_independent_directors* and negatively related to *veto*. The largest shareholder once serving as a government

Table 9.
Explaining differences in governance: CSR and political connections.

Variables	(1) CEO_ contract	(2) CEO_ contractlength	(3) CEO _ share	(4) Board of directors	(5) No_indepen _ directors	(6) One_share _ one_vote
Privatized DPEs	0.094*	0.085**	0.072*	0.093***	0.429**	0.072
	[0.051]	[0.041]	[0.039]	[0.034]	[0.205]	[0.045]
CSR plan_ dummy 1	0.060	0.072*	0.053	0.005	−0.083	0.116*
	[0.060]	[0.043]	[0.042]	[0.034]	[0.241]	[0.068]
CSR plan_dummy 2	0.235***	0.246***	−0.013	0.067	0.364	0.299***
	[0.053]	[0.078]	[0.050]	[0.073]	[0.456]	[0.084]
CSR awareness_dummy 2	0.009	0.019	−0.069	0.028	0.175	−0.124
	[0.039]	[0.054]	[0.044]	[0.044]	[0.424]	[0.092]
CSR awareness_dummy 3	0.002	−0.012	−0.041	0.054	−0.041	−0.236***
	[0.059]	[0.052]	[0.056]	[0.060]	[0.410]	[0.083]
PC or PPCC membership (0, 1)	−0.021	0.024	0.008	0.053	0.411*	0.065
	[0.045]	[0.034]	[0.041]	[0.040]	[0.216]	[0.061]
Shareholder political (0, 1)	−0.025	0.052	0.057	0.026	−0.165	0.023
	[0.089]	[0.058]	[0.045]	[0.053]	[0.501]	[0.060]
Ownership + location	Yes	Yes	Yes	Yes	Yes	Yes
Observations	703	701	718	700	386	422
R-squared	0.15	0.16	0.13	0.21	0.16	0.19

Standard errors are robust and clustered at the industry level, and are presented in parentheses.
Significance at 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

official (*shareholder political*) has few significant results. Based on these results, however, we may not conclude that political connections positively or negatively affect corporate governance in Chinese non-listed firms.

Then, let us compare the results in Panel 7 with those in Panel 1 in Table 3. With the inclusion of the CSR and political connections measures: 1) the *R*-squared values are unchanged in the eight governance structure functions, but they increase by about 6% in the function of *External_auditor* and *Risk_disclosure*, both of which are strongly correlated with *CSR plan*; 2) the *privatized DPEs* dummy is now marginally significant with a smaller estimated magnitude on *One_share_one_vote*, which is also strongly related to *CSR plan*; and 3) the estimates of *privatized DPEs* on the other five governance aspects are similar. Therefore, we may conclude that a firm's CSR awareness is correlated with its adoption of governance, especially concerning information disclosure and the voting rule of the board. However, political connections seem not to have strong impacts on the sample non-listed firms, and the major gaps in governance are still there with the inclusion of these two sets of measures.

3.4. Robustness check by controlling for all measures

To check the robustness of the estimates of the *privatized DPEs* dummies, I add all of the measures introduced with the above seven hypotheses. Since some observations are lost with the addition of any measures, to save observations, I drop the four variables that have few significant results both in the previous separate regressions and in this combined regression. They are *provincial market share*, *share of migrant workers*, *CSR awareness*, and *shareholder political*. The regression results are briefly reported in Panel 8 of Table 3. Compared with the results in Panel 1, 1) total observations reduce by 10–13% for every governance measure; 2) the *R*-square values typically increase by 8–10% (particularly from 13% to 24% on *CEO_contract*, 13–25% on *CEO_share*, and 19–30% on *Board*); 3) the *privatized DPEs* dummies are no longer significant on *CEO_contract*, *CEO_contractlength*, and *One_share_one_vote* but are still significant on *CEO_share, Board*, and *No_independent _directors*; and 4) the estimated magnitude of the *privatized DPEs* dummy reduces from 10.6% to 7.5% on *Board*, but increases from 8.6% to 10.9% on *CEO_share*, and is largely the same on *No_independent_directors*.

3.5. Matching

Finally, one may still be worried that given the demonstrated significant differences between privatized and non-privatized DPEs in so many aspects, I have not really compared similar companies. Ideally, for the purpose of this study, I would have compared the governance of two otherwise identical firms that differ only in their ownership status. To get close to this ideal, I need to find pairs of privatized and non-privatized DPEs that are observably similar. Matching is a convenient way to do so.

I conduct the match based on firm size and industry, which are the two dimensions most widely used in corporate finance studies.[8] I start with one-to-one matching. That is, for each privatized DPE, I find a non-privatized DPE that is in the same industry and that is closest in size (requiring the ratio of their sales to be within the range of (95%, 105%)). If no match can be found, I

[8] I did not include more dimensions, which would lose observations and weaken the representativeness of the results. The choice of matching procedures always involves a trade-off between identifying the treatment effects and generalizing the results to the full population. Hence, I employ the two most widely used dimensions.

discard the observation. Some non-privatized DPEs appear in more than one group, and I keep the duplications. The resulting number of matched pairs is 218.

Then, I conduct regressions on the matched sample, controlling for the sets of the measures of agency problems and three sets of fixed effects. The results are reported in Panel 9 of Table 3. Compared with those in Panel 1, the *R*-squared values have improved by 5–13%. The *privatized DPEs* dummy is not significant on *CEO_contractlength* or *No_indepdent_directors*. On the other hand, the estimated magnitudes of *CEO_contract* (now marginally significant), *CEO_share*, *Board of director*, and *one_share_ one_vote* increased significantly.

4. Explaining the differences in governance: influences of local governments

By using nine different specifications, the *privatized DPEs* dummy has a consistently significant effect on the CEO holding company shares and the presence of a board of directors. Interestingly, the two aspects are the most fundamental and important governance structures. Well-designed incentive schemes for CEOs are the most effective mechanisms to discipline managers, while a board of director is the very foundation for many other governance structures such as independent directors and various board committees.

After examining the effects of so many firm-level characteristics, can we say anything more on the causes of privatized DPEs' better governance? One may expect the privatization process to be related to governance adoption. The sample privatized firms were privatized in different years during the period of 1989–2006. Table A3 presents the distribution of privatization years. Accordingly, 1998 and 2001 saw the largest number of firms being privatized, both with 39 firms (13.9%). Next, Table A5 presents the results of a set of regressions examining the explanatory power of the privatization-year dummies. The dependent variables are the six governance dimensions as employed in Tables 4–9. The control variables are the three sets of fixed effects of location, industry, and sub-category ownership plus the measures of agency problems. With the inclusion of these privatization-year dummies, the *R*-squared values increased by 4–7%. In particular, that of the CEO holding company shares rises from 33% to 40% and that on *One_share_one_vote* rises from 34% to 41%. These results suggest that when a firm was privatized is related to its governance practices in 2006. Furthermore, if we examine the estimated magnitudes of the privatization-year dummies, we find some significant differences across years. For example, for the year dummy of 1997, the magnitudes are very large. The results indicate that firms privatized in 1997 are very unlikely to have a CEO holding company shares, specify the CEO's contract length, or set up a board of directors. The year 1997 was characterized by serious macroeconomic situations in China, as China's government was still conducting the "hard landing" of the economy being hot since the mid-1990s, when the 1997/1998 Asian financial crisis hit China heavily. It is possible that the hardship made it even costlier to set up sound governance in privatized firms.

It is also noteworthy that privatized firms were not able to choose the timing of privatization on their own. The privatization process involves lots of bargaining between local governments, new large shareholders, and other stakeholders such as employee representatives. Each party can exert some influence on the timing and other details of privatization.[9] In particular, by initially owning these firms, Chinese local governments are the driving forces underlying the process (Cao et al., 1999). It has been well described that government decisions on privatization methods affect privatization outcomes (Perotti, 1995; Jones et al., 1999; Boubakri et al., 2005). Based on that, we can expect that local governments play some role in shaping privatized firms' corporate governance.

In China, local governments' economic decisions largely hinge on the macroeconomic conditions. Therefore, to examine the influences of local governments, I merge the firm data with the province-level macroeconomic indicators by the year when a firm was privatized and by the province in which it is located. The province-level macroeconomic data come from the CEIC China Database, which contains information including GDP index, investment and exports, government expenditures, and revenues. I add these indicators into the regressions presented in Table A5 (i.e. keeping the set of privatization-year dummies in the regressions). I find strong and consistent results for local governments' fiscal conditions.

The results are reported in Table 10. The fiscal indicators include *log* (*Gov_rev*) and *log* (*Gov_exp*), which are the logarithms of government revenues and expenditure. I also include the lagged term of these two indicators (i.e. those for the year prior to privatization), as government decisions are likely to be affected by the situations in the previous year. Compared with the results in Table A5, the addition of these fiscal indicators sharply reduces the significance of the privatization-year dummies, suggesting that local fiscal conditions are possible causes for the strong relationships between these year dummies and governance practices in 2006. Next, with yearly average effects being absorbed by the privatization-year dummies, local fiscal indicators still have some significant results. For example, privatization year *log* (*Gov_rev*) is positively related to the presence of a board of directors and to a formal CEO contract (marginally significant). The lagged term of *log* (*Gov_rev*) is positively related to the CEO holding company shares. By contrast, privatization year *log* (*Gov_exp*) is negatively related to the CEO holding company shares as well as the adoption of the one share one vote rule (marginally significant). Since it is unlikely that firm-level corporate governance has affected the province-level economic indicators, the causal effects of governments' fiscal conditions on firm governance are implied. Sound local fiscal situations in the privatization year thus favorably affect the establishment of privatized firms' governance.

[9] Therefore, privatization is a good opportunity to adjust firm governance. By contrast, normally, it could be very costly for stakeholders to launch a proposal to change the current governance structures. This transaction cost causes poor governance to persist in a firm.

Table 10.
Explaining the governance of privatized firms: local government's fiscal conditions.

Variables	CEO_ contract	CEO_ contractlength	CEO_ share	Board of directors	No_indepen_ directors	One_share_ one_vote
Privatization Year_Log(Gov_rev)	1.444	−0.153	−0.746	1.098*	2.735	−1.159
	[1.038]	[0.761]	[0.653]	[0.653]	[5.279]	[0.840]
Previous Year_Log(Gov_rev)	−0.120	−0.480	1.376*	−1.010	0.985	1.083
	[1.180]	[0.731]	[0.818]	[0.816]	[5.222]	[0.908]
Privatization Year_Log(Gov_exp)	−0.175	−0.114	−1.417*	−0.741	−1.717	−1.755
	[0.987]	[1.408]	[0.769]	[0.859]	[6.291]	[1.326]
Previous Year_Log(Gov_exp)	−0.759	0.955	0.861	0.976	1.990	0.983
	[0.925]	[1.412]	[0.990]	[0.732]	[6.863]	[1.171]
Privatization year dummy 1994	0.270	−0.642	−0.341	0.223	1.725	−0.195
	[0.769]	[0.826]	[0.602]	[0.465]	[3.202]	[0.657]
Privatization year dummy 1995	0.212	−1.059*	0.187	0.286	0.227	0.234
	[0.551]	[0.588]	[0.417]	[0.268]	[3.846]	[0.677]
Privatization year dummy 1996	1.089*	−0.802	−0.295	−0.108	2.875	0.369
	[0.612]	[0.626]	[0.509]	[0.283]	[4.579]	[0.937]
Privatization year dummy 1997	0.059	−1.172	−0.738	−0.384	−4.323	0.693
	[0.707]	[0.788]	[0.541]	[0.492]	[4.027]	[0.677]
Privatization year dummy 1998	−0.024	−0.837	−0.373	−0.195	−2.721	0.592
	[0.697]	[0.750]	[0.480]	[0.391]	[4.655]	[0.777]
Privatization year dummy 1999	0.041	−0.789	−0.435	−0.212	−3.923	0.788
	[0.856]	[0.912]	[0.590]	[0.526]	[5.235]	[0.938]
Privatization year dummy 2000	0.096	−0.879	−0.155	−0.405	−4.120	0.827
	[0.968]	[1.058]	[0.674]	[0.584]	[5.648]	[1.090]
Privatization year dummy 2001	0.022	−1.004	−0.164	−0.300	−3.491	1.100
	[1.099]	[1.120]	[0.734]	[0.691]	[6.995]	[1.183]
Privatization year dummy 2002	0.102	−1.084	−0.502	−0.422	−4.843	0.808
	[1.222]	[1.382]	[0.837]	[0.754]	[8.065]	[1.342]
Privatization year dummy 2003	−0.029	−1.188	−0.193	−0.519	−4.331	0.940
	[1.264]	[1.463]	[0.877]	[0.754]	[8.641]	[1.429]
Privatization year dummy 2004	−0.005	−1.253	−0.259	−0.407	−5.215	1.534
	[1.348]	[1.585]	[0.951]	[0.897]	[9.027]	[1.597]
Privatization year dummy 2005	−0.146	−1.327	−0.035	−0.586	−7.834	2.237
	[1.431]	[1.655]	[1.104]	[1.019]	[10.861]	[1.830]
Measures of agency problem	Yes	Yes	Yes	Yes	Yes	Yes
Ownership + location dummies	Yes	Yes	Yes	Yes	Yes	Yes
No. of industries	30	30	31	31	30	30
Observations	218	214	223	215	144	157
R-squared	0.36	0.35	0.48	0.47	0.57	0.44

Standard errors are robust and clustered at the industry level, and are presented in parentheses.
Significance at 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

Without providing more empirical evidence, I propose a conjecture about the results. Motivated by the promotion incentives of the Chinese government system, government officials pursue multiple political targets (e.g. Li and Zhou, 2005). On privatization, they try to strike a balance among several goals, which include reducing ex ante ideological resistance to privatization and the ex post employment cut (Cao et al., 1999), compensating employees properly (Liu et al., 2007), maintaining social stability, and improving fiscal revenues by selling their SOEs. Garnaut et al. (2003) document one specific tradeoff: when local unemployment rates are high, governments give a discount to sell the firms, but in return require afterward smaller layoffs in contracts. Here I claim one more tradeoff that, local governments prefer better corporate governance being set up, which can generate better long-term performance of the privatized firms that could lead to both more jobs and higher tax revenue in the future. However, because the establishment of governance is costly, the governments need to give a discount if they require governance set-up. If the fiscal conditions are sound, local governments would pick up governance establishment in the tradeoff. But if the conditions are poor, they would ask for higher prices and not put forward high requirements on corporate governance. It is well known that Chinese local government officials put more emphasize on achieving short-term performance in terms of local GDP growth and revenue growth than pursuing long-term sustainable growth, because a nice short-term record would win them a promotion to a position probably in another area. So, they would care about governance set-up only when the short-term situations are decent enough.

5. Conclusions and some discussions

By using data from a survey covering more than 1200 non-listed firms, this study provides a comprehensive description of corporate governance establishments in Chinese firms with different ownerships. It then explores the reasons for the leading performance of privatized DPEs on governance by testing seven hypotheses. In the following, I summarize the major findings in the order of the seven hypotheses:

(1) The gaps in providing a CEO with a formal written contract shrink significantly once the measures of managerial discretion are included, indicating that the level of the agency problem could determine the formalization level of its CEO contract in the sample Chinese firms and that the more serious agency problems in privatized firms are part of the reason for their better governance.
(2) A firm's corporate finance features have a major explanatory power on the firm's governance structures related to information disclosure. Yet, differences in corporate finance cannot explain the gaps between privatized and non-privatized DPEs.
(3) The gaps in the number of independent directors and on the board adopting the one share one vote rule are significantly reduced by the inclusion of the market competition measures. Moreover, the presence of a board of director is strongly related to a firm's share of exports in total sales. However, the relationship between domestic market competition and internal governance structures needs more careful analyses that take into account the special features of China's product markets.
(4) The education levels of CEO, management, and employees all positively relate to the level of financial transparency and information disclosure. In addition, a CEO's education level is positively correlated with some governance aspects, especially CEO contracts and incentives as well as the voting rule of the board. Yet, differences in education level do not explain much of the difference in governance.
(5) Labor power is positively correlated with the presence of a board of directors. Moreover, employees' larger power in privatized DPEs seems to explain the differences in the number of independent directors of the two groups, suggesting potential impacts that major stakeholders can exert on a firm's governance.
(6) A firm's awareness of CSR is strongly correlated with its governance of financial transparency and information disclosure. Moreover, it seems to explain part of the differences in adopting the one share one vote rule.
(7) Political connections are not found to affect the governance of the sample non-listed firms (as they do in Chinese listed firms).

Furthermore, some findings suggest a significant role played by China's local governments during the privatization process in shaping privatized firms' governance, which could also cause the leading performance of privatized DPEs on governance adoption.

With all of these findings, it is worth noting that some of the superior governance performance of privatized firms has not yet been explained. In particular, their better performance on setting up a board of directors and providing the CEO with company shares is highly robust, leaving space for further studies. It may also be worth repeating that the findings merely indicate strong correlations but not causality. Thus, more research is called for to pin down the determinants of governance in non-listed firms in developing economies. Of particular interests, more attention could be placed on understanding the causal relationships between internal governance and public governance of emerging economies. [10]

Supplementary Materials

Supplementary material associated with this article, i.e. Table A1 to Table A5 in the Appendix, can be found, in the online version, at doi:10.1016/j.jce.2015.05.003.

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[10] Interested readers can refer to Liu (2006) for more related discussions.

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