

A Comparative Study of Chinese SOE Firm's Boards and Private Firm's Boards

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Using 3,019 listed firms in China divided into two subsamples, we compare the characteristics of corporate governance between private firms and State Owned Enterprise (SOE) firms after they have gone public on the Chinese stock markets. We examine the differences in board structure between these two types of firms. Results show that private firms and SOE firms have different governance characteristics. Our analysis indicates that in China, although private firms and SOE firms have theoretically become public firms, the SOE firms are relatively superior to the private firms in corporate governance efficiency, especially in appointing high-caliber independent directors.

Key Words: Board of directors; Firm performance; Chinese listed firms; Private firms; State-owned enterprises.

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1. INTRODUCTION

The Chinese economy has experienced a period of unparalleled growth in the past three decades. However, the corporate governance systems for

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Chinese companies are still developing. Establishing an efficient corporate governance system for Chinese firms is a pressing issue as part of the government's efforts to develop financial markets. The major challenge to corporate governance reform is that China began its corporate governance reform efforts before the elements of a well-functioning financial market were in place.

To explore the corporate governance systems for Chinese firms, we need to understand that the listed companies on the Chinese stock markets stemmed from two original business forms: (1) private firms, which are essentially the same as those in developed countries, and (2) state-owned enterprises (SOEs), which are fully owned by the Chinese government and usually run by government-appointed executives. Since SOE firms were the only business form in China until the early 1980s they are usually larger and have more resources than do private firms. Authentic private firms were allowed to be established in China only after the 1980s, and these private firms are more likely small in size and constrained by a vast array of regulations. Although many of both types of the firms have gone public, their differences remain substantial, in terms of firm size, market share, lines of business, competitiveness, and most importantly the efficiency of their corporate governance.

The SOE structure has resulted in complex governance issues with respect to board structure and the independence of the board of directors from the management team. China basically adopts a quasi-two-tier board structure comprised of a board of directors and a supervisory board. Supervisory directors are not involved in the selection of directors and managers and, therefore do not have the authority to supervise them effectively. In addition, the state and majority shareholders (which are usually government agencies, holding more than half of the total outstanding shares of listed firms) still play a dominant role in the appointment of independent directors, the Chairperson, the CEO, and senior executives. Business leaders as well as academics have voiced their concerns that there should be a mechanism for allowing the appointment of true independent directors to represent or at least communicate with minority shareholders.

In China, minority shareholders are a highly fragmented group of individuals since institutional investors do not play a material role. Retail investors in China, as in many markets around the world, often lack investment knowledge and awareness of shareholder rights. It is relatively difficult for individual investors in China to enforce any legal rights against a listed company for negligence or fraud. Lacking financial resources and understanding of the investment landscape, these small investors are not able to take any action when their rights are infringed by the company or major shareholders. Given these circumstances, the importance of in-

dependent directors may be magnified. Besides, executive compensation generally consists of fixed salary plus cash bonuses.

Prior research has found corporate governance in China to have problems (Gibson, 2003, La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998). Therefore, we propose to examine two governance issues in Chinese firms. First, due to the historical differences between SOE firms and private firms before they went public, we examine the differences in corporate governance between SOE and private firms after they go public. Second, we examine the board characteristics that determine the financial performance of listed Chinese firms.

We find that the two types of firms have different governance characteristics. SOE firms have a larger boards, fewer board meetings, lower proportion of independent directors, and lower managerial ownership than do private firms. In addition, compared to the private firms, SOE firms appoint more independent directors from academia. Also, the Chairperson in an SOE firm is less likely to be the CEO. The age of directors of SOE firms and their educational level are on average higher than those of private firms. In general, we find that the relation between firm performance and board and firm characteristics are fairly consistent over these two types of firms, except for two characteristics about independent directors. Specifically, for a private firm, hiring independent directors from academia hurts the firm's financial performance while the appointment of independent directors from academia does not harm the SOE firm's performance. Meanwhile, hiring independent directors who have accounting skills is beneficial to an SOE firm's performance whereas for a private firm, its financial performance is unaffected even when it hires independent directors with accounting skills.

The remainder of this paper is organized as follows. Section two briefly reviews the literature on corporate governance for Chinese listed firms. Data collection, research design and methodology, and description of variables are explained in Section three. Section four presents the empirical results. Section five provides analysis and discussion on our findings, and eventually the conclusion is drawn in Section six.

2. LITERATURE REVIEW ON CORPORATE GOVERNANCE OF CHINESE FIRMS

Corporate governance research has intensified in the wake of infamous financial frauds and scandals at Enron, WorldCom, Parmalat, etc., of which people blamed the poor corporate governance mechanisms (Johnson, Boone, Breach, and Friedman, 2000). Albuquerque and Miao (2013) use a model to explain why good country-wide investor protection breeds good firm governance and predicts a race to the top in firm-governance quality after the Sarbanes-Oxley Act. Recently, researchers have begun examining

corporate governance in emerging markets. Governance in these markets is important because some institutional investors have identified it as a key factor influencing their willingness to invest in these markets.

The Chinese government has promulgated a series of laws and regulations to facilitate the development of corporate governance in the Chinese economy, but it is still evolving. The rapid development of the Chinese markets and corporate governance give us an opportunity to examine how governance systems evolve. Publicly traded firms in China arose from two backgrounds. One form is the typical proprietorship or partnership, and the other business form is SOEs, which were established and governed by appointed officials from different levels of government in China. Even after going public, SOE firms are still similar to non-public SOE firms with respect to their corporate governance. For instance, even after going public, the SOE firms are still enjoying voluminous supports in a variety of ways from the government or government agencies. This unique feature could put private firms in an unfavorable position. The management of SOE firms is still appointed by the government although the directors are theoretically elected by shareholders (of which the government is a dominant member). On the contrary, the private firms basically become authentic public firms after going public since their routine operations just fit the typical image of a private firm, and most importantly, they are much more independent from the government regarding the corporate governance. Liu (2005) argues that the Chinese stock markets are organized by the government as a vehicle for its SOEs to raise capital and improve operating performance. Since the primary objective of developing equity markets in China is to help SOEs relax their external financing constraints, the regulations introduced have been asymmetrically in favor of SOEs or companies with close ties to the government. Shleifer and Vishny (1998) propose the “grabbing hand” argument that bureaucrats/politicians extract resources from listed SOEs under their control to fulfill objectives that are not consistent with firm value maximization.

Current research on corporate governance in China has increased in quantity, but most of the studies have only scratched the surface. Liu (2005) documents that the current corporate governance practices of Chinese firms can be best described as a control-based model, which strikingly contrasts with the market-oriented model commonly used in the U.S. and the U.K. Sun and Tong (2003) find that share issue privatization is related to improved corporate performance. Bai et al (2004) find that large holding by the largest shareholder, the CEO being the Chairperson or Vice Chairperson of the board, and the largest shareholder being the government has negative effects on firm value.

After the SOE firms go public, government regulations could serve as an effective governance mechanism, especially when the law and law en-

forcement are weak or insufficient (Johnson, Glaeser, and Shleifer, 2001). Since the legal infrastructure is particularly weak in China, Pistor and Xu (2005) argue that the so-called "administrative governance" has played an active and positive role in the development of the Chinese stock markets, at least in the earlier stage. However, more recent evidence shows that government regulations are also the source of many problems. For instance, Fan, Wong, and Zhang (2007) find that firms with politically connected CEOs are more likely to have boards populated by current or former government bureaucrats. The accounting and stock return performances of the firms managed by politically connected CEOs are poor relative to their politically unconnected counterparts. Moreover, in a related study, Chen, Fan and Wong (2004) find that politicians and state-controlling owners in China occupy most board seats, and almost 50% of the directors are appointed by the state-controlling owners and another 30% are affiliated with various layers of government agencies. There are a few professionals (lawyers, accountants, and finance experts) in the boards of Chinese firms while representatives for minority shareholders could be hardly found.

In their researches on corporate governance in private firms after going public, Ren and Peng (2008) document that the private firms have improved their efficiency in corporate governance although the improvement in financial performance has not been confirmed. Huang, Xu, and Yue (2006) find that the proportion of independent directors in the boards of private firms is relatively higher than that in the boards of SOE firms.

The traditional view on corporate governance believes that two potential board approaches may achieve the required systems of corporate governance in transitional economies: (1) privatization approach and (2) government controlled approach. Empirical findings indicate that privatization indeed has brought some benefits to the Chinese public firms. For example, Zhang and Zhang (2004) provide evidence that private firms outperform SOEs in terms of operational efficiency, profitability, capital structure, and market evaluation; however, due to the wide range of firm qualities of these private firms, the potential risk of investing in these private firms is also high. On the other hand, the government-controlled approach has been advocated by Qian (1995), who argues that the prevalence of pure privatization in China is still less possible at the present time. The SOEs owned by the Chinese local governments could report outstanding financial performance although the financial reports of those SOEs have possibly been window-dressed to certain extent before they are disclosed to the public. Obviously, this is not the desired result of good governance.

It is generally believed that a market-oriented governance model should eventually be put in place in China. During this process, Chinese firms' governance systems would finally emulate the standards of governance implemented in developed nations, such as the U.S. Since they have been pri-

vate companies by origin even before going public, the private firms would be closer to reach this ultimate objective. Our study aims at examining the characteristics of board structure that affect the public firm's financial performance. Furthermore, through comparisons we investigate the differences between the public firms that used to be pure private firms before going public and those which used to be pure SOEs before going public. Whether private firms or SOE firms have more efficient corporate governance is an empirical question analyzed in this study. Hence, we propose the following hypothesis:

H: Private firms will have different corporate governance than SOE firms after they go public.

3. DATA AND VARIABLES

Sample and all accounting data are gathered from Wind, which is a leading financial data firm in China, and the period of analysis covers 2005 through 2008. In accordance with our research objective in this paper, the sample firms are categorized into two groups, i.e., whether the firm was a private firm before going public (called "private firm" henceforth) or an SOE firm before going public (called "SOE firm" henceforth). Our final sample consists of 3,019 sample firms, comprised of 2,174 SOE firms and 845 private firms. The data for all board characteristics are collected from several sources including the CSMAR and official websites of the sample firms.

3.1. Dependent variable

The main measure of firm performance is Tobin's Q , calculated as the sum of market value of equity and book value of debt, divided by book value of assets. Our measure for Q is the same as that utilized in Wei, Xie, and Zhang (2005). Tobin's Q is one of the most often used valuation measures in empirical research on corporate finance. Yermack (1996) and Fan, Wong, and Zhang (2007) all employ Q to proxy for firm performance, and find it to be an ideal gauge of firm performance. Thus, we select Q as the proxy for firm performance in this study. We also use return on equity (ROE) as an alternative measure of firm performance and replicate the whole analysis process whereby we find that the results essentially remain the same. The specific definition of Q is displayed in Table 1.

3.2. Independent variables

To conduct in-depth research, we select independent variables that have been found relevant to the corporate governance of Chinese public firms by previous studies. These variables include firm size, board size, board meeting frequency, the proportion of independent directors in the board,

duality (whether the Chairperson of the board also holds the CEO position), managerial ownership, the proportion of independent directors who have accounting skills, the proportion of independent directors who are from academia, the average age of directors, the educational backgrounds of directors, and executive compensation. The definitions of these variables are reported in Table 1.

TABLE 1.

Variable Definitions

| Variable | Definition |
|-------------|---|
| Q | A measure of Tobin's Q , book value of total debt plus market value of total equity, divided by the book value of total assets. We drop sample firms with $Q > 10$ or $Q < 0.3$ |
| asset | Book value of total assets, in million |
| private | Dummy variable, equals one if the listed firm has private controlling shareholder(s), zero if the controlling shareholder is the state |
| board_size | Number of board members, we use the natural log in the regression models |
| meeting | Number of board meetings held in the corresponding fiscal year, log transformed in regression models |
| indep_ratio | Number of independent board members divided by board size |
| duality | Dummy variable, equals one if the Chairperson of the board is also the CEO of the firm |
| top_value | Market value of shares outstanding held by top managers and board members, measured in 100,000. We use log transformation in regression analysis |
| accountant | Percentage of independent directors who have accounting background |
| academic | Percentage of independent directors who are academics |
| av_age | Average age of the board members |
| av_edu | Percentage of the board members who have college education or higher |
| t3m_comp | The sum of the highest three compensations of executives, we use log transformation in regression models |

This table describes the definition of each variable.

Board size has been found intertwined with less effective monitoring (Core et al., 1997) where large boards are associated with less effective monitoring (Core et al, 1997; Jensen, 1993; Yermack, 1996). Sun and Zhang's (2000) findings show that board size is negatively related to Tobin' Q for Chinese firms. If increased board size leads to less effective monitoring, we would expect firm performance to be the negatively related to board size.

Firm size often affects the efficiency of corporate governance. In China, large firms usually have more abundant resources to hire more competent CEOs and Chairpersons, and can provide desirable compensation packages to attract high-caliber executives. Besides, large firms offer higher social status and influence that will generate various intangible interests to the directors. Practically, large firms usually have substantial advantages over

small private firms in China. Cichello (2005) ascertains that firm size is a key factor in determining the pay-performance sensitivity. Therefore, we expect that large firms in general have better performance than do small firms.

Board meeting frequency has been identified as an important dimension of board operations. However, whether high board meeting frequency is favorable to firm performance remains undetermined due to mixed evidence (Conger et al., 1998; Vafeas, 1999). The listed firms in China are still at the transition stage; thus, for the board of directors that still lacks the accumulated experiences in managing or supervising the firm, the benefits of more meetings is expected to outweigh the costs. Therefore, we conjecture that board meeting frequency is positively related to firm performance.

Much empirical evidence has displayed that duality is negatively related to firm performance for Chinese listed firms. For instance, Bai et al (2004) find that the CEO being the Chairperson or Vice Chairperson of the board has a negative impact on firm value. Huang et al. (2006) also find that duality is more likely to take place in private firms than in SOE firms. Part of the reasons is due to the common history of private firms whose founders usually continue dominating the firms even after they have gone public. Therefore, holding both the Chairman and the CEO positions is not unusual in private firms. However, although a founder may hold the dual positions, he is not necessarily competent in running the firm. Therefore, we expect that duality is negatively related to firm performance.

Managerial ownership is another factor often considered in research on corporate governance. Denis and Sarin (1999) find that ownership is weakly related to the changes in firm-specific determinants of ownership and board structure. Core and Larcker (2002) argue that mandatory increases in sub-optimal equity ownership for executives are linked to the improvements in subsequent firm performance. Research on this area generally finds that there is mixed evidence of the significant relation between ownership structure and firm performance. As stock options and other stock-related compensation vehicles are increasingly adopted in China, we expect a positive relation between managerial ownership and firm performance.

The age of directors is another important factor in corporate governance. Older directors are usually more experienced and more likely to have gained enormous business skills and wisdom. Therefore, we expect that the older the average age of the board members, the better the firm performance will be. Similarly, we conjecture that the differences in educational backgrounds of directors could be a key factor as well. It is understandable that well-educated directors can fulfill their duties better than less educated directors. In this study, we consider a director having a bachelor's degree (or higher) to be well educated. It is expected that a director with a bachelor's

degree or higher are more beneficial to the firm than those without college diplomas.

The next key variable examined is executive compensation. Some research (Coughlan and Schmidt, 1985; Jensen and Murphy, 1990) on the area of executive compensation have dealt with the issue of the relation between executive compensation and firm performance. Those papers show that firm performance is largely and positively related to pay-performance sensitivity after controlling for risk. For Chinese firms, the relation between executive compensation and firm performance remains undetermined. We conjecture that higher compensation could motivate the management to deliver better firm performance.

The traditional perspective on the board of directors is in favor of independent directors as more independent directors in the board are expected to be able to monitor the management more effectively. According to the selecting procedures for independent directors in China, the independent directors are actually "outside directors." Huang, Xu, and Yue (2006) do not find a significant relation between the proportion of independent directors and firm performance for Chinese public firms. Fama and Jensen (1983) argue that outside directors have an incentive to act as conscientious monitors for the management because they want to protect their reputation. Similarly, Weisbach (1988) finds that boards dominated by outsiders are more likely to replace the CEOs than insider-dominated boards. Empirical evidence finds that firm performance is linked to board composition (Brickley and James, 1987; Byrd and Hickman, 1992), and these studies consistently find that firm performance is superior when outside directors hold a significant percentage of board seats. Therefore, we believe that more independent directors in the board serve the firm better than the case where independent directors are fewer.

In China, it is of importance to investigate the backgrounds of incumbent directors to find the most suitable candidates for independent directors. We investigate whether independent directors have accounting expertise or are hired from academia, and examine the relation between these two characteristics and firm performance. As hiring independent directors from academia has become a routine practice in China, we accordingly purport to measure the efficiency of hiring independent directors from academia. In addition, accounting skills would furnish independent directors with the expertise to analyze financial reports or monitor the financial decision-making of the firm. Moreover, the independent directors selected from academia should also have necessary skills to comprehend the routine business operations of the firm they serve. The academic fields of these independent directors are normally related to the lines of business of the hiring firm. Kroszner and Strahan (2001) find that having bankers on board can play the role of monitors, and the major reason is that the bankers have the ex-

pertise and skills in understanding the business and monitoring the CEO's performance. We follow the same line of thought here. However, the tricky part is that these independent directors hired from academia may grasp the theoretical part of business and financial management, but not necessarily understand the practical side of business operations. Whether the academic backgrounds of independent directors can bring benefits to the firm is an empirical issue. Nevertheless, it is commonsense that with finance and accounting skills the independent directors could better understand the detailed financial situation of the firm, and help monitor and advise the management, this is reasonably an advantage. We expect more independent directors with accounting skills will strengthen the firm performance.

4. EMPIRICAL METHODS AND RESULTS

4.1. Descriptive statistics

Since we examine the board structures of SOE firms and private firms, respectively, we firstly compare their board characteristics. Subsequently, we use the ordinary least squares (OLS) regression model to test the relation between these governance variables and financial performance. Table 2 contains the summary statistics for Q values of sample firms according to industry classifications and distribution over time. The descriptive statistics in Panel A show that sample firms cover almost all industries, and the mean Q values range from 1.409 for ferrous metal industry to 2.908 for information services industry. The descriptive statistics in Panel B indicate that the mean Q value in 2007 was significantly higher than those in the previous two years, and this trend matches the changes in market values of listed stocks over the same period.

Table 3 presents the descriptive statistics of board and firm characteristics.

The statistics for combined sample firms, i.e., private and SOE firms, are displayed in Table 3. Tobin's Q s are 2.05 and 2.32 for SOE firms and private firms, respectively. In addition, SOE firms are larger in size than private firms. The board of SOE firms on average has 10.1 directors, compared to about 9.3 directors for private firms. The board meeting frequency is 8.35 times a year for SOE firms and about nine times a year for private firms. With respect to the proportion of independent directors, SOE firms and private firms are quite close, 34% versus 35%, respectively. Regarding duality, 10% of the board Chairs of SOE firms are also the CEOs while this statistics reaches 17% for private firms. Average managerial shareholding value is 54.1 million for SOE firms whereas it is much larger for private firms, 853.3 million. The proportion of independent directors who have accounting skills is 34.5% for SOE firms versus 35.5% for private firms. The percentage of independent directors who have academic background is

TABLE 2.Values of Q_s across Industries and Years

| Panel A: Across industries | | | | |
|-------------------------------------|-------------|-------|--------|-----------|
| Industry | Sample size | Mean | Median | Std. Dev. |
| Mining | 74 | 2.426 | 1.716 | 1.548 |
| Restaurant & Food Services, Tourism | 55 | 2.747 | 2.492 | 1.634 |
| Electronics/Semiconductor/IC | 95 | 2.095 | 1.643 | 1.326 |
| Real Estate | 273 | 2.314 | 1.752 | 1.585 |
| Clothing and Garment | 99 | 1.807 | 1.548 | 1.162 |
| Ferrous Metal | 85 | 1.409 | 1.110 | 0.586 |
| Chemical | 329 | 2.019 | 1.525 | 1.298 |
| Machinery | 267 | 2.155 | 1.692 | 1.284 |
| Home Appliances | 59 | 1.587 | 1.246 | 0.883 |
| Construction materials | 151 | 1.699 | 1.328 | 0.894 |
| Transportation | 157 | 2.031 | 1.630 | 1.032 |
| Transportation equipment | 166 | 2.133 | 1.694 | 1.396 |
| Agriculture/Fishing/Forestry | 104 | 2.065 | 1.458 | 1.430 |
| Light Industry | 85 | 1.911 | 1.471 | 1.333 |
| Trading, wholesale and retail | 183 | 1.990 | 1.644 | 1.089 |
| Food & Beverage | 112 | 2.481 | 2.058 | 1.505 |
| Information Service | 103 | 2.908 | 2.354 | 1.751 |
| Telecom & Network Equipment | 98 | 2.151 | 1.741 | 1.192 |
| Pharmaceuticals/Biotechnology | 287 | 2.204 | 1.698 | 1.451 |
| Nonferrous Metal | 103 | 2.360 | 1.792 | 1.588 |
| Conglomerates | 134 | 2.125 | 1.573 | 1.483 |
| Total | 3019 | 2.124 | 1.638 | 1.367 |
| Panel B: Across years | | | | |
| Year | Sample | Mean | Median | Std. Dev. |
| 2005 | 994 | 1.366 | 1.202 | 0.627 |
| 2006 | 1025 | 1.790 | 1.485 | 0.974 |
| 2007 | 1000 | 3.220 | 2.797 | 1.546 |
| Total | 3019 | 2.124 | 1.638 | 1.367 |

This table reports the values of Q_s for all sample firms, and these sample firms have been categorized into subsamples according to industry classifications and distributions over time.

50.3% for SOE firms and 48% for private firms. The percentage of directors who have a bachelor's degree or higher is 87% for SOE firms versus 83% for private firms. Meanwhile, the average compensation for directors of SOE firms is 81,443 versus 64,257 for private firms.

Subsequently, Table 4 provides the correlation coefficients for all independent variables, and the results show that there are not many high correlations among the independent variables. Thus, multicollinearity is not

TABLE 3.

Descriptive Statistics

| | Variables | Sample | Mean | Sdt. Dev. | Min | Median | Max |
|-------------|-------------|--------|----------|-----------|---------|----------|---------|
| SOE | Q | 2174 | 2.046 | 1.277 | 0.668 | 1.605 | 9.588 |
| | asset | 2174 | 5979.23 | 26407.49 | 107.88 | 2191.62 | 718572 |
| | board_size | 2174 | 10.093 | 2.503 | 4 | 9 | 30 |
| | meeting | 2174 | 8.349 | 3.445 | 3 | 8 | 36 |
| | indep_ratio | 2174 | 0.344 | 0.046 | 0.083 | 0.333 | 0.571 |
| | duality | 2174 | 0.103 | 0.305 | 0 | 0 | 1 |
| | top_value | 2174 | 541.40 | 8539.84 | 0 | 8.41 | 360555 |
| | accountant | 2174 | 0.345 | 0.165 | 0 | 0.333 | 1 |
| | academic | 2174 | 0.503 | 0.316 | 0 | 0.500 | 1 |
| | av_age | 2174 | 50.011 | 3.586 | 36 | 50.095 | 63.222 |
| | av_edu | 2174 | 0.866 | 0.142 | 0.143 | 0.889 | 1 |
| | t3m_comp | 2174 | 81.443 | 85.419 | 2.690 | 61.185 | 1412 |
| | Private | Q | 845 | 2.324 | 1.558 | 0.742 | 1.741 |
| asset | | 845 | 2024.295 | 2368.171 | 107.316 | 1298.276 | 35344 |
| board_size | | 845 | 9.301 | 2.177 | 5 | 9 | 25 |
| meeting | | 845 | 8.994 | 3.755 | 3 | 8 | 35 |
| indep_ratio | | 845 | 0.351 | 0.050 | 0.111 | 0.333 | 0.600 |
| duality | | 845 | 0.168 | 0.374 | 0 | 0 | 1 |
| top_value | | 845 | 8523.69 | 52670.10 | 0 | 3.76 | 1062950 |
| accountant | | 845 | 0.355 | 0.165 | 0 | 0.333 | 1 |
| academic | | 845 | 0.480 | 0.332 | 0 | 0.500 | 1 |
| av_age | | 845 | 47.507 | 3.732 | 38.250 | 47.111 | 61.556 |
| av_edu | | 845 | 0.829 | 0.172 | 0.111 | 0.889 | 1 |
| t3m_comp | | 845 | 64.257 | 63.066 | 2.400 | 45.800 | 537.880 |

an issue in this study. Table 5 reports the univariate comparison analysis between SOE firms and private firms in terms of board and firm characteristics. Results show that private firms have better financial performance than do SOE firms as shown by the higher Q value of private firms with t -statistic of -5.041 . This result is consistent with prior empirical findings. The SOE firms have a larger board of directors than do private firms (with t -statistic of 8.095), and SOE firms are also larger in size than private firms (with t -statistic of 4.346). However, the frequency of board meetings is significantly higher in private firms than in SOE firms. The proportion of independent directors in the board is also significantly higher for private firms than that for SOE firms. Whether this implies that independent directors play a more important role in private firms than in public firms will be examined later. As to the measure for duality, the Chairperson is more likely to hold the CEO position in private firms (with t -statistic of -4.89).

TABLE 3—*Continued*

| | Variables | Sample | Mean | Sdt. Dev. | Min | Median | Max |
|-------|-------------|--------|----------|-----------|---------|----------|---------|
| Total | <i>Q</i> | 3019 | 2.124 | 1.367 | 0.668 | 1.638 | 9.824 |
| | asset | 3019 | 4872.265 | 22512.82 | 107.316 | 1884.953 | 718572 |
| | private | 3019 | 0.280 | 0.449 | 0 | 0 | 1 |
| | board_size | 3019 | 9.871 | 2.442 | 4 | 9 | 30 |
| | meeting | 3019 | 8.529 | 3.546 | 3 | 8 | 36 |
| | indep_ratio | 3019 | 0.346 | 0.047 | 0.083 | 0.333 | 0.600 |
| | duality | 3019 | 0.122 | 0.327 | 0 | 0 | 1 |
| | top_value | 3019 | 2775.60 | 29002.75 | 0 | 7.07 | 1062950 |
| | accountant | 3019 | 0.347 | 0.165 | 0 | 0.333 | 1 |
| | academic | 3019 | 0.497 | 0.321 | 0 | 0.500 | 1 |
| | av_age | 3019 | 49.310 | 3.797 | 36 | 49.364 | 63.222 |
| | av_edu | 3019 | 0.856 | 0.152 | 0.111 | 0.889 | 1 |
| | t3m_comp | 3019 | 76.633 | 80.158 | 2.400 | 56.720 | 1412 |

This table presents the descriptive statistics for all board and firm characteristics. *Q* is the book value of total debt plus the market value of total equity, divided by the book value of total assets. Asset is the book value of total assets. Private is a dummy variable which equals 1 if the listed firm has private controlling shareholder(s) and 0 if the controlling shareholder is the state. Board_size is the number of board members, and we use the natural log in the regression models. Meeting is the number of board meetings held in the corresponding fiscal year, log transformation is used in regression models. Indep_ratio is the number of independent directors divided by board size. Duality is a dummy variable which equals 1 if the Chairperson of the board is also the CEO of the firm, and 0 otherwise. Top_value is the market value of shares outstanding held by top managers and board members, measured in 100,000, and we use log transformation in regression analysis. Accountant is the percentage of independent directors who have accounting background. Academic is the percentage of independent directors who are academics. Av_age is the average age of the board members. Av_edu is the percentage of the board members who have college education or higher. T3m_comp is the sum of the highest three compensations of executives, we use log transformation in regression models.

As conjectured, the founder of a private firm often acts as the Chair of the board even after going public, and he or she usually still maintains the control over routine operations. The value of managerial shareholding is significantly higher for private firms than that for SOE firms, and this is consistent with the practice in China as private firms are more likely to align the interests of shareholders with that of management by offering high stock ownership to the management.

TABLE 4.

Sample Correlations (the measure is log transformed if needed)

| | Q | \ln_asset | private | board_size | $\ln_meeting$ | indep_ratio | duality | top_value | accountant | academic | av_age | av_edu |
|----------------|----------|--------------|----------|------------|----------------|-------------|---------|-----------|------------|----------|----------|---------|
| \ln_asset | -0.2037* | 1 | | | | | | | | | | |
| private | 0.0914* | -0.2445* | 1 | | | | | | | | | |
| board_size | -0.0619* | 0.2005* | -0.1558* | 1 | | | | | | | | |
| $\ln_meeting$ | 0.1542* | 0.1151* | 0.0908* | -0.0269 | 1 | | | | | | | |
| indep_ratio | 0.0795* | 0.0253 | 0.0671* | -0.1730* | 0.0673* | 1 | | | | | | |
| duality | 0.0490* | -0.0665* | 0.0887* | -0.0818* | -0.0224 | 0.0368* | 1 | | | | | |
| top_value | 0.0625* | 0.1879* | 0.0675* | 0.0014 | 0.0332 | 0.0260 | 0.0258 | 1 | | | | |
| accountant | 0.0326 | -0.1232* | 0.0283 | -0.2259* | 0.0090 | -0.0344 | 0.0259 | -0.0282 | 1 | | | |
| academic | -0.0145 | 0.0426* | -0.0331 | 0.0161 | 0.0047 | -0.0258 | -0.0350 | 0.0524* | -0.0990* | 1 | | |
| av_age | -0.0386* | 0.3013* | -0.3000* | 0.0526* | -0.0960* | 0.0420* | -0.0099 | 0.0978* | -0.1161* | 0.0185 | 1 | |
| av_edu | 0.1080* | 0.0877* | -0.1085* | 0.0339 | 0.0576* | 0.0510* | -0.0049 | -0.0309 | -0.0786* | 0.1693* | -0.1234* | 1 |
| t3m_comp | 0.1025* | 0.4439* | -0.1272* | 0.1081* | 0.1623* | 0.0384* | -0.0134 | 0.2822* | -0.0714* | 0.1138* | 0.1931* | 0.1816* |

This table shows the Pearson correlations of the 12 variables used in this study. Q is the book value of total debt plus the market value of total equity, divided by the book value of total assets. Asset is the book value of total assets. Private is a dummy variable which equals 1 if the listed firm has private controlling shareholder(s) and 0 if the controlling shareholder is the state. Board_size is the number of board members, and we use the natural log in the regression models. Meeting is the number of board meetings held in the corresponding fiscal year, log transformation is used in regression models. Indep_ratio is the number of independent directors divided by board size. Duality is a dummy variable which equals 1 if the Chairperson of the board is also the CEO of the firm, and 0 otherwise. Top_value is the market value of shares outstanding held by top managers and board members, measured in 100,000, and we use log transformation in regression analysis. Accountant is the percentage of independent directors who have accounting background. Academic is the percentage of independent directors who are academics. Av_age is the average age of the board members. Av_edu is the percentage of the board members who have college education or higher. T3m_comp is the sum of the highest three compensations of executives, we use log transformation in regression models. * indicates significance at 5% level.

Regarding the proportion of independent directors who have accounting skills, we find that this measure for private firms is not significantly different from that for SOE firms. However, the proportion of independent directors hired from academia for SOE firms is marginally higher than that for private firms (with t-statistic of 1.821). The average age of directors of SOE firms is significantly higher than that of private firms. Meanwhile, the percentage of board members who have obtained university diplomas is 85.6% for private firms versus 86.6% for SOE firms, and the difference is significant, suggesting that SOE firms' directors have better educational backgrounds. Moreover, executive compensation is significantly higher for SOE firms than for private firms, which is consistent with current remuneration systems in China.

Overall, the findings indicate that private firms are materially different from SOE firms in most of the board and firm characteristics. The private firms enjoy higher management efficiency since the results suggest that they have more favorable Q , board size, board meeting frequency, and independent director ratio relative to the SOE firms. The comparison results for other characteristics, such as duality, managerial shareholding, the proportion of directors hired from academia, average age of directors, and educational backgrounds of directors, should be interpreted more cautiously because whether a higher score is better or vice versa in terms of corporate governance efficiency is an empirical question, and previous studies on these variables provided very mixed conclusions.

4.2. Multivariate analysis

We harness the fixed effects regression technique to test the relation between firm performance (Q) and the board and firm characteristics. Here Q is the dependent variable and the board and firm characteristics are independent variables. The model used is as follows:

$$\begin{aligned}
 Q_{it} = & \ln_asset_{it} + \ln_meeting_{it} + duality_{it} + top_value_{it} \\
 & + board_size_{it} + indep_ratio_{it} + private_{it} + accountant_{it} \\
 & + academic_{it} + av_age_{it} + av_edu_{it} + T3m_comp_{it} + \varepsilon_{it}
 \end{aligned}$$

One of our objectives is to find the differences in board characteristics between these two types of firms and ascertain the determinants of their board compositions. Hence, we run three regressions for the whole sample, private firms sample, and SOE firms sample, respectively. The estimated regression results for the three sample groups are presented in Table 6.

Regression results for the whole sample are presented in first column. The estimated coefficient on the dummy variable "private" is significant at 1% level, and this result reveals that private firms outperform public firms.

TABLE 5.

| | Univariate Results | | |
|-------------|--------------------|-------------|----------------------|
| | Mean of Private | Mean of SOE | <i>t</i> -statistics |
| <i>Q</i> | 2.324 | 2.046 | -5.041*** |
| asset | 2024.295 | 5979.226 | 4.346*** |
| board_size | 9.301 | 10.093 | 8.095*** |
| meeting | 8.994 | 8.349 | -4.504*** |
| indep_ratio | 0.351 | 0.344 | -3.692*** |
| duality | 0.168 | 0.103 | -4.890*** |
| top_value | 8523.69 | 541.4 | -6.840*** |
| accountant | 0.355 | 0.345 | -1.553 |
| academic | 0.48 | 0.503 | 1.821* |
| av_age | 47.507 | 50.011 | 17.028*** |
| av_edu | 0.829 | 0.866 | 5.993*** |
| t3m_comp | 64.257 | 81.443 | 5.313*** |

This table presents the univariate comparison results between private firms and SOE firms in terms of board and firm characteristics. *Q* is the book value of total debt plus the market value of total equity, divided by the book value of total assets. Asset is the book value of total assets. Private is a dummy variable which equals 1 if the listed firm has private controlling shareholder(s) and 0 if the controlling shareholder is the state. Board_size is the number of board members, and we use the natural log in the regression models. Meeting is the number of board meetings held in the corresponding fiscal year, log transformation is used in regression models. Indep_ratio is the number of independent directors divided by board size. Duality is a dummy variable which equals 1 if the Chairperson of the board is also the CEO of the firm, and 0 otherwise. Top_value is the market value of shares outstanding held by top managers and board members, measured in 100,000, and we use log transformation in regression analysis. Accountant is the percentage of independent directors who have accounting background. Academic is the percentage of independent directors who are academics. Av_age is the average age of the board members. Av_edu is the percentage of the board members who have college education or higher. T3m_comp is the sum of the highest three compensations of executives, we use log transformation in regression models. * indicates significance at 10% level, ** indicates significance at 5% level, *** indicates significance at 1% level.

TABLE 6.
Multivariate Analysis Results

| | (1) | (2) | (3) |
|-------------------------|-------------------------|-------------------------|-------------------------|
| | whole sample | private sample | SOE sample |
| ln_asset | 0.1483 (1.5558) | 0.2293 (1.0581) | 0.1985 (1.9001)* |
| ln_meeting | 0.9630 (11.1716)*** | 1.1016 (5.4320)*** | 0.8137 (8.8011)*** |
| duality | 0.1640 (1.3906) | -0.2113 (0.9739) | 0.2790 (1.9182)* |
| top_value | 0.2852 (10.7613)*** | 0.2124 (4.7726)*** | 0.3783 (10.9060)*** |
| board_size | -0.2923 (1.3135) | -0.6576 (1.3317) | -0.2841 (1.1501) |
| indep_ratio | 3.5786 (4.8960)*** | 4.9079 (3.0555)*** | 2.6066 (3.2577)*** |
| private | 0.3132 (2.0007)** | | |
| accountant | 0.0292 (0.0928) | -1.1028 (1.5513) | 0.6597 (1.9263)* |
| academic | -0.3261 (1.6283) | -1.1318 (2.3729)** | -0.0190 (0.0872) |
| av_age | 4.5316 (5.6877)*** | 8.1712 (4.3650)*** | 2.8816 (3.2690)*** |
| av_edu | 1.8254 (4.1766)*** | 3.0940 (3.2544)*** | 1.5757 (3.1622)*** |
| Managerial compensation | 0.8894 (13.4167)*** | 0.9880 (7.1693)*** | 0.8943 (11.5923)*** |
| Constant | -25.0107 (7.6900)*** | -39.4314 (5.3044)*** | -18.8233 (5.1985)*** |
| Observations | 3019 | 845 | 2174 |
| Number of Firms | 1107 | 351 | 826 |
| R-squared | 0.3420 | 0.3616 | 0.3683 |

The multivariate analysis results with original private firms sample and original SOE firms sample using the fixed effects model are presented in this table. The dependent variable is Q , which is the book value of total debt plus the market value of total equity, divided by the book value of total assets. Independent variables are as follows. Asset is the book value of total assets. Private is a dummy variable which equals 1 if the listed firm has private controlling shareholder(s) and 0 if the controlling shareholder is the state. Board_size is the number of board members. Meeting is the number of board meetings held in the corresponding fiscal year. Indep_ratio is the number of independent directors divided by board size. Duality is a dummy variable which equals 1 if the Chairperson of the board is also the CEO of the firm, and 0 otherwise. Top_value is the market value of shares outstanding held by top managers and board members, measured in 100,000. Accountant is the percentage of independent directors who have accounting background. Academic is the percentage of independent directors who are academics. Av_age is the average age of the board members. Av_edu is the percentage of the board members who have college education or higher. T3m_comp is the sum of the highest three compensations of executives. The value of t statistics is shown in parentheses. * indicates significance at 10% level, ** indicates significance at 5% level, *** indicates significance at 1% level.

This finding substantiates our conjecture. Higher board meeting frequency is positively related to firm performance, meaning that if the board meets more often, it benefits the firm by enhancing financial performance. The coefficient on managerial shareholding value is positive and significant at 1% level. Accordingly, enlarging the management shareholding could lead to the firm performing better, and this is consistent with the traditional finding on managerial ownership. Surprisingly, the coefficient on board size is not significant, implying that board size is unrelated to the firm's financial performance. The average age of board members is positively and significantly related to firm performance. This somehow confirms that older directors bring more benefits to the firm, and it should be ascribed to the experiences of these older directors. The estimated coefficient on the proportion of directors with a college degree of higher is positive and significant, thus confirming our conjecture that more education of directors is favorable to the firm, which is also in line with prior empirical results (Fan, Wong, and Zhang, 2007). As expected, executive compensation is positively and significantly related to Q . Higher compensation indeed would motivate the executives to deliver better performance.

The regression results for private firms and SOE firms are displayed in columns two and three, respectively. The regression results in column two essentially remain the same as those in column one, except that the variable "academic" now has a significant and negative coefficient. This implies that hiring independent directors from academia actually do a disservice to a private firm's performance. The "academic" directors might be too concept/theory oriented while insufficient in interpersonal and practical skills or real-time business trainings.

The regression results for SOE firms in column three are obviously different from those for private firms. First, firm size is significantly and positively related to firm performance, meaning that large firms on average perform better than small firms. Large SOE firms in China often enjoy helps or supports from the government in a variety of ways (Fan, Wong, and Zhang, 2007). Besides, since the large SOE firms are often more important to the Chinese economy because they usually operate in the so-called "pillar industries" such as high-tech and national defense, they are naturally more likely to show stronger performance. Subsequently, duality now has a positive and significant coefficient, and this suggests that the Chairperson holding the CEO position actually benefits the SOE firm. In contrast, for private firms, duality is not related to firm performance. For the SOE firms, when the Chairperson holds the dual seats, the friction between the Chair and the CEO is mitigated. The CEO and the Chair usually do not have the same background, and it is not uncommon that both of them do not have much experience in leading a corporation. In addition, in the case of SOE firms, both positions are usually appointed by government agencies.

On the contrary, a private firm's Chairperson and CEO are factually selected and appointed by the firm's shareholders, and therefore the process is barely intervened by the government. Next, it is also interesting that the coefficient on the variable "accountant" is significantly positive for the case of SOE firms. We understand that if the hired independent directors are proficient in accounting, the acumen can greatly facilitate the directors' monitoring tasks since the skills will provide them with a useful weapon in comprehending the financial circumstances and decision-making of the firm (Fan, Wong and Zhang, 2007).

If we compare the results between columns two and three, we find that selecting directors who have accounting skills by private firms does not bring any benefit to the financial performance. Even worse, independent directors hired from academia are counterproductive to the firm. Conversely, for an SOE firm, hiring independent directors who have accounting skills is beneficial to the firm, whereas appointing independent directors from academia does not hurt. Overall, the interesting findings on the dummy variables "accountant" and "academic" merit a thorough analysis. It seems that independent directors who either have accounting background or are hired from academia will generate different outcomes for the firm's financial performance, depending on whether the firm had been a pure private firm or an SOE firm before they went public.

We also conduct robustness checks on our findings by running regressions with control sample. We build the control sample in the following way. We use the original private firms sample as the benchmark to gather the matched SOE firms sample. For each firm in the private firms sample, we select one matching SOE firm. We impose two requirements here. First, this SOE firm must be in the same industry as the private firm. Second, the size of this SOE firm must be as close to the size of the private firm as possible. For those private firms that are outliers in terms of size, which are usually too small to obtain matching SOE firms, we drop them from the private firms sample. After the selection process, we obtain the matched SOE firms sample consisting of 731 firms. The regression results using the matched sample are presented in Table 7. Most regression results using the control sample remain consistent with the results shown in Table 6. However, there are some distinctions. For example, firm size now has significant coefficients in all three columns. For the private firms sample, the coefficient on firm size is positively and significantly related to Q , meaning that after we get rid of those small private firms (about 114 firms) from the original private firms sample, we find that larger private firms indeed perform better than small private firms. However, for the matched SOE firms sample, the coefficient on firm size is negative and significant, thus showing that firm size is inversely related to firm performance. Interestingly, the coefficient on variable "academic" is different from the result in

TABLE 7.
Multivariate Analysis with Control Sample Firms (Robustness Checks)

| | (1) | (2) | (3) |
|-------------------------|-------------------------|-------------------------|-------------------------|
| | whole sample | private sample | SOE sample |
| ln_asset | 0.2960 (1.8197)* | 0.6069 (2.7229)*** | -0.5362 (2.3564)** |
| ln_meeting | 1.0771 (7.5425)*** | 0.9884 (4.9053)*** | 1.1869 (6.6310)*** |
| duality | 0.0833 (0.5181) | -0.1959 (0.9064) | 0.4911 (2.0480)** |
| top_value | 0.2702 (7.1370)*** | 0.2106 (4.6256)*** | 0.8217 (9.3242)*** |
| board_size | -0.1598 (0.4582) | -0.3330 (0.6532) | -0.0308 (0.0739) |
| indep_ratio | 5.7404 (4.8690)*** | 5.3089 (3.1957)*** | 4.5497 (3.1282)*** |
| private | 0.6673 (2.6559)*** | | |
| accountant | 0.0850 (0.1538) | -0.0414 (0.0568) | 1.7839 (2.1700)** |
| academic | -0.2722 (0.7946) | -0.8391 (1.7547)* | 1.1730 (2.6353)*** |
| av_age | 6.5930 (4.8570)*** | 5.5696 (2.8670)*** | 7.6361 (3.9235)*** |
| av_edu | 2.4208 (3.4078)*** | 2.5776 (2.7007)*** | 3.1902 (2.6791)*** |
| Managerial compensation | 0.9950 (9.4667)*** | 1.0007 (7.1065)*** | 0.8330 (5.2319)*** |
| Constant | -36.3559 (6.7010)*** | -33.1558 (4.2500)*** | -36.7842 (5.0039)*** |
| Observations | 1462 | 731 | 731 |
| Number of firms | 682 | 320 | 385 |
| R-squared | 0.4051 | 0.3990 | 0.5313 |

The multivariate analysis results with control sample firms using the fixed effects model are presented in this table. The dependent variable is Q , which is the book value of total debt plus the market value of total equity, divided by the book value of total assets. Independent variables are as follows. Asset is the book value of total assets. Private is a dummy variable which equals 1 if the listed firm has private controlling shareholder(s) and 0 if the controlling shareholder is the state. Board_size is the number of board members. Meeting is the number of board meetings held in the corresponding fiscal year. Indep_ratio is the number of independent directors divided by board size. Duality is a dummy variable which equals 1 if the Chairperson of the board is also the CEO of the firm, and 0 otherwise. Top_value is the market value of shares outstanding held by top managers and board members, measured in 100,000. Accountant is the percentage of independent directors who have accounting background. Academic is the percentage of independent directors who are academics. Av_age is the average age of the board members. Av_edu is the percentage of the board members who have college education or higher. T3m_comp is the sum of the highest three compensations of executives. The value of t statistics is shown in parentheses. * indicates significance at 10% level, ** indicates significance at 5% level, *** indicates significance at 1% level.

Table 6. This variable coefficient is now positive and significant. For SOE firms in the control sample, which comprises relatively small SOE firms, the independent directors hired from academia are beneficial to the firm. This implies that for large SOE firms, having independent directors from academia does not affect firm performance, while for small SOE firms, the presence of those “academic” directors brings a positive impact. The regression results with respect to other variables remain the same as those in Table 6. In summary, the regression results using the control sample confirms one important and robust finding: for private firms, hiring independent directors from academia hurts the firm’s financial performance, but SOE firms benefit from hiring independent directors with accounting background as well as from academia.

Why is the relation between firm performance and independent directors’ backgrounds inconsistent between SOE and private firms? One possible reason is that SOE firms are larger, more pivotal to the Chinese national economy, have more resources, and also get more supports from the government. Accordingly, more competent and qualified candidates for independent directors who are from academia or with accounting skills prefer SOE firms to private firms. Another possible rationale is that private firms are just careless when selecting independent directors, and those independent directors hired from academia are perfunctory when fulfilling their duties. As a whole, the regression results reveal that SOE firms have done a better job in selecting independent directors with accounting skills and do not suffer any loss from hiring independent directors from academia; on the other hand, private firms are counterproductive in appointing independent directors from academia. Therefore, we could infer that SOE firms in China are relatively superior to private firms in many aspects, which give them an edge in selecting quality independent directors. Private firms simply do not have the same resources, connections, and social influence as do the SOE firms in China. Nevertheless, we should not exclude the possibility that the founders of private firms intentionally hire incapable independent directors to maintain their dominance and control over the firms, and essentially just keep the independent directors as dummies. This is another empirical issue that should be investigated in future research.

5. CONCLUSION

The primary findings of this paper show that listed companies in China originated from either private firms or SOE firms before they went public have different corporate governance and financial characteristics. For example, compared to private firms, SOE firms have a larger board, less board meeting frequency, lower proportion of independent directors in the board, and lower managerial ownership. Furthermore, SOE firms appoint

more independent directors from academia than do private firms, and the Chairperson is less likely to be the CEO. In addition, the average age of directors of SOE firms is higher than that of private firms, and the educational level of SOE firms' directors is on average higher. In general, we find that the relation between firm performance and board and firm characteristics are fairly consistent over these two types of firms, except for two characteristics about independent directors. Specifically, for a private firm, hiring independent directors from academia hurts the firm's financial performance while the appointment of independent directors from academia does not harm the SOE firm's performance. Meanwhile, hiring independent directors who have accounting skills is beneficial to an SOE firm's performance whereas for a private firm, its financial performance is unaffected even when it hires independent directors with accounting skills. This finding enlightens us that private firms in China should be more perceptive in selecting independent directors from academia. Clearly, SOE firms have done a better job in hiring independent directors with accounting skills and do not suffer any loss from hiring independent directors from academia. On the other hand, private firms are counterproductive in appointing independent directors from academia.

To conclude, the contribution of this paper is to shed light on the differences in corporate governance between private firms and SOE firms after they have become listed firms in China. More attention should be paid to the selection procedures for independent directors for both private firms and SOE firms in China. Also, some other recent studies bring up a few interesting factors which we may examine in our future research about differences between Chinese corporate governance system and western corporate governance system (Yang et al, 2013; Zhang and Xu, 2013).

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