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Corporate Governance Quality, Ownership Structure, Agency Costs and Firm Performance. Evidence from an Emerging Economy

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Abstract: The purpose of this paper is to investigate the effect of corporate governance quality and ownership structure on the relationship between the agency cost and firm performance. Both the fixed-effects model and a more robust dynamic panel generalized method of moment estimation are applied to Chinese A-listed firms for the years 2008 to 2016. The results show that the agency–performance relationship is positively moderated by (1) corporate governance quality, (2) ownership concentration, and (3) non-state ownership. State ownership has a negative effect on the agency–performance relationship. Various robust tests of an alternative measure of agency cost confirm our main conclusions. The analysis adds to the empirical literature on agency theory by providing useful insights into how corporate governance and ownership concentration can help mitigate agency–performance relationship. It also highlights the impact of ownership type on the relationship between agency cost and firm performance. Our study supports the literature that agency cost and firm performance are negatively related to the Chinese listed firms. The investors should keep in mind the proxies of agency cost while choosing a specific stock. Secondly; the abuse of managerial appropriation is higher in state-held firms as compared to non-state firms. Policymakers can use these results to devise the investor protection rules so that managerial appropriation can be minimized.

Keywords: corporate governance; ownership concentration; agency cost; firm performance; dynamic panel model

1. Introduction

Opportunistic managers, rather than maximizing the shareholder's wealth, tend to misuse the organizational resources for their own benefit. A good set of governance practices and ownership structures can mitigate the conflict of interest between the principles and the agents, hence enhancing the firm value. The purpose of this paper is to investigate the effect of corporate governance quality and ownership structure on the relationship between agency cost and firm performance. This is one of the few studies to explore the relationship between agency costs and firm performance in a dynamic modeling approach. Specifically, this study aims to address the following research questions: (1) Does corporate governance quality mitigates the relationship between agency cost and firm performance? (2) How do ownership concentrations affect the relationship between agency cost and firm performance? (3) How do state and non-state companies moderate the relationship between agency cost and firm performance?

Data is extracted of 2248 Chinese A-listed companies for the period 2008–2016. Using both fixed effects and dynamic panel generalized methods of moment estimation, the results show that agency cost is negatively related to firm performance. At the same time, corporate governance and ownership concentration enhances firm performance. When corporate governance and ownership concentration are taken as a moderating variable, we find a positive impact on the agency–performance relationship. We also studied the effect of ownership type on the association between agency cost and firm performance. Non-state ownership positively moderates the relationship between agency cost and firm performance. In contrast, the agency cost keeps its negative sign when the state ownership is taken as a moderating variable. Our conclusions are supported by taking alternative measures of independent variables for robustness.

2. Background of the Study

The motivations for this study can be broken down into the following aspects: (1) Why China should be used as the test case to conduct this research. (2) Why corporate governance quality matters in an emerging economy like China. (3) Why dynamic panel modeling approach was used in this study. The following Sections 2.1–2.3 briefly discuss these questions.

2.1. Why China?

Emerging markets are prone to managerial discretion to a greater extent compared to in Anglo-American countries. Managers in these economies tend to manage funds inefficiently, which directly affects firm performance. Compared to developed economies, the extent of agency cost is different in emerging economies, specifically in China. Many researchers have used the proxy of agency cost based on either the managerial discretion or ineffective use of shareholder's funds.

We chose Chinese listed firms for this study because China's market for corporate control and the stock market mechanism is unique. Established in the early 1990s, the Chinese stock market was used as a vehicle to transform the "planned economy" to a "market economy." The Chinese Securities Regulatory Commission (CSRC hereafter) under the umbrella of the Chinese government made these reforms possible. Chinese listed firms rely heavily on internal financing, such as retained earnings, rather than external funding. The reliance on internal financing gives managers discretion to manipulate funds for self-empire building or investing inefficiently.

During the wave of recent privatization, about 60% of the Chinese market is still under the direct or indirect control of the state. The word corporatization is used instead of privatization by Lin (2001). He suggested that although the market for corporatization falls in the hands of the state, the firm's governance will be improved. The corporatization process has made it difficult for stakeholders to distinguish between state-held and non-state-held companies (Milhaupt and Zheng 2015). State control leads to more market power and easy access to external financing, which ultimately leads to a considerable amount of funds at the disposal of managers. Firms with concentrated state ownership behave differently when compared to non-state firms. For this purpose, the agency cost in state-owned institutions is much higher than in privately held firms. Clarke (2003) suggested that state-owned enterprises lack any clearly defined principles, which incites managers to fulfill their interest rather than the interest of the shareholders. Additionally, these managers have strong political backing, which makes them unaccountable for their actions. Therefore, as described by Ding et al. (2007), the performance of state-held firms falls well short of that of privately owned firms. Based on the argument above, we try to answer the research question, whether the ownership type affects the agency–performance relationship or not?

2.2. Why Governance Quality Matters in China

In 2001, China became a member of the World Trade Organization (WTO) and adopted the Organization for Economic Co-operation and Development (OECD) principles of corporate governance and started improving the corporate governance of its listed companies. CSRC, in cooperation with National Trade and Economic Commission, issued the code of corporate governance in 2002. The laws were based on the principles of investor protection and the code of conduct of the directors and managers. A continuous improvement took place that led the listed companies to shift the reporting from Chinese Accounting Standards to the International Accounting Standards in 2006. A two-tier board system is a unique aspect of the Chinese corporate governance mechanism. A one-tiered system such as that of USA has all the directors (executives and non-executives) being part of one Board, known as the Board of directors. In the two-tier board system, there is an executive board (consisting of all executive directors) and a supervisory board (consisting of all non-executive directors). The CSRC has taken many steps for the good of corporate governance in listed companies and to protect minority shareholders. Now companies are being encouraged to have at least one third independent directors on Board, the information disclosure act (2007) was explicitly introduced during IPO, and rules relating to shareholder meetings (2006) related to the convening of shareholder meetings and their resolution were introduced. Most of the state and legal person companies were either fully or partially privatized during this transition period.

The steps taken by CSRC to improve the corporate governance mechanism in China are remarkable. They can be used as one of the tools to curtail the opportunistic behavior of the managers. As an emerging economy, the Chinese market is still in the earliest steps of adopting good corporate governance practices.

2.3. Why Dynamic Panel Data?

The traditional agency framework was reexamined outside the jurisdiction of the Anglo-Saxon market, especially in the emerging markets. The development in the corporate governance literature has suggested that the governance variables plays an important part (endogenously) in the value maximization process of the shareholders (Nguyen et al. 2015). The agency cost can affect firm performance. Still, due to the link between the agency cost and firm governance variables, we cannot be sure about the relationship, e.g., studies have shown that state ownership is positively related to the presence of agency cost (Wei et al. 2005). Therefore, a dynamic model is required to cater to the endogeneity problem, specifically in the case of China, where investor protection is weak. Additionally, the motivation for using a dynamic panel model in the corporate governance literature is derived from the recent calls by Zhou et al. (2014) and Nguyen et al. (2015).

3. Literature Review

3.1. Theoretical Literature Review

Two sets of approaches in literature have been distinguished by the researchers to mitigate the agency problem. The first approach is the refraining approach, which proposes that the manager's interest could be aligned with that of the shareholders only if they are forced to refrain from opportunistic behavior. The refraining approach consists of leverage (Emanuel et al. 2003; Malmquist 1990; Siregar and Utama 2008), dividend payment (Easterbrook 1984; Lang and Litzenberger 1989), the risk of corporate takeover (Bethel and Liebeskind 1993; Shleifer and Vishny 1991), a strong board structure (Bathala et al. 2017; Jackling and Johl 2009; Miller 2002), independent audit committees (Collier and Gregory 1999; Islam 2010), well-reputed external auditors (Eshleman and Guo 2014; Hope et al. 2012), and oversight by institutional shareholders (Singh and Davidson 2003).

The second approach is known as the encouraging approach, and motivates the managers to do desirable actions. This approach includes performance-based remuneration (Abowd 1990) and employee stock ownership programs (Fox and Marcus 1992; Nikoskelainen and Wright 2007; Singh and Davidson 2003). Agrawal and Knoeber (1996) suggested a different agency-mitigating mechanism and concluded that a single measure could be misleading. Shan (2015) prepared a corporate governance index for eight different corporate governance measures and explored their effect on earnings management and value relevance. Our study also focusses on the design of the corporate governance index, consisting of agency-mitigating variables, and investigates the impact of corporate governance in moderating the relationship between agency cost and firm performance. The result shows that an effective monitoring mechanism (corporate governance quality) can align the interests of shareholders and managers.

Studies on ownership concentration and firm performance follow two contradicting theories. The monitoring argument implies that in the presence of weak governance mechanism, the majority shareholders helps in reducing the agency cost and increasing the overall firm value (Porta et al. 1999; Shleifer and Vishny 1986; Bhagat et al. 2017; Su et al. 2008; Li et al. 2008). The principal–principal theory states that the minority shareholders are exploited when the control of the ownership lies with the majority shareholders. They are the key decision-makers and appoint the management based on personal preferences. The management works to maximize value for the majority shareholders, while the minority shareholders are continuously overlooked (Denis and McConnell 2003; Hu and Izumida 2009). China is regarded as an emerging economy with corporate governance procedures still at an evolving stage. Shareholders are subject to managerial expropriations, and hence concentrated ownership may help mitigate the agency problem.

3.2. *Empirical Literature Review and Hypothesis Development*

3.2.1. Agency Cost and Firm Performance

Emerging markets are prone to managerial discretion to a greater extent compared to Anglo-American countries. The managers in these economies tend to manage the funds inefficiently that directly effects the firm performance. Compared to developed economies, the extent of agency cost is different in emerging economies, specifically in China. Many researchers have used a proxy of agency cost based either on managerial discretion or effective use of shareholder funds. The proxies for agency cost mostly used in China are discretionary accruals as a mean to earnings management (Wang et al. 2015; Wang and Campbell 2012; Guo and Ma 2015), free cash flow coupled with low growth opportunities (Chung et al. 2005b; Chen et al. 2016; Chiou et al. 2010), research and development expenditure (Shust 2015; Dinh et al. 2016; Ruiqi et al. 2017), and administrative expense ratio, which usually includes executives' salaries, travelling allowances, conference levies, etc. (Li et al. 2008; Huang et al. 2011; Zhang et al. 2016).

Most of the literature cited on the relationship between the agency cost and firm performance has established a negative relationship. For example, management earnings lead to the negative market performance of firms listed in Hong Kong (Ching et al. 2006). Higher levels of leverage in terms of short-term debt and long-term debt also have a negative effect on firm performance (Yazdanfar and Öhman 2015). A study conducted by Lang et al. (1995) showed that managers' discretion in selling assets led to lower firm performance. Khidmat and Rehman (2014) empirically tested the relationship between agency cost and firm performance in the emerging economy of Pakistan. They found a negative association between the selling and administrative expense ratio and firm performance. The Chinese market is prone to agency cost, and we expect a negative effect of agency cost on Chinese listed firm performance.

H1. *Agency costs have a negative effect on the firm performance.*

3.2.2. Corporate Governance, Agency Cost, and Firm Performance

Managers' opportunistic behavior increases their wealth, which leads to a decrease in firm performance. This opportunistic behavior of managers can be curtailed through a good set of internal and external corporate governance principles. Leverage is considered to be an agency mitigating mechanism, as outsiders monitor the actions of managers with respect to efficient contracting (Jensen 1986; Lang et al. 1995; Malmquist 1990). Debt covenants are considered an essential part of efficient contracting that, in addition to active monitoring, prevents specific risk-taking activities by management. All these efforts reduce the agency cost on one hand, while the value of the firm is increased on the other.

Dividend policy is also considered to be an agency mitigating variable, as elaborated by Ghosh et al. (2000). Two ways in which shareholder wealth can be maximized, either by increasing the share price by investing in value-enhancing projects or by distributing the excess cash in the form of dividends if managers fail to identify value-maximizing projects. Managers try to gain hold of the firm's resources when they have no positive NPV projects; hence, the agency cost of free cash flow occurs. In this case, dividends play an essential role in alleviating the agency problem (Jensen 1986). Porta et al. (2000) claimed that with the country having low investor protection, dividend policy becomes a robust governance mechanism for alleviating agency cost.

Studies have shown the effects of different board characteristics on firm performance in emerging economies (Borlea et al. 2017). A strong and independent board structure aligns the interest of managers and shareholders. Jackling and Johl (2009), in their study, concluded that from the perspective of agency theory, having independent directors on the Board enhances firm performance. Independent directors not only the have experience and the knowledge required to scrutinize the opportunistic behavior of the managers, but can also dissent from the other board members if they find any irregularities (Marchetti et al. 2017). The literature has shown mixed results regarding the size of the board, e.g., Mappadang et al. (2018) found that larger board size led to tax avoidance. Some studies have suggested that the optimal board size is either very small or very large (U-shaped), when assessed with respect to performance (Coles et al. 2008). However, a study conducted by Beiner et al. (2004) shows that the choice of the board size is dependent on environmental factors. Pearce and Zahra (1992) suggested that large boards were characterized by efficient monitoring and had a larger impact on corporate performance than small boards. Similarly, in advanced economies, studies have shown a positive association between board size and firm performance (Guest 2009). In the context of the Chinese market, board size has a negative impact on risk taking (Huang and Wang 2015; Haider and Fang 2016). Since board size leads to less risk taking in Chinese listed firms, we can propose that managerial appropriations can be curtailed through having a larger board size, thus boosting firm performance. CEO duality is taken as an important component of board characteristics, and generally, empirical research has shown that the separation of the CEO and the chairman results in an alleviation of the agency cost (Goyal and Park 2002; Kula 2005; Lei et al. 2013). Board diversity is also considered an important element of corporate governance. Research has shown that the representation of females on the board reduces the agency cost and enhance the firm value. For example, the relationship between gender diversity and firm performance in Chinese listed firms was investigated by Sial et al. (2018a). They concluded that board diversity influences firm performance, and that corporate social responsibility mediates the relationship. Similarly, research conducted by Sial et al. (2019) highlighted the importance of gender diversity in moderating the relationship between corporate social responsibility and earnings management. Board activity has a significant negative effect on agency costs. Frequent meetings of the Board of directors mean that they are actively involved in the matters of the company, and managers refrain from self-empire building (Ma and Tian 2009; Sahu and Manna 2013).

Some other corporate governance variables, in addition to board structure, also help in mitigating agency cost. The presence of an audit committee with independent members can proactively identify misappropriations in the financial records and can play a significant role in mitigating the agency problem. The agency cost is reduced when an independent committee is devised voluntarily (Collier and Gregory 1999). Additionally, it enhances firm value (Chan and Li 2008). A well-reputed and experienced external auditor can carefully scrutinize the financial statements. They have the required expertise, as well as having market knowledge of harmful financial practices. A Big Four auditor can mitigate the agency cost, as well as help in enhancing the firm value (Eshleman and Guo 2014; Hope et al. 2012). Some researchers have shown a profound effect of corporate social responsibility (CSR) on firm performance. The study conducted by Sial et al. (2018b) suggested

CSR to be an important determinant of corporate governance in enhancing the firm performance. However, the earnings management had the negative impact on the relationship between CSR and firm performance.

The encouraging approach to agency cost states that managers can be motivated to carry out specific desirable behavior. Jensen and Meckling (1976) proposed the convergence of interest hypothesis, in which managers who were given stock ownership have a better effect on firm performance. Brander and Poitevin (1992) explained that the terms offered in the compensation contract reduced the agency cost. In China, the same results were established by Zhang et al. (2016), who concluded that the perks of senior executives were negatively related to the agency cost. Managerial ownership is one of the ways to align the interest of the shareholders and managers. By having an ownership stake in the company, the managers would now take ownership of the company and would do their best to increase its value. However, in the literature, this relationship has not been not found to be linear. Still, there is a monotonic relationship, which suggests that at a lower level of managerial ownership, the agency cost is reduced, but the agency cost increases when a certain level of managerial ownership is reached (Jensen and Meckling 1976; McConnell and Servaes 1990).

Many recent studies have examined a combination of agency mitigating governance variables instead of focusing on the effect of an individual variable. Agrawal and Knoeber (1996) suggested a different agency mitigating mechanism and concluded that a single measure could be misleading. Shan (2015) prepared a corporate governance index for eight various corporate governance measures and explored their effect on earnings management and value relevance. Achim et al. (2016) investigated the effect of overall corporate governance quality in the performance of Romanian firms. They found a positive association between the governance quality and business performance in the emerging economy. This study focuses on the design of the corporate governance index comprising agency mitigating variables, and examines the impact of corporate governance in moderating the relationship between agency cost and firm performance. Dey (2008) used seven different proxies of agency conflict and generated seven principal factors from 22 individual governance variables. She concluded that the existence and role of governance mechanism is a function of the level of agency conflict in the firm. The link between corporate governance, agency cost and the firm performance is elaborated in Table A1, Appendix A.

From the literature above, we establish the link between corporate governance variables, agency cost and firm performance. The corporate governance quality mitigates the corporate expropriation through efficient monitoring. The corporate governance is also linked with better performance specifically in emerging markets (Klapper and Love 2004). With effective corporate governance mechanisms, the agency cost can be curtailed, while higher firm performance can simultaneously be achieved. Based on the link between corporate governance attributes and agency cost reduction, as well as the positive association between the corporate governance dimensions and firm performance, we can devise our hypothesis:

H2. *Corporate governance quality moderates the agency–performance relationship.*

3.2.3. Ownership Concentration, Agency Cost, and Firm Performance

The literature on ownership provides two contradicting theories with respect to ownership concentration and the agency problem. The first theory is based on efficient monitoring. The theory postulates that the majority shareholders have more stake in the firm. They are more vigilant than the minority shareholders. Their monitoring skills make them distinct from the rest of the minority shareholders. Due to efficient monitoring, they are able to reduce managerial expropriation. The second theory, known as principle–principle agency theory, postulates that the majority shareholders exert undue power on management to obtain their own benefits. The minority shareholders are hence exploited by the managers as well as the majority shareholders (Denis and McConnell 2003; Hu and Izumida 2009). In countries where the corporate governance mechanism is weak, ownership concentration works as a substitute for corporate governance (Porta et al. 1999). An increase in ownership concentration leads to shareholder activism. Therefore, agency costs can be reduced (Kroll et al. 1993; Li et al. 2008; Su et al. 2008). As the percentage of individual ownership increases in the firm, more individuals are inclined to incur monitoring costs (Porta et al. 1997).

Ma et al. (2010) studied the effect of ownership concentration and firm performance in Chinese listed companies. They found a positive impact of ownership concentration and firm performance, irrespective of who the majority shareholder was. Heugens et al. (2009) performed a meta-analysis of the relationship between ownership concentration and firm performance in Asian countries. They concluded a positive association between the two variables. They further elaborated that ownership concentration was an active corporate governance mechanism for protecting the minority shareholders from managerial appropriation.

In summary, concentrated ownership is linked with better firm performance in emerging economies (Heugens et al. 2009). The concentrated ownership structure helps in the protection of the minority shareholders from the managerial expropriation. Based on the alignment of interest argument, the concentrated ownership mitigates the agency cost in the emerging economies, resulting in improved performance (Chen 2001). The link between ownership concentration, agency cost, and firm performance is stated in the following hypothesis:

H3. *Ownership concentration moderates the agency–performance relationship.*

3.2.4. Ownership Type, Agency Cost, and Firm Performance

Although ownership concentration has a significant effect on alleviating the agency problem, different studies have shown that it depends upon the type of majority shareholder. The objective of the government is to provide employment and social solidity in the economy. In this way, a conflict of interest arises between state-owned enterprises and shareholders (Chong-En et al. 2002). As illustrated by Gunasekarage et al. (2007), the performance of firms decreases if the ultimate shareholder is the state. State-owned companies have substantial market power, easy access to finance, and less monitoring, which makes them difficult to default (Li et al. 2008). Keeping in view the agency perspective, many researchers have found a negative relationship between state ownership and firm performance (Chen 2001; Jia et al. 2005; Wei and Varela 2003; Xu and Wang 1999).

Clarke (2003), in his article "Corporate Governance in China: An Overview", demarcated the objectives of state-owned firms as the generation of employment, direct control over strategic industries, and politically motivating employment. This results in state-owned firms having a suboptimal level of performance and higher agency costs. According to Xu and Wang (1999), the ownership concentration in Chinese listed companies is positively related to firm performance. Additionally, state-owned firms have an adverse effect on firm performance and labor productivity. Similarly, Chen et al. (2016), in their study, investigated the impact of free cash flows and corporate governance characteristics on a firm's investment decisions, using data from 865 Chinese listed firms. The results showed that state ownership concentration boosted over-/underinvestment, while firms with good governance attributes mitigated the over-/underinvestment. On a similar note, Huang et al. (2011) examined the effect of agency cost on the relationship between top executives' overconfidence and investment–cash flow sensitivity. Their results showed that investment–cashflow sensitivity was higher in state-owned companies.

Furthermore, they constructed an agency cost proxy and concluded that the agency cost was higher in state-owned companies. A comparative study between state and non-state firms and their effect on earnings management was carried out by Ding et al. (2007). They analyzed 273 privately owned and state-owned companies. They concluded that the privately owned companies tended to maximize their earnings more than the state-owned companies, despite the reported discretionary accruals reported in non-state companies exceeding those of the state-owned companies.

In summary, state-owned firms in China are characterized by having higher agency costs. Hiring in Chinese firms is based on political connections (Jonge 2014). The performance of non-state firms is better than that of state-owned firms (Hess et al. 2010). The effect of state ownership on agency cost and firm performance will be different from that of non-state ownership.

Accordingly, our next hypothesis would be as follows:

H4. *State (non-state) ownership negatively (positively) moderates the agency–performance relationship.*

4. Research Design

4.1. Data Collection

The data collection started by taking all the Chinese A-listed firms over the period 2008 to 2016. However, we dropped firms based on the following criteria: (i) Firms belonging to financial sector. These firms have different accounting mechanisms and are not subject to current data collection process. (ii) Firms with ST (special treatment) and PT (particular treatment) status. These firms are financially distressed and may give spurious results. (iii) Firms with missing values for dependent, independent or control variables. (iv) We winsorized 1% of the data from upper and lower values to control for outliers. After all the adjustments, the final sample comprised 2248 firms. The data was extracted from the Chinese Stock Market and Research (CSMAR) database.

4.2. Model Specification and Estimation Techniques

The fixed-effects model and system GMM proposed by Blundell and Bond (1998) were used to test our hypothesis and cater to the un-observed endogeneity problem (Nakano and Nguyen 2013; Nguyen et al. 2014).

In the first equation, we want to explore the effect of agency cost and corporate governance on firm performance.

$$FP_{it} = \alpha_o + \alpha_1 AC_{it} + \alpha_2 CGQ_{it} + \sum \alpha_n CTR + \mu_o \tag{1}$$

where FP represents firm performance and has more than one measure, AC is the measure of agency cost, while CGQ is the corporate governance quality index. CTR represents the control variables used in the equations.

We added the interaction term in Equation (1) to capture the impact of corporate governance quality and ownership structure on the relationship between agency cost and firm performance.

$$FP_{it} = \alpha_o + \alpha_1 AC_{it} + \alpha_2 CGQ_{it} + \alpha_2\ (AC \times Moderators\ _{it}) + \sum \alpha_n CTR + \mu_o \tag{2}$$

where the moderators are corporate governance quality, ownership concentration, and ownership type, respectively.

The financial performance of the firm is time-dependent, i.e., the current performance of the firm is affected by the past performance and testing the effect of two-year lagged performance on current performance does not give us a significant impact. This leads us to conclude that the AR (1) dynamic panel model is sufficient. The literature on corporate governance suggests that corporate governance, as well as ownership structure, are endogenously determined (Nguyen et al. 2015). Therefore, this study first uses the fixed effect model to control the governance variables when estimating the agency–performance relationship. However, the use of a fixed-effect estimator does not eliminate the endogeneity lag performance measures. Following Nguyen et al. (2015), this study uses the system GMM recommended by Blundell and Bond (1998). The major advantage of constructing the system GMM estimator is that it enhances the power of estimation (Hoechle et al. 2012).

4.3. Dependent Variables

Following Le and Buck (2011), we incorporated two measures of performance return on assets (ROA) and earnings per share (EPS) as dependent variables. We decided to include only the book measures of performance as the market measure of performance lacks accuracy and precision of valuation (Le and Buck 2011; Park and Luo 2001; Wan and Yuce 2007).

4.4. Independent Variables

Agency Cost

Our first independent variable is the proxy for different agency cost measures. We measured the agency cost as the ratio of administrative expense to sales. The administrative expense includes the majority of the costs that have been incurred by the management, such as salaries, executive travel allowances, entertainment expenses, conferences and tour expenses, welfare payments, utilities, and other expenses that fall under this category. According to Li et al. (2008), Chinese managers misuse administrative expenses in automobiles, lavish office designs, recreational activities, and traveling. Therefore, administrative overhead can be regarded as a close proxy of agency costs.

Free cash flow is also considered to be a determinant of agency costs (Jensen and Meckling 1976). Still, the financial flexibility view suggests that managers intentionally keep a higher proportion of cash to meet future needs (Arslan-Ayaydin et al. 2014). An alternative definition of free cash flow as a measure of agency cost was used by Rahman and Mohd-Saleh (2008). First, we calculated free cash flow and growth opportunities following Chung et al. (2005a). Then, we created a dummy variable for agency cost that took the value of 1 if the firm in a particular industry in a specific year had free cash flow in excess of the industry median and a price-to-book ratio less than the industry median.

Three additional variables for measuring the extent of agency cost were provided as a robust check of our results. Earnings management, measured by absolute discretionary accruals following Dechow et al. (1995), is considered to be a proxy of agency cost. Research has determined that firms having high agency costs tend to manage their accruals (Christie and Zimmerman 1994; Teoh et al. 1998; Cormier and Martinez 2006). Next, we measured research and development expenditure (R&D-AC). R&D-AC is a dummy variable that takes the value of 1 if the firm 'i' in the year t has a price-to-book ratio less than the industry median and research and development expenditures higher than the industry median. Finally, we constructed an agency cost index through principal component analysis. We took the first principle component as the measure of agency cost.

4.5. Corporate Governance Quality

The second independent variable used in this study was the corporate governance quality index. Due to the adoption since 2007 of the new accounting standards and the availability of data under the compliance and explanation statement, we constructed the index with different agency mitigating governance variables. The variables used in the construction of the index were dividend payment, board size, board independence, board diversity, board meeting, CEO duality, Big Four auditor, managerial ownership, managerial compensation, institutional investors, number of commissions established, and separation of control rights and cashflow rights. The collection of corporate governance variables data was based on the study conducted by Shan (2015), who developed a governance index for Chinese listed firms. The detailed measurement of these variables is given in Table 1 below. Following Achim et al. (2016), we used the compliance and explanation statement for the measurement of corporate governance index.

Table 1. Constructing the Corporate Governance Index.

Corporate Governance Mechanism	Description	Measurement with Supporting Literature
CEO Duality	When CEO is also the board chairman.	Assigned value 1 to firm i in year t if CEO Duality does not exist, 0 for otherwise (Dey 2008; Gaio 2010; Lei et al. 2013).
Independent Directors	The number of independent directors on the Board of directors	Award 1 mark if Board Independence of firm i in fiscal year t is greater than the median value of the sample in fiscal year t, 0 mark otherwise (Shan 2013; Shan and Xu 2012).
Board size	The number of directors on the Board of directors	Award 1 mark if Board Size of firm i in fiscal year t is greater than the median value of the sample in fiscal year t, 0 mark otherwise (Pearce and Zahra 1992; Berghe and Levrau 2004).

Table 1. *Cont.*

Corporate Governance Mechanism	Description	Measurement with Supporting Literature
Number of board meetings held	Total number of board meetings held.	Award 1 mark if Board Meeting held in the firm i in year t is greater than the median value of the sample in fiscal year t, 0 mark otherwise (Dey 2008; Vafeas 1999).
Female Director	If the Board has female representation or not.	Award 1 mark if firm i in fiscal year t has a female director on the Board, 0 mark otherwise (Ararat et al. 2010; Carter et al. 2003; Erhardt et al. 2003).
Managerial Compensation	Total compensation awarded to the top three highest-paid managers in the same industry.	Award 1 mark if managerial compensation paid in the firm i in year t is greater than the median value of the sample in fiscal year t, 0 mark otherwise (Lei et al. 2013).
Managerial Ownership	It is the shareholding percentage of top three officials of the firm.	Award 1 mark if managerial ownership held in the firm i in year t is greater than the median value of the sample in a specific industry, 0 marks otherwise (Chong-En et al. 2002; Agrawal and Knoeber 1996).
Dividend Payment	Measured by the dividend per share.	Award 1 mark if Dividend paid in the firm i in year t is greater than the median value of the sample in a specific industry, 0 marks otherwise (Easterbrook 1984; Porta et al. 2000).
Institutional Ownership	Measured as the ownership held by institutions in the firm	Award 1 mark if institutional ownership held in the firm i in year t is greater than the median value of the sample in a specific industry, 0 marks otherwise (Tang and Chang 2015).
Big Four auditor	Hiring a Big Four auditor	Award 1 mark if firm i in fiscal year t hires a Big Four auditor, 0 marks otherwise (Gao and Kling 2008; Lei et al. 2013).
Separation of control rights and cash flow rights	Degree of separation between the control right and cash flow right	Award 1 mark if separation between the control right and cash flow right in the firm i in year t is less than the median value of the sample in a specific industry, 0 marks otherwise (Lei et al. 2013).
Number of committees established	Total number of committees a firm has.	Award 1 mark if the Committee established in the firm i in year t is greater than the median value of the sample in a specific industry, 0 marks otherwise.

Note: The corporate governance index is made under the compliance and explanation statement rule.

4.6. Ownership Concentration

Large shareholders have a lot of stake in the company and can actively monitor the activities of the managers. The greater the degree of ownership, the more active the shareholders are (Kroll et al. 1993; Su et al. 2008; Li et al. 2008). Therefore, we measured ownership concentration as the percentage of shares held by the largest shareholder.

4.7. Ownership Type

We divided ownership type into two categories depending upon whether it was held by the state or by a non-state entity. State ownership was measured as the percentage share held by the state. Non-state ownership was defined as the percentage of shares held by non-state entities (Ding et al. 2007).

4.8. Control Variables

In this study, we controlled the firm size by taking the natural logarithm of total assets (Nguyen et al. 2014; Richardson et al. 2003). The second control variable was leverage, which was measured as the ratio of total debt to total assets (Arthurs et al. 2008). Growth opportunities also affect the firm value, so their effect was also controlled. This was calculated as the difference between current year sales and previous sales divided by the previous sales (Gill and Biger 2013). We also controlled the firm age, which was calculated as the number of years for which the firms had been listed in the stock exchange (Shan 2015). The summary of all the variables is given below in Table 2.

Table 2. Summary of the variables.

Variables	Symbol	Measurement with Supported Literature
Return on Assets	ROA	ROA is measured as the ratio of earnings before interest and taxes scaled by total assets (Le and Buck 2011; Zahra 2007; Zahra et al. 2000)
Earnings per share	EPS	EPS is calculated as the net income scaled by several shares outstanding (Zhang et al. 2014).
Independent Variables		
Administrative Expense Ratio	AC1	AC1 is measured as the ratio of administrative expenses to sales (Lei et al. 2013).
Free Cash Flows	FCFE_AC	FCFE_AC is a dummy variable that takes the value of 1 if the firm 'i' in year t has a price-to-book ratio less than the industry median and free cash flows greater than the industry median (Rahman and Mohd-Saleh 2008).
The absolute value of discretionary accruals	EM	EM is the measure of earnings management. The discretionary accruals are calculated through a modified Jones model (Dechow et al. 1995).
Research and Development expenditures	R&D-AC	R&D-AC is a dummy variable that takes the value of 1 if the firm 'i' in year t has a price-to-book ratio less than the industry median and R&D greater than the industry median.
The first principle component of agency cost variables	PC-AC	PC_AC is the first principle component generated through principal component analysis of four agency cost proxies i-e AC1, FCF_AC, EM, and R&D-AC (An et al. 2016).
Corporate Governance index	CGQ	CGQ represents the corporate governance index comprising of twelve individual corporate governance measures. The detailed calculation is discussed in Table 1 (Shan 2015; Lei et al. 2013).
Ownership Concentration	Top1	Top1 is measured as the shareholding percentage of the largest shareholder. (Su et al. 2008; Lei et al. 2013)
State	SOE	Percentage of shares held by state.
Non-state	NSOE	Percentage of shares held by non-state entity (Ding et al. 2007).
Control Variables:		
Firm Size	SIZE	The natural logarithm of total assets (Nguyen et al. 2014; Richardson et al. 2003).
Leverage	Lev	Following (Arthurs et al. 2008), we measure leverage as the book value of total debt over the book value of debt plus the book value of equity.
Growth in Sales	Growth	(Current year sales less previous year sales)/previous year sales (Gill and Biger 2013).
Firm Age	AGE	Firm's age measures the age of the firm from the first year of listing (Shan and Xu 2012).
Industry Dummy	INDUSTRY	Industry dummy shows the effect of each company listed in a particular the industry according to CSRC coding (Arora and Dharwadkar 2011; Filatotchev et al. 2007).
Year Dummies	YEAR	The year dummies represent the year effect from the year 2008 to 2016.

5. Empirical Results and Discussion

5.1. Descriptive Statistics and Multicollinearity Diagnostic

Table 3, Panel A reports the descriptive statistics of all the variables used in our methodology. The overall descriptive statistics show the mean value of performance measures used in our analysis at 4.3 percent, 6.49 percent, and 0.39 per share for ROA, ROE, and EPS, respectively. The average value of the administrative expense ratio is 9.8 percent, while the free cash flows to total assets have a negative average value of −18.7 percent of total assets. The absolute value of discretionary accruals denoted by EM has a mean value of 5.43 percent of total assets. The mean value of the corporate governance quality index represented by CGQ is 5.79. The maximum amount of the shareholding percentage of the largest shareholder (top 1) is 89.99 percent.

Table 3. Summary statistics.

	Overall Sample						State Owned						Non-State Owned					
Variables	**Obs.**	**Mean**	**SD**	**Min**	**Med**	**Max**	**Obs.**	**Mean**	**SD**	**Min**	**Median**	**Max**	**Obs.**	**Mean**	**SD**	**Min**	**Median**	**Max**
ROA	15,075	0.0430	0.0619	−1.097	0.045	2.632	8791	0.0496	0.063	−1.097	0.051	2.632	5761	0.035	0.057	−0.688	0.033	0.373
ROE	15,349	0.0649	1.646	−176.4	0.066	100.7	8925	0.0866	1.073	−1.881	0.088	100.7	5795	0.0327	2.322	−176.4	0.037	4.126
EPS	15,349	0.397	0.592	−4.828	0.399	17.82	8925	0.401	0.473	−2.880	0.42	17.82	5795	0.402	0.742	−4.828	0.421	15.38
AC1	15,349	0.0988	0.0819	0.00976	0.10	0.791	8925	0.081	0.086	0.0097	0.079	0.791	5795	0.102	0.066	0.0097	0.114	0.791
FCF/TA	14,292	−0.187	0.239	−4.333	−0.17	1.091	8006	−0.170	0.230	−2.717	−0.161	1.091	5677	−0.212	0.237	−3.615	−0.192	0.500
R&D/TA	13,591	0.0023	0.0102	0	0.0025	0.277	7870	0.0027	0.0110	0	0.0024	0.277	5187	0.0017	0.007	0	0.0019	0.170
EM	12,218	0.0543	0.0554	0.00041	0.056	0.794	7106	0.06	0.057	0.0001	0.05	0.794	4607	0.07	0.052	0.0004	0.043	0.461
CGQ	15,075	5.792	1.565	0	5.81	11	8791	6.074	1.523	1	6.061	11	5761	5.354	1.525	0	5.82	11
TOP1	15,349	35.63	15.09	2.197	35.67	89.99	8925	33.66	14.24	2.197	34.63	89.99	5795	39.42	15.49	4.159	39.25	89.09
SIZE	15,075	21.86	1.244	17.64	21.79	28.04	8791	21.49	0.981	17.64	21.41	25.86	5761	22.46	1.371	17.67	22.34	28.04
Lev	14,897	0.413	0.203	0.0460	0.42	0.903	8925	0.353	0.192	0.0460	0.38	0.903	5795	0.505	0.185	0.0460	0.53	0.903
Growth	12,219	0.173	0.362	−0.484	0.154	2.077	7065	0.198	0.372	−0.484	0.22	2.077	4635	0.136	0.338	−0.484	0.146	2.077
Firm Age	15,075	8.071	6.252	0	8.20	26	8791	5.748	5.573	0	5.712	26	5761	11.50	5.564	0	11.58	26
Governance Variables																		
Board Size	14,623	8.809	1.773	0	8.82	18	5632	9.468	1.941	0	9.78	18	8816	8.387	1.505	3	8.42	16
Board Independence	14,625	3.229	0.635	0	3.23	8	5632	3.444	0.760	0	3.47	8	8818	3.090	0.491	1	3.19	6
CEO Duality	14,681	0.263	0.440	0	0.252	1	5671	0.105	0.307	0	0.18	1	8835	0.364	0.481	0	0.352	1
Female Directors Ratio	15,075	0.167	0.106	0	0.168	0.647	5761	0.135	0.0933	0	0.11	0.600	8791	0.187	0.109	0	0.194	0.647
Board Meetings	15,064	9.526	3.727	1	9.61	46	5759	9.330	3.688	2	9.46	46	8782	9.626	3.745	1	9.66	38
Top 3 Compensation	14,877	14.15	0.726	10.71	14.18	17.45	5779	14.14	0.752	10.71	15.41	17.45	8921	14.14	0.698	11.13	14.05	17.35
Managerial ownership	14,558	14.98	3.735	3.045	14.94	21.93	5757	11.57	2.767	4.605	11.51	20.82	8646	16.63	2.945	3.045	15.93	21.93
Commission established	14,869	3.884	0.556	0	3.93	8	5780	3.889	0.620	0	3.95	7	8912	3.882	0.511	0	3.04	8
Dividend payments	15,349	0.121	0.209	0	0.132	6.787	5795	0.111	0.248	0	0.12	6.787	8925	0.131	0.183	0	0.141	3
Big 4 Auditor	14,897	0.0498	0.218	0	0.051	1	5795	0.0871	0.282	0	0.045	1	8925	0.0245	0.155	0	0.0296	1
Separation of two rights	14,825	5.543	8.070	0	5.55	53.42	5566	4.388	7.665	0	4.334	39.43	8852	6.266	8.246	0	7.07	53.42
Institutional shareholders	13,337	7.092	9.497	0	7.10	87.89	5244	8.810	12.33	0	8.91	85.77	7542	5.885	6.658	0.0020	5.72	87.89

Note: Table 3 reports the summary statistics of the variables used in Equations (1) and (2). Additionally, the Table reports the summary statistics for the state and non-state enterprises. The detailed calculations are presented in Table 1. The detailed measurements of governance variables are presented in Table 2.

We divided the descriptive statistics into two more panels based on state ownership and non-state ownership. The mean values of ROA, ROE, and EPS in Non-SOE (4.9 percent, 8.6 percent, and 4.01 respectively) are higher than those of the SOE (3.5 percent, 3.27 percent, 4.02 per share respectively). State-owned enterprises have a higher level of absolute discretionary accruals (0.07 > 0.06), as well as a higher administrative expense ratio (0.102 > 0.081) compared to non-SOE. The non-state companies have a better corporate governance score of 6.07 compared to state companies, which have a score of 5.35. The state-owned companies are larger (22.46 > 21.49), as well as having a higher average leverage (0.505 > 0.353), than non-state-owned companies.

Panel B presents the descriptive statistics of the corporate governance variables used in this study divided into three groups: Overall, State, and Non-State. The A-listed companies from the period 2008 to 2016 have an average independent director of 3.29, reported CEO duality of 26.27 percent of the total sample, average board size of 8.8, while 16.7 percent on average present female representation on the board. On average, non-state firms pay a higher level of dividends (0.13 > 0.11), have a higher female ratio on the board (0.18 > 0.13), have higher managerial ownership (16.63 percent > 11.57 percent), and a higher degree of separation between control rights and cash flow rights (6.26 percent > 4.38 percent) as compared to state-owned companies. All these governance attributes lead to a better governance environment, resulting in less managerial expropriation. State-owned companies have a greater board size (9.46 > 8.38), more institutional ownership (8.8 > 5.8), more access to getting audited by Big Four auditors (0.087 > 0.02) and more independent directors on the board (3.44 > 3.09).

Table 4 shows the results for pairwise correlation analysis. Looking at all of the independent variables, we find no sign of multicollinearity, as the values of the coefficients are less than 0.8. Additionally, we performed individual VIF analysis and found all the values to be less than the critical level of 10 in every case (Shan 2015). When performing the regression analysis for the moderating effect, the interaction term usually gives a value for VIF greater than 10. Following Allison (2010), we mean-centered the interaction terms (agency cost variables and their interaction with CGQ, Top1, SOE, and NSOE). The use of mean centering does not affect the probability values, and at the same time, the multicollinearity is reduced, as seen from Table 5. All the dependent variables are positively correlated with corporate governance quality. On the other hand, the agency cost proxies are negatively related to the performance measures. Ownership concentrations also have a positive association with the firm performance.

5.2. Moderating Effects of Corporate Governance Quality

Table 6 shows the effect of corporate governance and agency cost on firm performance by using the fixed-effect model and system dynamic panel data estimation. ROA and EPS were the dependent variables, while agency cost and corporate governance were the independent variables. Four variables, namely, Size, Leverage, Growth, and Firm age, were used as control variables. The asset size used has a positive effect on firm performance while, on the contrary, a higher level of leverage hampers performance. These results are similar to the study conducted by Vithessonthi and Tongurai (2015).

Table 4. Correlation analysis.

	ROA	EPS	AC1	FCF-AC	R&D-AC	EM	F1	CGQ	Top1	SOE	NSOE	SIZE	LEVERAGE	GROWTH	FIRM AGE
ROA	1														
EPS	0.5956 *	1													
AC1	−0.1460 *	−0.1453 *	1												
FCF-AC	−0.0344 *	−0.0495 *	−0.0610 *	1											
R&D-AC	−0.0605 *	−0.0245 *	−0.0011	0.1738 *	1										
EM	−0.0302 *	−0.008	0.0036	−0.0556 *	−0.0258 *	1									
F1	−0.0728 *	0.0118	0.017	0.5568 *	0.4603 *	−0.0604 *	1								
CGQ	0.0653 *	0.0915 *	−0.0564 *	−0.0072	−0.0801 *	−0.0219 *	−0.0414 *	1							
Top1	0.0889 *	0.1191 *	−0.1935 *	0.0168 *	−0.0594 *	−0.0024 *	−0.0367 *	−0.0332 *	1						
SOE	−0.1214 *	−0.0003	−0.1703 *	−0.0937 *	−0.0241 *	−0.0323 *	0.0624 *	−0.2252 *	0.1873 *	1					
NSOE	0.1248 *	0.0085	0.1402 *	0.0733 *	0.0175 *	0.0299 *	−0.0451 *	0.2129 *	−0.1643 *	0.21	1				
SIZE	−0.0176 *	0.2028 *	−0.3230 *	0.1898 *	0.1876 *	−0.0555 *	0.2388 *	0.1495 *	0.2321 *	0.3825 *	−0.3600 *	1			
LEVERAGE	−0.3121 *	−0.1126 *	−0.3177 *	0.0646 *	0.0861 *	0.0715 *	0.0608 *	0.1547 *	0.0681 *	0.3665 *	−0.3513 *	0.5097 *	1		
GROWTH	0.2309 *	0.1920 *	−0.1004 *	−0.0277 *	0.0157 *	0.141 *	−0.0193 *	0.1110 *	0.0132	−0.0850 *	0.0818 *	0.0423 *	0.0193 *	1	
FIRM AGE	−0.1682 *	−0.0814 *	−0.0530 *	0.0715 *	0.0974 *	0.025 *	0.0931 *	−0.0372 *	−0.0585 *	0.4509 *	−0.4395 *	0.4068 *	0.4176 *	−0.0854 *	1

Note: Table 4 reports the correlation coefficients of the variables used in Equations (1) and (2); the detailed calculation is presented in Table 1. * signify *p*-values of 1 percent.

Table 5. VIF diagnostic.

Variables	VIF	SQRT VIF	Tolerance
AC1	1.01	1.005	0.810474
FCF-AC	1.24	1.114	0.994244
CGQ	1.12	1.058	0.444664
CGQ × AC	4.38	2.093	0.614631
CGQ × FCF-AC	4.51	2.124	1.257379
TOP1	1.26	1.122	0.436769
TOP1 × AC1	3.57	1.889	0.549014
TOP1 × FCF-AC	4.92	2.218	1.2473
SOE	1.37	1.170	0.481675
SOE × AC1	3.43	1.852	0.526637
SOE × FCF-AC	3.96	1.990	1.670354
NSOE	1.03	1.015	0.415938
NSO × AC1	3.44	1.855	0.41766
NSOE*FCF-AC	3.74	1.934	1.681659
Size	1.15	1.072	0.864823
Leverage	1.24	1.114	0.959959
Growth	1.16	1.077	1.045663
Firm age	1.03	1.015	0.69513

Note: Table 5 reports the VIF diagnostics with tolerance values; the detailed calculation is presented in Table 1.

Table 6. Moderating effect of CGQ on agency costs and firm performance.

Variables	Return on Assets (ROA)				Earnings per Share (EPS)			
	Fixed Effects	System GMM	Fixed Effects	System GMM	Fixed Effects	System GMM	Fixed Effects	System GMM
AC1	−0.282 ***	−0.386 ***	−0.301 ***	−0.315 **	−1.299 ***	−1.527 ***	−1.187 ***	−1.691 ***
	(0.011)	(0.057)	(0.027)	(0.13)	(0.088)	(0.508)	(0.216)	(0.640)
FCF-AC	−0.004 ***	−0.002	−0.009 *	0.001	−0.032 ***	−0.008 *	−0.113 ***	−0.055
	(0.001)	(0.003)	(0.005)	(0.006)	(0.019)	(0.013)	(0.041)	(0.052)
Top1	0.005 ***	0.00287 ***	0.00316 ***	0.00418 **	0.0330 ***	0.0193 ***	0.0350 ***	0.0163 *
	(0.002)	(0.004)	(0.006)	(0.001)	(0.003)	(0.004)	(0.004)	(0.008)
AC1 × Top1			0.004 **	0.013 *			0.021 **	0.029 *
			(0.044)	(0.017)			(0.035)	(0.075)
FCF-AC × Top1			0.009 ***	.007 *			0.014 **	0.079 *
			(0.082)	(0.088)			(0.006)	(0.008)
Size	0.008 ***	0.047	0.086 ***	0.045	0.180 ***	0.129 ***	0.18 ***	0.13 ***
	(0.001)	(0.003)	(0.001)	(0.003)	(0.011)	(0.04)	(0.011)	(0.04)
Growth	0.002 ***	0.023 **	0.002 ***	0.003 **	0.004 ***	0.088 *	0.003 ***	0.088 *
	(0.0006)	(0.001)	(0.000)	(0.001)	(0.005)	(0.004)	(0.0005)	(0.04)
Leverage	−0.118 ***	−0.135 ***	−0.119 ***	−0.134 ***	−0.725 ***	−0.535 ***	−0.724 ***	−0.537 ***
	(0.005)	(0.012)	(0.005)	(0.012)	(0.043)	(0.089)	(0.043)	(0.089)
Firm Age	−0.003 ***	−0.002 ***	−0.003 ***	−0.002 ***	−0.038 ***	−0.006	−0.038 ***	−0.006
	(0.000)	(0.001)	(0.000)	(0.006)	(0.002)	(0.011)	(0.002)	(0.011)
L.ROA		0.102 **		0.105 **		0.522 ***		0.508 ***
		(0.047)		(0.044)		(0.071)		(0.07)
Constant	−0.062 **	0.026	−0.061 **	0.021	−3.008 ***	−2.387 ***	−3.017 ***	−2.379 ***
	(0.0285)	(0.0718)	(0.0286)	(0.0727)	(0.230)	(0.793)	(0.231)	(0.796)
Observations	13,178	11,930	13,178	11,930	13,178	11,983	13,178	11,983
R-squared	0.129		0.129		0.088		0.088	
Number of Firms	2404	2248	2404	2248	2404	2252	2404	2252
Wald test (Prob > Chi^2)		(0.00) ***		(0.00) ***		(0.00) ***		(0.00) ***
Hansen-J test (p-value)	-	0.145	-	0.149	-	0.55	-	0.58

Note: Table 6 reports the regression results from estimating Equations (1) and (2) respectively. Variable definitions are provided in Table 2. *, **, *** signify p-values at 1 percent, 5 percent, and 10 percent, respectively.

Looking at the primary results, agency cost (administrative expense ratio and free cash flow) has a significant adverse effect on firm performance measured by ROA and EPS. Corporate governance has a positive impact on both returns on ROA (FE: $\beta = 0.003$, $p < 0.01$; GMM: $\beta = 0.002$, $p < 0.01$) as well as EPS (FE: $\beta = 0.003$, $p < 0.01$; GMM: $\beta = 0.004$, $p < 0.01$). The objective of the study was to investigate the moderating effect of corporate governance quality on the relationship between agency cost and firm performance. To do so, we incorporated the interactions terms of corporate governance quality with agency cost proxies. The results are depicted in Table 6 with ROA and EPS as dependent variables. Corporate governance quality significantly positively moderates the relationship between agency cost and firm performance. When interaction terms are introduced, the coefficient of agency cost has changed the sign from negative to positive for both AC1 × CGQ (ROA—FE: $\beta = 0.004$, $p < 0.01$; GMM: $\beta = 0.012$, $p < 0.01$ and EPS—FE: $\beta = 0.002$, $p < 0.05$; GMM: $\beta = 0.03$, $p < 0.1$) and FCF-AC × CG (ROA—FE: $\beta = 0.009$, $p < 0.01$ta; GMM: $\beta = 0.007$, $p < 0.1$ and EPS—FE: $\beta = 0.002$, $p < 0.05$; GMM: $\beta = 0.007$, $p < 0.1$). These results indicate that the objectives of the principles and agents are aligned if the firms have the adopted good corporate governance practices reported by Jensen and Meckling (1976). Looking at the control variables, the size of the firm has a positive effect on the firm performance in all cases, which is in agreement with what we found in the literature. Leverage is negatively related to the performance, as can be seen by the signs of the negative coefficients in the table. Based on these results, we can accept our alternative hypothesis that corporate governance positively moderates the agency–performance relationship.

5.3. Moderating Effects of Ownership Concentration

Table 7 indicates the effect of ownership concentration measured by the shareholding percentage of the top shareholder on the relationship between agency cost and firm performance. The results show a positive impact of ownership concentration on the ROA and EPS for both the fixed-effect model and GMM. These results are in line with those of Shleifer and Vishny (1986) and Li et al. (2008). We introduced two interaction terms to measure the moderating effect of ownership concentration on the relationship between firm performance and agency cost. As shown in the results, the interactions terms possess a positive coefficient value, with ROA (TOP_1 × AC1 $\beta = 0.002$, $p < 0.01$ and TOP_1 × FCF-AC $\beta = 0.0014$, $p < 0.1$) and EPS (TOP_1 × AC1 $\beta = 0.002$ and TOP_1 × AC2 $\beta = 0.006$) in the fixed effect model. Similarly, the GMM model also exhibits a positive moderating effect of ownership concentration on the relationship between agency cost and firm performance. At higher levels of ownership concentration (for the largest shareholder), the shareholders are highly vigilant, and this helps facilitate the alignment of interests among the agents and the principles. The results show that as the ownership concentration is increased, the firm performance increases on the one hand, while the agency cost is decreased on the other side. These results support the second hypothesis that the ownership concentration positively moderates the relationship between agency cost and firm performance.

5.4. Moderating Effects of Ownership Types

The effect of ownership type on the relationship between agency cost and firm performance is reported in Table 8 State ownership is taken as a primary independent variable. A firm is described as state-owned if more than 50 percent of shares are held by the government and its affiliates. The results of the table report the adverse effect of state ownership on firm performance for both the fixed-effect model and GMM. These two sets of results are in line with the studies conducted in the Chinese context by Wei and Varela (2003) and Wei et al. (2005). According to these authors, the agency cost in state enterprises is higher, and this negatively affects the firm value. To test our third hypothesis, we introduced two interaction terms for agency costs with the state ownership variable to measure the effect on firm performance. All the interaction terms (SO × AC1, SO × FCF-AC) report negative coefficients, showing that state enterprises are significantly motivated by political motives; therefore, they focus less on performance.

Table 7. Moderating effect of ownership concentration on agency costs and firm performance.

Variables	Return on Assets (ROA)				Earnings per Share (EPS)			
	Fixed Effects	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed EFFECTS**	**System GMM**	**Fixed Effects**	**System GMM**
AC1	−0.28 ***	−0.387 ***	−0.206 ***	−0.258 **	−1.274 ***	−1.529 ***	−0.136	0.303
	(0.011)	(0.057)	(0.021)	(0.105)	(0.088)	(0.507)	(0.173)	(0.764)
FCF-AC	−0.004 ***	−0.004	0.007	0.005	−0.035 ***	−0.009	−0.033	−0.004
	(0.002)	(0.001)	(0.003)	(0.004)	(0.019)	(0.013)	(0.027)	(0.0349)
Top1	0.003 ***	0.019	0.006 ***	0.006 **	0.004 ***	0.003 *	0.008 ***	0.009 ***
	(0.004)	(0.007)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.002)
AC1 × Top1			0.002 ***	0.004 *			0.042 ***	0.064 ***
			(0.000)	(0.002)			(0.005)	(0.019)
FCF-AC × Top1			0.00143 **	0.00155 *			0.005	0.014
			(.000)	(.000)			(0.007)	(0.008)
Size	0.009 ***	0.005 *	0.00949 ***	0.00593 *	0.189 ***	0.136 ***	0.188 ***	0.131 ***
	(0.001)	(0.003)	(0.002)	(0.003)	(0.011)	(0.040)	(0.011)	(0.039)
Growth	0.001 **	0.002 **	0.001 ***	0.002 **	0.003 ***	0.088 *	0.003 ***	0.089 *
	(0.002)	(0.001)	(0.000)	(0.001)	(0.000)	(0.049)	(0.000)	(0.049)
Leverage	−0.114 ***	−0.133 ***	−0.114 ***	−0.133 ***	−0.682 ***	−0.527 ***	−0.688 ***	−0.548 ***
	(0.005)	(0.011)	(0.005)	(0.012)	(0.043)	(0.09)	(0.042)	(0.089)
Firm Age	−0.002 ***	−0.001 **	−0.002 ***	−0.001 **	−0.032 ***	−0.004	−0.034 ***	−0.003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.011)	(0.002)	(0.011)
L.ROA		0.105 **		0.109 **		0.505 ***		0.496 ***
		(0.047)		(0.045)		(0.067)		(0.068)
Constant	−0.0814 ***	0.00856	−0.0873 ***	−0.00594	−3.220 ***	−2.549 ***	−3.309 ***	−2.624 ***
	(0.0288)	(0.0733)	(0.0289)	(0.0741)	(0.233)	(0.825)	(0.233)	(0.812)
Observations	13,178	11,930	13,178	11,930	13,178	11,983	13,178	11,983
R-squared	0.125		0.126		0.084		0.089	
Number of Firms	2404	2248	2404	2248	2404	2252	2404	2252
Wald test (Prob > Chi^2)		(0.00) ***		(0.00) ***		(0.00) ***		(0.00) ***
Hansen-J test (*p*-value)		0.25		0.23		0.31		0.33

Note: Table 7 reports the regression results from estimating Equations (1) and (2), respectively. Variable definitions are provided in Table 2. *, **, *** signify *p*-values at 1 percent, 5 percent, and 10 percent, respectively.

Table 8. Moderating effect of ownership type (SOE) on agency costs and firm performance.

Variables	Return on Assets (ROA)				Earnings per Share (EPS)			
	Fixed Effects	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed Effects**	**System GMM**
AC1	−0.304 ***	−0.414 ***	−0.314 ***	−0.436 ***	−1.405 ***	−1.665 ***	−1.233 ***	−1.239 *
	(0.011)	(0.066)	(0.012)	(0.095)	(0.093)	(0.582)	(0.107)	(0.658)
FCF-AC	−0.004 ***	−0.002	−0.005 ***	−0.001	−0.036 ***	−0.014	−0.063 ***	−0.022
	(0.001)	(0.001)	(0.001)	(0.001)	(0.011)	(0.013)	(0.015)	(0.014)
SOE	−0.019 ***	−0.014	−0.023 ***	−0.023	0.144 ***	0.327 **	−0.074 *	0.475 ***
	(0.004)	(0.011)	(0.005)	(0.02)	(0.038)	(0.143)	(0.043)	(0.172)
AC1 × SOE			−0.034 ***	−0.069			−0.576 ***	−1.276 *
			(0.021)	(0.251)			(0.176)	(0.773)
FCF-AC × SOE			−0.002 **	−0.002			−0.057 ***	−0.025
			(0.002)	(0.002)			(0.022)	(0.027)
Size	0.009 ***	0.008 **	0.009 ***	0.008 **	0.197 ***	0.140 ***	0.197 ***	0.142 ***
	(0.001)	(0.004)	(0.001)	(0.004)	(0.011)	(0.043)	(0.011)	(0.042)
Growth	0.001 ***	0.001 *	0.001 ***	0.002 *	0.003 ***	0.089 *	0.003 ***	0.091 *
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.059)	(0.000)	(0.055)
Leverage	−0.115 ***	−0.135 ***	−0.115 ***	−0.135 ***	−0.700 ***	−0.582 ***	−0.698 ***	−0.579 ***
	(0.005)	(0.013)	(0.005)	(0.012)	(0.044)	(0.096)	(0.044)	(0.094)
Firm Age	−0.003 ***	−0.002 ***	−0.003 ***	−0.002 ***	−0.039 ***	−0.008	−0.039 ***	−0.008
	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.011)	(0.002)	(0.011)
L.ROA		0.103 **		0.104 **		0.475 ***		0.474 ***
		(0.051)		(0.047)		(0.065)		(0.064)
Constant	−0.052 *	−0.028	−0.04 *	−0.023	−3.12 ***	−2.575 ***	−3.149 ***	−2.667 ***
	(0.0287)	(0.0838)	(0.0287)	(0.0930)	(0.240)	(0.848)	(0.240)	(0.841)
Observations	12,700	11,518	12,700	11,518	12,700	11,552	12,700	11,552
R-squared	0.136		0.137		0.085		0.086	
Number of Firms	2381	2224	2381	2224	2381	2227	2381	2227
Wald test (Prob > Chi^2)		(0.00) ***		(0.00) ***		(0.00) ***		(0.00) ***
Hansen-J test (*p*-value)		0.17		0.22		0.24		0.22

Note: Table 8 reports the regression results from estimating Equations (1) and (2), respectively. Variable definitions are provided in Table 2. *, **, *** signify *p*-values of 1 percent, 5 percent, and 10 percent, respectively.

The effect of non-state ownership on the relationship between agency cost and firm performance is shown in Table 9. Non-state ownership has a positive impact on both performance measures, as depicted in the fixed-effect model and GMM. We introduced two interaction terms to specifically explore the effect of non-state ownership on agency–performance relationships. The interaction terms show a positive and significant moderating effect on firm performance in the fixed effect model as well as GMM. Looking at the ROA model, NSO × AC1 and NSO × AC2 have coefficients of 0.0381 and 0.0027 in the fixed-effect model, and of 0.068 and 0.0026 in GMM. The EPS model also shows positive coefficients with both fixed-effect models (FE: $\beta = 0.019$, $p < 0.01$; GMM: $\beta = 0.005$, $p < 0.01$) and GMM (FE: $\beta = 0.597$, $p < 0.05$; GMM: $\beta = 0.028$, $p < 0.1$). These results are in alignment with the study conducted by Ding et al. (2007), who found better performance by non-state enterprises as compared to state-owned ones. Based on the above analysis, we support our third hypothesis, that state ownership has an adverse effect on the agency–performance relationship. In contrast, non-state ownership positively moderates the agency–performance relationship.

5.5. Additional Analyses

Alternative Measures of Agency Costs

Tables 10 and 11 display the alternative measures of agency cost incorporated into our analysis. We have taken three variables, namely, earnings management using the absolute value of discretionary accruals as a proxy denoted by EM; research and development expenditures, denoted by R&D-AC; and the first principle component, obtained through principal component analysis using four agency cost proxies used in this paper, denoted by PC-AC. The results show the positive moderating effect of alternative measures of agency cost and corporate governance (R&D-AC × CGQ, EM × CGQ, and PCA-AC × CGQ) on ROA and EPS for both the fixed-effect model and the system GMM approach. These results again strengthen our hypothesis that corporate governance positively moderates the agency–performance relationship.

Tables 10 and 11 also explore the moderating effect of ownership concentration on the agency–performance relationship. Again, from the results, we can accept our alternative hypothesis that the ownership concentration has a positive influence on the agency–performance relationship. Ownership structure has a negative moderating effect on the agency–performance association when the firms are state-owned. On the contrary, we witness a positive moderating effect when the ownership rests in the hand of non-state entities. These results support our third hypothesis that SOE has a negative impact on the agency–performance relationship, while NSOE has a positive moderating effect.

Table 9. Moderating effect of ownership type (NSOE) on agency costs and firm performance.

Variables	Return on Assets (ROA)				Earnings per Share (EPS)			
	Fixed Effects	System GMM	Fixed Effects	System GMM	Fixed Effects	System GMM	Fixed Effects	System GMM
AC1	−0.283 ***	−0.388 ***	−0.259 ***	−0.344 ***	−1.310 ***	−1.547 ***	−1.429 ***	−1.925 ***
	(0.011)	(0.057)	(0.015)	(0.119)	(0.088)	(0.509)	(0.126)	(0.509)
FCF-AC	−0.004 ***	−0.004	−0.003	0.007	−0.035 ***	−0.007 *	−0.005	−0.008
	(0.001)	(0.001)	(0.001)	(0.002)	(0.019)	(0.013)	(0.015)	(0.022)
NSOE	0.008 ***	0.003	0.013 ***	0.015	0.061 ***	0.059 *	0.037	−0.137 **
	(0.002)	(0.004)	(0.003)	(0.018)	(0.021)	(0.035)	(0.027)	(0.068)
AC1 × NSOE			0.0381 ***	0.0689 *			0.190 ***	0.597 **
			(0.017)	(0.148)			(0.143)	(0.444)
FCF-AC × NSOE			0.002 ***	0.002 ***			0.058 ***	0.028 *
			(0.002)	(0.002)			(0.021)	(0.026)
Size	0.009 ***	0.005	0.009 ***	0.005	0.187 ***	0.134 ***	0.187 ***	0.135 ***
	(0.001)	(0.003)	(0.0014)	(0.003)	(0.011)	(0.04)	(0.011)	(0.039)
Growth	0.001 ***	0.002 **	0.001 ***	0.002 **	0.003 ***	0.088 *	0.003 ***	0.089 *
	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.049)	(0.000)	(0.044)
Leverage	−0.113 ***	−0.131 ***	−0.113 ***	−0.132 ***	−0.679 ***	−0.520 ***	−0.679 ***	−0.519 ***
	(0.005)	(0.011)	(0.005)	(0.012)	(0.043)	(0.089)	(0.043)	(0.088)
Firm Age	−0.003 ***	−0.002 ***	−0.003 ***	−0.001 **	−0.037 ***	−0.006	−0.037 ***	−0.007
	(0.000)	(0.000)	(0.001)	(0.000)	(0.003)	(0.016)	(0.002)	(0.016)
L.ROA		0.106 **		0.108 **		0.506 ***		0.504 ***
		(0.047)		(0.044)		(0.068)		(0.068)
Constant	−0.066 **	0.022	−0.068 **	0.019	−3.037 ***	−2.348 ***	−3.024 ***	−2.321 ***
	(0.028)	(0.072)	(0.028)	(0.073)	(0.231)	(0.794)	(0.232)	(0.787)
Observations	13,178	11,930	13,178	11,930	13,178	11,983	13,178	11,983
R-squared	0.124		0.124		0.081		0.081	
Number of firms	2404	2248	2404	2248	2404	2252	2404	2252
Wald test (Prob>Chi^2)		(0.00) ***		(0.00) ***		(0.00) ***		(0.00) ***
Hansen-J test (p-value)		0.19		0.24		0.25		0.27

Note: Table 9 reports the regression results from estimating Equations (1) and (2), respectively. Variable definitions are provided in Table 2. *, **, *** signify p-values of 1 percent, 5 percent, and 10 percent, respectively.

Table 10. Baseline models with alternative measure of agency costs.

Variables	Dependent Variable: Return on Assets (ROA)							
	Fixed Effects	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed Effects**	**System GMM**
EM	−0.126 ***	−0.291 ***	−0.108 ***	−0.234 ***	−0.0112	−0.0723 *	0.0255	−0.0656 **
	(0.038)	(0.094)	(0.025)	(0.087)	(0.012)	(0.039)	(0.015)	(0.033)
R&D-AC	0.018	0.002	−0.004	−0.011	0.005	0.002	0.002	0.001
	(0.012)	(0.013)	(0.007)	(0.008)	(0.003)	(0.003)	(0.004)	(0.004)
F1-PCA	−0.165	−0.007	−0.003	0.002	−0.004 ***	−0.003 ***	−0.003 **	−0.002
	(0.217)	(0.003)	(0.002)	(0.003)	(0.001)	(0.000)	(0.002)	(0.002)
CGQ	0.015	0.002 *						
	(0.022)	(0.002)						
EM × CGQ	0.021 ***	0.036 ***						
	(0.006)	(0.012)						
R&D-AC × CGQ	0.002 ***	0.003 *						
	(0.001)	(0.002)						
F1 × CGQ	0.005 **	0.009						
	(0.002)	(0.004)						
TOP1			0.003 ***	0.008				
			(0.000)	(0.002)				
EM × TOP1			0.003 ***	0.003 *				
			(0.000)	(0.000)				
R&D-AC × TOP1			0.002 *	0.004 **				
			(0.000)	(0.001)				
F1-PCA × TOP1			0.003	−0.008				
			(0.000)	(0.001)				
SOE					0.023 ***	0.011		
					(0.005)	(0.013)		
EM*SOE					−0.012 ***	−0.002		
					(0.021)	(0.005)		
R&D-AC × SOE					−0.003 ***	−0.024 *		
					(0.005)	(0.053)		
F1-PCA × SOE					0.002	0.003		
					(0.001)	(0.001)		
NSOE							0.012 ***	0.002
							(0.003)	(0.004)
EM × NSOE							0.036 *	0.001
							(0.021)	(0.005)

Table 10. *Cont.*

Variables	Dependent Variable: Return on Assets (ROA)							
	Fixed Effects	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed Effects**	**System GMM**
R&D-AC × NSOE							0.002 *	−0.022
							(0.005)	(0.055)
F1-PCA × NSOE							0.021 ***	0.022 *
							(0.001)	(0.001)
Size	0.015 ***	0.011 **	0.015 ***	0.012 ***	0.016 ***	0.015 ***	0.015 ***	0.012 ***
	(0.002)	(0.004)	(0.002)	(0.004)	(0.001)	(0.004)	(0.002)	(0.004)
Growth	0.002 ***	0.005 **	0.002 ***	0.005 **	0.002 ***	0.005 **	0.002 ***	0.005 **
	(0.000)	(0.002)	(0.000)	(0.002)	(0.000)	(0.002)	(0.000)	(0.002)
Leverage	−0.122 ***	−0.138 ***	−0.117 ***	−0.135 ***	−0.117 ***	−0.138 ***	−0.116 ***	−0.134 ***
	(0.005)	(0.013)	(0.005)	(0.013)	(0.005)	(0.014)	(0.005)	(0.013)
Firm Age	−0.047 ***	−0.003 ***	−0.004 ***	−0.003 ***	−0.004 ***	−0.004 ***	−0.004 ***	−0.003 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
L.ROA		0.147 ***		0.153 ***		0.151 ***		0.153 ***
		(0.052)		(0.053)		(0.054)		(0.052)
Constant	−0.340 **	−0.113	−0.232 ***	−0.157 *	−0.210 ***	−0.198 **	−0.224 ***	−0.152 *
	(0.165)	(0.082)	(0.031)	(0.086)	(0.031)	(0.099)	(0.031)	(0.085)
Observations	11,964	10,833	11,964	10,833	11,557	10,487	11,964	10,833
R-squared	0.073		0.070		0.072		0.067	
Number of firms	2210	2066	2210	2066	2191	2045	2210	2066
Wald test (Prob > Chi^2)		(0.00) ***		(0.00) ***		(0.00) ***		(0.00) ***
Hansen-J test (*p*-value)		0.14		0.12		0.13		0.17

Note: Table 10 reports the regression results from estimating Equations (1) and (2), respectively. Variable definitions are provided in Table 2. *, **, *** signify *p*-values at 1 percent, 5 percent, and 10 percent, respectively.

Table 11. Results of baseline models with alternative measure of agency costs.

Variables	Dependent Variable: Earnings Per Share (EPS)							
	Fixed Effects	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed Effects**	**System GMM**
EM	−0.176	−0.400	0.0792	−0.555	0.284 ***	−0.116	0.326 ***	−0.311
	(0.275)	(0.469)	(0.181)	(0.344)	(0.0904)	(0.192)	(0.114)	(0.244)
R&D-AC	0.077	0.082	−0.061	−0.06	−0.002	0.012	−0.004	0.027
	(0.082)	(0.121)	(0.050)	(0.076)	(0.022)	(0.031)	(0.019)	(0.041)
F1-PCA	−1.275	−0.017	−0.014	0.0184	−0.036 ***	−0.021 **	−0.011	−0.003
	(1.560)	(0.031)	(0.015)	(0.022)	(0.008)	(0.009)	(0.008)	(0.013)
CGQ	0.097	0.02 ***						
	(0.160)	(0.005)						
EM × CGQ	0.077 ***	0.011 ***						
	(0.04)	(0.018)						
R&D-AC × CGQ	0.014	0.026						
	(0.013)	(0.068)						
F1 × CGQ	0.001	0.008						
	(0.000)	(0.005)						
TOP1			0.004 ***	0.004 **				
			(0.000)	(0.001)				
EM × TOP1			0.005 **	0.002				
			(0.004)	(0.001)				
R&D-AC × TOP1			0.001	0.009				
			(0.001)	(0.008)				
F1-PCA × TOP1			0.002	0.004				
			(0.039)	(0.000)				
SOE					−0.164 ***	0.302 **		
					(0.037)	(0.130)		
EM × SOE					−0.083	0.018		
					(0.150)	(0.057)		
R&D-AC × SOE					0.007	−0.082 *		
					(0.042)	(0.324)		
F1-PCA × SOE					0.026 **	0.016		
					(0.012)	(0.015)		

Table 11. *Cont.*

Variables	Dependent Variable: Earnings Per Share (EPS)							
	Fixed Effects	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed Effects**	**System GMM**	**Fixed Effects**	**System GMM**
NSOE							0.087 ***	−0.063 *
							(0.022)	(0.036)
EM × NSOE							0.043	0.006
							(0.145)	(0.055)
R&D-AC × NSOE							0.005 ***	0.117 ***
							(0.042)	(0.306)
F1-PCA × NSOE							0.025 **	0.017
							(0.011)	(0.015)
Size	0.191 ***	0.193 ***	0.200 ***	0.200 ***	0.209 ***	0.203 ***	0.201 ***	0.200 ***
	(0.011)	(0.032)	(0.011)	(0.033)	(0.011)	(0.036)	(0.011)	(0.032)
Growth	0.015 ***	0.047 **	0.014 ***	0.045 **	0.014 ***	0.047 **	0.014 ***	0.047 **
	(0.000)	(0.022)	(0.000)	(0.021)	(0.000)	(0.023)	(0.000)	(0.022)
Leverage	−0.793 ***	−0.555 ***	−0.751 ***	−0.557 ***	−0.770 ***	−0.616 ***	−0.744 ***	−0.539 ***
	(0.042)	(0.106)	(0.042)	(0.106)	(0.043)	(0.112)	(0.042)	(0.105)
Firm Age	−0.041 ***	−0.016	−0.03 ***	−0.012	−0.042 ***	−0.017	−0.041 ***	−0.017
	(0.002)	(0.011)	(0.002)	(0.011)	(0.002)	(0.011)	(0.002)	(0.017)
L.EPS		0.568 ***		0.562 ***		0.536 ***		0.567 ***
		(0.082)		(0.079)		(0.077)		(0.080)
Constant	−4.256 ***	−3.855 ***	−3.547 ***	−4.053 ***	−3.480 ***	−4.021 ***	−3.441 ***	−3.843 ***
	(1.184)	(0.624)	(0.226)	a (0.632)	(0.232)	(0.680)	(0.226)	(0.630)
Observations	11,964	10,886	11,964	10,886	11,557	10,521	11,964	10,886
R-squared	0.080		0.073		0.074		0.070	
Number of Firms	2210	2070	2210	2070	2191	2048	2the, 210	2070
Wald test (Prob > Chi^2)		(0.000) ***		(0.000) ***		(0.000) ***		(0.000) ***
Hansen-J test (*p*-value)		0.19		0.34		0.27		0.31

Note: Table 11 reports the regression results from estimating Equations (1) and (2), respectively. Variable definitions are provided in Table 2. *, **, *** signify *p*-values at 1 percent, 5 percent, and 10 percent, respectively.

6. Summary and Conclusions

Emerging markets with weak investor protection have much-execrated agency problems as compared to developed markets. The sources and types of agency cost differ in emerging economies. The purpose of this study was to investigate the effect of corporate governance quality and ownership concentration on the relationship between agency cost and firm performance. A-share listed firms in China were taken as a sample. Both the fixed-effect model and dynamic panel generalized method of moment estimation were employed in order to cater for the unobserved endogeneity problem. The results show that agency cost is negatively related to firm performance, while corporate governance and ownership concentration enhance firm performance. When corporate governance and ownership concentration were taken as moderating variables, we found a positive impact on the agency–performance relationship.

We also studied the effect of ownership type on the association between agency cost and firm performance. Non-state ownership positively moderated the relationship between agency cost and firm performance, while the agency cost kept its negative sign when the state ownership was taken as a moderating variable. Alternative measures of independent variables were also considered for the robustness of our results, such as the absolute value of discretionary accruals, denoted as (EM), research and development expenditures (R&D-AC), and first principle component (PCA-AC) generated through the principal component analysis of agency cost.

This study adds to the literature on corporate governance, specifically with respect to emerging economies. China is one of the largest emerging economies, and possesses a unique corporate governance system. Most of the companies are state owned, and are characterized by political influence and corporate expropriation. By incorporating effective corporate governance mechanisms, Chinese listed firms can enhance their financial performance. The theoretical evidence on ownership structures postulates that concentrated ownership can help firms to reduce agency problems. The results of this study show that concentrated ownership aligns the interests of managers and shareholders, hence increasing the overall performance of firms. Our study divides the ownership structure of Chinese listed firms into state and non-state. Studies on emerging economies have shown that non-state firms can effectively curtail agency costs (Ding et al. 2007). The results of this study show that the performance of Chinese listed firms is enhanced when they are owned by non-state entities. State ownership has a negative impact on the agency–performance relationship.

This study supports the literature in concluding that agency cost and firm performance are negatively related in Chinese listed firms. Investors should keep in mind the proxies of agency cost when choosing a specific stock. Secondly, the abuse of managerial appropriation is higher in state-held firms compared to non-state firms. Policymakers can use these results to devise the investor protection rules so that managerial appropriation can be minimized.

In summary, our results support all of our hypotheses, indicating a positive moderating effect of corporate governance quality (H1) and ownership concentration (H2) on the relationship between agency cost and firm performance. Additionally, non-state (state) ownership of companies positively (negatively) moderates the agency–performance relationship (H3).

Our study does have certain limitations. First, in constructing the corporate governance index, we tried to take account of all of the agency-mitigating governance variables. However, due to data unavailability, we dropped several governance variables, such as CEO compensation (instead, we used top three compensation), stock options, independent director dissent report (although this data is present on CSMAR, it lacks the data of financial statements), and audit committee (CSMAR contains the total committee data, but does not further elaborate), to name several.

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Appendix A

Table A1. Correlation between agency cost, corporate governance and the firm performance.

Authors	Sample	Time Period	Performance Measures	CG Measure	Agency Cost Measure	Findings
Xu & Wang (1999)	Chinese Firms listed on Shanghai and Shenzhen stock exchange	1993–1995	1. The market-to-book value ratio (MBR) 2. Return on equity (ROE), 3. Return on asset (ROA)	1. Ownership concentration ratios measured by proportion of shares held by the top 10 shareholders 2. Ownership Mix		The mix and concentration of stock ownership do indeed significantly affect a company's performance. First, there is a positive and significant correlation between ownership concentration and profitability. Second, the firm's profitability is positively correlated with the fraction of legal person shares, but it is either negatively correlated or uncorrelated with the fractions of state shares and tradable A-shares held mostly by individuals. Third, labor productivity tends to decline as the proportion of state shares increases
Shen & Chih (2007)	The CLSA report includes corporate governance (CG) rankings on 495 companies in 25 emerging countries in April 2001 and February 2002.	1991–2000		1. Amount of external financing 2. Governance index	1. Earnings smoothing 2. Earnings discretion	Firms with good corporate governance tend to conduct less earnings management. Firms with higher growth (lower earnings yield) are prone to engage in earnings smoothing and earnings aggressiveness, but good corporate governance can mitigate the effect.
Florackis, Chrisostomos (2008)	1672 UK listed firms	1999–2003		1. Managerial ownership 2. Managerial compensation 3. Ownership concentration	1. Sales to total assets 2. Selling, general and administrative expenses to total sales	The results reveal that the capital structure characteristics of firms, namely bank debt and debt maturity, constitute important corporate governance devices for UK companies. Also, managerial ownership, managerial compensation and ownership concentration are strongly associated with agency costs. Finally, the results suggest that the impact exerted by specific internal governance mechanisms on agency costs varies with firms' growth opportunities.
Bartram, Brown, How, & Verhoeven, (2009)	29,610 firms in 43 countries	2001–2006		1. corporate governance index constructed from ISS data	1. Dividend/Earnings 2. Dividend/Cash Flow 3. Dividend/Sales	In high protection countries, investors are able to use their legal powers to extract cash from firms but their ability to do so can be substantially hindered when agency costs at the firm level are high. In poor protection countries, investors can seek refuge in firm level governance mechanisms to curb agency conflicts, suggesting a substitution between country and firm level investor protection.
Wang (2010)	505 companies publicly listed companies on Taiwan Stock Exchange.	2002 to 2007	1. ROA 2. ROE 3. Tobin's Q		1. Free Cash Flows 2. Assets Turnover 3. Operating expense ratio 4. Advertising and R & D expense ratio	The study finds evidence to support the agency theory, meaning AC has a significantly negative impact on firm performance and stock return. In contrast, the study finds a significantly positive relation between FCF and firm performance measures, indicating lack of evidence supporting the free cash flow hypothesis.

Table A1. *Cont.*

Authors	Sample	Time Period	Performance Measures	CG Measure	Agency Cost Measure	Findings
Ibrahim (2011)	474 companies listed on the main board of the Bursa Malaysia.	1999–2005	1. Tobin's Q 2. ROA	1. Board size 2. Independent director 3. Duality	1. Asset utilization ratio 2. Expense ratio	On average firm value is lower in family firms than non-family firms, while board size, independent director and duality have a significant impact on firm performance in family firms as compared to non-family firms. We also find that these governance mechanisms have significant impact on agency costs for both family and non-family firms.
Jurkus, Park, & Woodard (2011)	Fortune 500 firm 668 firms and 3172 firm-year observations.	1995–2005		1. Number of female officers 2. Gender-diversity dummy 3. Product Market Competition	1. FCFs with poor growth 2. Dividend payout ratio	The study finds that firms with a greater percentage of female officer's present lower agency costs but that the negative relation is not robust when considering the endogeneity of diversity. The study also finds that external governance influences the relationship. Although increasing diversity does not reduce agency costs for all firms, the evidence shows that diversity is significantly negatively related to agency costs in firms in less competitive markets
Rashid (2015)	118 non-financial firms listed on the Dhaka Stock Exchange	2006–2011		1. Board Independence 2. Board Size 3. Frequency of Board Meeting 4. CEO Duality	1. Expense ratio' 2. The 'Q-free cash flow interaction' 3. The 'asset utilization ratio'	The finding of the study is that board independence can reduce the firm agency cost only under 'asset utilization ratio' measure of agency cost. Furthermore, the non-linearity tests suggest that the benefit of outside independent directors is generally plausible as a factor controlling agency costs in the case of a medium level of board independence. Overall, these findings do not reject the validity of agency theory, supporting the Anglo-American orthodoxy promoting outside independent directors as good monitors.
Achim, Borlea, & Mare (2016)	1600 companies listed on major stock exchanges around the world	2001–2011	1. Market capitalization 2. Price to book ratio (ratio between market value and book value) 3. Tobin's Q		1. Corporate governance index 2. Corporate social responsibility activities adopted by the company (CSR).	The results document a positive correlation between corporate governance quality and market value of companies, such it is reflected by Tobin's Q.

References

Abowd, John M. 1990. Does Performance-Based Managerial Compensation Affect Corporate Performance? *Industrial & Labor Relations Review* 43: 52-S–73-S. [CrossRef]

Achim, Monica Violeta, Sorin Nicolae Borlea, and Codruţa Mare. 2016. Corporate Governance and Business Performance: Evidence for the Romanian Economy. *Journal of Business Economics and Management*. [CrossRef]

Agrawal, Anup, and Charles R. Knoeber. 1996. Firm Performance and Mechanisms to Control Agency Problems between Managers and Shareholders. *The Journal of Financial and Quantitative Analysis* 31: 377. [CrossRef]

Allison, Paul. 2010. When Can You Safely Ignore Multicollinearity? *Statistical Horizons* 5: 1–2.

An, Zhe, Donghui Li, and Jin Yu. 2016. Earnings Management, Capital Structure, and the Role of Institutional Environments. *Journal of Banking & Finance* 68: 131–52. [CrossRef]

Ararat, Melsa, Mine Aksu, and Ayse Tansel Cetin. 2010. The Impact of Board Diversity on Boards' Monitoring Intensity and Firm Performance: Evidence from the Istanbul Stock Exchange. *SSRN Electronic Journal* 90: 1–33. [CrossRef]

Arora, Punit, and Ravi Dharwadkar. 2011. Corporate Governance and Corporate Social Responsibility (CSR): The Moderating Roles of Attainment Discrepancy and Organization Slack. *Corporate Governance* 19: 136–52. [CrossRef]

Arslan-Ayaydin, Özgür, Chris Florackis, and Aydin Ozkan. 2014. Financial Flexibility, Corporate Investment and Performance: Evidence from Financial Crises. *Review of Quantitative Finance and Accounting* 42: 211–50. [CrossRef]

Arthurs, Jonathan D., Robert E. Hoskisson, Lowell W. Busenitz, and Richard A. Johnson. 2008. Managerial agents watching other agents: Multiple agency conflicts regarding underpricing in IPO firms. *Academy of Management Journal* 51: 277–94. [CrossRef]

Bathala, Chenchuramaiah T., Ramesh P. Rao, Source Managerial, Decision Economics, No Jan Feb, Chenchuramaiah T. Bathala, and Ramesh P. Rao. 2017. The Determinants of Board Composition: An Agency Theory Perspective the Determinants of Board Composition: An Agency Theory Perspective. *Managerial and Decision Economics* 16: 59–69. [CrossRef]

Beiner, Stefan, D. Wolfgang Drobetz, Frank Schmid, and Heinz Zimmermann. 2004. Is board size an independent corporate governance mechanism? *Kyklos*. [CrossRef]

Berghe, L.a.a. Van den, and Abigail Levrau. 2004. Evaluating Boards of Directors: What Constitutes a Good Corporate Board? *Corporate Governance: An International Review* 12: 461–78. [CrossRef]

Bethel, Jennifer E., and Julia Liebeskind. 1993. The effects of ownership structure on corporate restructuring. *Strategic Management Journal* 14: 15–31. [CrossRef]

Bhagat, Sanjai, Brian Bolton, and Ajay Subramanian. 2017. Investor Protection and Corporate Governance. *Journal of Accounting Research* 14: 471–517. [CrossRef]

Blundell, Richard, and Stephen Bond. 1998. Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics* 87: 115–43. [CrossRef]

Borlea, Sorin Nicolae, Monica Violeta Achim, and Codruța Mare. 2017. Board characteristics and firm performances in emerging economies. Lessons from Romania. *Economic Research-Ekonomska Istrazivanja*. [CrossRef]

Brander, James A., and Michel Poitevin. 1992. Managerial compensation and the agency costs of debt finance. *Managerial and Decision Economics* 13: 55–64. [CrossRef]

Carter, David A., Betty J. Simkins, and W. Gary Simpson. 2003. Corporate Governance, Board Diversity, and Firm Value. *The Financial Review* 38: 33–53. [CrossRef]

Chan, Kam C., and Joanne Li. 2008. Audit committee and firm value: Evidence on outside top executives as expert-independent directors. *Corporate Governance* 16: 16–31. [CrossRef]

Chen, Jian. 2001. Ownership Structure as Corporate Governance Mechanism: Evidence from Chinese Listed Companies. *Economics of Planning* 34: 53–72. [CrossRef]

Chen, Xin, Yong Sun, and Xiaodong Xu. 2016. Free cash flow, over-investment and corporate governance in China. *Pacific-Basin Finance Journal* 37: 81–103. [CrossRef]

Ching, Ken M.L., Michael Firth, and Oliver M. Rui. 2006. Earnings Management, Corporate Governance and the Market Performance of Seasoned Equity Offerings in Hong Kong. *Journal of Contemporary Accounting & Economics*. [CrossRef]

Chiou, Jeng-Ren, Yenn-Ru Chen, and Ting-Chiao Huang. 2010. Assets Expropriation via Cash Dividends? Free Cash Flow or Tunneling. *China Journal of Accounting Research*. [CrossRef]

Chong-En, Bai, Liu Qiao, Lu Joe, M. Song Frank, and Zhang Junxi. 2002. Corporate Governance and Firm Valuations in China. *SSRN Electronic Journal*. [CrossRef]

Christie, Andrew A., and Jerold L. Zimmerman. 1994. Efficient and Opportunistic Choices of Accounting Procedures: Corporate Control Contests. *Accounting Review* 69: 539–66. [CrossRef]

Chung, Richard, Michael Firth, and Jeong Bon Kim. 2005a. Earnings management, surplus free cash flow, and external monitoring. *Journal of Business Research* 58: 766–76. [CrossRef]

Chung, Richard, Michael Firth, and Jeong Bon Kim. 2005b. FCF agency costs, earnings management, and investor monitoring. *Corporate Ownership and Control* 2: 51–61. [CrossRef]

Clarke, Donald C. 2003. Corporate governance in China: An overview. *China Economic Review* 14: 494–507. [CrossRef]

Coles, Jeffrey L., Naveen D. Daniel, and Lalitha Naveen. 2008. Boards: Does one size fit all? *Journal of Financial Economics*. [CrossRef]

Collier, Paul, and Alan Gregory. 1999. Audit committee activity and agency costs. *Journal of Accounting and Public Policy* 18: 311–32. [CrossRef]

Cormier, Denis, and Isabelle Martinez. 2006. The association between management earnings forecasts, earnings management, and stock market valuation: Evidence from French IPOs. *International Journal of Accounting* 41: 209–36. [CrossRef]

Dechow, Patricia M., Richard G. Sloan, and Amy P. Sweeney. 1995. Detecting Earnings Management. *The Accounting Review* 70: 193–225. [CrossRef]

Denis, Diane K., and John J. McConnell. 2003. International Corporate Governance. *The Journal of Financial and Quantitative Analysis*. [CrossRef]

Dey, Aiyesha. 2008. Corporate governance and agency conflicts. *Journal of Accounting Research* 46: 1143–81. [CrossRef]

Ding, Yuan, Hua Zhang, and Junxi Zhang. 2007. Private vs. State Ownership and Earnings Management: Evidence from Chinese listed companies. *Corporate Governance: An International Review* 15: 223–38. [CrossRef]

Dinh, Tami, Helen Kang, and Wolfgang Schultze. 2016. Capitalizing Research & Development: Signaling or Earnings Management? *European Accounting Review*. [CrossRef]

Easterbrook, Frank H. 1984. Two Agency-Cost Explanations of Dividends. *The American Economic Review* 74: 650–59. [CrossRef]

Emanuel, David, Jilnaught Wong, and Norman Wong. 2003. Efficient contracting and accounting. *Accounting and Finance* 43: 149–66. [CrossRef]

Erhardt, Niclas L., James D. Werbel, and Charles B. Shrader. 2003. Board of Director Diversity and Firm Financial Performance. *Corporate Governance* 11: 102–11. [CrossRef]

Eshleman, John Daniel, and Peng Guo. 2014. Do big 4 auditors provide higher audit quality after controlling for the endogenous choice of auditor? *Auditing* 33: 197–220. [CrossRef]

Filatotchev, Igor, Natalia Isachenkova, and Tomasz Mickiewicz. 2007. Corporate Governance, Managers' Independence, Exporting, and Performance of Firms in Transition Economies. *Emerging Markets Finance and Trade* 43: 62–77. [CrossRef]

Fox, Isaac, and Alfred Marcus. 1992. The Causes and Consequences of Leveraged Management Buyouts. *Academy of Management Review* 17: 62–85. [CrossRef]

Gaio, Cristina. 2010. The relative importance of firm and country characteristics for earnings quality around the world. *European Accounting Review* 19: 693–738. [CrossRef]

Gao, Lei, and Gerhard Kling. 2008. Corporate governance and tunneling: Empirical evidence from China. *Pacific-Basin Finance Journal* 16: 591–605. [CrossRef]

Ghosh, Chinmoy, Raja Nag, and C. F. Sirmans. 2000. The Pricing of Seasoned Equity Offerings: Evidence from REITs. *Real Estate Economics* 28: 363–84. [CrossRef]

Gill, Amarjit S., and Nahum Biger. 2013. The impact of corporate governance on working capital management efficiency of American manufacturing firms. *Managerial Finance* 39: 116–32. [CrossRef]

Goyal, Vidhan K., and Chul W. Park. 2002. Board leadership structure and CEO turnover. *Journal of Corporate Finance* 8: 49–66. [CrossRef]

Guest, Paul M. 2009. The impact of board size on firm performance: Evidence from the UK. *European Journal of Finance*. [CrossRef]

Gunasekarage, Abeyratna, Kurt Hess, and Amity (Jie) Hu. 2007. The influence of the degree of state ownership and the ownership concentration on the performance of listed Chinese companies. *Research in International Business and Finance* 21: 379–95. [CrossRef]

Guo, Fei, and Shiguang Ma. 2015. Ownership Characteristics and Earnings Management in China. *Chinese Economy*. [CrossRef]

Haider, Junaid, and Hong Xing Fang. 2016. Board size, ownership concentration and future firm risk. *Chinese Management Studies*. [CrossRef]

Hess, Kurt, Abeyratna Gunasekarage, and Martin Hovey. 2010. State-dominant and non-state-dominant ownership concentration and firm performance: Evidence from China. *International Journal of Managerial Finance* 6: 264–89. [CrossRef]

Heugens, Pursey P.M.A.R., Marc van Essen, and J. van Oosterhout. 2009. Meta-analyzing ownership concentration and firm performance in Asia: Towards a more fine-grained understanding. *Asia Pacific Journal of Management* 26: 481–512. [CrossRef]

Hoechle, Daniel, Markus Schmid, Ingo Walter, and David Yermack. 2012. How much of the diversification discount can be explained by poor corporate governance? *Journal of Financial Economics*. [CrossRef]

Hope, Ole Kristian, John Christian Langli, and Wayne B. Thomas. 2012. Agency conflicts and auditing in private firms. *Accounting, Organizations and Society* 37: 500–17. [CrossRef]

Hu, Yabei, and Shigemi Izumida. 2009. The Relationship between Ownership and Performance: A Review of Theory and Evidence. *International Business Research*. [CrossRef]

Huang, Wei, Fuxiu Jiang, Zhibiao Liu, and Min Zhang. 2011. Agency cost, top executives' overconfidence, and investment-cash flow sensitivity—Evidence from listed companies in China. *Pacific Basin Finance Journal*. [CrossRef]

Huang, Ying Sophie, and Chia Jane Wang. 2015. Corporate governance and risk-taking of Chinese firms: The role of board size. *International Review of Economics and Finance*. [CrossRef]

Islam, Muhammad Zahirul. 2010. Agency Problem and the Role of Audit Committee: Implications for Corporate Sector in Bangladesh. *Journal of Economics and Finance* 2: 177–89. [CrossRef]

Jackling, Beverley, and Shireenjit Johl. 2009. Board structure and firm performance: Evidence from India's top companies. *Corporate Governance* 17: 492–509. [CrossRef]

Jensen, M., and W. Meckling. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3: 305–360. [CrossRef]

Jensen, Michael. 1986. American Economic Association Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *American Economic Review*.

Jia, Jin, Qian Sun, and Wilson H.S. Tong. 2005. Privatization through an overseas listing: Evidence from China's H-share firms. *Financial Management* 34: 5–30. [CrossRef]

Jonge, Alice de. 2014. The Glass Ceiling That Refuses to Break: Women Directors on the Boards of Listed Firms in China and India. *Women's Studies International Forum* 47: 326–38. [CrossRef]

Khidmat, Waqas Bin, and Mobeen Ur Rehman. 2014. The impact of free cash flows and agency costs on firm performance—An empirical analysis of KSE listed companies of Pakistan. *Journal of Financial Engineering*. [CrossRef]

Klapper, Leora F., and Inessa Love. 2004. Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance*. [CrossRef]

Kroll, Mark, Peter Wright, and Pochera Theerathorn. 1993. Whose interests do hired top managers pursue? An examination of select mutual and stock life insurers. *Journal of Business Research* 26: 133–48. [CrossRef]

Kula, Veysel. 2005. The impact of the roles, structure and process of boards on firm performance: Evidence from Turkey. *Corporate Governance* 13: 265–76. [CrossRef]

Lang, Larry H.P., and Robert H. Litzenberger. 1989. Dividend Announcements. Cash Flow Signalling vs. Free Cash Flow Hypothesis? *Journal of Financial Economics* 24: 181–91. [CrossRef]

Lang, Larry, Annette Poulsen, and René Stulz. 1995. Asset sales, firm performance, and the agency costs of managerial discretion. *Journal of Financial Economics* 37: 3–37. [CrossRef]

Le, Trien Vinh, and Trevor Buck. 2011. State ownership and listed firm performance: A universally negative governance relationship? *Journal of Management and Governance* 15: 227–48. [CrossRef]

Lei, Qianhua, Bingxuan Lin, and Minghai Wei. 2013. Types of agency cost, corporate governance and liquidity. *Journal of Accounting and Public Policy* 32: 147–72. [CrossRef]

Li, Hong-xia, Zong-jun Wang, and Xiao-lan Deng. 2008. Ownership, independent directors, agency costs and financial distress: Evidence from Chinese listed companies. *Corporate Governance* 8: 622–36. [CrossRef]

Lin, Cyril. 2001. Corporatisation and Corporate Governance in China's Economic Transition. *Economics of Planning*. [CrossRef]

Ma, Shiguang, Tony Naughton, and Gary Tian. 2010. Ownership and ownership concentration: Which is important in determining the performance of China's listed firms? *Accounting and Finance* 50: 871–97. [CrossRef]

Ma, Shiguang, and Gary Tian. 2009. Board composition, board activity and ownership concentration, the impact on firm performance. *Problems and Perspectives in Management* 7: 42–61. [CrossRef]

Malmquist, David H. 1990. Efficient contracting and the choice of accounting method in the oil and gas industry. *Journal of Accounting and Economics* 12: 173–205. [CrossRef]

Mappadang, Agustina, T. Widyastuti, and A. M. Wijaya. 2018. The Effect of Corporate Governance Mechanism on Tax Avoidance: Evidence from Manufacturing Industries Listed in the Indonesian Stock Exchange. *The International Journal of Social Sciences and Humanities Invention*. [CrossRef]

Marchetti, Piergaetano, Gianfranco Siciliano, and Marco Ventoruzzo. 2017. Dissenting Directors. *European Business Organization Law Review* 18: 659–700. [CrossRef]

McConnell, John J., and Henri Servaes. 1990. Additional evidence on equity ownership and corporate value. *Journal of Financial Economics* 27: 595–612. [CrossRef]

Milhaupt, Curtis J., and Wentong Zheng. 2015. Beyond ownership: State capitalism and the Chinese firm. *Georgetown Law Journal*. [CrossRef]

Miller, Judith L. 2002. The board as a monitor of organizational activity: The applicability of agency theory to nonprofit boards. *Nonprofit Management and Leadership* 12: 429–50. [CrossRef]

Nakano, Makoto, and Pascal Nguyen. 2013. Foreign ownership and firm performance: Evidence from Japan's electronics industry. *Applied Financial Economics* 23: 41–50. [CrossRef]

Nguyen, Tuan, Stuart Locke, and Krishna Reddy. 2014. A dynamic estimation of governance structures and financial performance for Singaporean companies. *Economic Modelling* 40: 1–11. [CrossRef]

Nguyen, Tuan, Stuart Locke, and Krishna Reddy. 2015. Ownership concentration and corporate performance from a dynamic perspective: Does national governance quality matter? *International Review of Financial Analysis*. [CrossRef]

Nikoskelainen, Erkki, and Mike Wright. 2007. The impact of corporate governance mechanisms on value increase in leveraged buyouts. *Journal of Corporate Finance* 13: 511–37. [CrossRef]

Park, Seung Ho, and Yadong Luo. 2001. Guanxi and organizational dynamics: Organizational networking in Chinese firms. *Strategic Management Journal* 22: 455–77. [CrossRef]

Pearce, John A., and Shaker A. Zahra. 1992. BOARD COMPOSITION FROM A STRATEGIC CONTINGENCY PERSPECTIVE. *Journal of Management Studies* 29: 411–38. [CrossRef]

Porta, Rafael La, Florencio Lopez-de-Silanes, and Andrei Shleifer. 1999. Corporate Ownership around the World. *Journal of Finance* 54: 471–517. [CrossRef]

Porta, Rafael La, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny. 1997. Investor Protection and Corporate Governance. *Journal of Finance* 52: 737–83. [CrossRef]

Porta, Rafael La, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny. 2000. Investor Protection and Corporate Governance. *Journal of Financial Economics* 58: 3–27. [CrossRef]

Rahman, Aulia Fuad, and Norman Mohd-Saleh. 2008. The Effect of Free Cash Flow Agency Problem on the Value Relevance of Earnings and Book Value. *Journal of Financial Reporting and Accounting* 6: 75–90. [CrossRef]

Richardson, Scott A., A. Irem Tuna, and Min Wu. 2003. Predicting Earnings Management: The Case of Earnings Restatements. *SSRN Electronic Journal*. [CrossRef]

Ruiqi, Wang, Fangjun Wang, Luying Xu, and Changhong Yuan. 2017. R&D expenditures, ultimate ownership and future performance: Evidence from China. *Journal of Business Research*. [CrossRef]

Sahu, Tarak N., and Apu Manna. 2013. Impact of board composition and board meeting on firms' performance: A study of selected Indian companies. *Vilakshan: The XIMB Journal of Management* 10: 99–112.

Shan, Yuan George. 2013. Can internal governance mechanisms prevent asset appropriation? Examination of type I tunneling in China. *Corporate Governance (Oxford)* 21: 225–41. [CrossRef]

Shan, Yuan George. 2015. Value relevance, earnings management and corporate governance in China. *Emerging Markets Review* 23: 186–207. [CrossRef]

Shan, Yuan George, and Lei Xu. 2012. Bad debt provisions of financial institutions. *International Journal of Managerial Finance* 8: 344–64. [CrossRef]

Shleifer, Andrei, and Robert W. Vishny. 1986. Large Shareholders and Corporate Control. *Journal of Political Economy* 94: 461–88. [CrossRef]

Shleifer, Andrei, and Robert W. Vishny. 1991. Takeovers in the ’60s and the ’80s: Evidence and implications. *Strategic Management Journal* 12: 51–59. [CrossRef]

Shust, Efrat. 2015. Does Research and Development Activity Increase Accrual-Based Earnings Management? *Journal of Accounting, Auditing & Finance*. [CrossRef]

Sial, Muhammad Safdar, Chunmei Zheng, Tehmina Khan, and Vinh Khuong Nguyen. 2018a. Corporate social responsibility, firm performance and the moderating effect of earnings management in Chinese firms. *Asia-Pacific Journal of Business Administration*. [CrossRef]

Sial, Muhammad Safdar, Zheng Chunmei, and Nguyen Vinh Khuong. 2019. Do female and independent directors explain the two-way relationship between corporate social responsibility and earnings management of Chinese listed firms? *International Journal of Accounting and Information Management*. [CrossRef]

Sial, Muhammad Safdar, Chunmei Zheng, Jacob Cherian, M. A. Gulzar, Phung Anh Thu, Tehmina Khan, and Nguyen Vinh Khuong. 2018b. Does corporate social responsibility mediate the relation between boardroom gender diversity and firm performance of Chinese listed companies? *Sustainability (Switzerland)* 10: 3591. [CrossRef]

Singh, Manohar, and Wallace N. Davidson III. 2003. Agency costs, ownership structure and corporate governance mechanisms. *Journal of Banking & Finance* 27: 793–816. [CrossRef]

Siregar, Sylvia Veronica, and Sidharta Utama. 2008. Type of earnings management and the effect of ownership structure, firm size, and corporate-governance practices: Evidence from Indonesia. *International Journal of Accounting* 43: 1–27. [CrossRef]

Su, Yiyi, Dean Xu, and Phillip H. Phan. 2008. Principal—Principal Conflict in the Governance of the Chinese Public Corporation. *Management and organization review* 4: 17–38. [CrossRef]

Tang, Hui Wen, and Chong Chuo Chang. 2015. Does corporate governance affect the relationship between earnings management and firm performance? An endogenous switching regression model. *Review of Quantitative Finance and Accounting* 45: 33–58. [CrossRef]

Teoh, Siew Hong, T. J. Wong, and Gita R. Rao. 1998. Are accruals during initial public offerings opportunistic? *Review of Accounting Studies* 3: 175–208. [CrossRef]

Vafeas, Nikos. 1999. Board meeting frequency and firm performance. *Journal of Financial Economics* 53: 113–42. [CrossRef]

Vithessonthi, Chaiporn, and Jittima Tongurai. 2015. The effect of leverage on performance: Domestically-oriented versus internationally-oriented firms. *Research in International Business and Finance* 34: 265–80. [CrossRef]

Wan, Jiayong, and Ayse Yuce. 2007. Listing regulations in China and their effect on the performance of IPOs and SOEs. *Research in International Business and Finance* 21: 366–78. [CrossRef]

Wang, Ying, and Michael Campbell. 2012. Corporate governance, earnings management, and IFRS: Empirical evidence from Chinese domestically listed companies. *Advances in Accounting*. [CrossRef]

Wang, Yishu, Xue Jiang, ZhenJia Liu, and Weixing Wang. 2015. Effect of Earnings Management on Economic Value Added: A China Study. *Accounting and Finance Research*. [CrossRef]

Wei, Zuobao, and Oscar Varela. 2003. State equity ownership and firm market performance: Evidence from China’s newly privatized firms. *Global Finance Journal* 14: 65–82. [CrossRef]

Wei, Zuobao, Feixue Xie, and Shaorong Zhang. 2005. Ownership Structure and Firm Value in China’s Privatized Firms: 1991–2001. *Journal of Financial and Quantitative Analysis* 40: 87. [CrossRef]

Xu, X., and Y. Wang. 1999. Ownership structure and corporate governance in Chinese stock companies. *China Economic Review* 10: 75–98. [CrossRef]

Yazdanfar, Darush, and Peter Öhman. 2015. Debt financing and firm performance: An empirical study based on Swedish data. *Journal of Risk Finance*. [CrossRef]

Zahra, Shaker A. 2007. An embeddedness framing of governance and opportunism: Towards a cross-nationally accommodating theory of agency—Critique and extension. *Journal of Organizational Behavior* 28: 69–73. [CrossRef]

Zahra, Shaker A., R. Duane Ireland, and Michael A. Hitt. 2000. International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management Journal* 43: 925–50. [CrossRef]

Zhang, Qing, Lilin Chen, and Tianjun Feng. 2014. Mediation or Moderation? The Role of R&D Investment in the Relationship between Corporate Governance and Firm Performance: Empirical Evidence from the Chinese IT Industry. *Corporate Governance: An International Review* 22: 501–17. [CrossRef]

Zhang, Xiaohong, Gaowen Tang, and Zhaohong Lin. 2016. Managerial power, agency cost and executive compensation—An empirical study from China. *Chinese Management Studies*. [CrossRef]

Zhou, Qing, Robert Faff, and Karen Alpert. 2014. Bias correction in the estimation of dynamic panel models in corporate finance. *Journal of Corporate Finance*. [CrossRef]