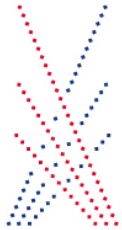

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Do board interlocks pay off during institutional transitions?

ABSTRACT

Executives as members of the board of directors form board interlocks through their membership in other company boards. However, the debate still persists as to whether such interlocks contribute to better corporate performance. The institutional transitions unfolding throughout many emerging economies, in which the formal (regulatory aspect) and informal (norms and values aspect) frameworks have fundamentally changed, provide a natural laboratory to further investigate the question. Drawing upon institutional-based view, we highlight that the increasing market force and the continuous government intervention jointly affect the cultivation of board interlocks and their impact on firm performance. Specifically, we argue that the state still outweighs the market in shaping organisations' behaviour such that non-SOEs are more reliant on board interlocks than SOEs and they are more willing to pay higher compensation to interlocked executives. However, such interlocks do not benefit firm performance in both firms. This study enriches our understanding of the interactions between institutional constraints and organisational behaviours.

Keywords: Interlocking directorship; Executive compensation; State ownership; institutional transitions; China

INTRODUCTION

Interlocking directorate has been the focus of a large amount of research in organisational studies and related fields for decades (Mizruchi, 1996). While it has been found ubiquitous for executives taking on multiple positions outside organisations, the causes and consequences of such prevalent phenomenon have triggered extensive debates in academic circles as well as practitioners (Geletkanycz and Boyd, 2011).

Based on the assumption that organisations are embedded within networks, resource dependence scholars (Pfeffer and Salancik, 1978) maintain that interlocking directorates are advantageous to organisations as they can relax resource constraints (Mizruchi, 1996) and reduce environmental uncertainties (Beckman et al., 2004). Connecting to important organisations also signals high quality of the firm (Holcomb et al., 2009), highlighting that the firm is worth of investing. Conversely, building on managerial power perspective (Bebchuk and Fried, 2003), it is suggested that by cultivating ties with other boards, entrenched managers amplify their influence within organisations, which enables them to commit self-dealing activities for their own interests at the cost of shareholders (Conyon and Read, 2006). In parallel with this theoretical ambiguity, the empirical evidence on the interlocking-performance relationship is also mixed (Zona et al., 2018). Prior findings have presented both positive (Horton et al., 2012; McDonald et al., 2008) and negative (Zona et al., 2018; Geletkanycz and Boyd, 2011) relationships.

As debates persist, an emergent stream of literature has noticed that as organisations are exposed to both managerial opportunism and external constraints, using either theory alone to explain board interlocks may not be productive (Zona et al., 2018). Thus, it is suggested that network-performance relationship may be contingent on external factors (e.g.,resources constraints and industry structure) (Zona et al., 2018; Geletkanycz and Boyd, 2011). The institutional environment is believed to be one of these external factors to firms in a transition economy (Yi et al., 2012).

Perceived as "rules of the game" (Peng and Heath, 1996), institutional contexts are considered to exert significant role in affecting organisations' behaviour (Sun et al., 2015; Xu and Meyer, 2013; Gaffney et al., 2014). Management scholars have also recognised that the environment places abundant constraints on firms' strategic options (Maas et al., 2019), and dynamics in institutions have accounted for more variations of firms' strategy and behaviour, compared to organisational factors (Wright et al., 2005; Yi et al., 2012). An important insight thus has been generated that institutional context in which the organisation operate may influence the cultivation of board interlocks and their effect on corporate performance. Yet, little systematic research has build on institutional theory to explain board interlocks.

As institutional transitions are unfolding throughout many emerging countries, they provide a natural laboratory to dig into the question. Different from mature markets that with stable institutions, transitional economies are generally featured with fundamental and comprehensive changes in both formal (e.g.,regulatory environment) and informal (e.g.,norms and values) frameworks (Peng, 2003). Many market-based reforms have been brought forward to replace the government intervention with more direct and rule-based approaches. Accordingly, firms need to comfort to new rules in order to survive and prosper (Scott, 2013). How would executives cultivate their connections and how would organisations value these board interlocks amid rapid changing environment remain intriguing but underexplored.

In this study, these issues are explored in the context of Chinese executive compensation.

Drawing upon an institutional-based perspective, we investigate how institutional transitions affect the extent to which executive compensation reflects the value of board interlocks. On the one hand, as institutional transition is usually featured with substantial market liberalization, we focus on how the level of *marketization* influences the use of board interlocks in firms. On the other hand, continuous *government intervention* still persists during institutional transition (Shi et al., 2014). We also pay attention to how state ownership matters in cultivating executive connections.

Overall, we made the following contributions to the literature. First, echoing recent emphasis on the importance of institutions (Hoskisson et al., 2013), we propose a link between the macro institutions and the network deployment in the context of transitional economies. We identify two dominant features of institutional transitions that are happening in emerging economies—continuing government involvement and increasing marketization, which may jointly carve the deployment of executive ties. In other words, we offer an alternative theoretical framework centered on institutional transitions to explore how the tug of war between the state and market force shapes the strategic decisions made by organisations.

Second, the network within large emerging economies have been investigated by only a small number of studies (Ren et al., 2009; Peng and Luo, 2000; Markóczy et al., 2013), and prior emphasis has been limited to the formation of business network via interlocking directorate, interlocks-performance relationship and the impact of board interlocks on boundary stretching. Little has probed the link between institutional shift and firms' evaluation on board interlocks. We not only provide theoretical framework for the link, but also offer fresh empirical evidence.

Third, we also contribute to the compensation literature by providing new evidence from the perspective of social network. By linking executive pay to board interlocks, our results show that executives can extract higher compensation by taking on multiple positions in external boards while the corporate performance remains unchanged. Finally, we highlight the continuing impact of the government, by revealing the moderating role played by the state ownership in shaping the relationship between executive ties and their compensation. Our results stress that the government intervention may not necessarily retreat during institutional transitions despite the increasing market force in national economy. The power of the state may still constitute a major element affecting organisational behaviours. This is consistent with Sun et al. (2015) and Shi et al. (2014).

THEORETICAL BACKGROUND AND HYPOTHESIS

An interlock presents when a board member affiliated with one firm sits on the board of another organisation (Mizruchi, 1996). It has been considered one of the most influential networks that guides most organisational economic activities (Granovetter, 1985). Yet, considerable debates have arisen with respect to whether the executive ties contribute to the shareholder wealth and firm performance by connecting to other organisations. Two contrasting perspectives emerged to understand executive ties are resource dependence theory and managerial power theory.

Board interlocks and compensation

Interlocks as resources. Based on the assumption that firms are not autonomous among economic environment but are embedded within networks of relationships (Markóczy et al., 2013), resource dependence theory conceptualizes board interlock as an interorganizational communication mechanism through which organisations can share information as well as other

resources (Mizruchi, 1996). By connecting to other boards, firms are able to gain access to both tangible and intangible resources which play dominant roles in competitive outcomes (Geletkanycz and Boyd, 2011; Zona et al., 2018). In other words, board interlock constitutes a valuable resource for organisations.

Executives who sit on boards of other firms are assumed to serve as "boundary spanners" that can link with environment, extract resources and enhance allies with other organisations (Au et al., 2000). These executives are valuable to firms due to their newly gained broad-based business intelligence, social connections as well as the derived legitimacy within the corporate and political world (Useem, 1986). Further, as many top-level decisions are usually ambiguous and may require the deployment of social information (Kanter, 2008), firms may need to rely on interlocked executives for credibility and social cues. Due to the influential impact of their social capital (Khanna and Thomas, 2009; Peng and Luo, 2000), interlocked executives have the bargain power to claim pay premium (Combs and Skill, 2003; Pandher and Currie, 2013). Otherwise, they will withhold efforts if have not been adequately compensated (Castanias and Helfat, 1991). Therefore, we shall witness a positive relationship between the board interlocks and executive pay.

In sum, resource dependence perspective suggests that executive ties with external boards are valuable to firms and they may represent a significant element of executive pay arrangement. Organisations, therefore, will be willing to pay higher compensation to attract or retain interlocked executives.

Interlocks as agency cost. Conversely, managerial power scholars (Belliveau et al., 1996; Sauerwald et al., 2016) question the executives' underlying motives for engaging in interlock directorates. They argue that executives may cultivate ties with other boards to magnify their private interests instead of maximizing shareholder benefits (Belliveau et al., 1996).

Focusing on the internal agency problem between shareholders and executives (Jensen and Meckling, 1976), Bebchuk and Fried (2003) contend that managers have both the motive and ability to extract rents from shareholders with accumulated power within organisations. Cultivating ties with other firms is a way for executives to expand their influence and power. Entrenched managers will be inclined to have themselves embedded in multiple boards to gain prestiges (Useem, 1986) and intraorganizational power (Finkelstein, 1992) which strengthens their authority. They may also heighten their power through the derived social recognition, support and identification from connecting to external boards (Sauerwald et al., 2016). Consequently, they can increase their value and bargaining power in managerial and directorate markets (Davis, 1993).

Following this logic, managerial power perspective predicts that board interlocks reflect managerial opportunism (Wade et al., 1990). By amplifying their power and influence over organisations, interlocked executives are able to claim higher compensation even without benefiting shareholders.

In sum, both resource dependence perspective and managerial power perspective predict a positive relationship between executive interlocks and executive compensation, though due to different rationales. Our first hypothesis is thus as follows:

Hypothesis 1: Executive external ties are positively related to executive pay.

Board interlocks and firm performance

Despite that the two theories predict the same relationship between board interlocks and executive pay, they suggest antithetic impact of board interlocks on firm performance.

From the resource dependence perspective, firms benefit in various ways from executive interlocks. For example, board interlocks facilitate firms' cooptation of sources (Selznick et al., 1949; Pfeffer and Gerald, 81) as well as external forces (Markóczy et al., 2013) to mitigate potential external threats and uncertainties. Forming ties with high-profile and reputable firms also confers significant legitimacy (Galaskiewicz, 1985). By embedding in a corporate network and connecting to important organizations, firms can either signal to potential investors that they are worth of investing or to secure resources which are otherwise only accessible to " inner circles " (Useem, 1986). Further, given its role as conduits of information, learning and knowledge (Goerzen and Beamish, 2005), interlocks also contribute to information flow and communication among network members (Engelberg et al., 2013; Cai and Sevilir, 2012; Collins and Clark, 2003; Geletkanycz et al., 2001). All lead to better firm performance.

By contrast, managerial opportunism scholars posit that entrenched executives engage in self-serving behaviours and use interlocks to reap personal utility. For example, interlocked executives can reduce employment risk, heighten their prestige and reputation and gain excess CEO returns (Sauerwald et al., 2016). The managerial opportunism is also evidenced by the increasing use of golden parachute (Wade et al., 1990), poison pills (D'Aveni and Kesner, 1993) and elevated financial compensation (Geletkanycz et al., 2001) in densely connected firms. The agency cost thus reduces firm performance (Zona et al., 2018).

Recently, scholars have increasingly noted that the operation context of organisations determines whether executive external directorships lead to benefits or risks. For instance, Geletkanycz and Boyd (2011) argue that both industry context (e.g., industry growth and industry concentration) and a firm's diversification profile affect how interlocks impact on performance. Zona et al. (2018) joined this perspective by presenting that the level of resources, both at the focal firms and other firms, provides an important mechanism to carve the interlock-performance relationship. Drawing on these literatures, we argue that the institutional context of a country may also have an impact on how interlocks affect corporate outcome.

In Chinese context, executives have gained unprecedented power and autonomy within organisations after decades of market reforms (Firth et al., 2006). Yet, the institutional enhancement is not in parallel with market liberalization (Sun et al., 2015). In particular, inadequate financial transparency, weak information disclosure as well as limited protection towards minority shareholders (Liu, 2006; Gao and Kling, 2012) all fuel managerial opportunism. Further, in contrast to dispersed ownership in developed economies, Chinese firms are still featured with high ownership concentration, presence of dominant shareholders and insider rent extraction (Chen, 2005; Firth et al., 2006; Kling and Gao, 2008). Many Chinese managers have been accused to have reaped private welfare through the newly acquired independence (He, 1998). Due to insufficient institutional support, we argue that executive external directorships are very likely to become a form of power abuse in transitional economies. Our hypothesis is as follows:

Hypothesis 2:During institutional transitions, executive external ties are not positively related to firm performance.

Institution transition in emerging economies and board interlocks

Emerging markets have been undergoing fundamental institutional transitions over previous decades. This has significantly influenced how organisations compete within these societies (Peng, 2003). Institutional theory maintains that organisational behaviours and strategic decision-making are shaped by societal-level institutions (Gaffney et al., 2014). Described as the "rules of game" (North, 1990), the institution provides a framework in which managers and organisations adjust their thoughts and practices in order to compete and survive. Thus, there is a need to conceptualize how organizational practices interact with their legal and political contexts. We thus develop a institutional based framework to further investigate whether and how institutional environment impinge upon organisation's valuation of their board interlocks. The model is illustrated in Figure 1.

[FIGURE 1 about here.]

Institutions are defined as "humanly devised constraints" that influence human behaviours. An increasing number of studies have evidenced the direct impact of formal institutions on firms' strategies (Peng and Luo, 2000). This is especially the case in emerging economies. Different from developed economies with stable institutional environment, emerging economies are characterized by less efficient markets, active government involvement, high uncertainty and information asymmetries. Confronting with these institutional deficiencies, it is argued that individuals and organisations will adjust their behaviours accordingly to avoid institutional pitfalls (Xu and Meyer, 2013). In this study, we emphasize two significant dimensions of institutional transitions:(1) increasing market liberalization, and (2) continuous government intervention.

One prominent change of institutional transitions is the market liberalization. It opens up previously protected markets to outside competition from both domestic private sector and foreign investments (Gaffney et al., 2014) through introducing unregulated competition into the economy. Organisations are forced to follow market-based principles in order to gain more competitive advantages.As the economy has been moving from central planning toward market competition, the previous relationship-based transactions have gradually been replaced by rule-based market transactions (Peng, 2003). In other words, market liberalization may profoundly affect the use of networks during institutional transitions.

The other core feature of institutional transitions is the continuous government intervention. It has been increasingly noted that the increase of market force does not necessary mean the withdraws of the government during institutional transitions (Peng et al., 2015; Shi et al., 2014). As governments only set rules in developed economies, they are also active economic players in transitional economies through either direct or indirect control over allocation of critical resources (Xu and Meyer, 2013). This is especially the case in China where the government still holds dominant positions in national economic activities.

To this end, increasing market liberalization and continuous government intervention constitute two major elements of transitional institutions. We emphasize these two dimensions which may exert profound influence on organisational practices.

Moderating effect of marketization

Marketizaiton refers to the adoption of more market-based mechanisms and policies to achieve market efficiency (Fan et al., 2011a). It affects individual and organisational choices

through two mechanisms: (1) enhancement of legal system, and (2) improvement of financial system. The legal system is one of the most important attributes of a country's governance infrastructure. It provides a framework in which organisations can develop their own strategic choices and pursue firm interests (Gaffney et al., 2014). With marketization unfolding, the legal system makes significant progress in offering firms a more legally protective environment. It acts as constraints for political power such that organisations can make their own decisions without intervened by governments (Sun et al., 2015). Financial system improvement also contributes to higher efficiencies of organisations. In liberalized financial markets, firms gain freedom to access capital, supply investors with more diversified products as well as mitigate information asymmetries (Allen, 1993).

In highly marketized regions, organisations will be increasingly able to obtain critical resources through business networks as opposed to governmental organisations (Keister, 2009). For example, firms in Shanghai and Shenzhen are more likely to rely on markets to secure financial resources than those in less marketized regions. Firms with stronger ability of raising capital from markets will have higher propensity to survive and prosper. Thus, well-connected managers are valuable as they allow their firms to access a large pool of diverse resources and high quality information. By contrast, in less marketized regions, political ties may be more preferred than board interlocks.

According to Peng and Luo (2000), top executives cultivate two types of ties in transitional economies. One is the connection with executives in other firms(i.e., board interlocks), and the other is the contact with government officials. Although both ties lead to competitive advantages, they are not equally beneficial to all firms given the asynchronous marketization. As political liberalization is not always in line with economic liberalization in less marketized regions (Shi et al., 2014), weak institutional system and higher environmental uncertainties lead incumbent firms to seek political ties for critical resources and timely information (Shi et al., 2012). In Chinese context, the decentralization policy further facilitates firms' dependence on political ties over interlocking directorates. As many regulatory functions (such as land leases and labour relations) have been delegated to provincial governments, local authorities have been endowed with enormous power and opportunities for subjective interpretation of policies (Gao et al., 2010). Organisations headquartered in these regions are thus more dependent on political ties to obtain exclusive information of local industry development.

In sum, the level of marketization exerts significant impact on board interlocks. In higher marketized regions, organisations can rely on board interlocks to gain critical resources. Conversely, in less marketized regions, information asymmetry and super power of local governments still persist (Peng et al., 2015). The over dependence on local government makes board interlocks less valuable than political ties (Wu et al., 2013).

Hypothesis 3: During institutional transition, the level of marketization will positively moderate the relationship between board interlocks and executive pay.

Moderating effect of state ownership

Another feature of institutional economies is the continuous intervention from the government (Shi et al., 2014; Peng et al., 2015). Under the perception that globalization will lead to a convergence in countries' transition paths, governments will gradually retreat from economic

activities as the market force begins to dominate. Therefore, the government's role is believed to transform from resource controller to facilitator in transitional economies (Shi et al., 2012).

More recent studies, however, present a controversial picture that market liberalization does not necessarily mean the withdrawn of government from the economy (Shi et al., 2014; Peng et al., 2015). As countries vary widely in their institutional settings, it is not surprising to observe that emerging economies are exploring different forms of public-private coordination (Shi et al., 2014). This is labelled as *Varieties of Capitalism* (Hall and Thelen, 2009). Despite the advancement of the marketization process, governments during institutional transition can still hold either direct or indirect control over resource allocation via affecting government spending, industrial policy and financial regulation (Shi et al., 2014; Dickson, 2007). In mature markets, the state is only responsible for establishing framework for business activities and then let the market do its work. In transitional economies, however, the government itself could be a major player. In Chinese context, the government intervention is implemented mainly through maintaining controlling shares in state owned enterprises (SOEs).

After four decades of free-market reforms, SOEs still dominate major industries such as natural resources, public services and banking. As Chinese government steers resources toward political connected firms (Li et al., 2014), these so-called "national champions" receive considerable benefits, both financially and politically, compared to private firms. For example, they receive state support (i.e., policy lending), favourable policies and considerable autonomy in business operations. They were also the first ones taking advantage of capital markets by listing on Shanghai and Shenzhen stock exchanges since their relaunch in the early 1990s. By the end of 1990s, almost all of the SOEs listed on at least one of these two markets (Brødsgaard, 2012).

As SOEs are far more resource-rich than non-SOEs and their political ties are particularly strong, these behemoths do not need to depend on business networks to secure critical resources. They may also be less motivated to cultivate business ties with other firms (Peng and Luo, 2000) as board interlocks are "simply too weak to play a role in SOEs" (Brødsgaard, 2012, p.626).

The remuneration structure and payment mechanism also affect how executive pay reflects the value of board interlocks in SOEs. First, the majority of SOE executives in China are still appointed by the government, and their remuneration has been controlled strictly by the state under an imposed ceiling. Despite the increasing liberalization and internationalization in these "national champions" (Conyon and He, 2011), executives in SOEs are paid with more caution under government scrutiny. As they are not only business leaders but also part of the power system, their compensation tends to be relatively low to avoid social discontent (Markóczy et al., 2013). This could be partly attributed to the *income equality* norm which is historically and institutionally embedded in socialism (Brødsgaard, 2012; Markóczy et al., 2013). Thus, executive pay in SOEs are less likely to reflect incentive elements, such as board interlocks, than that in non-SOEs.

Second, as most SOE executives are rewarded with political promotion, their pay only accounts for a relative small part of their overall benefits (Conyon and He, 2011). Executive pay in SOEs will be more likely to reflect administrative status than incentive purpose. For example, since the introduction of equity compensation in Chinese listed firms in 2006 [1], the majority of companies that adopt stock options are still private firms. According to a recent study (Jiang et al.,

[1]On 31st of December 2005, the China Securities Regulatory Commission (CSRC) released the 'Measures of Administration of Stock Incentive Plans of Listed Companies".

2017), only 7.9% of SOEs adopt stock options by 2014. As a result, the political nature of executive pay in SOEs makes it less likely to reflect market-based economic elements such as executive ties.

In contrast to the SOE counterpart, the private sector does not enjoy equally supportive and vibrant conditions for its prosperity (Firth et al., 2009). For example, despite being the major engine of China's rapid growth which contributes over 60% of the country's total production and 70% of total employment, China's private sector only accounts for 7 percent of the bank lending (Firth et al., 2009). With limited access to formal lending from banks, these small and median sized firms (SMEs) can only seek capital from informal channels such as trade credits and private credit agencies which largely rely on family connections and personal reputations of the entrepreneurs (Allen et al., 2005). According to a recent study study by Fan et al. (2011b), approximately 90% of private firms finance their business through informal channels, as state-owned banks are usually reluctant to offer them funds.

The biased capital allocation and discrimination against the private sector (Ge and Qiu, 2007) inevitably make executive interlocks strategically important for private enterprises. Non-SOEs have to rely on such connections to acquire critical resources and information. Following this logic, the lack of state support amplifies the need for board interlocks in non-SOEs. Thus, we argue that non-SOEs will be more willing to pay higher compensation for executives with interlock ties.

In sum, the continuous government intervention distinguishes the value of board interlocks in SOEs from those in the private sector. On the one hand, SOEs receive preferential treatment from the government, so that they are less dependent on board interlocks. On the other hand, non-SOEs are at disadvantageous positions, and they have to rely on networks to avoid resource deficiencies.

We thus propose as follows:

Hypothesis 4: During institutional transition, the presence of state ownership will negatively moderate the positive relationship between executive interlock and executive pay

METHOD

Research context

We use China as a setting to test our hypotheses for the following reasons. First, after decades' of market-based reforms, it represents an ideal context of institutional transition which encompasses both unshakable government involvement and sweeping market force. On the one hand, it has undergone a serious of major institutional transitions which have substantially improved its legal and regulatory environment. Since the entry into World Trade Organizations (WTO) in 2001, its marketization has been further strengthened. On the other hand, the government is playing an increasing role in China. According to Sun et al. (2015), a recent trend emerges that SOEs have been increasing their shares in national economy by entering into strategic industries, which is illustrated as *guo jin min tui*[2](It refers to the phenomenon that the state sector advances while the private sector retreats.).

[2] It usually happens when the private sector is not able to survive crisis. A very recent example of this is the US$4 trillion stimulus package initiated by the Chinese government following the 2008 financial crisis.

Second, as a consequence of a less efficient market, network-based behaviours are found more common in emrging economies than in developed ones (Xu and Meyer, 2013). This is even more so in China. As has been widely acknowledged as a *guanxi* based society, Chinese managers rely more than their western counterparts on cultivating personal relationships to cope with exigencies (Child, 1996). China thus provides us an idea laboratory for exploring the interaction between executive interlocks and local contexts (Xu and Meyer, 2013).

Third, it is noteworthy that there are substantial sub-national disparities within China. Although institutional transition is implemented nationwide, its enforcement are typically undertaken at provincial and regional levels(Sun et al., 2015; Peng et al., 2015). As a great deal of inter-region differences have been increasingly noticed within large and complex economies (Shi et al., 2012), it "holds even more so" in China given its large number of sub-national regions(Tse, 2010). For example, due to pronounced within-country variation in political decentralization, central and western parts of China are lagging far behind east coast counterparts on formal institutions (Shi et al., 2012). As a result, the sub-national variations enable us to test the impact of marketization within a country.

Sample and data

Our sampling pool covers the top 50 listed SOEs and top 50 listed non-SOEs in China in terms of market capitalization at the year end of 2005, 2010 and 2015 respectively. In order to avoid the survival bias, we also include new entrants to top 50 each year. Following previous studies in China (Firth et al., 2006; Peng et al., 2015), we exclude firms in the financial sector. We also remove firms that have been delisted within our sample period. The final sample thus consists of 100 firms in 2005, 149 firms in 2010 and 169 firms in 2015. The fast increase in the number of firms entering into top 50 signals a less stability in the top-tier companies in Chinese markets.

We then collect executive compensation data and executive concurrent data for each sample firm from the China Stock Market and Accounting Research (CSMAR) database, which is a widely used database for Chinese studies (Ren et al., 2009). Complementary information on executive background is collected from the “Profile of Directors and Senior Managers” section of annual reports (Peng et al., 2015). The final executive compensation data consists of 9738 executives in all 418 firms during the three sample years. We then manually collect data on the information of controlling companies for each concurrent position.This is to reveal whether a firm connects to other related organisations which are under control of the same controlling firm, or it connects to external firms.

Main variables

Executive compensation. Different from previous Chinese studies that only considered cash pay (Firth et al., 2006; Peng et al., 2015), executive compensation in this study refers to both cash pay and managerial stock shareholding. The Chinese government introduced a new policy[3] in 2005, encouraging the use of equity pay to better incentivize managers. Thus, the inclusion of managerial stock ownership into compensation represents the closest match to current executive pay structure in China. We do not consider stock options in that only a small portion of firms

[3]On 31st December 2005, the China Securities Regulatory Commission (CSRC) released the ‘Measures for the Administration of Stock Incentive Plans of Listed Companies’, permitting equity compensations.

adopt stock options [4]. Specifically, managerial stock pay is valued by multiplying managerial year-end shareholding by the firm's year-end closing price or the most recent available closing price if the firm was during suspension at year-end. Total compensation is thus measured by taking the natural log of the sum of cash pay and stock pay executives received each year.

Network diversity refers to the number of types of connections the firm ties to other organisations (Burt, 1982). In Chinese context, we define organisations into nine categories: government, state agency, association, professional institution, higher educational institution, domestic firm, foreign firm, bank, and non-governmental organisation (NGO). Specifically, government refers to departments of both central and local governments. Professional institutions are mainly accountancy firms, law firms and other organisations that provides professional services. Connection to NGOs are not prevalent in our sample, and they are mainly with charities.

Network size and centrality. We follow Geletkanycz et al. (2001) to measure network size as the number of directorship an executive takes on other boards. Network centrality estimates the importance and strength of an individual's position within the network (Maclean et al., 2014). We follow Markóczy et al. (2013) to apply the degree centrality measure, which is estimated by the number of firms which are adjacent to the focal firm within the interlocks network.

Firm connectedness. In order to examine the impact of executive interlocks on firm performance, we follow Horton et al. (2012) to derive firm's social network by aggregating individual directors' connectedness. In this study, the firm level connectedness is measured as the average director's network size, average network diversity and average network centrality respectively.

Firm performance. Return on assets (ROA) is a commonly used performance measure in strategy research (Zona et al., 2018). Following previous studies (Horton et al., 2012; Core et al., 1999), we measure firm performance with averaged ROA over the subsequent one, two and three years. The use of multi-year averages mitigates concerns over potential variability in single-year returns, and this is consistent with previous studies (Geletkanycz and Boyd, 2011). We also test return on equity (ROE) for robust check and it provides similar results. We do not use stock market-based return estimates as there is a widespread suspect on the efficiency of China's stock markets and their abilities to operate in a transparent manner (Markóczy et al., 2013). We also use ROA at each sample year end as a control variable to capture its impact on executive compensation.

State ownership and marketization. The moderating effect of state ownership is captured by a dummy variable *STATE*, which equals to 1 if it is a state owned enterprise and 0 otherwise. The degree of market liberalization has been a widely used economic variable in Chinese studies (Shi et al., 2012; Sun et al., 2015). We therefore follow Peng et al. (2015) to use the marketization index to capture the moderating effect of the varying degree of marketization in China. This 12-point index was initially developed by Fan et al. (2007). It measures the degree of institutional transitions toward more market competition on provincial levels in China from 1997 to 2007. The index has been updated in 2016 (Wang et al., 2017) to reflect the most recent marketization progress in China. We use the most recent version of the index in this paper.

[4] According to a recent study by Jiang et al. (2017), only around 15% of firms adopt stock options until 2014 since its first introduction in 2006.

Control variables

Executive age has also been regarded as an important factor affecting executive compensation. As older executives are usually more experienced and knowledgeable, their compensation and incentives may be affected accordingly (Murphy, 1999; Horton et al., 2012). Information on executive age is found in the 'Profile of Directors and Senior Managers' section of annual reports.

Executive gender. As gender pay have been widely recognised by both practitioners and management studies (Markóczy et al., 2013), we control for gender effect with a dummy variable *Gender* which equals to 1 for male and 0 for female.

Executive education. As a measure for human capital (Harris and Helfat, 1997), higher education usually comes along with higher executive pay. In this paper, executive education is coded into 5 categories: (0) technical secondary school and below, (1) diploma, (2) undergraduate, (3) master, and (4) PhD.

Executive overseas experience. As a typical type of market-based capability, executive international experience has emerged as a valuable resource in transitional economies. Those valuable, rare and hard-to-imitate skills derived from international experiences are in high demand in economies facing increasing market competition. Thus, it is often translated into higher executive pay (Peng et al., 2015). We define an executive has international experience if he/she has worked for overseas multinational companies, overseas subsidiaries of Chinese companies, or has overseas educational experience (including in Hong Kong, Macau and Taiwan).

Independent ratio. Board independence is also an important governance variable perceived as affecting firm performance. It is measured as the number of independent directors as a percentage of overall board members.

Firm size has been regarded as one of the strongest predictor of CEO pay (Sauerwald et al., 2016), and it is a commonly used variable in compensation literature. We follow previous studies (Jiang et al., 2017; Zona et al., 2018) to measure firm size as the natural logarithm of firms' total assets.

Prior firm performance. We include lagged firm performance as a control variable as it is a common predictor for future performance (Geletkanycz and Boyd, 2011). Further, it can mitigate concerns over model specification such as possible omitted variables in regression (Zona et al., 2018).

In addition, we also employ dummy variables for year effects and industry effects. The industry dummies are in consistent with 2012 Industry Classification Guide of Listed Companies released by CSRC.

RESULTS

Firm level descriptive statistics and correlation matrix are presented in Table 1. An inspection on the correlation coefficients indicates little concern for multicollinearity problem. Further tests for variance inflation factors (VIFs) are also well below the cut-off value of 10.

Insert TABLE 1 about here

The mean for executive cash payment per year is RMB 409 388 (US$ 57 144) during the period 2005-2015[5]. As compared with a recent study by Peng et al. (2015), the average cash payment of Chinese executives has risen dramatically during the last two decades.[6] Despite the rapid increase, however, the absolute value of Chinese executives cash compensation were still much lower than that of their counterparts in developed countries and Hong Kong (Gomez-Mejia et al., 2014).

Compared with the widespread use of equity compensation in developed countries, only 19% of our sample executives have been awarded with stock pay. However, for those who have been awarded, it on average accounts for over 65% of their total remuneration.

As for the network characteristics of our data, 58.79% of the sample executives held concurrent positions outside focal firms. This is a much higher proportion in contrast to only 4% of multiple directors reported by Ren et al. (2009). The significant difference can be explained by the sample distribution of the two studies: our study only covers top 50 SOEs and non-SOEs while Ren et al. (2009) has a wider coverage of all listed firms in China. Thus, the high percentage of interlocking directorates in our data is in consistent with the prior finding that a small group of companies share a large number of executives in China (Ren et al., 2009; Au et al., 2000). Figure 2 illustrates board interlocks in both top 50 SOEs and non-SOEs of China in 2005, excluding isolated executives. Not surprisingly, the interlocking directorship in mainland China reflects similar pattern of that in Hong Kong, which was regarded as "separated by close-knit islands in the middle of an ocean"(Au et al., 2000, p.34).

[FIGURE 2 about here.]

In our sample, the interlocked executives on average sit on three to fours boards. Compared with UK counterparts in which only 17% of executives sit on more than 3 boards (Horton et al., 2012), Chinese executives are linked more tightly, and they have stronger connections among the top-tier firms. The average degree centrality of our sample is 9.44.

We also divide the full sample into subgroups according to the level of marketization where the firm headquarters . A firm is categorized in high marketized region if the marketization index of its headquarter province is above the average marketization level of the full sample. Otherwise, it belongs to a low marketized region . In Table 2, we report mean comparisons of compensation and network characteristics between firms in high marketized regions and those in low ones. As shown in this table, executives in high marketized regions receive an average of RMB 87 990 (t=-5.09) more cash pay than their counterparts in low marketized regions. However, the two groups does not show similar difference in the use of managerial stock ownership. In terms of board interlocks, statistics provide interesting results. Except for a minor variation in the network size (t=-2.10) between the two groups, neither network diversity nor network centrality show significant differences.

Insert TABLE 2 about here

[5]The exchange rate was US$1= RMB 8.19 in 2005, RMB 6.76 in 2010 and RMB 6.22 in 2015 respectively.

[6]According to Peng et al. (2015), the mean of CEO cash payment during the period 2001-2008 was US$ 26 902.

We also compare the variables in SOE and non-SOE subgroups in Table 3. We observe that executives in private firms receive significant higher compensation in both cash payment (t=2.92) and managerial stock ownership payment (t=23.99) than their counterparts in SOEs. In particular, the use of managerial stock ownership in private firms is significantly higher (2.88%) than in SOEs (0.03%). In terms of board interlocks, differences between the two groups are also significant. Executives in SOEs possess larger, more diversified and more important interlocks than executives in private firms.

Insert TABLE 3 about here

The above univariate analysis highlight some major differences between subgroups. However, it is still unclear whether whether such differences in networks are reflected in executive compensation, whether they contribute to better firm performance and whether the level of marketization and state ownership exert moderation effects. These issues are addressed in the following multivariate regression analysis.

The regression results of executive compensation levels are shown in Table 4. The baseline model reports the effects of control and moderating variables. Model 1 includes the three measurements for main variables: network diversity, network size and network centrality. Model 2 and Model 3 include the interaction terms testing marketization and state-ownership respectively. Model 4 shows the full model with all interaction terms.

Insert TABLE 4 about here

The baseline model in Table 4 shows the importance of marketization and state ownership in setting executive compensation. Executives of firms from higher marketized regions claim higher pay than those in less marketized regions (β=0.157, p<0.001). Executives of SOEs receive lower remuneration than those in non-SOEs (β= -1.018, p<0.001).

The Model 1 in Table 4 shows the impact of board interlocks on executive pay. Not surprisingly, all three network measurements are statistically significant. However, it is noteworthy that network diversity (β= -0.449, p<0.001) is negatively correlated to executive pay while the other two measures (β= 0.096, p<0.001 & β= 0.011, p<0.01 respectively) show positive impact. This indicates that although network is important in pay arrangement, firms may favour specific types of networking, i.e.,firms prefer large and important networks to diversified ones. Therefore, hypothesis 1 is partly supported.

Testing hypothesis 3, Model 2 of Table 4 finds significant results. The state ownership negatively moderates the impact of executive network diversity (β= 0.283, p<0.05) and network size (β= - 0.125, p<0.001). However, it has no moderation effect on network centrality. Therefore, hypothesis 3 is partly supported. Surprisingly, Model 3 of Table 4 indicates no moderating effect of marketization. Hypothesis 4 is thus not supported.

In Model 4 of Table 4, we include all interaction variables. The result indicates that when all interaction terms joint together, the impact of network centrality and moderating effect of state ownership are still stable.

Insert TABLE 5 about here

In order to distinguish the resource dependence motive from managerial opportunism motive of executive interlocking, we test the relationship between the firms' connectedness formed through executive interlocks and firms' future firm performance. The regression results are reported in Table 5. We use next year ROA as the dependent variable in Model 5. Model 6 uses the average post-three years ROA as an alternative. For robust check, we also use post ROE (post-one year and average post-three years respectively) in Model 7 and Model 8.

Interpreting Table 5 needs more caution. As the inclusion of lagged dependent variables will catch a large proportion of variance to be explained by other variables in the model, a p value less than 0.05 should be regarded as a strong support (Zona et al., 2018; Achen, 2000). As shown in Table 5, only Model 7 presents a positive relationship between network size and post-one year ROE. The other three models does not present similar relationships, neither for short-term one year performance nor long-term three years performance. Therefore, our results support hypothesis 2b as oppose to hypothesis 2a. In other word, it seems that executive interlocks are used more as managerial entrenchment in China.

DISCUSSION

Contributions

Executive interlocks have long been considered a prominent interorganizational relationship which yields significant insights into firm behaviours (Mizruchi, 1996). Despite that it has been widely investigated in mature markets, how institutional transitions affect the use of networks in emerging economies has been rarely examined. Drawing on institutional-based view, we propose a linkage between institutional context in emerging economies and interlocking directorates within organisations. At least three contributions emerge from this study.

First, echoing recent emphasis on the prominence of institutions in strategy and international business literature (Xu and Meyer, 2013; Wright et al., 2005), we extend network research to transitional economies. It is evidenced that institutional context–which has been largely ignored by prior studies– represents a significant element that shapes both individual and organisational practices. By emphasizing two dimensions of institutional transitions: (1) increasing market liberalization; and (2) continuous government intervention, we conceptualize an institution-based framework to account for board interlocks during institutional transitions. Joining other studies (Sun et al., 2015; Peng, 2003; Gaffney et al., 2014), we enrich the expanding institutional based research.

Second, by examining moderating effects of above two dimensions, we find that the moderating effect of state ownership on interlock-executive compensation relationship is more significant than that of marketization. In other words, government still outweighs the market force in influencing organisational practices in Chinese context. Specifically, private owned firms are more dependent on board interlocks than SOEs, and they are more likely to pay interlocked executives generously than their state counterparts.

Third, we also offer implications for *Varieties of Capitalism* (Hall and Thelen, 2009). A traditional assumption under globalization is that it produces convergence with respect to

countries' transitional paths. Under this assumption, governments will gradually be transformed from the resource controller to facilitator. However, our findings present a contrary picture: governments can still maintain a strong position while the market also increases its influence during institutional transitions. This echoes the varieties of capitalism such that each country can follow a fundamental different transition path (Shi et al., 2014).

Third, we provide a new perspective on explaining the inconclusive interlock-performance relationship. Our results suggest that the relationship may be contingent on institutional context of a country. Specifically, the lack of a parallel introduction of institutional support in transitional economies provides powerful executives with opportunities to extract personal interest, i.e., higher compensation, by cultivating ties with other boards, which does not necessarily benefit shareholders. Overall, our findings are more in consistent with managerial power perspective.

Forth, our study signals that the type of networks matter in organisations. While firms value large and important networks, diverse connections are not equally favoured. This can be explained partly by the potential cost of diverse networks. As diverse networks may lead to the loss in corporate focus, inefficiency over resource allocation and high coordination cost (Goerzen and Beamish, 2005), challenges derived from diverse networks could overwhelm its marginal benefits, marking it a hindrance for individuals, groups and firms (Hambrick et al., 1996). Thus, firm will be less willing to pay for such diversified ties.

Finally, this study also contributes to the long lasting debate between managerial power and optimal contracting which dominates compensation literature. Our results suggest that executive interlocks form an important component of executive pay arrangements in Chinese firms. However, immature institutional environment acts as an shadow context in which networks can easily become a form of power abuse by executives. Under the shadow, entrenched managers can amplify their influence within organisations which enable them to commit self-serving behaviours at the cost of shareholders. This is in line with managerial power perspective.

Managerial and policy implication

Our study also provides significant policy implications. First, our study reveals that despite substantial market based reforms, the influence of the state still outweights that of the market force. While the private sector has gained considerable policy dividend in decades' economic restructuring, they still remain in a disadvantageous position to their SOE counterparts. There is a key debate with respect to China whether its strong economic development is driven by its adherence to market-based principles or its unique form of state capitalism (Shi et al., 2014). Our findings, joining other scholars (Peng et al., 2015; Sun et al., 2015), evidence that China has developed a unique business-government relation during the past decades, which is featured with a dominant position of the state.

Second, our findings also present that a large amount of interlocks have been held by only a small number of executives in Chinese listed firms. This is particularly the case in SOEs. The uneven distribution of networks partly mirrors central government's centralized human resource policy. Specifically, the career rotation policy within communist party requires SOE leadership to move either vertically to government positions or horizontally to other SOEs (Allen and Shen, 2012). Thus, managers within SOEs are densely connected.

Third, we find that interlocking directorates in Chinese economy play a much smaller role than they do in western economies. This is consistent with the argument of Shi et al. (2014).

While they act as an important mechanism to even influence national policy in mature markets (Mizruchi, 1996), their impact on Chinese enterprises are still limited. Despite that non-SOEs are increasingly rely on interlocking directorates, they do not effectively benefit firms by improving corporate performance.

Fourth, our study suggests that political liberalization may not necessarily be parallel with economic liberalization in transition economies. While the market force has been gaining increasing power during institutional transitions, the power of government can not be ignored. For investors and organisations during institutional transitions, adapting to the transitional "rule of the game" and leveraging the institutional variance are highly recommended (Sun et al., 2015).

Overall, our findings highlight the necessity to understand Chinese interlock directorates as a unique form of networks to those in mature markets. Furthermore, it is also noteworthy that different countries, even within emerging markets, may pursue diversified public-private coordination via different sets of institutions toward their way to capitalism.

Limitations and future research

Despite above contributions, our study is also subjected several limitations. First, our sampling context may limit the generalizability of our findings across other counties. Although China represents a typical emerging economy, it is noteworthy that even "emerging countries" are not all homogeneous. For example, while both South Korean and BRIC countries are traditionally labelled "emerging economies", they are in different stages of development. Further, the heterogeneity with respect to institutional dimension and infrastructure and factor market dimension may differentiate among these emerging-labelled countries (Hoskisson et al., 2013). Scholars have been increasingly recognized that the "all-encompassing label" of emerging economies is no longer appropriate due to the significant diversities in their initial conditions, transition paths and competitive outcomes (Hoskisson et al., 2013). Thus, future research may consider examining our research questions in other transitional economies or to develop comparative analysis to investigate the effects across country settings.

Second, as this study only focused on the moderating effect of marketization and state ownership, other factors may also influence the use of networks during economic transitions. As institutional transition refers to both formal and informal changes, the impact of informal aspects, such as culture, on cultivating networks is also worth exploring in future research. Some firm-level factors may also significantly affect the use of networks. For instance, how corporate governance of a firm affect its use of networks calls for further investigation. Further, we only use state ownership to proxy government invention, future research can use other dimensions to measure the influence of the state, such as direct political ties.

Third, our sample firms cover only top 50 of SOEs and non-SOES, and they represent a small part of Chinese organisations who posses majority resources. Thus, the non-trivial number of private and family owned firms need more consideration in future research. As illustrated, the private sector in China contributes a major part to decades' prosperity of Chinese economy. Facing significant resource constraint, how will they leverage networks in a business environment which is dominated by the state deserves more attention.

Fourth, this study has averaged the interlock-level data for each firm in our sample, future study could consider firm-to-firm ties to broadly analyse how networks influence inter-organizational behaviours. Finally, as Chinese business networks are featured with small

number of organisations sharing considerable networks (Ren et al., 2009; Peng and Luo, 2000), investigating how these small number of "core firms" connect with each other and what distinguish them from other isolates may enrich our understanding of Chinese business networks and unveil the underlying mechanisms of building relationship in China.

CONCLUSION

Despite the simple notion that "network matters in emerging economies", our understanding of the mechanisms through which networks work during institutional transitions are limited. Drawing upon the institutional-based view, we develop a conceptualized framework to understand how marketization and government intervention jointly influence the use of networks in Chinese context. The inclusion of these two dimensions of institutional transition enhances our understanding of the interaction between corporate strategic practices and institutional constraints.

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FIGURE 1: Research model

model.pdf

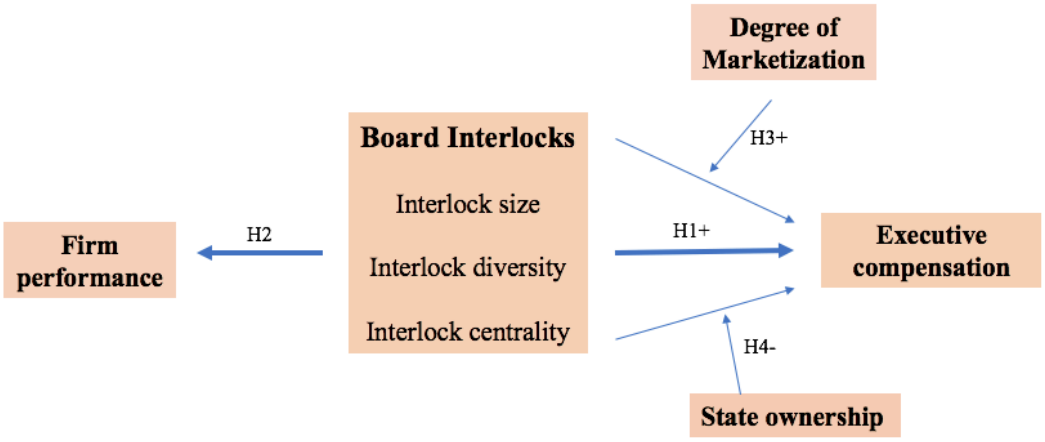

FIGURE 2: Executive interlocks in top 50 SOEs and non-SOEs of China in 2005

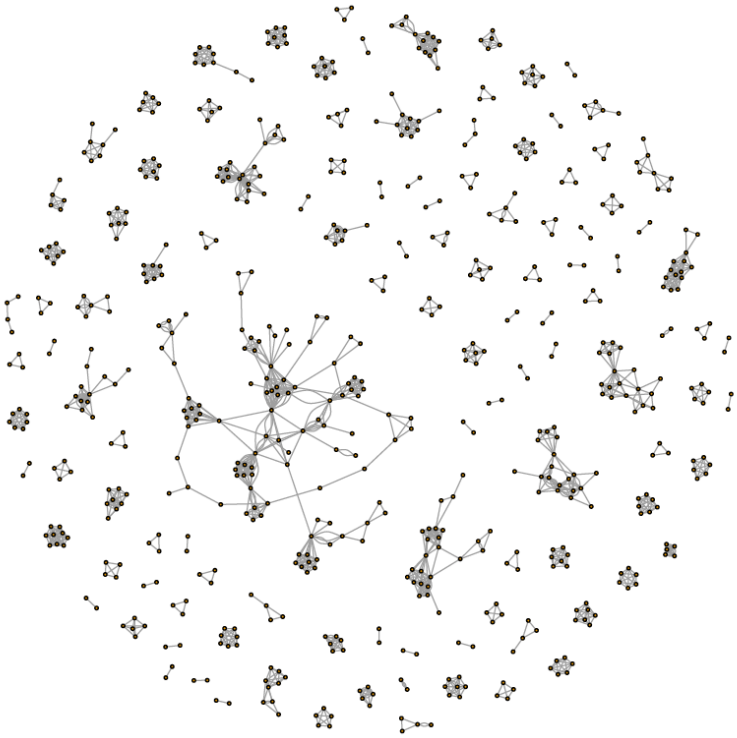

TABLE 1: Descriptive statistics and correlation

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Compensation	1.000											
2 Network diversity	-0.196	1.000										
3 Network size	0.013	0.573	1.000									
4 Network centrality	0.125	0.055	0.234	1.000								
5 Marketization index	0.085	0.021	0.039	0.005	1.000							
6 SOE	-0.096	0.072	0.032	0.218	0.089	1.000						
7 ROA	0.114	0.006	0.020	-0.009	-0.078	0.065	1.000					
8 Executive age	-0.056	0.128	0.049	0.003	0.061	0.183	0.024	1.000				
9 Executive gender	0.016	0.054	0.011	0.037	-0.023	0.054	0.003	0.108	1.000			
10 Executive education	-0.062	0.150	0.046	0.090	0.098	0.184	-0.030	-0.087	0.079	1.000		
11 Executive overseas experience	-0.025	0.176	0.114	-0.017	0.100	0.092	-0.012	0.081	0.028	0.201	1.000	
12 Firm size	0.226	-0.007	0.014	0.301	0.088	0.553	0.033	0.211	0.032	0.244	0.137	1.000
Descriptive statistics												
N	7578	9726	9726	5715	9738	9738	9738	9719	9730	6934	9210	9738
Mean	12.67	0.72	1.59	9.48	8.09	0.56	0.05	50.33	0.88	3.53	0.10	24.19
SD	1.93	0.77	2.82	10.83	1.65	0.50	0.07	8.60	0.32	0.92	0.30	1.59
Median	12.53	1.00	7.00	8.44	1.00	50.00	0.05	1.00	4.00	0.00	24.11	
Min	4.37	0	0	0	.44	0	-.66	24	0	1	0	16.69
Max	24.22	5	71	101	10.25	1	.24	91	1	6	1	29.19

TABLE 2: Mean comparison of executive compensation and networks categorized by the level of marketization

	High marketized			Low marketized			Mean difference	
Variables	N	MEAN	S.E	N	MEAN	S.E	t-statistics	
Cash compensation (in 1000 CNY)	5087	450.47	13.52	4454	362.47	10.13	-87.99***	-5.09
Managerial stock ownership (%)	5250	1.33	0.08	4488	1.24	0.09	-0.08	-0.73
Network size	4833	2.67	0.04	4046	2.54	0.05	-0.13*	-2.10
Network diversity	5249	0.73	0.01	4477	0.71	0.01	-0.02	-1.31
Network centrality	3059	9.41	0.19	2656	9.57	0.22	0.17	0.57

TABLE 3: Mean comparison of executive compensation and networks categorized by ownership type

	SOE			Non-SOE			Mean difference	
Variables	N	MEAN	S.E	N	MEAN	S.E	t-statistics	
Cash compensation (in 1000 CNY)	5281	386.7	10.95	4260	437.5	13.76	50.81**	2.92
Managerial stock ownership (%)	5437	0.03	0.00	4301	2.88	0.13	2.84***	23.99
Network size	5092	2.69	0.04	3787	2.51	0.054	-0.18**	-2.97
Network diversity	5437	0.77	0.01	4289	0.66	0.01	-0.11***	-7.12
Network centrality	3345	11.47	0.21	2370	6.68	0.16	-4.78***	-16.84

TABLE 4: Regressions on executive compensation

	Baseline	Model1	Model2	Model3	Model4
Firm size	0.354***	0.347***	0.327***	0.347***	0.326***
	(0.023)	(0.033)	(0.033)	(0.034)	(0.034)
ROA	5.123***	7.512***	7.431***	7.382***	7.368***
	(0.667)	(0.849)	(0.855)	(0.853)	(0.857)
Executive age	-0.024***	-0.020***	-0.021***	-0.020***	-0.020***
	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Executive gender	0.301***	0.293*	0.266*	0.297*	0.266*
	(0.082)	(0.129)	(0.128)	(0.128)	(0.128)
Executive education	-0.274***	-0.311***	-0.300***	-0.310***	-0.299***
	(0.031)	(0.047)	(0.047)	(0.046)	(0.047)
Executive oversea experience	-0.310***	-0.132	-0.137	-0.131	-0.132
	(0.082)	(0.102)	(0.102)	(0.103)	(0.103)
Marketization index	0.157***	0.148***	0.140***	0.147**	0.185***
	(0.017)	(0.025)	(0.025)	(0.052)	(0.051)
SOE	-1.018***	-1.164***	-0.895***	-1.161***	-0.990***
	(0.071)	(0.099)	(0.187)	(0.099)	(0.192)
Hypothesis testing					
Network diversity		-0.449***	-0.607***	-0.106	-0.229
		(0.056)	(0.105)	(0.249)	(0.248)
Network size		0.096***	0.167***	-0.088	0.070
		(0.019)	(0.021)	(0.108)	(0.104)
Network centrality		0.011**	0.020**	0.040+	0.045*
		(0.003)	(0.008)	(0.020)	(0.021)
SOE × Network diversity			0.283*		0.342**
			(0.111)		(0.113)
SOE× Network size			-0.125***		-0.123***
			(0.025)		(0.026)
SOE× Network centrality			-0.012		-0.010
			(0.008)		(0.008)
Marketization index×Network diversity				-0.042	-0.050+
				(0.029)	(0.030)
Marketization index× Network size				0.022+	0.012
				(0.013)	(0.012)
Marketization index× Network centrality				-0.004	-0.003
				(0.002)	(0.002)
_cons	-243.210***	-251.311***	-257.475***	-253.244***	-258.469***
	(14.200)	(21.264)	(20.931)	(21.361)	(21.082)
N	5205	2828	2828	2828	2828

Robust standard errors in parentheses.Year and industry effects are included.

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

TABLE 5: Regressions on firm performance

	ROA		ROE	
	Model5	Model6	Model7	Model8
Firm size	0.003	0.007	0.020*	-0.005
	(0.003)	(0.006)	(0.009)	(0.008)
lag_ROA	0.307*	0.804***		
	(0.137)	(0.185)		
lag_ROE			0.152	0.925*
			(0.177)	(0.365)
Duality	0.003	0.008	-0.003	-0.030+
	(0.007)	(0.010)	(0.027)	(0.018)
Boardsize	0.000	-0.000	0.002	0.000
	(0.002)	(0.001)	(0.005)	(0.003)
SOE	-0.014	-0.012	-0.052*	-0.016
	(0.009)	(0.008)	(0.026)	(0.017)
Network size_mean	0.003+	-0.001	0.012**	0.005
	(0.001)	(0.002)	(0.004)	(0.003)
Network diversity_mean	0.006	0.023	0.013	-0.019
	(0.010)	(0.017)	(0.036)	(0.022)
Network centrality_mean	-0.000	0.000	-0.002	-0.001
	(0.001)	(0.000)	(0.002)	(0.001)
_cons	2.976	4.345	5.393	-3.710
	(2.532)	(3.288)	(7.598)	(4.801)
N	364	364	374	374

Robust standard errors in parentheses. Year and industry dummies are included.
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001