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CEO Duality and Firm Performance during China's Institutional Transitions

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ABSTRACT Does CEO duality – the practice of one person serving both as a firm's CEO and board chair – contribute to or inhibit firm performance? Agency theory suggests that CEO duality is bad for performance because it compromises the monitoring and control of the CEO. Stewardship theory, in contrast, argues that CEO duality may be good for performance due to the unity of command it presents. The empirical evidence, largely from developed economies, is largely inconclusive. This article joins the debate by extending empirical work to the largely unexplored context of institutional transitions. Our findings, based on an archival database covering 403 publicly listed firms and 1,202 company-years in China, offer stronger support for stewardship theory and relatively little support for agency theory. Finally, we also call for a contingency perspective to specify the nature of conditions such as resource scarcity and environmental dynamism under which CEO duality may be especially valuable.

KEYWORDS CEO duality, China, firm performance, institutional transitions

INTRODUCTION

Does CEO duality – the practice of one person serving both as a firm's CEO and board chair – contribute to or inhibit firm performance? This is probably one of the most important, controversial and inconclusive questions in corporate governance research and practice (Finkelstein and D'Aveni, 1994). Two views, drawn from agency theory and stewardship theory, are directly at odds with each other. Agency theory suggests that splitting the board chair and CEO positions facilitates more effective monitoring and control of the CEO, and that firms failing to do so may underperform those which split the two top positions (Rechner and Dalton, 1991). In contrast, stewardship theory argues that CEO duality establishes strong, unambiguous leadership embodied in a unity of command and that firms with CEO duality may make better and faster decisions and, consequently, may outperform those which split the two positions (Donaldson and Davis, 1991). A third stream of the literature finds that there is no significant relationship between CEO

duality and firm performance (Baliga et al., 1996; Dalton et al., 1998). Finally, the inconclusive nature of the debate leads to a fourth stream of work that endeavours to specify the contingencies under which CEO duality may add to (or reduce) firm performance. In an influential US-based study, Boyd (1995) suggests that CEO duality may be advantageous under conditions of resource scarcity and environmental dynamism (unpredictability of change). These findings are recently corroborated by a Singapore-based study by Tan et al. (2001).

Despite the inconclusiveness of the debate, one aspect that unites most existing studies (see Dalton et al., 1998 for a meta-analysis) is that they are primarily based on samples of firms in developed economies, especially the USA. While firms in developed economies do experience some environmental dynamism (Boyd, 1995; Dess and Beard, 1984), the scale and scope of such dynamism pale in comparison with the comprehensive changes of the 'rules of the game' experienced by firms in China (Wright et al., 2005). Such changes are known as institutional transitions – defined as 'fundamental and comprehensive changes introduced to the formal and informal rules of the game that affect organizations as players' (Peng, 2003, p. 275). What is the relationship between CEO duality and firm performance during China's institutional transitions?

The purpose of this article, therefore, is to address this question. Three compelling theoretical, empirical and policy motivations fuel this study. First, a focus on China allows us to theoretically examine the boundaries of some existing claims (March, 2005; Tsui, 2006). Specifically, do the US-based claims made by Boyd (1995) and the Singapore-based findings by Tan et al. (2001), that CEO duality may be helpful under environmental dynamism, hold in China? Our study can be positioned as a replication with extension. Although replications are generally argued to be important in scientific research (Kuhn, 1970), the management literature has shown a lack of appreciation for replications (Tsang and Kwan, 1999). Yet, replications serve 'the fundamental role of protecting against the uncritical acceptance of empirical results' (Singh et al., 2003, p. 533; see also Peng et al., 2006).

Second, empirically, given that China is already the largest emerging economy (in terms of GDP) and likely to become the world's second largest economy in the foreseeable future, we need to know more about 'what is going on there' if the field aspires to be globally relevant (Meyer, 2006).

Finally, from a policy standpoint, despite the inconclusive findings on the link between CEO duality and firm performance elsewhere in the world (Dalton et al., 1998), Chinese reformers – in academia, media and regulatory agencies – have issued calls to dismantle the practice of CEO duality (Bai et al., 2004; Song et al., 2006; Yu and Gu, 2002). Such an evident belief in the validity of the agency theory perspective, in the absence of concrete empirical evidence, thus necessitates our investigation. Overall, this article follows Peng (2004), who refutes a widely held but rarely examined claim of a positive link between outside directors and firm

performance in China. Here, we focus on another such claim, which is also widely proclaimed but rarely investigated in China: CEO duality may need to be dismantled. In other words, we capitalize on an opportunity to 'contextualize' existing theories embedded in Chinese realities (Peng, 2005; Tsui, 2006).

CONCEPTUAL BACKGROUND AND HYPOTHESES

Agency Theory vs. Stewardship Theory

With a voluminous literature and a more focused mission, undertaking a comprehensive review of this literature is beyond the scope of this article, whose aim is replication with extension.[1] We briefly review different sides of the debate (Table 1) and generate competing hypotheses.

Agency theory is straightforward in its position on CEO duality: It is bad. Having the CEO chair the body which evaluates his/her own work defeats the purpose of having a board. Because CEO duality 'signals the absence of separation of decision management and decision control' (Fama and Jensen, 1983, p. 314), the board will be unable to effectively monitor and evaluate the CEO. The CEO is more likely to use his/her power as board chair to select directors who are not likely to challenge CEO actions (Westphal and Zajac, 1995). The upshot is that a board formally controlled by the CEO is likely to lack independence and vigilance, leading to more agency problems and, ultimately, poor firm performance (Pi and Timme, 1993; Rechner and Dalton, 1991).

Hypothesis 1: CEO duality is negatively associated with firm performance.

Influenced by the behavioural foundation of organizational theory (Cyert and March, 1963), stewardship theory maintains that CEO duality creates a necessary and important unity of command at the top of the organization (Donaldson and Davis, 1991). CEO duality, therefore, helps to avoid confusion among managers, employees and other stakeholders as to who is the boss and facilitates more timely and more effective decision-making (Finkelstein and D'Aveni, 1994). Otherwise, the firm may experience conflicts at the top, reduced speed and effectiveness in decision-making and, finally, poor performance (Brickley et al., 1997; Donaldson and Davis, 1991).

Hypothesis 2: CEO duality is positively associated with firm performance.

Between these two competing hypotheses, a null hypothesis is that CEO duality has no significant relationship with firm performance, which is supported by Baliga et al. (1996) and Dalton et al. (1998). While Hypothesis 1 (H1) and Hypothesis 2 (H2) are standard hypotheses often tested in previous work, we believe that it is

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Table 1. CEO duality and firm performance outside China†

Study	*Sample size (N)*	*Performance measures*	*Key findings*
A. *Supporting agency theory*			
Rechner and Dalton (1991)	141	ROI, profit margin	Non-duality firms outperform duality firms
Pi and Timme (1993)	200	ROA, production efficiency	Duality is a suboptimal leadership structure
B. *Supporting stewardship theory*			
Donaldson and Davis (1991)	321	ROE, share returns	Duality firms outperform non-duality firms
Brickley et al. (1997)	661	ROI, share returns	Duality is an optimal leadership structure
C. *No significant relationship*			
Baliga et al. (1996)	375	ROE, share returns	Market indifferent to changes in duality structure
Dalton et al. (1998)	228	Market and accounting measures	No significant relationship (a meta-analysis)
D. *Supporting contingency relationships*			
Boyd (1995)	192	ROI	Duality is beneficial in low munificence and high turbulence environments
Worrell et al. (1997)	438	Share returns	Triple combination of top positions (board chair, CEO, and president) hurts market performance

Note: † This table is representative but not exhaustive. All studies in this table use US samples.

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crucial to test them in China, where no previous study has formally tested both hypotheses. To the extent that we follow the contingency perspective advanced by Boyd (1995) in that CEO duality's benefits may be more helpful under conditions of resource scarcity and environmental dynamism, we may speculate that H2 may be more likely to be supported in China, given the scale and scope of institutional transitions that firms in this country have experienced recently (Peng, 2003; Peng and Heath, 1996; Wright et al., 2005). The next section further develops this line of reasoning.

CEO Duality During Institutional Transitions

During China's institutional transitions, the government transformed traditional state-owned enterprises (SOEs), which historically were 100 percent owned and controlled by the government, to joint-stock corporations (Clarke, 2005; Cull and Xu, 2005). Such 'corporatization' is not necessarily privatization (Li et al., 2006). Joint-stock corporations are often still majority state owned and controlled, but they also include other investors such as institutional and individual investors (Peng, 2004; Song et al., 2006). Only joint-stock companies are allowed to publicly list shares (CSRC, 2004).

Traditional SOEs do not have boards of directors, and CEOs are directly appointed and supervised by the government. The new joint-stock companies are required to have boards, thus creating the problem of who chairs the board. It is interesting to note that in terms of board composition (insiders vs. outsiders), there are considerable informal pressures from policymakers, scholars and journalists for firms to appoint outside directors who are presumably 'independent' from management (Clarke, 2005). Eventually, as of 2001, all listed firms were legally required to introduce outside directors (CSRC, 2002). Most of these pressures for adding outside directors were influenced by agency theory thinking with the aim of tighter monitoring and control of management.

While there is some pressure for companies to follow another agency theory prescription to abandon CEO duality (Song et al., 2006), the pressure is not as visible as that for appointing outside directors. The *Code of Corporate Governance for Listed Companies in China* (CSRC, 2002), which legally mandates the necessity to appoint outside directors, is conspicuously silent on whether the CEO should (or should not) be appointed as the board chair.[2] In other words, joint-stock firms in China have considerable autonomy in either combining or splitting the two top positions. In reality, the percentage of joint-stock firms practicing CEO duality has been decreasing, from approximately 60 percent in the early 1990s to approximately 30 percent by the end of the 1990s (Bai et al., 2004; Yu and Gu, 2002).[3]

Empirically, there is a small literature on CEO duality in China, with mostly mixed findings (Table 2). Bai et al. (2004) report a negative relationship between CEO duality and firm performance, a finding supported by Song et al. (2006) when

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Table 2. CEO duality and firm performance in China[†]

Study	*Sample size (N)*	*Performance measures*	*Key findings*
A. *Supporting agency theory*			
Bai et al. (2004)	2,905	Tobin's q	Non-duality firms outperform duality firms
Song et al. (2006)[‡]	3,589	ROE, ROA, Tobin's q	Non-duality firms outperform duality firms when state ownership is low
B. *Supporting stewardship theory*			
Tian and Lau (2001)	113	ROE, ROA	Duality firms outperform non-duality firms
Song et al. (2006)[‡]	3,589	ROE, ROA, Tobin's q	Duality firms outperform non-duality firms when state ownership is high
C. *No significant relationship*			
Wu et al. (2001)[‡]	476	ROA	No significant relationship
Yu and Gu (2002)[‡]	384	ROE	No significant relationship

Notes:
[†] This table is representative but not exhaustive. All studies in this table use samples based on listed firms in China.
[‡] The studies were in Chinese language.

firms have a low level of state ownership. Tian and Lau (2001) report a positive relationship, a finding corroborated by Song et al. (2006) when firms have a high level of state ownership.[4] Wu et al. (2001) and Yu and Gu (2002) fail to find any significant relationship between CEO duality and firm performance.

These mixed findings suggest that it may be useful to explore contingency relationships between CEO duality and firm performance in China. Compared with the USA, institutional transitions in China do seem to have problems such as resource scarcity and environmental dynamism. These are the environmental conditions that, according to Boyd (1995) and Tan et al. (2001), may create a potentially ideal context for CEO duality to add value. However, China is a large and unevenly developed country, and not all firms in all industries and regions experience the same degree of resource scarcity and environmental dynamism. Therefore, it is interesting to probe deeper into the conditions under which CEO duality may (or may not) add value. This will be dealt with next.

Resource Scarcity and Environmental Dynamism

Drawing on Boyd's (1995) work in the USA and Tan et al.'s (2001) study in Singapore, we hypothesize that the impact of resource scarcity and environmental dynamism may be contingency variables moderating the relationship between CEO duality and firm performance (Fig. 1).

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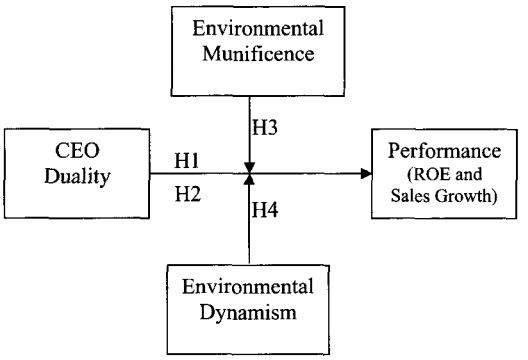

Figure 1. Empirical framework.

Resource dependency theory suggests that preserving and securing resources to facilitate growth or prevent decline (Pfeffer and Salancik, 1978; Thompson, 1967) during institutional transitions is a crucial managerial task (Peng and Heath, 1996; Roth and Kostova, 2003). Some environments (e.g., certain regions) may offer more abundant resources – known as munificence (Dess and Beard, 1984). For example, certain regions attract a significant number of foreign investors, who not only bring significant capital, but also substantial managerial, technological and governance resources (Luo and Peng, 1999; Zhou et al., 2002). However, most foreign direct investment (FDI) in China is concentrated in coastal regions (Luo and O'Connor, 1998). As a result, most heartland regions are starved of FDI.[5] Therefore, increased responsiveness and consolidation of power afforded by CEO duality may be an asset in a low munificence environment (such as heartland regions). Conversely, a firm in a high munificence environment (such as a coastal region) may have a lesser need for CEO duality.

H3: There will be a stronger positive relationship between CEO duality and firm performance in a low munificence environment than in a high munificence environment.

In addition to resource scarcity, environmental dynamism (unpredictability of change) is also a major manifestation of institutional transitions (Dess and Beard, 1984). Post-Mao China first experienced a cautious but exciting period of rapid opening up in the early to mid 1980s, only to be dramatically slowed down in the late 1980s due to unexpected and tough intervention of the economy by the central government. The early 1990s, therefore, witnessed a period of retrenchment. Then the economy grew by leaps and bounds from the mid 1990s. Within China itself, different industries and regions have experienced different levels of dynamism and turbulence (Luo and Peng, 1999). For example, there was a sudden and total nationwide ban on direct selling in 1998, catching American firms such as Amway and Avon Lady and numerous Chinese entrepreneurs totally off guard. Overall, such booms and busts in the environment may create a strong demand

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for a faster, more unified corporate response to changing events, which may be better provided by CEO duality (Boyd, 1995; Li and Simerly, 1998; Tan et al., 2001). It is also possible that such dynamic institutional transitions may make it difficult for one person to 'make all of the calls' (Cyert and March, 1963; Lawrence and Lorsch, 1967). Yet, a firm with a split at the top may potentially introduce conflicts between the board chair and the CEO, and may delay much needed decision speed. In Singapore, Tan et al. (2001) found that CEO duality had no impact on firm performance during 1995 and 1996, when the environment was relatively calm. However, in the turbulent year of 1997, CEO duality had a significantly positive impact on firm performance, thus underscoring our arguments.

H4: There will be a stronger positive relationship between CEO duality and firm performance in a high dynamism environment than in a low dynamism environment.

Overall, Hypothesis 3 (H3) and Hypothesis 4 (H4) are proposed not because we believe that there is no need for tight monitoring of the CEO; in fact, the very rationale behind SOE reforms in China lies in the need for more effective governance (Peng, 2004). H3 and H4 are proposed because it may be plausible to argue, following studies in the USA (Boyd, 1995) and Singapore (Tan et al., 2001), that during China's turbulent institutional transitions, the benefits associated with CEO duality suggested by stewardship theory may outweigh the potential agency costs highlighted by agency theory.

METHODOLOGY

Sample

In 1996, there were approximately 36,000 joint-stock companies in China. In this article, we focus on the 530 firms listed on the Shanghai and Shenzhen Stock Exchanges at the end of 1996. Although a small number of non-SOEs are listed, the majority of listed firms are traditional SOEs transformed to become joint-stock (but still state-owned) companies. So are all of our sampled firms.

There are two advantages associated with our approach. First, most existing research samples US *Fortune* 500 firms and a meta-analysis by Dalton et al. (1998) suggests that 'the true population relationship . . . is near zero' (p. 282). However, Dalton et al. (1998, p. 284) caution that these results 'may not be properly generalizable outside the set of large (US) corporations'. Our aim is to conduct a replication with extension in China – our H1 and H2 being primarily replication and our H3 and H4 representing extension. Even the small China literature on CEO duality is itself highly mixed (Table 2). To the extent that science is a cumulative enterprise, the field needs more replications with extensions in order to

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make further progress (Peng et al., 2006; Singh et al., 2003; Tsang and Kwan, 1999). Second, archival data on listed firms (Bai et al., 2004; Peng, 2004; Song et al., 2006; Tian and Lau, 2001; Wu et al., 2001; Yu and Gu, 2002) are more accessible than case or survey data typically used in many previous China studies (Luo and Peng, 1999; Peng and Luo, 2000; Tan and Peng, 2003).

A second advantage of our study is that we examine the first five-year period (1992–1996, inclusive) during which both Shanghai and Shenzhen Stock Exchanges were in full operation.[6] Findings for the first five full years during which firms were listed in China thus provide a baseline for future research to build on. In contrast, all China studies cited earlier deal with a later period: Bai et al. (2004) cover 1999–2001; Tian and Lau (2001) use 1996 (one year only); Song et al. (2006) deal with 1999–2003; Wu et al. (2001) draw on 1999 (one year only); and Yu and Gu (2002) study 1997–2000. As noted earlier, due to increased academic, media and official pressure and scrutiny, the percentage of firms practicing CEO duality decreased in the 1990s. Given the traditional practice of CEO duality, the early 1990s was a 'pure' period during which some (but not all) firms voluntarily separated the two top positions (in the absence of significant academic, media and official scrutiny), whereas others maintained CEO duality. Therefore, it would be especially interesting to investigate the impact of CEO duality on firm performance during the unexplored period of the early 1990s.

Initially we attempt to examine all 530 firms listed during 1992–1996 (inclusive). We first delete 15 non-SOEs from the sample to ensure that we compare 'apples' (transformed or joint-stock SOEs) with 'apples'. Among the remaining 515 firms, a complete search of the prospectuses and annual reports finds that 112 of them miss important data.[7] Therefore, our final sample is 403 firms (76 percent of the listed firms by the end of 1996). *t*-tests comparing the excluded and sampled firms suggest no significant demographic differences, implying little systematic sampling bias. Because each year a number of newly listed firms are added, we have a total of 1,202 company-year observations (49 in 1992, 171 in 1993, 272 in 1994, 307 in 1995 and 403 in 1996) – see Table 3.

Table 3. Listed and sampled companies during 1992–1996

	1992†	*1993*	*1994*	*1995*	*1996*
Total number of listed companies	52	181	291	323	530
Market capitalization (billion yuan)‡	119	352	364	347	984
Sampled company-years (Total N = 1,202)	49	171	272	307	403

Notes:

† The year 1992 is the first full year when both national stock exchanges in China were in operation.

‡ The exchange rate during this period was approximately US$1 = 8.3 yuan.

Source: CSRC (2004) http://www.csrc.gov.cn.

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Independent and Dependent Variables

Variables are coded by Chinese-speaking graduate assistants based on prospectuses and annual reports. If CEO duality can be identified (one person serves both as CEO and board chair), a dummy variable of '1' is used. Otherwise, it is '0'. Overall, CEO duality is found in 54 percent of firms.

Munificence is defined by headquarters' location of the firm. Coastal provinces and municipalities are regarded as high munificence environments (Zhou et al., 2002). The 11 coastal provinces and municipalities are Beijing, Fujian, Guangdong, Hainan, Hebei, Jiangsu, Liaoning, Shandong, Shanghai, Tianjin and Zhejiang. Conversely, non-coastal regions are regarded as low munificence environments. Consequently, firms are divided into two groups based on whether their headquarters, at the time of initial listing, are in high or low munificence environments.[8] Overall, 804 and 398 company-year observations are from high and low munificence regions, respectively.

Environmental dynamism is operationalized by a standardized measure of the volatility of industry sales growth rate over the same period (1992–1996). We then follow Boyd (1995) to split the sample into two groups (high vs. low dynamism) based on the sample mean. Consequently, 684 and 519 company years confront environments with a high level (above average) and a low level (below average) of dynamism, respectively.

For four reasons, we use two widely used accounting-based performance measures, return on equity (ROE) and sales growth. First, since capital markets in China are not well developed, volatile market-based measures may not reflect firms' true performance. The turnover ratios of the Chinese stock exchanges are approximately 700–1,000 percent vs. 67 percent in the USA (Xu and Wang, 1999, p. 85). The average holding period lasts about one to two months in China vs. 18 months in the USA. Second, Chinese scholars, practitioners and officials attach great importance to ROE (see Table 2). Since 1996, China Securities Regulatory Commission (CSRC) – the Chinese equivalent of the US Securities and Exchange Commission (SEC) – has required that in order to qualify for a new listing, a firm's ROE has to be no less than 10 percent in each of the three most recent years. For a firm already listed, its ROE has to be positive in one of every three consecutive years; otherwise, it will be delisted. Operationally, we obtain ROE by using net income divided by the average of owners' equity during a given year. Third, since a single measure such as ROE may be inadequate, we use a second measure, sales growth (annual growth of total revenue), to triangulate the important construct of firm performance. Fourth and finally, these two performance measures have been widely used in previous studies in China (e.g., Peng, 2004; Tan and Peng, 2003), thus allowing us to compare our results with previous work.

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Control Variables

Six control variables are employed: (i) firm age; (ii) firm size (logarithm of total assets); (iii) state ownership; (iv) outside directors; (v) prior performance; and (vi) industry. State ownership is important for two reasons. First, all sampled firms are transformed SOEs, in which the state on average still holds approximately 39 percent equity. Second, the role of state ownership during the transitions is unclear (Song et al., 2006). On the one hand, the traditional view on state ownership is negative (Xu and Wang, 1999). In contrast, during uncertain transitions, state ownership may enable firms to maintain a higher level of slack (Tan and Peng, 2003). This may be beneficial when dealing with environmental uncertainties, because slack may insulate the technical core of the organization from environmental turbulence (Bourgeois, 1981). Because these two contrasting views make it difficult to predict the direction of the impact of state ownership a priori, state ownership is controlled.

Outside directors, another control variable, are typically studied together with CEO duality in corporate governance research (Dalton et al., 1998). On the one hand, a firm which practices CEO duality is likely to have a smaller percentage of outside directors. However, a firm which splits the top two positions is more likely to have a strong, assertive board with a substantial presence of outside directors (Finkelstein and D'Aveni, 1994). Although Chinese joint-stock firms experience significant pressures from policymakers, scholars and journalists to introduce outside directors to the board (CSRC, 2002), the impact of outside directors on firm performance remains ambiguous – both in China (Bai et al., 2004; Peng, 2004; Tian and Lau, 2001) and elsewhere (Dalton et al., 1998). In China, Bai et al. (2004) and Tian and Lau (2001) report no significant relationship between outside directors and firm performance. Peng (2004) finds that taken as a whole, outside directors have relatively little impact on ROE but a moderately positive impact on sales growth in China. Consequently, the percentage of outside directors on corporate boards is controlled in this study.

Prior performance is measured by ROE and sales growth in the previous year. Industries are broadly controlled using dummy variables to indicate whether a firm belongs to one of the six main industry groups classified by the stock exchanges, namely, manufacturing, conglomerate, distribution, real estate/properties, public utilities and banking/financial industries.

Analytical Approach

To test H1 and H2, we use a standardized regression model similar to those employed in related work (see Peng [2004] for discussion of the autocorrelation issue in data pooled over multiple years). To investigate H3 and H4, we undertake two analyses. First, we follow Boyd (1995) to conduct a correlation analysis, by

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dividing our sample in two categories (high vs. low munificence environments, high vs. low dynamism). Our second test for H3 and H4 goes beyond Boyd's (1995) correlation analysis, by running eight different standardized subgroup regressions based on the two environmental differences identified above (munificence and dynamism) on ROE and sales growth. Chow tests, which can identify whether the regression estimates of two subgroups are significantly different, are employed.

FINDINGS

Table 4 reports basic statistics. We first examine variance inflation factors (VIF), which do not show significant collinearity (VIF < 3.17). Normality is checked with a modified Kolmogorov-Smirnov test, with the results (0.05–0.08) reasonably supporting the validity of the normality assumption.

In Table 5, we first focus on the full sample of 1,208 company-years. Models 1 and 3 use control variables only. Models 2 and 4 add the CEO duality variable, whose addition increases R^2 by three percent and four percent for ROE and sales growth, respectively. Both Models 2 and 4 suggest that CEO duality asserts a significantly positive influence on ROE and sales growth, thus supporting H2 and refuting H1. Next, the robustness of these findings is investigated through a series of one-year lagged models. In Models 3 through 12, we examine the impact of CEO duality in year one (e.g., 1992) on performance in year two (e.g., 1993). Although significance levels vary, these models all support H2.[9]

Table 6, in two panels, reports tests for H3 and H4. Panel A reports that duality and ROE have a correlation of 0.23 in low munificence environments, and 0.05 in high munificence environments. Likewise, the correlations between duality and ROE are 0.28 for high dynamism environments and 0.11 for low dynamism environments. *z*-statistics indicate that these differences are significant. Also, in terms of the correlations between duality and sales growth, again, statistically

Table 4. Means, standard deviations and correlations of pooled data

Variables	*Means*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*
1. ROE	0.08	0.07							
2. Sales growth	0.12	0.11	0.09*						
3. CEO duality	0.58	0.23	0.11*	0.17*					
4. Firm age	23.11	12.05	−0.03	0.05	−0.07				
5. Firm size (log)	12.78	19.45	−0.02	−0.14*	−0.08	0.26**			
6. State shares	0.39	0.27	−0.05	−0.10*	0.13*	0.19**	0.24**		
7. Outside directors	0.41	0.17	0.05	0.13*	−0.07	0.07	−0.07	0.07	

Notes:
N = 1,202 company-years. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

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Table 5. Standardized regression models for Hypothesis 1 and Hypothesis 2

	(1) Full sample ROE	*(2) Full sample ROE*	*(3) Full sample sales*	*(4) Full sample sales*	*(5) 1992–1993 ROE*	*(6) 1992–1993 Sales*	*(7) 1993–1994 ROE*	*(8) 1993–1994 sales*	*(9) 1994–1995 ROE*	*(10) 1994–1995 sales*	*(11) 1995–1996 ROE*	*(12) 1995–1996 sales*
CEO duality		0.12*		0.16**	0.11*	0.13**	0.09*	0.14**	0.09*	0.13**	0.11*	0.16**
		(0.07)		(0.09)	(0.10)	(0.05)	(0.11)	(0.08)	(0.05)	(0.06)	(0.07)	(0.06)
Firm age	−0.14*	−0.13**	0.02	0.06	−0.08*	0.04	−0.07*	−0.02	0.04	0.07*	−0.07*	−0.09*
	(−0.07)	(−0.03)	(−0.02)	(−0.02)	(−0.07)	(−0.02)	(−0.06)	(−0.01)	(−0.04)	(−0.03)	(−0.01)	(−0.07)
Firm size	−0.02	−0.02	−0.09*	−0.11*	−0.16**	−0.03	−0.04	−0.08*	−0.11*	−0.17**	−0.09*	−0.01
	(0.02)	(0.02)	(0.08)	(0.10)	(0.14)	(0.03)	(0.04)	(0.04)	(0.03)	(0.13)	(0.02)	(0.01)
State shares	−0.31**	−0.29***	−0.11**	−0.15**	−0.10**	−0.08*	−0.07*	−0.04	−0.15**	−0.05	−0.18**	−0.28**
	(0.10)	(0.14)	(0.06)	(0.08)	(0.08)	(0.06)	(0.04)	(0.03)	(0.13)	(0.02)	(0.07)	(0.07)
Outside directors	0.04	0.04	0.03	0.08*	0.03	0.07*	0.05	0.08*	0.01	0.02	0.05	0.10*
	(0.01)	(0.03)	(0.02)	(0.03)	(0.03)	(0.05)	(0.05)	(0.07)	(0.01)	(0.02)	(0.03)	(0.07)
Prior performance	0.18**	0.20**	0.19**	0.15**	0.13**	0.26***	0.17**	0.14**	0.23**	0.23**	0.15**	0.27***
	(0.09)	(0.11)	(0.12)	(0.11)	(0.10)	(0.08)	(0.12)	(0.09)	(0.17)	(0.13)	(0.17)	(0.22)
Adjusted R^2	0.18	0.21	0.21	0.25	0.15	0.22	0.17	0.23	0.18	0.26	0.15	0.29
F	2.19*	3.12**	4.31**	7.42***	5.99**	6.05**	2.18*	3.75*	2.12*	5.89**	3.58*	8.13***
N (company-year)	1,202	1,202	1,202	1,202	49	49	171	171	272	272	307	307

Notes:

Standard errors are reported in the parentheses. Industry dummies included in all models. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 6. Correlation analysis and standardized subgroup regression models for Hypothesis 3 and Hypothesis 4

Panel A.	Duality/ROE correlation			Duality/sales correlation		
Correlation analysis	(1)	(2)		(3)	(4)	
	High	Low	*z*-score	High	Low	*z*-score
Munificence	0.05	0.23	3.07**	0.08	0.31	3.87***
Dynamism	0.28	0.11	2.68**	0.24	0.07	4.09***

Panel B.	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Standardized subgroup regression models	High munificence ROE	Low munificence ROE	High munificence sales	Low munificence Sales	High dynamism ROE	Low dynamism ROE	High dynamism sales	Low dynamism sales
CEO duality	0.09	0.26**	0.11*	0.33***	0.24***	0.06	0.27***	0.07
	(0.07)	(0.09)	(0.10)	(0.05)	(0.11)	(0.05)	(0.11)	(0.06)
Firm age	–0.12**	0.04	–0.18**	–0.05	–0.07*	–0.02	0.03	0.07
	(0.11)	(0.01)	(0.07)	(0.04)	(0.02)	(0.01)	(0.03)	(0.02)
Firm size	–0.05	–0.05	–0.06*	–0.01	–0.01	–0.07*	–0.08*	–0.11**
	(0.03)	(0.02)	(0.04)	(0.03)	(0.07)	(0.04)	(0.03)	(0.03)
State shares	–0.12**	–0.17**	–0.11**	–0.08*	–0.05	–0.18*	–0.06*	–0.11**
	(0.07)	(0.04)	(0.09)	(0.01)	(0.04)	(0.03)	(0.05)	(0.07)
Outside directors	0.03	0.02	0.08*	0.11**	0.05	0.05	0.12**	0.13**
	(0.01)	(0.02)	(0.03)	(0.09)	(0.05)	(0.05)	(0.01)	(0.02)
Prior performance	0.30***	0.28***	0.15**	0.17**	0.28***	0.16**	0.18**	0.23**
	(0.12)	(0.17)	(0.11)	(0.07)	(0.20)	(0.10)	(0.12)	(0.13)
Adjusted R^2	0.16	0.24	0.17	0.28	0.21	0.15	0.25	0.20
F	6.21**	7.42***	5.88**	7.61***	4.77***	3.09**	4.29***	3.18**
N (company-year)	804	398	804	398	684	518	684	518

Notes:
In Panel B, standard errors are reported in the parentheses. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

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significant differences are found between high vs. low munificence environments and between high vs. low dynamism environments. In other words, correlation analysis reported in Panel A, which is similar to Boyd's (1995) analysis, supports both H3 and H4.

In Panel B of Table 6, we divide the sample into high/low munificence environments and high/low turbulence environments, and generate eight standardized subgroup regression models based on two dependent variables (ROE and sales growth). Throughout all the eight models, while CEO duality always asserts a positive (although not always significant) influence on performance, such an impact is particularly significant in low munificence environments (Models 6 and 8) and high dynamism environments (Models 9 and 11). Pair-wise Chow tests between Models 5 and 6, 7 and 8, 9 and 10, and 11 and 12 further support the significant differences of the CEO duality coefficients in these models. Overall, H3 and H4 are strongly supported.

DISCUSSION

Contributions

Two contributions emerge. First, theoretically, we join the debate between agency theory and stewardship theory, not by simply conducting 'one more' study on whether CEO duality is good or bad, but by advocating and enriching a contingency perspective focusing on resource scarcity and environmental dynamism in the context of China's institutional transitions (March, 2005; Meyer, 2006; Peng, 2003; Tsui, 2006). Therefore, the right question to ask is not whether CEO duality is uniformly good or bad, but rather, under what contingencies predictions from one theory are more likely to be supported. In this case, we find that during institutional transitions, CEO duality is not only likely to have a positive impact on firm performance, such a positive impact is especially likely to be profound for firms confronting problems associated with resource scarcity and environmental dynamism. Overall, this article serves as an example of how to 'contextualize' existing theories embedded in Chinese realities (Peng, 2005; Tsui, 2006).

Second, empirically, we have undertaken a rigorous replication with extension. Although replications are crucial for scientific progress (Kuhn, 1970), there is a paucity of replication in strategy research (Singh et al., 2003). While one may question whether this study is a 'fair' replication given the institutional differences, it is important to note that there has been no strict replication in social science research (Peng et al., 2006; Tsang and Kwan, 1999). To the extent that the debate on CEO duality is unsolved elsewhere and that such research is very limited in China, we believe that it is important to test competing hypotheses on CEO duality. Because H2 is based on stewardship theory and is supported and H1 is

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based on agency theory and is not supported, we find that Boyd's (1995) and Tan et al.'s (2001) results in the USA and Singapore, respectively, can be replicated in China. Through extension, our investigation of H3 and H4 adds a deeper and finer-grained understanding on what is behind the support for H2. Specifically, it is the strong support found in firms confronting low munificence (H3) and high dynamism environments (H4) that drives the support for H2. Overall, this article joins a small number of recent studies on corporate governance in a Chinese context that explicitly test competing hypotheses from different theories (Peng, 2004; Tan and Peng, 2003). More broadly, this article represents a part of a series of recent work that conceptually pushes corporate governance research in emerging economies (Peng et al., 2007; Young et al., 2007) and empirically draws on data from Hong Kong (Au et al., 2000), Russia (Peng et al., 2003) and Thailand (Peng et al., 2001) as well as China.

Limitations and Future Research Directions

Despite a lack of support for agency theory-based H1, we would not argue that this study provides a definitive test of agency theory during institutional transitions. Further tests to probe deeper into the principal-agent dynamics associated with CEO duality are called for. Our call for such future work is driven by two considerations. First, as noted earlier, agency problems are believed to be extensive in Chinese SOEs and the very reforms to corporatize traditional SOEs have attempted to strengthen monitoring and control of top management (Clarke, 2005; Young et al., 2007).[10] Second, even when going through comprehensive and uncertain transitions, not all firms benefit from CEO duality (Yeung, 2006). In Russia, Judge et al. (2003) report contrasting findings relative to ours: CEO duality is bad for firm performance in Russia. While one can methodologically criticize the Russia study in that it only has a very small sample size (45 firms), draws on a single year survey (undertaken in 2002) and relies on a single measure of self-reported performance, we believe that the Russia findings by Judge et al. (2003) raise a flag of caution in generalizing our findings, even when dealing with firms going through institutional transitions.

One way to probe further into the dynamics underlying CEO duality is to examine the equity stakes held by CEOs and other top managers. In this study, we have originally sought to control for the equity stakes held by inside managers. However, the mean top management holding is only 0.4 percent – a reflection of the SOE nature of listed Chinese firms with little private or family ownership. As a result, this control variable has no significant impact on firm performance, and has thus been dropped. In the future, as equity stakes of Chinese top managers increase, this variable may become more important.

Another issue which we have not addressed is the role of the supervisory board, which in theory supervises the (regular) board regardless of whether there is CEO

duality or not (CSRC, 2002). In practice, however, supervisory board members are often government bureaucrats, communist party officials and labor union officers – hardly the kind of individuals with the necessary motivation, expertise, and experience in monitoring and evaluating the (regular) board and CEO in competitive, modern enterprises. In a high profile speech, Laura Cha (2001), a former Hong Kong Securities and Futures Commission official who became the vice chair of CSRC, painted a rather unflattering picture: 'This system of supervision is not effective as it is often unclear whose interest is being represented by the supervisory board . . . The presence of the supervisory board may give the illusion of certain checks and balance in the listed company when none existed'. Consequently, we do not examine the role of the supervisory board. However, future work may probe its emerging role.

Finally, beyond CEO duality, CEOs may wear three 'hats'. In the USA, the CEO who wears three 'hats' also serves as the board chair and president. In China, a CEO can also wear three 'hats'. However, the similarity stops there. In China, the third 'hat' is usually the communist party secretary (chief) in the SOE. While US capital markets are indifferent to CEO duality (Baliga et al., 1996), the triple combination of top positions at US firms (one person serving as the CEO, board chair and president) is viewed negatively by US capital markets (Worrell et al., 1997). In China, one of the stated goals of SOE reforms is to remove them from political influence. Thus, whether or not the triple combination of top positions (board chair, CEO and communist party chief) adds to or inhibits firm performance in China remains an intriguing direction for future work. Overall, fine grained research will provide additional insights on the duality-performance relationships (e.g., Harrigan, 1983).

CONCLUSION

Overall, our findings on the relationship between CEO duality and firm performance during China's institutional transitions not only offer stronger support for stewardship theory and relatively little support for agency theory, but also call for a contingency perspective to specify the nature of conditions such as resource scarcity and environmental dynamism under which CEO duality may be especially valuable. For practitioners and policymakers who aspire to improve corporate governance in China, it is important to note that our findings do not support the current trend, in vogue in the West and in China, to separate the top two positions. On a more speculative note, the changes in China in the last 10 years in favour of splitting the top two positions, regardless of the industry and region of the firms, may not be fully justified from a performance standpoint, as we have uncovered. In light of the globally mixed findings in the West and the new corroborative findings from China, we believe that proposals derived from agency theory, such as

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dismantling and/or discouraging CEO duality, need to be embraced with caution during institutional transitions.

NOTES

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[1] In this article, our intention is neither to comprehensively review the literature, nor to develop new, overarching theory. While we certainly appreciate the importance of theory building and have done so elsewhere (see Peng, 2003; Peng and Heath, 1996), the primary motivation of the present article is empirical – replication with extension (Peng et al., 2006; Singh et al., 2003; Tsang and Kwan, 1999).

[2] In Russia, CEO duality has been formally banned since 1996 (Judge et al., 2003).

[3] In Singapore, Tan et al. (2001) found that CEO duality decreased slightly from 43 percent in 1995 to 35 percent in 1997.

[4] CEO duality is also examined by Peng's (2004) study on outside directors as a control variable, not a main variable. Peng (2004) finds a moderately positive relationship between CEO duality and firm performance.

[5] During the 1992–1999 period, the 11 coastal provinces absorbed between 86 percent to 91 percent of total FDI inflows to China. By the end of 2004, they attracted 86 percent of the country's total FDI stock (Ministry of Commerce, 2006).

[6] The Shanghai and Shenzhen Stock Exchanges opened in 1990 and 1991, respectively.

[7] Most of the missing data are in the area of the status of a director (insider vs. outsider), which is used as a control variable. Because of the ambiguity of ownership of listed firms, many of which are owned by an unlisted 'parent' entity (often a government agency), it is often difficult to ascertain whether a director from such an unlisted entity is an insider or outsider.

[8] Of course, firms headquartered in low munificence environments may choose to operate in high munificence regions in order to access more abundant and higher quality resources. For example, Shanghai, a high munificence region, has attracted Chinese firms from around the country to set up subsidiaries there (in addition to attracting approximately 350 of the Global Fortune 500 companies from around the world). However, it is important to note that there is still very strong regional protectionism in China (that is, one province often protects its markets and discriminates against firms from other provinces). As a result, whether the firm is headquartered in a high or low munificence home region may have a strong bearing on firm performance.

[9] In addition, we have undertaken a series of robustness checks: (i) two-, three- and four-year lag models; and (ii) industry-based models. The results are all qualitatively similar.

[10] There may be other governance issues that are far more important and relevant than CEO duality. For example, Young et al. (2007) argue that principal-principal conflicts, as opposed to traditional principal-agent conflicts, may be a crucial, underexplored dimension in corporate governance in China.

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