

# CEO Duality and Firm Performance in the Pharmaceutical Industry of China: The Moderating Role of Ownership Type

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CEO duality means one individual can hold the position of CEO and chairman of the board at the same time. Prior research is inconclusive whether CEO duality has a positive or negative impact on financial performance. Previous positive results support agency theory, supporting that CEO duality damages financial performance because CEO duality compromises control and monitoring. The opposite argument supports stewardship theory, arguing that unity of command is useful for financial performance. This recent study explores CEO duality impact on financial performance in the pharmaceutical industry of China. More specifically, it tests ownership type as a moderating role in the relationship between CEO duality and firm performance. The random effect model was used, for the period 2011- 2019 in China. The findings reveal that CEO duality has a positive impact on firm performance in the pharmaceutical industry, which supports the stewardship theory. Moreover, the findings of the study do not support the moderating effect of ownership type in the association between CEO duality and firm performance in the pharmaceutical industry of China. The sensitivity analysis also confirms the main findings of the study. The empirical findings suggest important policy implications for the pharmaceutical industry of China.

**Key words:** *CEO Duality, Ownership type, Random effect model, Pharmaceutical industry*



## 1. INTRODUCTION

CEO duality has been an issue of debate and has gained much attention from practitioners and in academic literature (Iyengar & Zampelli, 2009). CEO duality refers to when a CEO holds dual positions at the same time, that is, chairman of board and CEO (Lin, 2001). Over the last two decades, most companies are enhancing board independence and converting CEO duality to non-duality (Guillet et al., 2013). From 1999 to 2003, most of the firms changed from CEO duality to non-duality, while only a few firms converted from non-duality to duality. Despite this, previous studies suggest that the relationship of trends of duality to non-duality with firm performance are not clear (Chen et al., 2008). The CEO duality is in conflicting perspective with agency and stewardship theories (Geiger & Raghunandan, 2002). Agency theory represents the separation between the ownership and management. Agency theory argues that CEO duality has negative perspectives (Hogan & Noga, 2012) whereas stewardship theory supports CEO duality and also argues that CEO duality improves the performance of a company (Hogan & Noga, 2012).

The debate on the dual position of the CEO has moved around the strategic issue of power distribution between control, governance and management of a company. Duality is not only a hot issue of leadership and governance, but it also relates to firm performance. Peng et al. (2004) discussed CEO duality and firm performance in China. Findings of this study suggest that CEO duality has a positive link with performance. ROA and sales growth was used to measure the performance. Elsayed (2007) used the CEO duality as moderator. Mohan and Chandramohan (2018) found that CEO duality has a negative effect on financial performance. Tang (2017) revealed that CEO duality negatively impacts on financial performance when a CEO holds more power as compared to other executives and the board has blocked the outside director. Nazar (2016) used the ROA as a proxy for financial performance. The findings of the study explored the negative link between CEO duality and financial performance. Opposite findings, however, support CEO duality, for example, Isik (2017) and Kula (2005) explored the positive link between CEO duality and financial performance.

Ramdani and Witteloostuijn (2010) used the ROA as a proxy for financial performance. The results indicate a positive relationship between CEO duality and financial performance. In the case of China, for example, Tang (2017) describes the association between CEO duality and firm performance during the transitional period of China. An empirical investigation of CEO duality and firm performance described the inclusive evidence in the Chinese context. CEO duality seems to be an obstacle to good governance and policymakers in China (Peng et al., 2007). The empirical studies on the relationship provide mixed results regarding CEO duality and firm performance (Dopuch et al., 2001; Yasser et al., 2014). More specifically this study emphasised the study of Guillet et al. (2013), which evaluated the restaurant type (full-service restaurants vs quick-service restaurants) as a moderator in the association between CEO duality and firm performance. Following the suggestion to validate the results of the (Guillet et al., 2013), this study used more detail data set to test the ownership type as moderator in the



association between the CEO duality and firm performance in China. China announced enterprise reforms in 1978. Before these reforms, the Chinese government was controlling all the activities of the state-owned enterprises (SOEs). This reform brought in contract system for managers and introduced the planned economic system (Firth et al., 2012). Since the enterprise reform, agency problems of the SOEs has lessened the performance of SOEs (Wang et al., 2004). Chinese enterprises have been suffering from governance problems (Chen & Chu, 2005).

Corporate governance has received much more attention in China. Today, it is a debatable issue as to how China can improve the corporate governance of listed companies (Liu, 2006). Corporate governance practice varies according to industry (Guillén, 2000). Following current theorising on corporate governance problems, this study sheds light on the CEO duality issue in the Chinese pharmaceutical industry. Over the last thirty years, the Chinese pharmaceutical industry has drastically changed. It has become second largest market around the world and is grew from \$108 billion to \$167 billion from 2015 to 2020, which represents the 9.1 % of the annual world market growth. Public and private healthcare expenditure are rapidly increasing from \$640 billion in 2015 to \$926.8 billion in 2020. The Pharmaceutical industry earned a 17% from health care. According to the market categorization, the significant part of the total sales from generics market. The government policies also promote the generics market. The patented drugs contribute to 22% of the total sales but its growth rate almost double. From a couple of years, the government of China is rapidly changing in the policy of the reimbursement, which directly effects on sales promotion and hospital financing (US Department of Commerce, 2016).The dynamic industry characteristic contributes to society increase importance. Moreover, the corporate governance issues in the Chinese pharmaceutical industry, for instance, Sihuan Pharmaceuticals was largest health care company. It was suspended from Hong Kong stock exchange due to corporate governance (FI, 2017). After the corporate governance issues in the Pharmaceutical industry call the researcher to explore the different dimension of the corporate governance in Chinese pharmaceutical industry.

This present study attempts to shed light on answering the question: "What are the implications of CEO duality to firm performance for Chinese pharmaceutical industries?" The current study aims to test the theory of stewardship in a Chinese context, by identifying the moderating factor of Ownership type. The present study extends the research knowledge of (Guillet et al., 2013). This study intends to explore the relationship between CEO duality and firm performance during the moderating effect of ownership type for the pharmaceutical industry for the period 2011-2019. This study extends the literature in several ways. First, this study investigates the relationship between CEO duality and firm performance, a relationship that is inclusive of prior literature. Second, this study explores the moderating role of ownership types on the relationship between CEO duality and firm performance. China has two different ownership structure SOEs and non- SOEs. The Chinese government has strong influence on SOEs. The government can access to SOEs for own policies. This complexity in the operation of SOEs in comparison to non-SOEs call to investigate the ownership structure as moderating role. The

rest of this study is organized as follows, literature review and hypothesis development, research methodology, model specification, result, discussion, and conclusion.

## **2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **2.1. CEO duality**

CEO duality implies that one individual can hold the two positions at the same time CEO and chairman of the board (Kim et al., 2009). CEO duality and firm performance have been gained much importance from academic and practitioner perspectives. Mainly, two different theories represent the conflicting views: agency theory argues the negative opinions about the CEO duality (Fama & Jensen, 1983; Jensen & Meckling, 1976). While, the positive effect of CEO duality support the stewardship theory (Anderson & Anthony, 1986; Donaldson & Davis, 1991; Dahya et al., 1996; Bhagat & Black, 2001).

### **2.2. Financial performance**

Different variables of financial performance have been used in previous literature with CEO duality, for example, Abdullah (2004) used the ROA, ROE, and EPS as a financial performance with CEO duality. Moscu (2013) found the association between CEO duality and financial performance. Further, Guillet et al. (2013) developed the CEO duality link with a financial performance by using the Tobin's Q. Yasser et al. (2014) used the Tobin's Q model for developing the association between CEO duality and firm performance.

### **2.3. CEO duality and financial performance**

Previous researchers have been found mostly mixed results of CEO duality and firm performance. Both negative and positive associations have been observed between CEO duality and firm performance, which partially support the agency and stewardship theories arguments. Despite some of the studies described an insignificant association between CEO duality and firm performance. First, the previous studies consisted of agency theory, for example, Desai et al. (2003) found that the negative association between CEO duality and firm performance. Kholief (2008) discussed that CEO duality has a negative link with firm performance. Mak and Li (2001) reported that when CEO holds two positions at the same time, CEO communicates more with management as compared to the other stakeholders. The finding of their study represents the negative link between CEO duality and firm performance.

Second, the previous evidence consisted of stewardship theory, for example, Gillan (2006) described that CEO duality has a positive effect on corporate financial performance. Moreover, Adams et al. (2005) found a positive relationship between CEO duality and firm performance. Peng et al. (2004) developed the association between CEO duality and firm performance in China during the institution transitional period. Their findings strongly support the stewardship

theory and partially support the agency theory. Moscu (2013) used two proxies of financial performance ROA and ROE. They found that CEO duality has insignificant relation with ROA and ROE. The corporate governance varies in different industry (Guillén, 2000). We argue that most of the Chinese firms of SOEs. These industries focus on resource scarcity and the environmental dynamism strategies (Peng et al., 2007; Pfeffer & Salancik, 2009; Thompson, 1967). In the resource scarcity companies save their cost from CEO duality and preserve their resources for development and use to avoid the failure. Our second argument base on environmental dynamism. In the environmental dynamism, most of the areas attract for the significant collection of the foreign investment and also for governance, managerial and technology resources (Dess & Beard, 1984; Zhou et al., 2002). Most of the Chinese pharmaceutical firm is not in the urban areas. Therefore, in this scenario CEO duality increase the financial performance in the Pharmaceutical industry of China. We proposed the hypothesis on the base of above discussion and in favor of stewardship theory.

**Hypothesis 1: CEO Duality significant positive impacts on firm performance in the Pharmaceutical industry.**

### **2.3. The moderating effect of ownership on the relationship between CEO duality and financial performance**

Type of the ownership indicates the organizational environment. China has unique ownership structure, i.e., SOEs) and non-SOEs. The SOEs contributes to the industrial output from 25% to 30% ( Leutert, 2016). The SOEs have strong government influence as compared to non-SOEs. Chinese SOEs have complex corporate governance (Zhang et al., 2018). The government access to SOEs for own policies. Therefore, SOEs enjoy the more resources and incentives for a particular type of the government policies. Nevertheless, SOEs have intense pressure to fulfill the requirement of government policies (Siegel, 2007; Zhou et al., 2017). Chinese SOEs also avail more benefit as compared to non-SOEs (Peng et al., 2004). Despite SOEs have been faced the inefficiency problem, while SOEs receive bulk resources from a government (Li & Zhang, 2007). Previous studies found that Chinese SOEs financial performance continuously declines, for example, Sun et al. (2002) found the SOEs have good performance when SOEs sell their small portion of share to the general public. The poor performance of SOEs indicates the supportive government role for SOEs. Moreover, Chinese SOEs are operated as semi-enclosed communities and producing good and service at a low price or free for retired and current employees. Chinese SOEs have complex governance system (Zhang et al., 2018). It is evident that those firms whose organizational structure based on CEO duality and they operate under SOEs, has better performance than non-SOEs. Because of the two different types of ownership, it is easier for SOEs are more advantage than non-SOEs. Hence, it can be expected that a relationship between the CEO duality and financial performance become stronger when the government has more influence on SOEs. Therefore, we expect:



**Hypothesis 2: CEO duality has a positive association with firm financial performance is greater for state ownership enterprises (SOE) than non-state-owned in the Pharmaceutical industry.**

### **3. RESEARCH METHODOLOGY**

#### **3.1. Source of Data**

Data were collected from China Stock Market Accounting Database (CSMAR) 2011 to 2019. First, we collected the data of all Pharmaceutical companies which company's data were available on CSMAR. We selected those companies which had CEO dual position. Further, we deleted those companies which had missing values. After deleting the missing values, this study retrieved the 330 annual year observations. Outliers were excluded at 1% level of significance (Anderson et al., 2008). Finally, this study used 327 annual years sample for each model.

#### **3.2. Dependent variable**

In the current study, we used firm performance as a dependent variable. It is calculated by using Tobin's Q. Tobin's Q has been calculated as the book value of assets plus the market value of equity divided by the book value of assets (Yasser et al., 2014). The Tobin's Q is preferred over accounting ratio such as return on assets (ROA) and return on equity (ROE) due to fewer issues (Guillet et al., 2013). Accounting ratio ROA and ROE focus on the historical performance of the company and Tobin's Q emphasis on the future perspective of firm performance (Iyengar & Zampelli, 2009).

#### **3.3. Independent Variables**

This study used CEO duality as an independent variable. It is measured as a dummy variable if CEO holds two positions at the same time, the chairman of the board and CEO assigned as 1, otherwise 0 (Chen et al., 2008). This study considered general manager and chief executive officer as CEO duality (Xie, 2014). The second main variable of the present study is ownership type represented as TO. According to ownership structure, China has two types of firms government owned which is called the state-owned enterprises and non-state-owned enterprises. Both types of the organizations have a different environment (Peng et al., 2004). It is measured as a dummy variable; State-owned enterprises are assigning as 1 and non-state owned enterprise as 0. The interaction between Duality and TO (Duality  $\times$  TO) is used as a moderator variable in the study.

### 3.4. Control Variables

The current study used six control variables. First, Age of CEO, older CEOs do not like the risky strategies of the firm, they consider these strategies as risk-averse strategies (Herrmann & Datta, 2006; Xie, 2014). Second, Size of the firm which is measured by taking the natural log of the assets of the firm. The third tenure of the CEO, it is measured as some years the manager holds the position as a CEO (Herrmann & Datta, 2002; Guillet et al., 2013). Fourth Return on assets, which is measured as a net profit in year 't' divided by the total asset of the firm in a year 't' (Guillet et al., 2013). Fifth control variable in this study is Leverage (LEV), it is measured as a total shareholder's equity in year 't' divided by the total liabilities in a year 't'. The sixth control variable is Recession years. Financial crises consider as recession years by using the dummies of 2007 and 2008 as one otherwise 0 respectively.

### 3.5. Model Specification

The objective of this study is to explore the relationship between CEO Duality and Firm Performance, incorporating age of the firm, Tenure of CEO, return on assets, the size of the firm, leverage, and recession as a control variable. This study used random effect model proposed by Guillet et al. (2013) and modified this model to establish the relationship between the underlying variables. To avoid potential endogeneity problem, this study used two-way random effect model following (Dopuch et al., 1986)). We preferred random effect model over fixed model due to the reason that current study includes time variant variable (REC) and firm variant variable (ownership type), which makes random effect model more appropriate for current study. To identify the association between CEO Duality and firm performance this study considers the following equation:

$$Q = \beta_0 + \beta_1 \text{DUALITY} + \beta_2 \text{TO} + \beta_3 \text{AGE} + \beta_4 \text{SIZE} + \beta_5 \text{LEV} + \beta_6 \text{REC} + \beta_7 \text{TENURE} + \beta_8 \text{ROA} + \varepsilon$$

$$Q = \beta_0 + \beta_1 \text{DUALITY} + \beta_2 \text{TO} + \beta_3 \text{DUALITY} \times \text{TO} + \beta_4 \text{AGE} + \beta_5 \text{SIZE} + \beta_6 \text{LEV} + \beta_7 \text{REC} + \beta_8 \text{TENURE} + \beta_9 \text{ROA} + \varepsilon$$

Where DUALITY shows CEO duality which is dummy variable, Q use to measure firm's performance, TO represents Type of ownership, AGE shows age of the firm, SIZE is used to measure firm's size, LEV shows leverage, Tenure indicates the period CEO's held the position in the firm, DUALITY×TO represent the interaction between Duality and Type of ownership, REC use for recession years and ROA shows return on assets.

## 4. DATA ABALYSIS

In the first step, we perform descriptive statistics and results are reported in Table 1. The average value 44200000 of Tobin's Q indicates that on the average that sampled ownership

value is 44200000 ranging from .2996839 to 167000000. The mean value of Age of CEO shows that approx. 47.5 years ranging from 35 to 65 years. In the same way, the average value of the period during CEO holds its position is 1.62 years with a range of 14 years. The mean value of the sample of ROA is .039 which is ranging from -1.128 to 2.569. Average value of LEVERAGE for the sample is 0.375 ranging from -0.1729799 to 5.854334. Further, Tobin's Q standard deviation shows the 64900000, which indicates the deviation of the means values from a central point. Similarly, age standard deviation is 3.041299. The tenure standard deviation is 2.157997 and size of the company has 6.38079 standard deviations. Moreover, ROA has 1572677 and leverage has 3244768 standard deviations.

**Table 1: Summary of Descriptive Statistics**

	Mean	S.D.	Min.	Max.
<b>Tobin's Q</b>	44200000	64900000	.2996839	167000000
<b>Age</b>	47.56343	3.041299	35	65
<b>Tenure</b>	1.624113	2.157997	1	15
<b>SIZE</b>	19.32027	6.38079	1	25.378
<b>ROA</b>	.0394869	.1572677	-1.128	2.569
<b>LEVERAGE</b>	.3754197	.3244768	-.1729799	5.854334

**Table 2: Pearson Correlation Coefficient**

	Tobin's Q	CEO Duality	Age	Tenure	SIZE	ROA	LEVER AGE	TO	REC	DUALITY×TO
<b>Tobin's Q</b>	1.0000									
<b>CEO Duality</b>	0.1870	1.0000								
<b>Age</b>	0.1028	-0.0655	1.0000							
<b>Tenure</b>	0.0376	0.5970	-0.1910	1.0000						
<b>ROA</b>	-0.0275	0.164	0.0171	-0.0542	1.0000					
<b>SIZE</b>	-0.0946	0.1075	0.0400	-0.0651	0.0470	1.0000				
<b>LEVEREGE</b>	0.0379	-0.1512	0.1180	-0.1108	-0.0398	-0.0241	1.0000			
<b>TO</b>	0.1095	-0.0658	0.0831	-0.2663	0.0030	0.1869	0.0863	1.0000		
<b>REC</b>	0.0683	0.0045	-0.0795	-0.1340	0.0526	-0.1231	0.0637	0.0677	1.0000	
<b>DUALITY×TO</b>	0.1178	0.5141	0.1394	0.1959	0.0580	0.1961	-0.0700	0.3966	-0.0210	1.0000

In the next step, we perform Pearson correlation among the underline variables of the study, and the results are reported in table 2. This study includes Age (Age of CEO), Tenure (the period during CEO holds its position), ROA (return on asset), SIZE (size of the firm), LEVERAGE and REC (economic period) as control variables. Among the control variables, Age is positively correlated with Firm performance ( $r = 0.10$ ). The main variable CEO Duality also positively correlates with Tobin's Q ( $r = 0.18$ ) and ROA ( $r = 0.16$ ), initially supporting Hypothesis 1 of the current study, an indication of the positive impact of CEO Duality on Firm performance. Another main variable type of Ownership (DUALITY×TO) positively correlates with Tobin's Q ( $r = 0.117$ ), also correlates with return on assets ( $r = 0.19$ ). The interaction term (DUALITY×TO) shows weak correlation with firm performance, which is an indication of no



multicollinearity. REC, TO, Tenure of CEO, LEVERAGE, and Size of the firm, these variables have a weak correlation with firm performance.

#### 4.1. Regression Analysis

For analyzing the Pearson correlation among variable, the next step we perform random effect model to investigate our model empirically and the main results of the study regarding random effect model are reported in table 3. The main results of the current study are categorized into two models. Model 1 shows the results without the interaction term, following model with the interaction term. The results in table 3 revealed that Tenure of CEO has an insignificant relationship with firm performance in both model 1 and model 2. It means that CEO tenure does not effect the financial performance. Similarly, ROA also has the insignificant relationship with firm's performance which is an indication that there is no association between ROA and firm performance. The size of the firm consistently shows a significant relationship with firm performance in all the models. T-value is -1.79 shows that coefficient is negative, which indicates the negative relationship between Tobin's Q and Size of the firm without interaction at 10% level of significance. With interaction, the t-statistics value ( $t=-1.79$ ) is also an indication of a negative relationship between a size of firm and Tobin's Q. It shows that big size companies have low financial performance and small size companies have high financial performance. Another control variable Age of CEO also has a significant relationship with firm performance ( $t= 4.25$ ). The coefficient value shows an indication that age of CEO has a positive relationship with Tobin's Q which means that an increase in the age of CEO enhances the firm performance in both models. It can be justified that with an increase of Age of CEO the work experience level also increases which enhances the capability to handle and control the economic issue to accelerate the firm's performance. The result calls further investigation to include CEO experience as a control variable to measure the effect of firm performance in the current scenario. The other two control variables LEVERAGE and REC both shows no impact on firm performance. The main hypothesis of the study is CEO duality which has a significant relationship with firm performance. The result in table 2 indicates that CEO duality has a significant positive impact on firm performance in Model 1 of without interaction, which is an indication for supporting of proposed hypothesis 1 of the current study ( $t\text{-value} = 3.58$ ). It indicates that CEO duality increases the financial performance.

The hypothesis 2 of study indicates a moderating effect of ownership type between CEO duality and firm performance. The findings indicate that there is an insignificant relationship between the interaction variable (Duality x TO) and firm performance which means that the type of ownership does not moderate the relationship between CEO Duality and firm performance. The finding does not support the moderating effect of ownership type in model 2.

**Table 3: Summary of the result of Random effect model**

	<b>Model 1</b> t-value [prob.]	<b>Model 2</b> t-value [prob.]
<b>Variables</b>		
CEO Duality	3.58* [0.000]	2.40* [0.017]
Age	4.25* [0.000]	4.26* [0.000]
TO	-5.20* [0.000]	-4.70* [0.000]
Duality x TO		-0.57 [0.572]
Tenure	-0.73 [0.468]	-0.32 [0.747]
ROA	-0.70 [0.483]	-0.71 [0.476]
SIZE	-1.79*** [0.073]	-1.79*** [0.074]
LEVERAGE	0.477 [0.477]	0.69 [0.487]
REC	0.241 [0.241]	1.19 [0.234]
<b>R-square</b>	<b>0.375</b>	<b>0.38</b>
<b>N</b>	<b>327</b>	<b>327</b>

#### 4.2. Sensitivity analysis of the mode

To confirm the results of main analysis, this study performs sensitivity analysis. Sensitivity analysis is exceptionally helpful when endeavoring to decide the effect of the actual result of a specific variable. By incorporating to additional variable board ratio and size of the board in the current study employs sensitivity analysis. The results of sensitivity analysis are reported in table 4. Results of the sensitivity analysis are same as the main results of this current study. Sensitivity analysis also rejects the moderation effect of ownership type.

**Table 4: Results of Summery Sensitivity Analysis**

	<b>Model 1</b> t-value [prob.]	<b>Model 2</b> t-value [prob.]
<b>Variables</b>		
CEO Duality	2.03** [0.043]	1.79*** [0.073]
Age	3.42* [0.001]	3.77 ** [0.000]
TO	-5.26* [0.000]	-5.52* [0.000]
Duality x TO		-0.67 [0.500]
Size of the board	-1.03 [0.304]	-1.05 [0.293]
Board ratio	-7.27* [0.000]	-6.70* [0.000]
Tenure	1.06 [0.287]	-1.11 [0.265]
ROA	-0.50 [0.617]	-0.48 [0.632]
SIZE	-3.42* [0.001]	-3.39* [0.001]
LEVERAGE	0.48 [0.632]	0.45 [0.652]
REC	1.33 [0.184]	1.29 [0.199]
<b>R-square</b>	<b>0.32</b>	<b>0.34</b>
<b>N</b>	<b>327</b>	<b>327</b>

## 5. DISCUSSION AND CONCLUSION

The objective of this study is to investigate the relationship between CEO Duality and firm performance in the Chinese pharmaceutical industry. We use random effect model from 2011 to 2019. The recent study has two parts: in the first part, we examine the effect of CEO Duality on firm performance in Chinese pharmaceutical industry following stewardship theory. The main result of the study suggests that CEO duality significantly improves the performance of pharmaceutical industry which supports the Hypothesis 1 of this study. The results are in line with (Donaldson & Davis, 1991; Guillet et al., 2013; Peng et al., 2007; Tan et al., 2001). This study relies on the stewardship theory and supported by the studies of (Bhagat & Black, 2001; Dopuch et al., 1986). Our sensitivity analysis finding also consisted of main results. The findings recommend that the Pharmaceutical industry is adopting resource scarcity and environmental dynamism strategies. In the resource scarcity companies preserve their resources for growth and use to avoid the decline. Further, the environmental dynamism allows the substantial resources. For example, most of the areas are attracted to a foreign investor for investment purpose. Because, these areas have low cost managerial, governance and technological resources. Most of the Chinese pharmaceutical firm is not in the urban areas. Therefore, the CEO duality becomes an asset in low munificence environment.

In the second part, we analyze the ownership type as moderating role between CEO Duality and firm performance in the pharmaceutical industry of China. The result of the study does not support Hypothesis 2 of the current study. It means that ownership structure does not have a moderating effect on CEO duality and performance. Our H<sub>2</sub> results are in line with, (Wang et al., 2004). They argued that Chinese state-owned enterprises have low financial performance as compared to the non-state-owned. On the contrary, results do not support (Guillet et al., 2013) in the case of moderating effect for China, which is due to the reason that the corporate structure of Chinese companies is different from European and U.S. companies. China has two different types of corporates structure SOEs and non-SOEs. The Chinese government has occupied significant directly shareholding and indirectly through state-owned investment companies in SOEs. The non-SOEs has significant individual shareholding, and the independent institutional shareholding is very rare. Therefore, the government of China has a substantial influence on the corporation.

The recent study extends to the literature in several methods. First, this study extends the stewardship theory of the pharmaceutical industry perspectives. Second, this study extends the company ownership literature with CEO duality and financial performance perspectives. Third, this study extends the literature of the Pharmaceutical industries governance system. This study provides various practical implications. First, the owners of the Pharmaceutical companies can consider these findings when they assign the CEO role as the board of directors. Second, this study finding may help the CEOs for decision making when a company assigns the Chair of the company board. They can accept or reject on the base on the base of this study findings.



Third, this study findings may help the analyst and investor in the Pharmaceutical industry. They can use the CEO duality as standards along with the other investment tools.

This study opens the broad avenue for a future researcher in several methods. First, this same model would be tested for other Chinese industries. Second, the researcher can be used Chinese family ownership as moderator in the relationship between CEO duality and firm performance. Third, the researcher would test this same model in international setting if the data is available.

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