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# **The Influence of Internal Corporate Governance Mechanisms on Capital Structure Decisions of Chinese Listed Firms**

**By**

**Agyenim Boateng, Huifen Cai, Daniel Borgia, X. Bi & Fraklin Ngwu**

## **Abstract**

### ***Purpose***

*This paper examines the effects of internal corporate governance mechanisms on the capital structure decisions of Chinese listed firms.*

### ***Design/Methodology***

*Using a large and more recent dataset consisting of 2386 Chinese listed firms over the period from 1998 to 2012, we employ panel data and use different statistical methods (OLS, fixed effects, and system GMM) to analyse the effects of firm-specific and corporate governance influences on capital structure.*

### ***Findings***

*We find that the proportion of independent directors and ownership concentration exert significant influence on the level of Chinese long-term debt ratios after controlling for firm-specific determinants and split share reforms. Further analysis separating our sample into state-owned enterprises (SOEs) and privately-owned enterprises (POEs) suggests that ownership concentration in the hands of the state leads to decrease in debt ratios.*

### ***Implications***

*The finding implies that concentrated ownership in the hands of the state appears more efficient compared to their private counterparts in their monitoring role.*

### ***Original Value***

*This study extends prior literature, which has concentrated disproportionately on firm-specific influences on capital structure, to the effects of within-firm governance mechanisms on capital structure decisions. The paper contributes to the agency theory-capital structure discourse in an emerging country context where corporate governance system appears weak.*

**Keywords:** Capital Structure, Corporate Governance, Agency theory, China

## 1. Introduction

Capital structure decisions are among the most crucial corporate policy choices

made by managers of a firm. This is because capital structure decisions are more prone to agency problems, affect the riskiness and performance of a firm (Jensen and Meckling, 1976). Therefore, the quality of corporate governance plays an important role in a firm's financing choices as these decisions are made by senior managers with the board of directors having the responsibility of supervising and monitoring these decisions. However, emerging country firms are dominated by ownership concentrated in the hand of the state and often characterised by weak corporate governance systems which affect how firms are monitored (Zhou et al., 2015; Dharwadkar et al., 2000; La Porta et al., 1999). Zhou et al. (2015) note that when the emerging governments privatise state firms they generally retain controlling interests suggesting that corporate investment and financing decisions may be influenced by governments (see, Firth et al., 2008). Environments characterised by strong corporate governance provide a remedy to many agency problems (Mande et al., 2012; Berger et al., 1997). Conversely, firms in emerging economies which operate in weak corporate governance environments can influence a wide spectrum of business decisions that often result in higher agency costs (Yuan et al., 2009).

In this paper, we extend prior literature of emerging country firms which has focused predominantly on leverage decisions on firm-specific factors (see Booth et al., 2001; Chen, 2004; Huang and Song, 2006) by examining how within-firm governance mechanisms influence the capital structure decisions of Chinese-listed firms. Specifically, we test the effects of within-firm governance on the long-term debt ratios of Chinese firms and carry out further analysis on the difference between the

state owned enterprises (SOEs) and private owned enterprises (POEs).

As the world's largest emerging economy, China has reformed and transformed itself from centrally planned socialist economy to a largely market-oriented economy. The transformation includes corporate governance reforms in 2001; the establishment of the Shanghai and Shenzhen stock exchanges in 1990 and 1991 respectively. Despite the above reforms, China presents unique challenges for corporate governance practices for several reasons. First, Chinese firms, like their counterparts in other emerging countries, are noted for their lack of transparency and suffer from widespread corruption **in the** corporate sector. China is ranked 80<sup>th</sup> out of 178 countries on Transparency International's Corruption Perceptions Index and collusion between individual businesses and agents of the state are rampant (Haß et al., 2014). Second, the institutional differences that exist between developed countries and China are significant. **According to Rajagopalan and Zhang** (2008), the differences in ownership structure, business practices and enforcement standards result in major gaps between the formal adoption of progressive governance codes and the actual implementation of these codes. While Chinese regulators may be quick to adopt best corporate governance practices from the West, the establishment of these practices and their implementation remain contested (Rajagopalan and Zhang, 2008). We consider the effects of internal governance mechanisms (i.e., ownership concentration, CEO duality, and the percentage of independent directors) on capital structure choice in China because of the rudimentary level of legal protection given to shareholders in China compared to Western standards and the highly concentrated nature of

ownership and weak corporate governance among institutions (Yuan et al., 2009). Consistent with the agency theory, we argue that the monitoring role of dominant shareholders and independent directors can potentially mitigate managers' self-serving behaviour, and improve firm value (Jensen and Meckling, 1976; Shleifer and Vishny, 1997).

This study contributes to the capital structure literature, which has concentrated disproportionately on firm-specific influences with relatively little attention being given to the effects of within-firm governance mechanisms on capital structure decisions. To the best of knowledge, only two studies, that is, Chang et al. (2014) and Wen et al. (2002) have examined the impact of corporate governance variables and capital structure decisions. However, Chang et al. (2014) analysed the impact of ownership types on capital structure over the period of 1998-2009 and did not consider the effects of within-firm governance mechanisms such as CEO duality and independent directors on capital structure decisions. The work of Wen et al. (2002) considered the effects of corporate governance mechanisms using a sample of 60 Chinese firms over the period of 1996-1998 but before the split-share reforms in 2001 and 2005. The above is against the backdrop that Feinerman (2007); Wang, (2007) argue that governance problems resulting from insider control and weak independence of the board of directors often characterize the corporate governance practices and policies of Chinese listed firms. The earlier study of Chen (2004) recognized the importance of institutions and called for studies involving variables which reflect governance and institutional influences on capital structure decisions. Mande et al.

(2012) echoed similar views and pointed out that the existence of insider control and weak corporate governance system in emerging countries has implications for agency costs and the choice of financing. Responding to the call, this study contributes to the agency theory-capital structure discourse in an emerging country context where corporate governance system appears weak. To our knowledge, this study represents one of the first attempts to contribute to the literature on the effects of corporate governance on capital structure decisions by using a relatively larger and more recent dataset consisting of 2,386 Chinese listed firms over the period from 1998 to 2012.

We do so by employing panel data and use different statistical methods (OLS, fixed effects, and system GMM) to examine the effects of within-firm governance on capital structure to overcome endogeneity problem often associated with board effect variables (Boateng and Huang, 2017). The remainder of this paper is structured as follows. The next section reviews background literature on the corporate governance reforms in China, a brief theoretical perspective of capital structure determinants and the hypotheses of study. Section three describes the data and methodology used in this study. Section four presents and discusses the results. Section five provides conclusions.

## **2. Corporate Governance Background in China**

### **2.1 Corporate Governance Development**

The last three decades has seen gradual but systematic economic reforms and integration of China into the world economy. With increasing integration and

globalisation, China's political leadership quickly recognised the need for Chinese firms to adopt international practices and good corporate governance rules to increase trade, economic ties with other countries and improve the corporate culture (Haß et al., 2014). As a result, a number of laws and regulations designed to improve corporate governance standards were passed by the Chinese government. Following the establishment of Shanghai and Shenzhen stock markets, China passed its first *Company Law* in 1993, which became effective in 1994. In 1999, the Chinese Security Regulation Commission (CSRC) modified the 1993 law to highlight the importance of independent directors. However, the law fell short in several respects. For example, the appointment of independent directors applied only to overseas-listed firms and not domestic firms. For domestic-listed firms, the concept of independent directors was first introduced in the *Guidelines on Company Chapter of Listed Companies* (CSRC, 1997) as an optional provision in which a listed firm may appoint independent directors if necessary. CSRC (1997) specifies persons who may not hold the position of independent director, but the guidelines remain silent on the minimum number and the duties of independent directors (CSRC, 1997: p.117). In 1998, China enacted the Securities Law to regulate the stock markets. The Securities Law provided strict prohibition of unfair practices such as market manipulation and insider trading. A formal and comprehensive corporate governance code on independent directors was released in 2001. This law specifies several requirements for listed companies, such as the presence of independent directors on boards, adherence to strict information disclosure norms, and the protection of the rights of minority shareholders. In addition,

the 2001 law established that independent directors should consist of at least one third of board members by June 30, 2003 (CSRC, 2001). The law also provided the guidelines concerning the rights, responsibilities, and liabilities of different groups such as shareholders, boards of directors, and managers. In 2005, further governance reforms including non-tradable share reforms followed.

Despite the reforms and recognition that corporate governance practices are crucially important for firms and investment growth in China, it appears that China has a long way to go before its corporate governance systems meet the Western standards. For example, according to a 2002 McKinsey Investor Opinion Survey, investors on average are willing to pay a 25% premium for well-governed Chinese firms (Barton et al., 2004). In addition, a report by Asian Corporate Governance Association (Gill and Allen, 2007) placed China near the bottom in governance standards among 11 Asian markets. Other recent studies such as Qian and Yeung (2015) support the contention that weak corporate governance system permeates the corporate culture in China.

### **3. Theoretical Background and Hypotheses**

Determinants of capital structure have been explained by three theoretical models, namely, the static trade-off theory, the pecking order theory and agency theory. The static trade-off theory states that a value-maximising firm will pursue an optimal capital structure by considering the marginal costs and benefits of each additional unit of financing, choosing the combination of debt and equity financing that equates

marginal costs and benefits (Harris and Raviv, 1991). Under the trade-off theory the optimal capital structure is determined by balancing tax savings from debt against the bankruptcy costs. In contrast, the pecking order theory suggests a preference sequence for firms' financing choice because of the existence of information asymmetry (Myers and Majluf, 1984). Accordingly, new investments are financed first by retained profits, then by low risk debt if internally generated funds prove insufficient, and external equity as a last resort. Under the pecking order theory, changes in debt ratios are driven by the need for external funds, not by an attempt to reach an optimal capital structure (Shyam-Sunder and Myers, 1991).

Prior literature examining the relationship between corporate governance and capital structure have drawn extensively on agency theory to explain the financing decisions of a firm (e.g. Friend and Lang, 1988; Berger et al., 1997; Wen et al., 2002). One line of research examines the effects of corporate governance on leverage decisions from the lens of principal-principal conflict (see Faccio et al., 2010; Morellec et al., 2012; Liu and Tian, 2012). These studies argue that ownership of listed firms in emerging countries are concentrated in the hands of large shareholders often SOEs (La Porta et al., 1999; Dharwadkar et al., 2000). Concentrated ownership coupled with the absence of effective external governance mechanisms leads to conflicts between the controlling and minority shareholders in financing decisions (Liu and Tian, 2012; Boateng and Huang, 2017). For example, Faccio et al. (2010) demonstrate how firm leverage in countries with a weak legal system enables controlling shareholders to deploy borrowed resources for their own benefits at the expense of minority

shareholders without bearing fully the financial distress cost. Paligorova and Xu (2012) therefore point out that higher leverage provides resources for controlling shareholders with excess control rights to engage in tunnelling activities. In addition, higher leverage is related to higher risk, higher cost of capital and heightens chances of financial distress (Modigliani and Miller, 1958). Thus the above studies indicate that the principal-principal conflicts affect a firm's financing decisions and value.

An alternative perspective is that managers make capital structure decisions to increase their own wealth at the expense of debtholders and shareholders. It is therefore argued that capital structure decision of a firm is influenced not only by firm-specific factors and market frictions such as firm size, asset tangibility, earnings volatility, bankruptcy cost and tax but also by the severity of manager-shareholder conflict (Wen et al., 2002; Morellec et al., 2012). Consequently, a number of studies have focused on the relationship between corporate governance mechanisms such as board size, managerial ownership, CEO compensation, board composition and corporate financing decisions of firms mostly in the context of developed market economies where ownership of firms is widely dispersed with relatively good corporate governance systems. Overall, prior literature emphasises the importance of internal corporate governance and monitoring mechanisms in reducing agency problems. For example, Bhojraj and Sengupta (2003) argue that good corporate governance systems lessen agency costs and the cost of debt financing. This is because effective corporate governance mechanisms lead to efficient utilization of resources by managers, reduce default risk, thereby lowering the cost of debt. In

summary, effective governance alleviates information asymmetry by ensuring the release of credible financial information (Ajinkya et al. 2005) and restrains managers from using private information for their own interests at the expense of shareholders/bondholders (Jensen and Meckling 1976; Myers and Majluf 1984). A number of studies have rendered some support for the above contention and indicate that corporate governance structures play a significant role in the capital structure decisions of listed firms (Morellec et al., 2012).

In the context of China, Wen et al. (2002) study is one of the first attempts to examine the relationship between corporate board characteristics and the capital structure of Chinese listed firms. Wen et al. (2002) found lower levels of leverage to be associated with the percentage of outside directors and longer CEO tenure but statistically insignificant relationship between board size and fixed CEO compensation. The results that lower leverage is associated with the percentage of outside directors and CEO tenure appear consistent with the findings of Berger et al. (1997). In contrast, Salancik and Pfeffer (1980) found significant relationship between leverage and both board size and composition. It is important to point out that the study by Wen et al. (2002) was carried before the split share reforms in 2005 and also did not consider the ownership concentration and CEO duality. Given the relatively weak corporate governance systems in China where high ownership concentration and state ownership are prevalent (La Porta et al., 1999), we believe that the agency cost perspective provides a valuable insight into how firms are financed. Drawing from agency theory, we formulate the following hypotheses.

### *3.1 Ownership Concentration*

It is documented that concentrated ownership has a palpable impact on a firm's financing decisions (Jensen and Meckling, 1976). It is argued that ownership concentration leads to efficient monitoring (Jensen and Meckling, 1976). The effect of ownership concentration on a firm's financial decisions is premised on the fact that higher concentration gives large shareholders stronger incentives and greater power to monitor management at a lower cost. This argument is consistent with the view of Grossman and Hart (1986) who contend that shareholders with a large stake in the company show more willingness to play an active role in corporate decision-making because they partially internalize the benefits of their monitoring efforts. Shleifer and Vishny (1997) suggest that ownership concentration helps in disciplining managers and improves firm value, even in the presence of insufficient legal protections. Efficient monitoring may reduce managerial entrenchment and cause managers to reduce leverage as entrenched managers tend to borrow more than optimal amount of debt in order to inflate their voting power to reduce possibility of takeover attempts (Harris and Raviv, 1988). Wen et al. (2002) in the study of 60 Chinese listed firms tentatively concluded that managers seek lower leverage when faced with stronger monitoring. In light of the argument, we hypothesised that:

Hypothesis 1: Ownership concentration is negatively related to the long-term **debt** ratio of Chinese firms.

### *3.2 Independent Directors*

Agency theory suggests that the monitoring of management is enhanced by outside and independent directors. Prominent among the studies that document the effectiveness of independent directors in monitoring managerial actions regarding the firms' corporate financing decisions include Lin et al. (1998); Feinerman (2007). These studies argue that senior managers are rigorously monitored when independent or outside directors constitute a higher proportion of board of directors thereby causing managers to adopt lower leverage to avoid excessive risk and disciplining role associated with debt. Thus, agency theory suggests that the relationship between a higher proportion of independent directors and long-term debt ratios will be negative while the converse has a positive effective.

In the context of China, Knowledge@Wharton (2007) point out that it is difficult for Chinese firms to get the services of qualified independent directors because of the limited availability of such directors. Dharwadkar et al. (2000) and Feinerman (2007) share similar views and point out that most Chinese firms have weak independent boards of directors due to lack of capacity. Moreover, firm leadership/board in China reflects the characteristics of Chinese society: its collectivist culture, social harmony, socialist politics and the associated political connections (Chen et al., 2011). The boards of Chinese firms are predominantly insiders with political connections as most Chinese listed companies have evolved from state owned enterprises (SOEs). Board of directors are often undermined by its composition and truly independent directors appear to be few and ineffective (Dahya et al., 2003; Wang, 2007). In the light of the

above argument, we hypothesized that:

Hypothesis 2: Long term debt ratio is positively related to the percentage of outside directors on the board.

### *3.3 CEO Duality*

Mallette and Fowler (1992) argue that CEO duality leads to the concentration of the power in the hands of one person thereby rendering the board's monitoring role ineffective. Empirical evidence suggests that strong CEO power promotes CEO entrenchment and diminishes the ability of the board to execute its oversight role (Jensen and Meckling, 1976). Fama (1980) argue that entrenched managers may prefer less leverage than optimal amount because of a desire to reduce firm risk to protect their under-diversified human capital. In line with the above reasoning, we expect a negative relationship between CEO duality and long-term debt ratios.

Hypothesis 3: Long term debt ratio is negatively related to CEO duality.

### **3.4 Firm-Specific Control Variables**

We control a number of firm-specific variables which prior literature on capital structure indicate have explanatory power on capital structure decisions under both static trade-off theory and the pecking order theory. These include:

**Firm Size:** Rajan and Zingales (1995) argue that larger firms tend to be more diversified and are less likely to go bankrupt. The lower risk of bankruptcy and the ability of large firms to issue debt at a lower cost enable them to take on more debt than otherwise identical smaller firms.

**Asset Tangibility:** Previous studies by Titman and Wessels (1988) and Rajan and Zingales (1995) have shown that tangibility of assets is an important factor influencing leverage.

**Profitability:** The pecking-order theory suggests a negative relationship between profitability and leverage. Consistent with this theory, Titman and Wessels (1988) and Rajan and Zingales (1995) found profitability to be inversely related to financial leverage.

**Non Debt Tax Shield:** DeAngelo and Masulis (1980) argue that non-debt tax shields are substitutes for the tax benefits of debt financing. As a result, firms with larger non-debt tax shields would be expected to use less debt. Huang and Song (2006) find total debt to be negatively related to non-debt tax shields in China.

**Growth Opportunities (Tobin's Q):** Titman and Wessels (1988) point out that the agency problems are likely to be more severe for firms in growing industries because they have more flexibility in the choice of their future investment opportunities. As a result, a negative relationship between growth (investment) opportunities and financial leverage is expected.

**Earnings Volatility:** Leverage increases the volatility of net profit. Firms that have high operating risk tend to mitigate this risk by reducing the level of debt.

**Split Share Structure Reform:** A number of authors argue that because of the split share structure, stock markets in China are illiquid and firms rely heavily on debt financing (Berger et al., 2009). In April 2005-December, 2007, Chinese government carried out a split share reforms to improve the liquidity in Chinese stock marks and reduce transaction costs of equity finance. In recent study, Tsai et al. (2014)

demonstrate that the split share structure reforms decrease debt ratios of Chinese firms. We control for the effect of split share structure reforms using a dummy variable which takes the value of 1 equals the years after the split structure reform; 0 equals otherwise.

## **4. Data and Methodology**

### *4.1 Data*

The data for this study was obtained from the Chinese Stock Market Research (CSMAR) databases, commercially available at Shenzhen GTA Information Technology Company Ltd. CSMAR is a premier Chinese database jointly produced by the University of Hong-Kong and GTA and the database covers the governance and finance structure of listed Chinese mainland firms. The following restrictions were imposed in order to arrive at the final sample: (1) firms with any missing observations for any variable in the model during the period 1998–2012 are excluded. (2) firms in the financial sector are excluded from the sample because of the nature of their operations and financial reporting system. The above restrictions led to a final sample of 2386 Chinese-listed firms out of the initial sample of 2580 on the Shanghai and Shenzhen stock exchanges.

### *4.2 Variables Measurement*

Our dependent variable is the firm's long-term debt ratio (LLEV) which is defined as long-term debt divided by long-term debt plus the book value of equity. The explanatory variables include profitability, size, growth opportunities, tangibility,

earnings volatility, non-debt tax shields, split-share reforms, CEO duality, independent directors and ownership concentration. The manners in which the variables in this study are measured are provided in Table 1.

(Insert Table 1 here)

### 4.3 Empirical Model

Following previous studies that examine the determinants of firm capital structure choice (e.g. Huang and Song, 2006; Chen, 2004), we employed OLS and fixed effects models in this article. Hsiao (1985) argues that the use of panel data provides a greater data points and improve the efficiency of econometrics estimates. For example, incorporating information relating to both cross-section and time-series variables reduce the problems that occur when there is an omitted-variable problem because it is unlikely that the capital structure models are fully specified (Guney et al., 2011). Previous studies point out that, for example, there are no available proxies for such factors such as industry effects or magnitude of financial distress costs. However, using fixed effects method would potentially control for the unobservable firm-specific factors but it would not alleviate the endogeneity problem (Istaitieg and Rodriguez, 2006). To mitigate the distortions caused by fixed effects, and the endogeneity problem, we also use system-GMM (SGMM).

The basic model is specified as follows:

$$y_{it} = \alpha + X'_{it}\beta + u_{it} \quad i = 1, \dots, 1681; t = 1 \dots 11 \quad (1)$$

where  $i$  denotes the cross-section dimension and  $t$  indicates the time dimension,  $X'_{it}$

is a  $1 \times k$  vector of observations on  $k$  explanatory variables for the  $i$ th firm in the  $t$ th period,  $\beta$  is a  $k \times 1$  vector of parameters,  $u_{it}$  is a disturbance term and is defined as  $u_{it} = \mu_i + v_{it}$  where  $\mu_i$  denotes the unobservable individual effect and  $v_{it}$  denotes the remainder disturbance.

#### *4.4 Summary Statistics*

Table 2 summarises the mean, standard deviation and a correlation matrix. All correlations are relatively low and variance inflation factor (VIF) is below the acceptable level of 10. This correlation matrix suggests that multicollinearity does not appear to be a problem in this study. The mean book value debt ratio of Chinese listed firms is about 53% compared to the mean of 66% for G-7 countries (Rajan and Zingales, 1995). However, the Chinese debt ratio appears to be slightly higher than the average total book value debt level of 51% in developing countries overall (Booth et al., 2001). Independent directors in the sample constitute about 35% of the proportion of board members and CEO duality is about 14%. The proportion of equity concentrated among the top 5 shareholders is about 38%.

(Insert Table 2 here)

## **5. Regression Results**

### *5.1 OLS and Fixed Effects Results*

Table 3 reports the regression results using both the OLS and fixed effects (FE) estimation techniques. For the corporate governance variables, both OLS and FE

results suggest that the ownership concentration and proportion of independent directors exert significant negative and positive influence on the level of debt utilised by Chinese listed firms at respectively. The fixed effect model (ownership concentration:  $\beta = -0.0004399$ ;  $p < 0.01$ ) and (independent directors:  $\beta = 0.0161625$ ;  $p < 0.01$ ) are negatively and positively significant, respectively. These results are similar to the OLS model. Hypotheses 1 and 2 are therefore supported by the OLS and FE models. The coefficient for CEO duality for both OLS and FE ( $\beta = -0.0302463$ ;  $\beta = -0.0078555$ ;  $p < 0.01$ ) is negatively and significantly related to the debt ratio rendering some support for Hypothesis 3.

Regarding the control variables, we find firm size ( $\beta = 1.21e-10$ ;  $p < 0.01$ ) and asset tangibility ( $\beta = 0.05431$ ;  $p < 0.01$ ) have positive coefficient while profitability ( $\beta = -5.53e-07$ ;  $p < 0.01$ ); and split share reforms ( $\beta = -0.0199986$ ;  $p < 0.01$ ) have negative and significant influence on long-term debt ratio. Both OLS and FE results indicate that firm size (SIZE) and firms with higher collateral (TANG) tend to borrow more debt suggesting that large firms and firms with tangible assets reduce lender's risk because of diversification and the use of assets as collateral. Regarding the split structure reform, our results suggest that the split-share reform has a negative and significant effect on the debt ratio of Chinese listed firms. However, earnings volatility and growth opportunities have insignificant influence on the use of long-term debt. It is pertinent to point out that the results imply that the magnitude and significant levels of coefficient estimates are in some cases sensitive to the choice of econometric method. For example, while OLS reveal that profitability is not

significantly related to the debt ratio, the FE shows that profitability is significantly related to long-term debt at the 1% level.

(Insert Table 3 here please)

### *5.2 System GMM (SGMM) Results*

The previous section assumed that capital structure choice of Chinese firms is static. However, a more realistic assumption would be that managers adjust their financing mix due to internal changes or external shocks (see Antoniou et al., 2008). Our SGMM estimation accounts for such considerations and the results are reported in Table 4. While OLS and fixed effects methods produce slightly different results, the SGMM results based on dynamic capital structure analysis settle the contradictions. The findings of the SGMM regression indicate that internal governance mechanisms influence the choice of capital structure in China. The ownership concentration ( $\beta = -0.0087401$ ;  $p < 0.05$ ) and independent directors ( $\beta = 0.0174638$ ;  $p < 0.05$ ) exert a significant negative and positive influence on the level of Chinese long-term debt ratios, respectively. The positive relationship between the proportion of independent directors and level of long-term debt for Chinese listed firms suggests that the presence of independent directors increases the debt ratios of Chinese firms. The results call into question the effectiveness of the monitoring role of independent directors in the Chinese firm financial decisions (see Dahya et al., 2003). Another interesting finding is the negative relationship between ownership

concentration and long-term debt ratios. The result appears consistent to the notion that ownership concentration gives large shareholders stronger incentives and greater power to monitor management and reduce debt levels, even if, there is a failure of the monitoring role of the independent directors or in the presence of a weak governance system (Grossman and Hart, 1986; Shleifer and Vishny, 1997). This finding also appears to render support to the conclusion drawn by Boateng and Huang (2017) that concentrated ownership reduces the adoption of excess leverage by Chinese firms. However, CEO duality appears to have a negative coefficient which is insignificant.

(Insert Table 4 here please)

Regarding the control variables, our results indicate that split share reforms, firm size, asset tangibility and non-debt tax shields have significant influence on long-term. The SGMM results confirm the findings in OLS and fixed effect regression models. The results of the firm-specific control variables are consistent with theoretical predictions and the results of the previous empirical studies. The finding that firm size has a positive and significant impact on long-term debt ratios supports the trade-off model which indicates that large firms tend to have a higher debt capacity because of greater diversification, less risk to lenders and economies of scale. The positive and significant effect of asset tangibility on debt ratio appears to support the pecking order theory. The positive coefficient of non-tax debt shields (NDTS) seems to render some support to the findings of Bradley et al. (1984) and is in line with the trade-off theory.

However, this result is at variance with that of Huang and Song (2006) who found that the Chinese firms' debt ratios decrease with NDTs. The relationship between the long-term debt ratio and volatility is negative and insignificantly different from zero. This result is also at odds with the results of previous research (Booth et al., 2001). Profitability has a negative and significant effect on debt ratio suggesting that higher profitability (ROA) tends to increase debt ratio for Chinese firms. This finding is consistent to the findings of Chen (2004) and supports the pecking order theory. We find that growth opportunity (Tobin's Q) appears not to have a significant impact on the debt ratio of Chinese listed firms contrary to the findings of Huang and Song (2006) who document a negative and significant influence of Tobin's Q on debt ratio for Chinese firms. The split share structure reform appears to have a negative and significant influence on debt ratio. Perhaps the results may be explained by the fact that, after the reform, the liquidity of the stock market improved as non-tradable shares were converted into tradable shares thereby reducing the reliance of debt finance from banks which dominate Chinese financial markets (see Berger et al., 2009).

### ***5.3 Further Analysis: SOEs versus POEs***

Previous studies indicate state ownership is an important feature in China despite massive reforms (Du and Boateng, 2015). To shed lights on the effects of ownership type and seek direct evidence to strengthen our interpretation of the effect of ownership concentration on debt ratio, we carried out a sub-sample analysis. We do

so by dividing the sample into state-owned enterprises (SOEs) and privately owned enterprises (POEs) for the following reasons. First, ownership structure represents a source of power in a firm and can be used to either support or constrain corporate finance decisions and influence firm value (Salancik and Pfeffer, 1980; Du and Boateng, 2015). Second, ownership concentration in the hands of state ownership and private ownership may have different implications for capital structure decisions. It is argued that SOEs tend to be politically rather than commercially motivated, which might induce soft budget constraints and provide some support for state controlled firms (Poncet et al., 2010). Soft budget constraints may provide easier access to external finance for firms and it is documented that SOEs have less financial constraints compared to POEs in China (Zhou et al., 2015). We therefore test whether there are variations in the impact of factors influencing the financing choice according to ownership types in China.

The results reported in Table 5 suggest that whereas the ownership concentration has a negative and significant influence on the debt ratios of SOEs, this appears not be the case of POEs. This appears surprising because it was anticipated that SOEs in China which tend to have political objectives might induce soft budget constraints and provide some support for state controlled firms as pointed out by Poncet et al. (2010). However, this appears not be the case. Perhaps, this finding may be explained by the fact that ownership concentration in the hands of the state has a better capacity to perform effective monitoring role thereby providing an efficient way of resolving agency problems between managers and shareholders in Chinese firms compared to

POEs (see Chen et al., 2009). Another plausible explanation is that the state may prop up firms in which they have dominant shares through grants or increase in equity capital rather than the use of debt capital due to the political and social goals associated with these firms.

(Inset Table 5 here please)

#### **5.4 Robustness checks**

To check for the overall robustness of the empirical results, we implement a number of robustness checks on our main results in Tables 3 & 4. First, we explore alternative measures of return on equity for profitability and the natural log of sales for firm size. Our analysis suggests the results are not sensitive to the changes in measurements of variables. As a further check on the validity of our interpretations, the study employed a regression specification that used overall leverage (LEV) as dependent variable. The results which are not reported here but available upon request are similar to that obtained in Table 3 and 4.

#### **6. Conclusion**

This paper employs within-firm governance mechanisms and control firm-specific factors to investigate the capital structure decisions of 2386 Chinese listed firms. This paper reports some interesting and significant results. First, we find

that within-firm governance mechanisms, namely, independent directors and ownership concentration have significant impact on the debt ratio of Chinese listed firms. The positive and significant relationship between the independent directors and long-term debt ratio indicates that the proportion of independent directors increases with long-term debt ratio in China. An important implication of this finding is that independent directors who have an institutional mandate to monitor the board in China appear to be less effective in their monitoring role, perhaps due to lack of capacity as suggested by Dahya et al. (2003). We suggest that, firms should not only engage qualified personnel as directors but resource them with requisite training through refresher courses to make them more capable of carrying out their monitoring mandate. To the policy makers, we suggest that the proportion of independent directors should be increased from one-third to one-half of board members in line with many advanced countries such as the United Kingdom.

Regarding the negative relationship between the ownership concentration and long-term debt ratios, this finding implies that concentrated ownership leads to efficient monitoring and in particular, concentration in the hands of SOEs appears more efficient compared to their counterparts in POEs in their monitoring role. It appears concentration of ownership in the hands of the state which has a capacity to finance these firms internally for political and social objectives. This implies that despite substantial improvements in the governance environment and enterprise reforms in China, the state plays a key role in financing decisions of Chinese listed firms.

Regarding the influence of firm-specific determinants of capital structure, our results suggest that size and asset tangibility exert positive and significant influence on the debt ratios of Chinese firms. However, growth opportunity and earnings volatility appear not to have significant impact on long-term debt ratios of Chinese listed firms. The study also extends the previous studies in emerging countries such as Chen (2004) and Huang and Song (2006) by examining the capital structure choice after major enterprise and governance reforms in the largest emerging country. The insights regarding these factors could help predict the financial structure of a firm in China and other emerging countries. While this paper has provided significant insights into capital structure choice of Chinese listed firms, the paper has some limitations. Due to the unavailability of data, SOEs in this paper refer to firms controlled by both central and local governments. It would have been useful to divide SOEs into those controlled by the central government and those controlled by local government as pointed out by Chen et al. (2009). More studies therefore appear warranted. Future studies should explore and compare the influence of corporate governance factors on capital structure choice among Chinese SOEs and POEs by distinguishing between the SOEs controlled by the central government and those controlled by local government.

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