

The Effect of Corporate Governance for the Leverage of Companies -----Taking Chinese Manufacturing Companies as An Example

Shiyang Chen*

2994812160@qq.com

Accounting and financial management university of Sheffield, Sheffield, South Yorkshire, England,
United Kingdom, S10 2TN

Abstract-Effective corporate governance is regarded as a powerful means to improve the competitiveness of enterprises. In the Context of China, research on corporate governance and capital structure exists, but the scope of consideration is too large and the specific conditions of specific industries are ignored. The research samples were data panels of 100 listed manufacturing enterprises from 2015 to 2019. SPSS and reviews software was used to conduct empirical tests on the data using descriptive analysis, paired sample T-test, correlation and multiple regression analysis. Among them, descriptive analysis was used to calculate the mean value and variance of experimental variables, and paired sample T-test was used to conduct a comparative analysis of corporate governance structure in 2015 and 2019 to find out the degree of corporate governance structure change in these five years. In addition, correlation and multiple regression analysis are to analyze the relationship between corporate governance structure variables and corporate leverage ratio. The purpose of this study is to empirically study whether corporate governance attributes will affect the capital structure decisions of listed manufacturing companies in China, so as to improve and supplement this level of research. This study finds that, unlike previous studies, the board size, board number and board independence have no significant impact on the capital structure of China's manufacturing business, but the duality of CEO is positively correlated with the capital structure. The results show that the duality of CEO is positively correlated with the firm leverage ratio in Chinese manufacturing firms, while board composition, the board size, and committee size do not significantly affect firm leverage ratio.

Keywords- capital structure, corporate governance, manufacturing firms, board.

1 Introduction

Due to the influence of economic globalization, enterprises not only face competition from local enterprises, but also face competitive pressure from some transnational enterprises. Therefore, how to use corporate governance to enhance the competitiveness of enterprises has become an international issue [4]. It is primarily a mechanism to ensure that managers and other insiders take steps to protect their interests. In addition, capital structure is also one of the key areas that affect business operations. This is because excellent capital structure management can effectively lower capital costs, to expand the interests of shareholders [7], which is consistent with the ultimate goal of corporate governance. Therefore, whether corporate governance can vary capital structure is a topic worthy of study. However, most of the studies in China do not focus on the

structure of the board [19], nor do they pay attention to the above relationship. In addition, due to the different systems in China, it is difficult for China to draw benefits from the corporate governance of western nations. Therefore, due to the uniqueness of China, it is worthwhile to learn the effect of corporate governance on capital structure in this paper.

Consequently, the goal of the study is to analyze the connection between corporate governance and capital structure of Chinese manufacturing enterprises through empirical research, and promote Chinese corporate governance transformation of manufacturing firms in the future with the help of the research results and positively influence the capital structure by using corporate governance.

2 Purpose and methodology

The goal of the study is to study the influence of corporate governance on corporate capital structure decision-making to make some contributions to the progress of corporate governance mechanisms. The model used in this study is principally constructed by the previous research model, and the data analysis method is used to study the sample companies.

2.1 Conception of research variables

The model in Figure 1 is set for the research purpose of this paper. This model introduces new combined views on corporate governance and capital structure and marks the variable properties of board size, board composition, the duality of CEO and board committee in corporate governance.

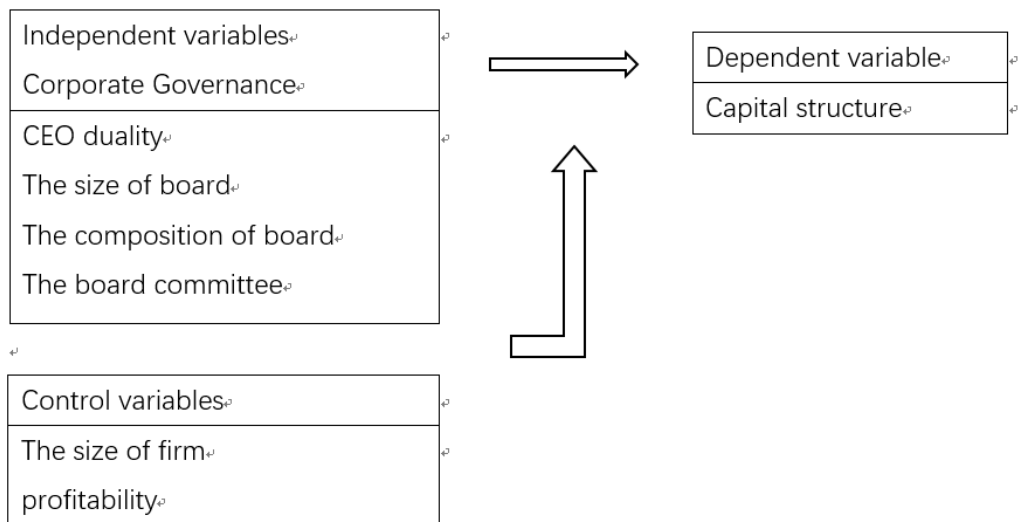


Figure1 Research model. Source: own

2.2 Hypothesis: board independence and the number of board committees are negatively correlated with debt ratio.

Independent directors should have a clear foresight of the commerce and can lead board discussions to drive better decisions and outcomes. Their main role is to prevent internal control and safeguard the interests of minority shareholders. According to the CSRC's recommendations, the number of independent directors on Chinese companies' boards should not be less than a third. The existence of independent directors can benefit enterprises reward the trust of external investors so as to obtain external financing at a lower cost of capital [13]. Therefore, they believe that the number of independent directors is positively correlated with the leverage of the capital structure.

Another possibility for this conclusion is that independent directors mitigate the divergence between shareholders and managers, thus leading to a higher leverage ratio [10].

According to previous literature, the board committees are a critical link in the corporate governance, they can influence the decision-making of capital structure. In addition, studies have shown that in Sri Lanka's manufacturing companies, there is a positive correlation between the number of directors and the number of board committees and the company's debt level [10]. However, some reports have revealed that the number of the board committee will have a negative effect on the capital structure of the enterprise [4].

Therefore, a hypothesis about the connection between the number of independent directors and the company's leverage is as follows:

H1: In China, the number of independent directors (board composition) and board committees are negatively related to the company's debt ratio.

2.3 Hypothesis: board size and CEO duality are positively correlated with debt ratio.

Existing literature shows that the size of the board has a direct influence on the capital structure of firms [8], but it is difficult to determine whether the relationship between them is positive or negative. Consistent with Abor and Biekpe [2], the size of the board affects the marginal efficiency of the whole company, which makes the decision-making process of the board more difficult and leads to a high debt ratio. In addition, some results have shown that there is a positive correlation between board size and leverage associated with Sri Lanka [18].

On the other hand, bigger boards are thought to lead to lower debt ratios. For example, Vakili et al. [15] discovered that the size of the board is adversely related to the debt ratio, which indicates the large board size will have extra supervision pressure and may force the CEO to excessively pursue the low leverage ratio.

As with board size, there is no clear verdict on the association between CEO duality and capital structure. Besides, Kang and Ausloos [9] believe that CEO duality has a positive effect on capital structure. They believe that having two roles can effectively reduce common and agency costs and thus reduce information asymmetry within the company. Moreover, because duality removes the separation of ownership and control, the dual nature of the director may lead to an increase in the use of liability. However, Abor [1] judged that CEO duality is adversely correlated with leverage, which indicates that the separation of control and ownership leads to a high leverage ratio.

Therefore, a hypothesis about the connection between the board size and CEO duality and the company's leverage is as follows:

H2: In China, the board size and CEO duality are positively related to the company's debt ratio.

2.4 the meaning of variable

The debt ratio denotes the quotient of total liabilities to total assets. In CEO duality, 1 represents two positions held by one person and 0 represents two positions held by different people. The size of the board is expressed by the total number of board members. Board composition is expressed by the percentage ratio of the number of independent directors to the number of directors. The size of a company is expressed by the natural logarithm of total assets, while the return on assets is expressed by the after-tax profit as a fraction of total assets.

2.5 the collection of data

The manufacturing companies used in the study were classified based on industry guidelines released by the China Securities Regulatory Commission in 2012. To measure the effectiveness of corporate governance on capital structure among manufacturing firms in China, the study used 100 listed manufacturing companies in this category. Also, the 100 companies had no relevant information gaps between 2015 and 2019. China Securities Market and Accounting Research Database (CSMAR) is the main source of data in this paper. It mainly provides relevant information of Chinese listed corporations, and the reliability and comparability of the data can be guaranteed. In this study, the figures of 100 listed manufacturing firms from 2015 to 2019 were downloaded from CSMAR and a total of 500 observations were obtained, lasting for 5 years [6].

2.6 the methods of data analysis

Descriptive statistics, paired-sample t-test, and regression analysis are the main data analysis methods in this study. In order to decide the actual situation of corporate governance in manufacturing firms in China, the average value and the maximum and minimum value of descriptive statistics were conducted in this study. The paired-sample t-test can define if there was a relationship between the 2015 and 2019 mean values of the two groups. Multiple regression analysis can examine the influence of the Chinese corporate governance mechanism on the capital structure of Chinese listed manufacturing firms.

3 The results and analysis

3.1 The inclination of equity financing

Descriptive statistics on corporate governance aspects offer proof of whether companies are complying with CSRC recommendations.

Table 1 Descriptive statistics. Source: Data analysis.

	Mean	Maximum	Minimum	Std. Dev.
Firm size	9.630443	11.47994	8.195529	0.598312

Return on assets	0.021016	0.215729	-0.97925	0.100033
CEO Duality	0.374	1	0	0.484348
Debt ratio	0.423628	2.128303	0.027605	0.231817
Board size	8.242	15	5	1.626261
Board committees	3.768	5	1	0.595723
Board composition	0.379566	0.6	0.285714	0.053648

Descriptive statistics form proves that the selected companies follow the degree of the China Securities Regulatory Commission proposal from the table on the selected manufacturing the directors of the listed firm's average of about 8 people, it also conforms to the China Securities Regulatory Commission issued by the listed company corporate governance code (2002) and a number of directors of the listed firm for between seven to nine people based on the research of Lin et al [12]. In addition, compared with the standard deviation of the size of the board in China's real estate industry [8], this module has a smaller standard deviation, which indicates that the fluctuation of the industry sector is relatively small. The mean of board independence is about 0.38, representing that more than one-third of the directors in the board of directors of manufacturing companies are independent directors. In addition, the average for CEO duality was around 0.37, suggesting that CEO duality is not prevalent in the industry. The chart illustrates that mean leverage of firms in Chinese manufacturing sector is close to 42%, lower than that of China's real estate sector (65%) [8]. In addition, the average leverage ratio of the sector is slightly lower than the overall average leverage ratio of China's listed companies [17]. These empirical research results show that Chinese manufacturing companies prefer equity financing to debt financing. In addition, the average number of committees among the selected companies was more than three, indicating that each publicly traded manufacturing company has at least three board committees. The mean of ROA is 0.02, indicating that the manufacturing business cannot gain profits easily.

3.2 Less variation in governance structure characteristics

The capital structure for 2015 and 2019 with paired samples t-test shows that the variables "board size", "CEO duality", "board composition" and "board committees" have no significant difference ($p > 0.05$). This shows that the characteristics of corporate governance structure of China's manufacturing industry have not changed during the five years, which may be the reason why China's manufacturing industry has encountered a bottleneck.

Table 2 Paired sample t-test. Source: Data analysis.

Variable	2015	2019	t	Sig. (2-tailed)	Significance Level
Board size	8.30	8.14	0.988	0.325	Not significant
CEO Duality	0.34	0.37	-0.653	0.515	Not significant
Board composition	0.381	0.384	-0.597	0.552	Not significant

Board committees	3.79	3.79	0.000	1.000	Not significant
------------------	------	------	-------	-------	-----------------

3.3 The explanatory power of corporate governance to capital structure

In the multiple regression analysis, the debt ratio is taken as the dependent variable. In multiple regression analysis, leverage is taken as the dependent variable. Board size, CEO duality, board composition, committee and control variables are the independent variables of firm size and return on assets.

Table 3 Model conclusion. Source: Data analysis.

R-squared	Adjusted R-squared	F-statistic	P	S.E. of regression	Durbin-Watson
0.394217	0.386844	53.47045	0.000000	0.181523	0.512523

The purpose of using multiple regression analysis here is to explore the extent to which these independent variables affect the dependent variables [3].

Table 4 Multiple regression. Source: Data analysis.

Variable	Coefficient	Std. Error	t-Statistic	P	VIF
C	-1.236868	0.148230	-8.344269	0.0000	
Board composition	0.108548	0.191896	0.565660	0.5719	1.61
Board committees	-0.017943	0.014007	-1.280978	0.2008	1.05
Board size	0.006712	0.006854	0.979225	0.3279	1.88
CEO Duality	0.050228	0.016900	2.972086	0.0031	1.01
Return on assets	-1.115511	0.082075	-13.59143	0.0000	1.02
Firm size	0.169903	0.015894	10.69005	0.0000	1.37

As can be seen from Table 4, R2 value indicates that the explanatory ability of independent variables of the model to variation of dependent variables is 39.427%. The remaining 59.573% were affected by other factors not considered in this study. In addition, the F-ratio in Table 4 proves the effectiveness of the estimation model. It can be seen from the table that the independent variable set in this experiment is statistically significant, and the dependent variable can be predicted ($F = 53.47045$, $P < 0.05$). The Durbin Watson test is used to identify autocorrelation. According to the table, Durbin Watson is less than 3, denoting that there is no autocorrelation. Therefore, the results show that the particular corporate governance variables can justify 39.427% of the changes in the capital structure of manufacturing companies. This result offers proof that corporate governance does not considerably affect the capital structure decisions of China's listed manufacturing corporations.

3.4 The influence of variable on debt ratio

To ensure the reliability of the outcomes, multicollinearity tests were carried out. Consistent with the table, because wholly VIF values are less than 10, there is no multicollinearity problem between independent variables.

According to the results of the table, some of the hypotheses put forward according to the previous literature have been confirmed, while some have not been proved. The regression results informed in Table 4 disclose that the Board composition, Board committees and Board size variables do not notably influence the leverage ratio ($p > 0.05$). The CEO Duality, return on assets and Firm size variables suggestively affect the leverage ($p < 0.05$).

The independence of the board has no statistical significance for the leverage ratio, which may be explained by China's unique social characteristics, such as collectivist culture [5]. The reason why board size has no substantial influence on it may be that the Chinese board of directors is often wrecked by its structure [16], which may lead to the efficiency of the board and the consistency of members' goals, rather than the size of the board, as key factors affecting the decision-making of capital structure.

In addition, the study does not find the influence of committee size on capital structure. Conversely, there is a positive correlation between CEO duality and capital structure.

Capital structure is a great influence on company size and profitability. Specifically, there is a positive correlation between enterprise size, return on assets and leverage ratio, which indicates that the size of manufacturing enterprises is positively linked with the possibility of debt funding. In addition, corporate profitability is adversely correlated with debt ratio. A firm's profits are negatively correlated with the amount of debt it must take on. This conclusion is supported by trade-off theory, which states that firms with high profitability have more currency surpluses and therefore require less debt financing [14].

4 Conclusion

The goal of the report is to investigate how corporate governance influences the management of corporate capital structure. The results show that: First, there is no substantial connection between the size of the board and corporate leverage ratio. It resembles the conclusions of Bulathsinalage & Pathirawasam [4]. This further shows that the board size of Chinese manufacturing firms has not improved the management of capital structure due to their size, so the personal quality of the board of directors and their contribution to the enterprise need to be further strengthened. Second, the number of committees and the independence of the board have no meaningful influence on the management of capital structure. This shows that the Chinese board of directors committee does not play a strong and effective supervision effect. Third, there is an obvious positive connection between CEO duality and leverage. This is contrary to previous research [8]. This also shows the uniqueness of China's manufacturing industry. The possible explanation for this result is that the concentration of ownership and execution power leads to the executors having a greater say to conduct more aggressive debt financing.

The results also indicate that the Chinese corporate governance mechanism should be adapted to China's social system and should also refer to the international corporate governance standards.

The development of manufacturing industry is important for promoting China's economic development, because China is the only country in the world that has achieved the full coverage of manufacturing industry and the Chinese government has also formulated a national strategic development route for the development of manufacturing industry [11].

In addition, this paper can provide constructive suggestions on how to influence the capital structure of enterprises, especially the capital structure of manufacturing enterprises. This indicates that the independent directors and the committee of board in China may not be effective enough. Thus, the manufacturing industry should develop new standards.

Some limitations also exist in this paper. First, the analysis did not assess all corporate governance variables, such as CEO payment, and management ownership. Future analyses could try to include these variables. Secondly, the study only focuses on the manufacturing industry in China and only in the selected 5 years. Thirdly, as said by the agency theory, debt can effectively ease agency problems, which partly explains that capital structure might influence corporate governance in turn, which can be one of further study direction.

References

- [1] Abor, J. (2007), "Corporate governance and financing decisions of Ghanaian listed firms", *Corporate Governance: The International Journal of Business in Society*, Vol. 7 No. 1, pp. 83-92.
- [2] Abor, J. and Biekpe, N. (2007), "Corporate governance, ownership structure and performance of SMEs in Ghana: implications for financing opportunities", *Corporate Governance: The International Journal of Business in Society*, Vol. 7 No. 3, pp. 288-300.
- [3] Achchuthan, R., Kajanathan, R., and Sivathasan, N. (2013). Corporate governance practices and capital structure: A case in Sri Lanka. *International journal of business and management* ,21(8), 114 -125.
- [4] Bulathsinhalage, S. and Pathirawasam, C., 2017. The effect of corporate governance on firms' capital structure of listed companies in Sri Lanka. *Journal of Competitiveness*, 9(2).
- [5] Chen, J., Ezzamel, M. and Cai, Z. (2011), "Managerial power theory, tournament theory, and executive pay in China", *Journal of Corporate Finance*, Vol. 17 No. 4, pp. 1176-1199.
- [6] China Security Market and Accounting Research (2021), available at: <http://en.gtafe.com/> (accessed 12th July 2021).
- [7] Danso, A., Lartey, T., Fosu, S., Owusu-Agyei, S. and Uddin, M. (2019), "Leverage and firm investment: the role of information asymmetry and growth", *International Journal of Accounting and Information Management*, Vol. 27 No. 1, pp. 56-73.
- [8] Feng, Y., Hassan, A. and Elamer, A.A., (2020). Corporate governance, ownership structure and capital structure: evidence from Chinese real estate listed companies. *International Journal of Accounting & Information Management*.
- [9] Kang, M. and Ausloos, M. (2017), "An inverse problem study: credit risk ratings as a determinant of corporate governance and capital structure in emerging markets: evidence from Chinese listed companies", *Economies*, Vol. 5 No. 4, p. 47.
- [10] Kajanathan, R., (2012). Effect of corporate governance on capital structure: case of the Srilankan listed manufacturing companies. *Researchers World*, 3(4), p.63.
- [11] Liu, K., (2018). Chinese manufacturing in the shadow of the China-US trade war. *Economic Affairs*, 38(3), pp.307-324.

- [12] Lin, Z.J., Liu, M. and Zhang, X. (2006), "The development of corporate governance in China", *Asia- Pacific Management Accounting Journal*, Vol. 1 No. 1, pp. 29-47.
- [13] Pfeffer, J. and Salancik, G.R. (2003), *The External Control of Organizations: A Resource Dependence Perspective*, Stanford University Press.
- [14] Sharma, A.K. and Kumar, S. (2011), "Effect of working capital management on firm profitability: empirical evidence from India", *Global Business Review*, Vol. 12 No. 1, pp. 159-173.
- [15] Vakilifard, H. R., Gerayli, M. S., Yanesari, A. M. and Ma'atoofi, A. R. (2011). Effect of Corporate Governance on Capital Structure: Case of the Iranian Listed Firms. *European Journal of Economics*. Retrieved from: <http://www.eurojournals.com>.
- [16] Wang, J. (2008), "The strange role of independent directors in a two-tier board structure in china's listed companies", In *Changing Corporate Governance Practices in China and Japan*, Palgrave Macmillan, London, pp. 185-205.
- [17] Wang, X., Manry, D. and Rosa, G. (2019), "Ownership structure, economic fluctuation, and capital structure: evidence from China", *International Journal of Finance and Economics*, Vol. 24 No. 2, pp. 841-854.
- [18] Wellalage N. and Locke (2012). Corporate governance and capital structure decisions of Sri Lankan listed firms. *Global review of business and economic research*, 8 (1) 157-169.
- [19] Wen, Y., Rwegasira, K. and Bilderbeek, J. (2002), "Corporate governance and capital structure decisions of the Chinese listed firms", *Corporate Governance*, Vol. 10 No. 2, pp. 75-83.