

**MODERATING EFFECT OF INSTITUTIONAL
ENVIRONMENT ON THE OWNERSHIP
STRUCTURE AND CAPITAL STRUCTURE
RELATIONSHIP OF CHINESE LISTED
COMPANIES**

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COMPANIES**

by

WANG CHU

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TABLE OF CONTENTS

ACKNOWLEDGEMENT	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
ABSTRAK	xi
ABSTRACT	xiii
CHAPTER 1 INTRODUCTION	1
1.1 Introduction	1
1.2 Background of the Study	1
1.2.1 Capital Market in China	3
1.2.2 Financing Characteristics of Chinese Listed Companies	6
1.2.3 Corporate Governance in China	8
1.2.4 State Ownership and Institutional Ownership in China	9
1.2.5 Characteristics of the Chinese Institutional Environment	11
1.2.5(a) Labor Market Maturity in China	13
1.2.5(b) Product Market Maturity in China	14
1.3 Scope of the Study	16
1.4 Motivation of the Study	17
1.5 Problem Statement	18
1.6 Research Questions	25
1.7 Research Objectives	25
1.8 Significance of the Study	26
1.8.1 Theoretical Significance	27
1.8.2 Practical Significance	28
1.9 Definition of Key Terms	28
1.10 Organization of Thesis	30
CHAPTER 2 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT	31
2.1 Introduction	31

2.2	Capital Structure and Underlying Theories of Capital Structure	31
2.2.1	M&M Theory	33
2.2.2	Trade-off Theory	35
2.2.3	Pecking Order Theory	38
2.2.4	Agency Theory	40
2.2.4(a)	Conflicts between Shareholders and Managers.....	40
2.2.4(b)	Conflicts between Shareholders and Debtholders.....	43
2.2.5	Resource-Based Theory.....	45
2.2.6	Contingency Theory	49
2.2.7	Theory Discussion.....	52
2.3	Empirical Studies on the Capital Structure Determinants.....	53
2.3.1	Ownership Structure.....	54
2.3.1(a)	State Ownership	54
2.3.1(b)	Institutional Ownership	57
2.3.2	Institutional Environment.....	60
2.3.2(a)	Institutional Environment in Developed Countries.....	61
2.3.2(b)	Institutional Environment in Developing Countries	62
2.3.2(c)	Institutional Environment in Developed and Developing Countries	65
2.3.2(d)	Labor Market Maturity.....	67
2.3.2(e)	Product Market Maturity.....	68
2.3.3	Firm Characteristics and Board Characteristics	70
2.3.3(a)	Firm Growth.....	71
2.3.3(b)	Firm Size	73
2.3.3(c)	Tangibility	75
2.3.3(d)	Profitability	76
2.3.3(e)	Non-debt Tax Shields	78
2.3.3(f)	Board Size.....	79
2.3.3(g)	Director Independence	80
2.3.3(h)	CEO Duality.....	82
2.3.3(i)	Board Meeting.....	83

2.3.4	Literature Discussion.....	85
2.4	Theoretical Framework	88
2.5	Hypotheses Development.....	90
2.5.1	State Ownership	90
2.5.2	Institutional Ownership	92
2.5.3	Institutional Environment.....	94
2.5.3(a)	Labor Market Maturity	94
2.5.3(b)	Product Market Maturity	97
2.6	Summary	98
CHAPTER 3 RESEARCH METHODOLOGY		100
3.1	Introduction	100
3.2	Research Design	100
3.2.1	Sample of Study	100
3.2.2	Data Collection.....	103
3.3	Measurement of Variables	105
3.3.1	Dependent Variable	105
3.3.2	Independent Variables	106
3.3.2(a)	State Ownership	107
3.3.2(b)	Institutional Ownership	107
3.3.3	Moderator Variables	108
3.3.3(a)	Labor Market Maturity	109
3.3.3(b)	Product Market Maturity	109
3.3.4	Control Variables	110
3.3.4(a)	Firm Size.....	110
3.3.4(b)	Firm Growth	111
3.3.4(c)	Tangibility	111
3.3.4(d)	Profitability	112
3.3.4(e)	Non-debt Tax Shields.....	113
3.3.4(f)	Board Size.....	113
3.3.4(g)	Director Independence.....	114
3.3.4(h)	CEO Duality	115

3.3.4(i)	Board Meeting	115
3.4	Regression Models	118
3.4.1	Baseline Model.....	118
3.4.2	Moderator Models	119
3.4.2(a)	Labor Market Maturity	120
3.4.2(b)	Product Market Maturity	120
3.5	Research Methods	121
3.5.1	Panel Data.....	121
3.5.2	Static Panel Estimation Methods.....	122
3.5.3	Selecting the Static Panel Data Model	123
3.5.4	Robust Estimations.....	124
3.5.5	Dynamic Panel Data Estimations	126
3.6	Summary	129
CHAPTER 4 RESULTS AND DISCUSSIONS		130
4.1	Introduction	130
4.2	Descriptive Statistics	130
4.3	Multicollinearity Tests.....	135
4.3.1	Correlation.....	135
4.3.2	Variance Inflation Factor (VIF) Analysis	138
4.4	Regression Results	139
4.4.1	Regression Results for the Effect of Ownership Structure on Total Debt Ratio.....	140
4.4.2	Interaction Results on the Relationship between Ownership Structure and Total Debt Ratio.....	148
4.4.2(a)	Moderating Effect of Labor Market Maturity	149
4.4.2(b)	Moderating Effect of Product Market Maturity	153
4.5	Robustness Check	157
4.5.1	Regression Results for the Effect of Ownership Structure on Short-term Debt Ratio.....	157
4.5.2	Interaction Results on the Relationship between Ownership Structure and Short-term Debt Ratio	162
4.5.2(a)	Moderating Effect of Labor Market Maturity	163

4.5.2(b) Moderating Effect of Product Market Maturity	167
4.6 Discussions of Findings	171
4.7 Summary	176
CHAPTER 5 CONCLUSION.....	178
5.1 Introduction	178
5.2 Recapitulation.....	178
5.3 Implications of the Study	182
5.3.1 Theoretical Implications.....	183
5.3.2 Practical Implications	185
5.4 Limitations of the Study	186
5.5 Suggestions for Future Studies.....	187
5.6 Conclusion.....	188
REFERENCES.....	191
LIST OF PUBLICATIONS	

LIST OF TABLES

	Page
Table 1.1 The Debt Structure of Listed Companies in China	7
Table 2.1 Summary of Hypotheses	99
Table 3.1 Sample Composition	104
Table 3.2 Summary of Variable Definition	116
Table 4.1 Descriptive Statistics of Variables in this Study.....	131
Table 4.2 Descriptive Statistics for Dummy Variables	131
Table 4.3 Correlation Matrix of the Pearson	137
Table 4.4 Variance Inflation Factor (VIF) Analysis	138
Table 4.5 Impact of Ownership Structure on Total Debt Ratio.....	141
Table 4.6 Two-step System GMM Estimation on the Relationship between Ownership Structure and Total Debt Ratio	146
Table 4.7 Interaction Effect of Labor Market Maturity	150
Table 4.8 Interaction Effect of Product Market Maturity.....	155
Table 4.9 Impact of Ownership Structure on Short-term Debt Ratio	159
Table 4.10 Two-step System GMM Estimation on the Relationship between Ownership Structure and Short-term Debt Ratio.....	161
Table 4.11 Robustness Test for the Interaction Effect of Labor Market Maturity	165
Table 4.12 Robustness test for the Interaction Effect of Product Market Maturity	169
Table 4.13 Summary of Hypotheses	177

LIST OF FIGURES

	Page
Figure 1.1 Changes in the Debt Ratio of Listed Companies in China in the Last Decade	8
Figure 1.2 GDP Distribution of Mainland China's Provinces in 2021	12
Figure 1.3 Non-financial firms' leverage ratio (%).....	20
Figure 2.1 Theoretical Framework.....	90

LIST OF ABBREVIATIONS

BIS	Bank for International Settlements
CIBM	China Interbank Bond Market
CPC	Communist Party of China
CSMAR	China Stock Market and Accounting Research
CSRC	China Securities Regulatory Commission
FEM	Fixed Effects Model
FYP	Five-year Plan
GLS	Generalized Least Squares
GMM	Generalized Method of Moments
LM	Lagrangian Multiplier
LSDV	Least Square Dummy Variable
PBC	People's Bank of China
POLS	Pooled Ordinary Least Squares
REM	Random Effects Model
SOEs	State-owned enterprises
ST	Special Treatment
VIF	Variance Inflation Factor
WTO	World Trade Organization

**KESAN PENYEDERHANAAN PERSEKITARAN INSTITUSI TERHADAP
HUBUNGAN ANTARA STRUKTUR PEMILIKAN DAN STRUKTUR
MODAL BAGI SYARIKAT TERSENARAI DI CHINA**

ABSTRAK

Kombinasi pembiayaan hutang dan ekuiti yang optimum adalah penting bagi syarikat kerana ia membolehkan syarikat mencapai struktur modal yang optimum demi mengurangkan risiko dan memastikan kelestarian. Namun, kebanyakan syarikat China tidak mampu mencapai struktur modal yang optimum kerana mereka amat bergantung kepada pinjaman bank. Keadaan sebegini tidak menggalakkan dan tidak diingini kerana ia meningkatkan risiko dan mengehendkan perkembangan masa depan syarikat, terutamanya ketika perubahan persekitaran luaran yang mendadak seperti kejutan ekonomi dan peristiwa di luar jangkaan umpamanya COVID-19. Di China, firma pemilikan negari dan institusi mempunyai keutamaan akses terhadap pelbagai sumber, termasuk modal kewangan dalaman. Oleh itu, syarikat tersebut mempunyai keperluan yang lebih rendah terhadap pembiayaan luaran dan mengakibatkan leveraj yang rendah. Tambahan lagi, syarikat yang mempunyai pemilikan negeri dan institusi berlokasi di pasaran yang lebih matang, dan menikmati lebih autonomi. Selain daripada sumber dalaman, mereka juga memperoleh pembiayaan sumber luaran. Kajian ini bertujuan untuk menganalisis kesan struktur pemilikan syarikat terhadap struktur modal korporat yang disederhanakan oleh kematangan pasaran buruh dan produk

daripada teori berasaskan sumber dan pandangan kontingensi. Kajian ini menggunakan sampel yang terdiri daripada 19,950 pemerhatian tahun firma daripada, 1995 syarikat bukan kewangan yang disenaraikan di 'A-Shares Board' di pasaran bursa saham Shanghai dan Shenzhen dari tahun 2011 sehingga 2020. Teknik anggaran sistem GMM dua langkah digunakan untuk menganalisis data kajian. Keputusan menunjukkan pemilikan negeri dan institusi memberi kesan negatif ke atas leveraj firma. Dapatan ini adalah kongruen dengan teori berasaskan sumber. Tambahan pula, penemuan juga mengesahkan pandangan teori kontingensi yang menunjukkan bahawa kesan negatif pemilikan negara dan pemilikan institusi terhadap leveraj berkurangan apabila firma bertempat di wilayah yang mempunyai pasaran buruh dan produk yang lebih matang. Dapatan kajian ini memberikan pelbagai implikasi praktikal yang boleh membantu untuk membangunkan dan menguatkuasakan peraturan struktur modal untuk menggalakkan firma mencapai struktur modal yang optimum. Ia juga boleh membantu pengurus menilai pengaruh pemilikan negeri dan institusi serta persekitaran institusi terhadap tahap leveraj firma di wilayah-wilayah yang berbeza di China.

**MODERATING EFFECT OF INSTITUTIONAL ENVIRONMENT ON THE
OWNERSHIP STRUCTURE AND CAPITAL STRUCTURE RELATIONSHIP
OF CHINESE LISTED COMPANIES**

ABSTRACT

An optimal combination of debt and equity financing is vital for companies because it allows companies to possess an optimal capital structure, which reduces risks and ensures sustainability. However, most Chinese companies were unable to achieve optimal capital structure as they tend to rely heavily on bank borrowing that significantly escalates their financial risks. This prominent trend is unfavorable and undesirable because it increases risks and constrains the companies' future development, especially when external environmental changes, such as the occurrence of economic shocks and other unexpected events like COVID-19. In China, firms with state and institutional ownership have priority access to various resources, including internal financial capital. Hence, these companies would have a lesser need for external financing, which results in low leverage. Furthermore, companies with state and institutional ownership are located in more mature markets, and are granted with greater autonomy. Besides internal resources, they also obtain financing from external sources. This study aims to analyze the impact of companies' ownership structure on corporate capital structure, moderated by labor and product market maturity from the perspectives of resource-based and contingency views. It employs a sample of 19,950

firm-year observations, which originated from 1995 non-financial companies, listed on the A-Shares Board in Shanghai and Shenzhen stock exchange markets for the years 2011 to 2020. The two-step system GMM estimation technique is used to analyze the data. The results suggest that state and institutional ownership negatively affect the firms' leverage. This finding is congruent to the resource-based theory. Furthermore, the findings also confirm the views of the contingency theory that suggests that the negative effect of state ownership and institutional ownership on leverage diminishes when firms are located in provinces with more mature labor and product markets. The findings of this study provides various practical implications that can help to develop and enforce capital structure regulations to promote firms to embrace optimal capital structure. It may also help managers to evaluate the influence of state and institutional ownership and institutional environment on the firms' leverage levels in different Chinese regions.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter focuses on the background and the purpose of the study, as well as the problem statement. It also presents the research questions and research objectives, as well as discusses the contribution of the study. The last section of the chapter outlines the structure of the thesis.

1.2 Background of the Study

It is well known that the method of business funding has an enormous impact on the sustainability of a company, whether new or old (Brigham & Daves, 2004). A firm has to manage its sources of capital, in order to reduce the cost of capital and to maximize the company's value.

A company has two main sources of external capital. One of them is debt, whereby typically, a company borrows a certain amount of money and repays the principal and interests stated on the contracts. The other way is through equity, which enables the business to obtain capital without incurring debt (Sibilkov, 2009).

However, using only debt to obtain capital can be very risky. The more debt there is, the more pressure there is on the company to survive because there is an increased probability that a firm may not be able to successfully deal with all its debt obligations (Eriotis et al., 2007). As a result, when the company includes too much debt in its

financing structure, the cost of financial distress will increase significantly, which in turn will increase the company's financial risk and can cause a decrease in the company's value (De Wet, 2006). On the other hand, issuing only shares is also a very risky option. When a company raises too much or depend solely on equity capital, it will send a signal to the market that the company does not have sufficient cash flows or sufficient reserves, causing the share prices to be undervalued (Narayanan, 1988). Therefore, the main argument of previous research is that companies need to find an optimal combination of debt and equity in order to maximize the companies' overall worth.

There are various definitions of capital structure. In general, the total of all the liabilities and the ownership claims, which is often shown on the credit side of the balance sheet, is referred to as the “broad capital structure” (Schwartz, 1959). Another view of capital structure is the “narrow capital structure”, which is mainly limited to long-term capital. However, capital structure is usually referred strictly to permanent or long-term capital that is used to support the company’s operations (Megginson, 1997).

Capital structure is influenced by the different options a firm uses in financing its assets (Bhaduri, 2002). Companies’ assets are financed by either internal or external capital. The company’s management must determine which source of capital is most appropriate for the company. Certain conditions must be considered before deciding whether to finance the company’s assets with equity, debt, or both. As a company’s

capital is made up of both debt and equity, the capital structure of a company has a significant impact on its operations and growth (Duan et al., 2012). It is essential for a firm to finance its overall operations and growth through different sources of funds (San & Heng, 2011). A wrong financial decision can affect the fortunes of businesses (Modugu & Eragbhe, 2015), while an optimal capital structure would enhance the company's future growth and sustainability (Tongkong, 2012).

Therefore, one of the main responsibilities of the company manager should be to choose an appropriate mix of debt and equity in the company's capital structure (Shah & Khan, 2017). Besides, investors analyze the company's financial indicators, particularly the debt ratio, before invest in a company. Also, the bank will look at the company's financial statements and analyze its financial indicators before deciding whether to lend money to the company. Therefore, corporate managers need to make the right decisions on optimal capital structure to effectively mitigate risks and maintain sustainable business operations.

1.2.1 Capital Market in China

The process of corporatization in China began in the mid-1980s, and it grew rapidly in the 1990s. Ordinary shares were issued for the first time by a company in 1984, and the first security firm was established in 1987. Subsequently, the number of share issues increased tremendously, and the need to trade in shares rose accordingly. As a result, authorized by the State Council and approved by the People's Bank of China, the Shanghai Stock Exchange and the Shenzhen Stock Exchange were opened

in 1990 and 1991 respectively. In 1992, the China Securities Regulatory Commission (CSRC) was established. All stock exchanges are under the supervision of the CSRC. This marked the beginning of the gradual introduction of market mechanisms in China, and the transition of enterprises from being state-owned and funded by the government to the co-existence of state-owned and non-state-owned forms. These developments force enterprises to face the market themselves, that is, to raise money on their own, and face the pressure of market competition, as well as the pressure of sourcing for capital (Cheng et al., 2017).

The economic liberalization in 1978 causes China to transform from a planned economy to a socialist market economy. However, the new economy has certain characteristics that portray its Chinese origin. The rapid economic development and the immense growth of China's capital market attracted numerous domestic and foreign investors, which further increases the speed of economic development. As a result, the two stock markets in China, the Shanghai and the Shenzhen stock exchanges expanded rapidly in the late 1990s (Chen, 2004).

In China, common stocks are typically divided into two categories: A-Shares and B-Shares. A-Shares are listed on the Shanghai and Shenzhen stock exchanges, denominated in RMB, and restricted to domestic investors. The majority of the stock market is made up of these shares (Huang et al., 2018). On the other hand, B-Shares are also listed in mainland China. However, they are denominated in US dollar or Hong Kong dollar and are restricted to foreign investors until early 2001 (Huang & Song,

2006). H-, N-, and S-Shares are additional types of shares that are listed outside of mainland China (Hong Kong, Singapore and New York).

Chinese stock markets differ from Western ones due to ownership restriction. Ownership restriction applies to government shares of state-owned companies, with most of listed firms being state-owned enterprises (Tondkar et al., 2003). These shares are denoted as non-negotiable shares, unlike tradable shares, which can be bought and sold by individual investors, which prevents total privatization. A-Share shareholders in China can be classified into four categories: the state, institutions (or known as legal person shares), tradable A-Share shareholders, and others (for example, employee shareholders) (Huang & Song, 2006). Only tradable A-Shares can be traded in the open market, while state shares are held by central, provincial, or local governments or state-owned enterprises (Hu & Zhou, 2008).

In terms of bond markets, China has a unique two-market system, that is, the interbank market and the exchange market. China Interbank Bond Market (CIBM), also known as the interbank bond market, was founded in 1997 and is limited to qualified institutional investors, such as the commercial banks, mutual funds, and insurance companies. CIBM has now become China's major market for the issuing and the trading of bonds. China's central bank, the People's Bank of China (PBC), is the primary regulator of the bond market (Amstad & He, 2019).

In terms of Chinese capital structure regulation, The CSRS's domestic listing requirements are unique. CSRC uses a quota-based system to determine which

companies can list on the Chinese stock markets. The system is based on an annual quota determined by the State Planning Committee and the CSRC, which is then allocated to provinces. Local governments then allocate the quota to individual firms. The system aims to limit the number of low-risk, financially sound companies to be listed and allow small securities markets to serve the capital needs of select companies in urgent need of equity financing. The listing process in China's securities markets can be influenced by non-economic factors, such as local government preference for State-Owned Enterprises (SOEs) over private enterprises. Furthermore, this system often promotes unfair competition and corruption by issuers bribing local officials to become the favored listing candidates (Tondkar et al., 2003).

1.2.2 Financing Characteristics of Chinese Listed Companies

Bank loans dominate the sources of external financing for Chinese listed companies, while corporate bonds make up a small percentage of total debt (Huang et al., 2018; Yao & Liu, 2018).

Table 1.1 reports the debt structures of listed companies in China from 2011 to 2020. There was a marked increase in the average number of bank loans from approximately RMB 2.85 billion in 2011 to RMB 4.36 billion in 2020, and the proportion of bank loans to total liabilities was around 33.7%. Although the mean of bonds also rose dramatically and more than ten times, to nearly RMB 3.11 billion in 2020, the proportion of total bonds to total liabilities was only 6.2%. In general, there are few bonds payable in the liability structure, which consists mainly of bank

borrowings and commercial credits in Chinese listed companies. This is because, in comparison to bond issuance, the standards of approval for bank loans in China are more lenient. Furthermore, coupled with state policy assistance, bank loans are relatively easy to obtain, making them the preferred choice of financing for most companies.

Table 1.1 The Debt Structure of Listed Companies in China

Year	Average bank loan (RMB billion)	Average bond (RMB billion)	Bank loan/Total liabilities	Total bond/Total liabilities
2011	2.85	0.37	36.37%	5.82%
2012	3.10	0.47	35.65%	6.90%
2013	3.50	0.51	34.92%	6.64%
2014	3.53	0.52	35.88%	6.48%
2015	3.69	0.61	34.80%	7.02%
2016	3.78	2.49	32.29%	7.44%
2017	4.11	3.32	33.40%	6.18%
2018	4.31	3.40	32.90%	5.58%
2019	4.40	3.41	31.36%	5.35%
2020	4.36	3.11	29.69%	4.87%
Average	3.76	1.82	33.73%	6.23%

Source: China Stock Market and Accounting Research Database (CSMAR)

Chinese companies usually prefer short-term loans rather than long-term debt (Chen et al., 2014; Wang et al., 2022). As can be seen from Figure 1.1, the total debt ratio (measured as total liabilities/total assets) of Chinese listed companies was below 50% in China from 2011 to 2020. The long-term debt ratio (measured as long-term liabilities/total assets) had a very low proportion, less than 10%. While a high average proportion of short-term debt ratio (measured as short-term liabilities/total assets), at around 35%. In respect of liabilities structure, short-term liabilities/total liabilities are

relatively high, all above 80%, whereas the number of long-term liabilities/total liabilities has been relatively stable, remaining nearly 17%.

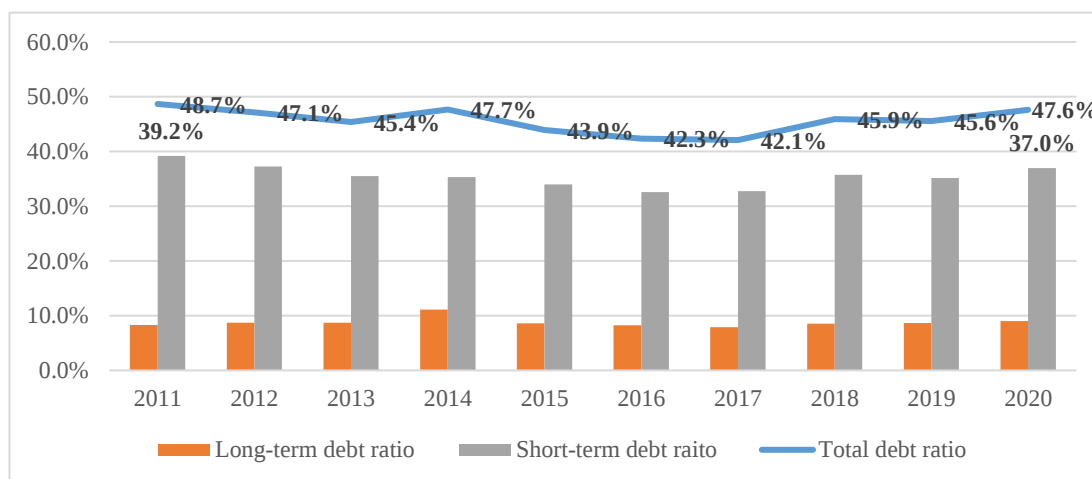


Figure 1.1 Changes in the Debt Ratio of Listed Companies in China in the Last Decade

Source: China Stock Market and Accounting Research Database (CSMAR)

1.2.3 Corporate Governance in China

China's corporate governance structure primarily consists of three main entities: the shareholders' general meeting, the board of directors, and the supervisory board. The shareholders' general meeting serves as the highest decision-making body of the company, where shareholders have rights such as voting, election, and information. The board of directors functions as the company's decision-making body, comprised of directors responsible for determining the company's operational policies, development strategies, and significant matters. The supervisory board acts as the company's supervisory body, composed of supervisors responsible for overseeing the company's business operations and financial condition.

The China Securities Regulatory Commission and the Chinese government enforce corporate governance law through the "Code of Corporate Governance for Listed Companies in China" published in 2002. The code covers shareholder rights, controlling shareholder regulations, director and director board regulations, supervisory board duties, performance evaluation, and information disclosure.

Since 2003, large-listed companies must have at least five directors and less than 19 directors, with at least 1/3 independent directors on the board. Independent directors cannot have relationships with managers, become top ten shareholders, or own more than one percent of the firm's stocks. Managers may be directors, and independent directors should occupy more than 1/2 seats on the board if a committee exists. Board meetings must be held at least twice a year.

Large-listed Chinese companies are required to have a minimum of three supervisors, at least one of whom must be an employee. Supervisors are not able to vote, but they are able to attend director board sessions. If rules are broken, they may recommend dismissing managers or directors.

1.2.4 State Ownership and Institutional Ownership in China

In China, the government is a significant player in corporate finance (Sun & Tong, 2003). China operates the largest system of state-owned assets in the world (Jin et al., 2022; Wang et al., 2018). State-owned enterprises (SOEs) are the economic backbone of the Chinese states. Notably, the ownership structure of Chinese listed companies has two unique features: first, there is a presence of non-public share; and second, state

and institutional shares occupy an important position among the non-public shares (Feng et al., 2000). Despite having the majority of the features of corporate governance and being organized in corporate form, China's SOEs are primarily controlled by the government. The state is able to control SOEs through legitimate ownership. In China, SOEs serve certain political and social aims as they are established by the state and are a part of the wider framework of the state-owned economy (Jin et al., 2022).

On the other hand, institutional shares, also known as legal person shares, are owned by domestic or foreign institutions, such as stock companies, securities firms, finance companies, trust companies, investment companies, insurance companies, etc. (Moradi et al., 2012). In recent years, institutional investors have developed into a more significant group of investor in the Chinese capital market (Jiang et al., 2021).

Institutional investors in China have short investment histories (Rong et al., 2017). Hence, the level of institutional ownership in China is low compared to developed countries, such as the US, where institutional ownership averages at 82% (Hayat et al., 2018). In recent years, the Chinese government has made great efforts to promote the growth of institutional investors. From 2008 to 2020, one of the key development objectives of China Securities Regulatory Commission (CSRC) is to "continuously encouraging the development of institutional investors". Institutional investors are increasingly adopting the long-term behavior of actively engaging in corporate governance.

Recently, although the number of non-public shares has decreased, there are still non-public shares in China and most of them are state and institutional shares (He et al., 2016). The state and institutional shareholders are unique in China in that they play a crucial role in China (Xiao & Zou, 2008; Xiao, 2005). China is mainly a state-controlled economy (Wang et al., 2018), and the government is a major player in corporate financing (Huang et al., 2018). Firms with state and institutional ownership have priority access to valuable resources, including internal financial capital (Chen et al., 2013; Cui & Jiang, 2012).

1.2.5 Characteristics of the Chinese Institutional Environment

The subject of this study is Chinese listed companies. However, there are significant differences in institutional environments among the 31 Chinese provinces, autonomous regions, and municipalities (excluding Taiwan, Macau, and Hong Kong). This is because the 31 provinces of mainland China have varying levels of economic development and natural resources. Mainland China's GDP was RMB 114.4 trillion in 2021, with the top three provinces accounting for 28.2% of the total: Guangdong (RMB12.4 trillion), Jiangsu (RMB11.6 trillion), and Shandong (RMB8.3 trillion) (Figure 1.2). These three provinces are all coastal cities, and their coastal advantages enable them to develop better trade. At the same time, these coastal regions have benefited from many preferential policies granted by the government, making them the first to adopt the open-door policy, which help them to lead in development, and become the most developed region in China.

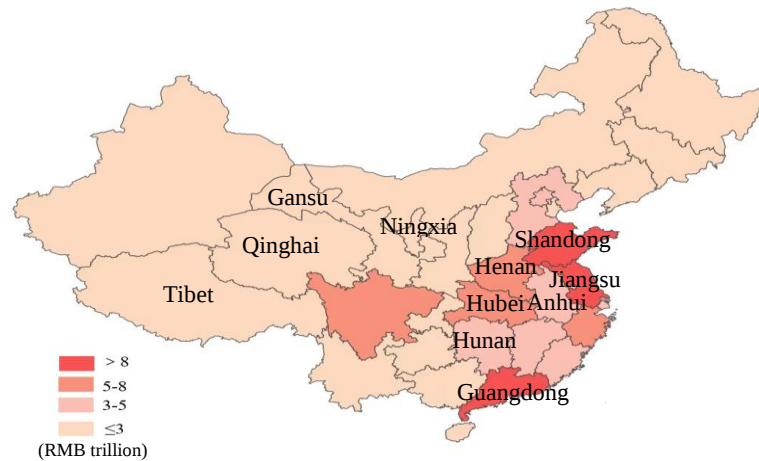


Figure 1.2 GDP Distribution of Mainland China's Provinces in 2021
Source: China National Bureau of Statistics

The GDP of the provinces of Henan, Hubei, Hunan, and Anhui exceed RMB4 trillion. These provinces are situated in the center of China, inland but close to the coast, and are located at important waterway transport network hubs. Furthermore, they are located in the middle reaches of the Yangtze and the Yellow rivers. They are also China's most important agricultural economy, with abundant natural resources such as energy and minerals. In recent years, the government has encouraged and supported these inland cities to accelerate their development to close the regional development gap gradually.

On the contrary, the GDP of Tibet, Gansu, Qinghai, and Ningxia are all under RMB1 trillion. These regions are vast areas with low population density, high terrain, and complex topography, including plateaus, basins, deserts, and grasslands. The majority of these regions are covered with alpine forest, and suffered from water shortage, making them lack in agriculture.

The factors of the institutional environment in which the firm does business can affect the choice of the capital structure (Palacín-Sánchez & Di Pietro, 2015). Institutional environment factors have a significant impact on the financing behavior of firms with state and institutional ownership, since they have more internal financial resources and have lesser need for external financing. Financing choices also vary for firms operating in different institutional environments. For example, in these regions with more mature markets, companies with state and institutional ownership have greater autonomy in business decisions. However, they cannot rely excessively on internal resources, but need to rely on themselves to obtain financial capital. These variations in the institutional environment may explain the divergent financing behavior of companies (Palacín-Sánchez & Di Pietro, 2015; Wang et al., 2019).

1.2.5(a) Labor Market Maturity in China

Before 1978, China had a planned economy and there was no labor market. Employees and wages in each firm were arranged by the state in a standard manner. However, the Third Plenary Session of the 11th Central Committee of the Communist Party of China in 1978 marks the beginning of China's labor reform. The introduction of self-employment impacts significantly on China's labor resource allocation. Furthermore, the Third Plenary Session of the 14th Central Committee of the Communist Party of China held in 1993 further consolidated the labor reform system, which promotes the gradual formation of a formal labor market.

After more than 30 years of reform and development, China's labor market improves steadily, and labor mobility increases tremendously (Xu & Gan, 2020). In the more developed regions of China, there are plenty of decent jobs with high income and promising career advancements. In addition, the strategic support provided by the nation and the implementation of a talent introduction policy attract a sizable number of skilled and experienced employees in these regions. Therefore, the labor market functions well in developed regions. More explicitly, developed regions have more mature labor markets, better labor supply conditions, and more competitive economic environment.

1.2.5(b) Product Market Maturity in China

China is the largest transition economy in the world. It has been undergoing significant economic reforms, moving from a state-monopolized, centrally-planned economy to a market economy. At the beginning of China's economic reform, that is, towards the end of 1978, the state had comprehensive control over all economic operations and almost all corporate sectors were run under collective or complete state ownership (Chen et al., 2014). The government established production objectives, imposed price control, and allocated resources to manage the national economy (Jiang et al., 2015). For example, the prices for products and services were set by the National Planning Department, and only the state-owned enterprises (SOEs) were allowed to enter certain industries, and the government had a monopoly on imports and exports.

However, in the 1980s, price restrictions were lifted, free trade and foreign investment were allowed, and entry barriers for non-state companies were lowered (Lin & Liu, 2000). This situation encouraged the non-state economy, such as the private companies and foreign-invested companies to grow. In the 1990s and 2000s, a market-oriented economy began to form. In most industries, administrative obstacles to entry and exit were reduced. Hence, the non-state economy expanded quickly after the state monopoly was removed. At the same time, China joined World Trade Organization (WTO), which exposed the economy to international competition (Chen et al., 2014).

Therefore, in just a few decades, marketization forces grew and emerged as a major factor affecting economic behavior, despite the existence of incomplete transition and marketplace restrictions by the government (Chen et al., 2014; Jiang et al., 2015). Currently, most of the developed regions are coastal cities, such as Guangdong and Zhejiang provinces. According to the state's political strategy, these regions have adopted an open-door policy, leading to a competitive situation where there is a constant entry of new competitors, the threat of substitutes, and the rapid renewal of products. These regions are highly characterized by market-determined prices, weak local protection, fairness, efficiency, and a more competitive market.

1.3 Scope of the Study

The scope of this study is the ownership structure of A-Share Chinese listed companies in the Shanghai and Shenzhen stock exchanges for the years 2011-2020. The Chinese market is chosen because of China's unique economic position. Although China faces fluctuations in its economic growth, in the last 25 years, it has never dropped below 6%. It is the world's second largest economy after the United States, and the largest emerging economy (Rong et al., 2017). At the same time, it is the world's largest foreign exchange reserve holder, and the world's largest developing country (Chen, 2004; Wang et al., 2018). However, the United States, the world's largest economy and most developed country, is far ahead of China in the research on ownership structure. Furthermore, this study uses state ownership and institutional ownership as proxies for ownership structure. This is because there is a presence of non-public shares, and the largest state-controlled economies (Wang et al., 2018). As a result, there is value in studying China's state.

The study period is from 2011 to 2020. Year 2011 has been selected as the starting year because the Chinese government announced the outline of the 12th five-year plan (FYP). The outline of the 12th FYP clearly indicates that the capital market should significantly increase the proportion of financing, which means that more firms will be encouraged and attracted to issue and list on A-share. There was a profound impact on the Chinese capital market in 2011. On the other hand, 2020 is the ending year. Because institutional environment data is sourced from the China Market Index

Database. The database only provided data up to 2020, the data for 2021 will only be published in year 2023. Thus, the study period came to an end in 2020.

In order to determine whether state ownership and institutional ownership have an impact on capital structure, this study uses regression analysis to establish a link between ownership structure and capital structure while controlling for some major variables for firm-specific and board characteristics factors. The study uses panel data for the analysis. The two-step system GMM estimation technique is used to analyze the data. In order to check the robustness of the results, this study also conducted regression analyses using alternative variables. More specifically, the total debt ratio is replaced by the short-term debt ratio.

1.4 Motivation of the Study

The ownership structure of Chinese listed companies has two unique features: first, there is a presence of non-public share; and second, among the non-public shares, state and institutional shares each occupy an important position (Feng et al., 2000). The state and institutional shareholders play crucial roles in China (Xiao, 2005; Xiao & Zou, 2008). China is the largest state-controlled economy in the world (Wang et al., 2018). Additionally, the level of institutional ownership in China is low compared to other developed countries, such as the US, where institutional ownership averages 82% (Hayat et al., 2018). However, CSRC has been "continuously encouraging the development of institutional investors", which is one of the key development

objectives of China's capital market for the years 2008 to 2020.

As China is a big country and has certain regional heterogeneity, the listed companies are located in diverse institutional environments. However, the institutional environment has not been given appropriate consideration in past studies, and hence, there is a need to take into consideration the impact of heterogeneous institutional characteristics on China's capital structure (Huang et al., 2018). Therefore, this study aims to examine the impact of state and institutional ownership on companies' capital structure, moderated by institutional environment.

1.5 Problem Statement

Generally, there are two main sources of external capital for the company. One is debt and the other is equity. Using only debt to obtain financial capital can be very risky, as more debt means more pressure on the company to fulfill its debt obligations, which poses high risk for the company (De Wet, 2006; Eriotis et al., 2007). Alternatively, relying solely on equity is also a risky option. It signals to the market that the company lacks adequate cash flow or reserves, and impacts negatively on the price of company shares (Narayanan, 1988). Therefore, it is vital for companies to find an optimal level of debt and equity when seeking external financial resources, that is, an optimal capital structure.

Companies should pursue an optimal capital structure (Drobetz et al., 2006; Memon et al., 2021). However, most Chinese companies were unable to achieve

optimal capital structure. Specifically, China's capital markets are relatively closed and has numerous imperfections (Beladi et al., 2019; Chan & Kwok, 2017). First of all, Chinese companies have limited avenues for listing. Second, the regulations on listings in China's capital market are incomplete (Qian et al., 2009; Tondkar et al., 2003). These restrict the options for equity and debt financing. Furthermore, the government exerts restriction on equity issuance. Regulators enforce a predetermined limit on the amount of equity that can be issued and restrict the market-to-book ratio for equity issuance (Gombola et al., 2019). These factors make it difficult for some firms to obtain capital to achieve their optimal capital structure.

In this situation, Chinese companies rely heavily on bank borrowing as their only source of financing (Huang et al., 2018; Yao & Liu, 2018), which has resulted in high leverage, and this issue has become more prominent among non-financial firms (Feng et al., 2021). According to the Bank for International Settlements (BIS), the non-financial firms' leverage ratio (total credit to non-financial corporations as a percentage of GDP) dramatically increased to 152.8% in 2021, while the ratio reached its peak at 160.8% in 2020. Thus, China's non-financial firms' leverage ratio increased significantly, at a rate faster than that of the average of developed economies, such as the US and Japan, and the average of emerging market economies (Dong et al., 2021). The comparison of the leverage ratios of non-financial corporations in China and other countries from 2018 to 2020 is presented in Figure 1.3.

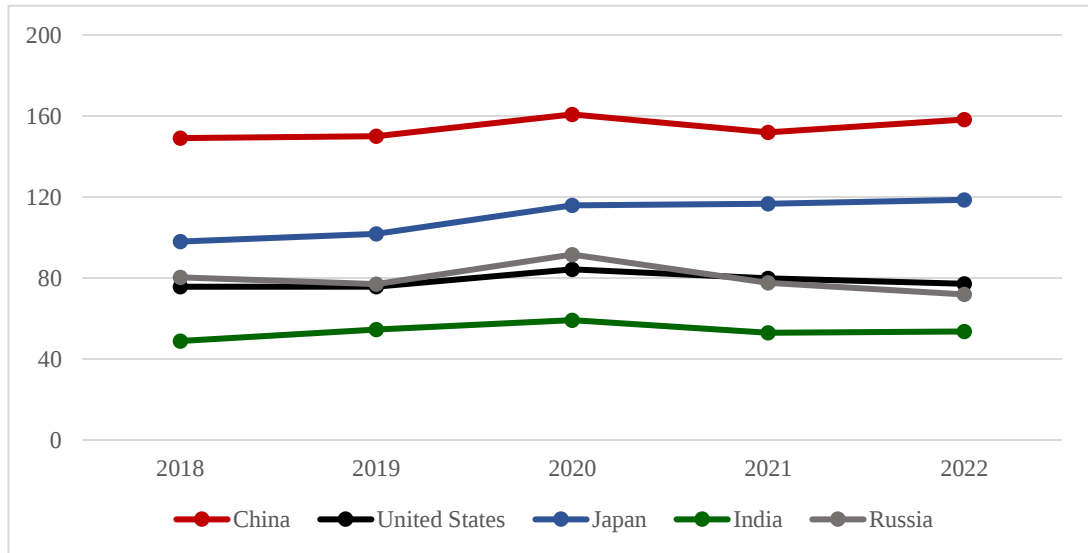


Figure 1.3 Non-financial firms' leverage ratio (%)
Source: Bank for International Settlements (BIS)

This trend is unfavorable, and the phenomenon that Chinese companies are not at their optimal capital structure is undesirable. Debt that is within a particular limit can be essential for promoting economic growth, but when it exceeds that limit, it can seriously damage the economy (Shen et al., 2018). Similarly, companies with higher leverage are more prone to default when under persistent financial strain, which could cause panic or even disruption in the financial market (Dong et al., 2021). As a result, the company's future development will be constrained. In particular, when external environmental changes, such as the occurrence of economic shocks and other unexpected events like COVID-19, a number of Chinese firms failed to repay the debt on time, and faced corporate bankruptcies and bond defaults. Among these companies, the most prominent one is the Evergrande Group.

In September 2021, Evergrande Group's failure to fulfill its \$83.5 million interest payment on its \$2.03 billion bond raised widespread concern in both domestic and foreign markets (Altman et al., 2022; Zhang & Nan, 2023). This default gained immense attention as it marked the largest-ever dollar-bond default by an Asian company (Deng, 2022). As a result, this incident has been given the name "Lehman Brothers moment" of China's economy (Almeida et al., 2022; Lu & Keller, 2022).

Evergrande, the second-largest real estate company in China, reported that the total liabilities amounted to \$269.62 billion, with a significant portion being current liabilities. As a capital-intensive enterprise with high capital requirements and limited cash flow, Evergrande faces challenges in achieving timely liquidity when encountering obstacles in the capital chain, resulting in liquidity problem (Fan, 2022). In recent years, the real estate industry's downturn and the stringent regulations have resulted in a loss in company revenues, causing a severe liquidity crisis for Evergrande Group (Lu & Keller, 2022). Thus, Evergrande, operating with high levels of debt, is obviously far from its optimal capital structure. Therefore, when faced with a liquidity crisis, the less than optimal capital structure caused the company's external financing channels to be blocked, making it challenging to meet its debt obligations on time. The default of Evergrande Group had wide-ranging effects, including suspended housing projects, pay cuts for construction workers, and a cascading impact on the Chinese real estate industry (Fan, 2022). It led to declining housing sales, increased defaults among housing companies, higher corporate bond yields, and diminished investor confidence.

Additionally, the default posed systemic risks to the financial system, potentially triggering cross-defaults among related banks, trusts, funds, and other financial institutions (Wang et al., 2022).

The Chinese government has taken note of the seriousness of this problem. In the National Congress of the Communist Party of China (CPC) report, the government introduced the de-leverage strategy as one of China's supply-side structural reforms, in order to reduce the non-financial firm's leverage level. The main objective of this strategy was to reduce the current debt ratio to a reasonable level to prevent financial risks (Wang, 2017). Subsequently, the state has continued to introduce relevant stringent regulations. For instance, the introduction of the "Three Red Lines" policy to regulate the real estate industry (Gao, 2021). Specifically, when the ratio of debt is above the standard level, it hurts their credit rating, which makes it more difficult for them to obtain funds in the future.

In addition to the government, financial institutions have begun to pay attention to this financial ratio. More specifically, it has been considered basic and vital to a firm's financial management, making it an approach to provide information on a firm's risks status. For instance, in the current banking system, banks have begun to apply economic criteria to a greater extent when making lending decisions (Li et al., 2009). If the debt ratio is too high, it sends a signal that the company may be in financial distress and is unable to pay its debtors, and banks will reduce the number of loans or even refuse to lend to such companies (Zhang et al., 2015).

Notably, the state and institutional shareholders are unique in China in that they play a crucial role in the capital structure of firms (Xiao & Zou, 2008; Xiao, 2005). China is a largely state-controlled economy (Wang et al., 2018), and the government is a major player in corporate financing (Huang et al., 2018). Some firms with state and institutional ownership have priority access to various resources, including internal financial capital (Chen et al., 2013; Cui & Jiang, 2012; Fernández & Nieto, 2006; Green & Liu, 2005; Kim & Yi, 2015). In this situation, these companies have more access to internal financial resources, and hence, a lesser need for external financing, resulting in low leverage.

However, companies operate within diverse economic environments in China, and resources vary accordingly. The diverse allocation of resources among the 31 provinces in mainland China has led to heterogeneity in certain regions. For example, the most developed regions in China are the coastal regions, such as Guangdong and Zhejiang provinces. According to the state's political strategy, these regions have adopted an open-door policy and their marketization level is high. In these regions, government intervention is low, which allows companies to operate with greater autonomy, and hence are able to compete fairly, which fosters a more flexible business environment. Therefore, in these regions with more mature markets, companies with state and institutional ownership have greater autonomy in business decisions. However, they cannot rely excessively on internal resources, but need to rely on themselves to obtain financial capital. These variations in the institutional environment

may explain the divergent financing behavior of companies (Palacín-Sánchez & Di Pietro, 2015; Wang et al., 2019; Xiao, 2009).

In recent years, despite a significant amount of literature on the factors influencing companies' capital structure, existing studies (e.g., Abor & Biekpe, 2007; Huang, 2019) found that decisions on capital structure is a challenging issue. Previous studies seldom analyze the influence of the institutional environment, especially in China. In addition, the studies are restricted to exploring the direct relationship, and have not considered the indirect association, such as the moderating effect. As documented by Wang et al. (2018), most studies believe that the features of the firm are the only factors that influence capital structure, while institutional factors are less to consider. Therefore, it is worthwhile to examine what earlier researchers have neglected to gain new insights into companies' capital structure in China.

Additionally, previous studies do not fully reflect the capital structure of companies located in various environments. Specifically, the majority of the literature on capital structure focus on identifying the influencing factors in a single country (e.g., Feng et al., 2020; Huang & Song, 2006; Li & He, 2014; Murtaza & Azam, 2019; Shah & Khan, 2017) or in multiple countries (e.g., Deesomsak et al., 2004; Matemilola et al., 2019; Rajan & Zingales, 1995) while ignoring inter-regional approach. In short, research into inter-regional capital structures is particularly scarce.

Therefore, taking into account the above situations, the purpose of this study is to examine the impact of state ownership and institutional ownership on companies'