

**THE IMPACT OF OWNERSHIP STRUCTURE ON
FINANCING CONSTRAINTS OF FIRMS IN
CHINA: THE MODERATING EFFECT OF
FINANCIAL INCLUSION**

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by

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LIST OF ABBREVIATIONS

AI	Artificial Intelligence
CSMAR	China Stock Market and Accounting Research database
CSRC	China Securities Regulatory Commission
FDI	Foreign Direct Investment
FEM	Fixed Effect Methodology
FinTech	Financial Technology
GMM	Generalized Method of Moments estimators
IBV	Institution-based View Theory
ICT	Information and Communication Technology
OLS	Ordinary Least squares
PKU- DFIIC	The Peking University Digital Financial Inclusion Index of China
POLS	Pooled Ordinary Least squares
QFII	Qualified Foreign Institutional Investor
RBV	Resource-based View Theory
REM	Random Effect Methodology
SEZ	Special Economic Zone
SOE	State-Owned Enterprise

**KESAN STRUKTUR PEMILIKAN TERHADAP KEKANGAN
PEMBIAYAAN FIRMA DI CHINA: KESAN PENYEDERHANAAN
RANGKUMAN KEWANGAN**

ABSTRAK

Kekangan pembiayaan, yang mewakili halangan kewangan yang dihadapi oleh firma dalam memperoleh modal luaran yang mencukupi pada kos yang berpatutan, merupakan penghalang kritikal kepada pertumbuhan korporat di China. Walaupun ini adalah cabaran yang sedia maklum, kesan interaktif antara struktur pemilikan firma (institusi, kerajaan dan asing) dan pembangunan rangkuman kewangan pada peringkat makro masih belum dikaji secukupnya. Kajian ini bertujuan untuk mengisi jurang ini dengan mengkaji bagaimana struktur pemilikan mempengaruhi kekangan pembiayaan dan, yang penting, peranan penyederhanaan rangkuman kewangan dalam hubungan ini. Di bawah perspektif teori pandangan berasaskan sumber dan teori pandangan berasaskan institusi, kajian ini berdasarkan anggaran Kaedah Am Momen (GMM) sistem dua langkah pada set data panel sebanyak 13,086 pemerhatian firma-tahun sepanjang tempoh 2011-2022 daripada firma tersenarai di China. Dapatan kajian menunjukkan bahawa tahap pemilikan institusi, kerajaan dan asing yang lebih tinggi mengurangkan kekangan pembiayaan. Selanjutnya, hasil kajian menunjukkan bahawa rangkuman kewangan bertindak sebagai penyederhana, mengukuhkan kesan negatif ketiga-tiga jenis pemilikan terhadap kekangan pembiayaan. Implikasi utama kajian ini adalah bahawa keberkesanan struktur pemilikan firma sebagai sumber strategik adalah bergantung pada tahap pembangunan kewangan. Bagi penggubal dasar, ini mencadangkan bahawa memupuk ekosistem kewangan yang teguh dan inklusif adalah kritikal untuk mengurangkan kekangan pembiayaan firma.

THE IMPACT OF OWNERSHIP STRUCTURE ON FINANCING CONSTRAINTS OF FIRMS IN CHINA: THE MODERATING EFFECT OF FINANCIAL INCLUSION

ABSTRACT

Financing constraints, representing the financial obstacles faced by firms in obtaining sufficient external capital at a reasonable cost, are a critical impediment to corporate growth in China. While this is a known challenge, the interactive effect between firm-level ownership structures (institutional, state, and foreign) and the macro-level development of financial inclusion has not been adequately investigated. This study aims to fill this gap by examining how ownership structure affects financing constraints and, crucially, the moderating role of financial inclusion in this relationship. Under the perspective of resource-based view theory and institution-based view theory, the study employs a two-step system Generalized Method of Moments (GMM) estimator on a panel dataset of 13,086 firm-year observations over the period 2011-2022 from listed firms in China. The findings reveal that higher levels of institutional, state, and foreign ownership reduce financing constraints. Furthermore, the results show that financial inclusion acts as a powerful moderator, reinforcing the negative effect of all three ownership types on financing constraints. The primary implication of this study is that the effectiveness of corporate ownership structure as a strategic resource is contingent upon the level of financial development. For policymakers, the findings suggest that fostering a robust and inclusive financial ecosystem is critical to alleviate corporate financing constraints.

CHAPTER 1

INTRODUCTION

1.1 Introduction

In this chapter, the research project is introduced through an overview of its background and main challenge. It outlines the basic presumptions that will underlie this study. Additionally, the objectives and research questions will be outlined in this chapter. The study's significance and the anticipated contributions are also justified. Finally, a summary of the entire study is given.

1.2 Background of the Study

Financing constraints are defined as the financial obstacles that faced by firms in accessing sufficient external capital at a reasonable cost (Fazzari et al., 1988; Kaplan & Zingales, 1997; Hadlock & Pierce, 2010; Ismail et al., 2010). These constraints reflect limitations in a firm's ability to leverage crucial financial resources for investment and growth (Musso & Schiavo, 2008). Modigliani and Miller (1958) describe a perfect capital market where external and internal funds are interchangeable, influencing investment behavior. Internal financing offers advantages over external financing because of capital market flaws (Cao et al., 2020). External financing can be costly and potentially underinvestment due to information asymmetry (Fazzari et al., 1988). Financing constraints in incomplete markets and financial frictions lead to distorted investment decisions and decreased company profitability (Ma & Hao, 2022). The high cost of equity capital will result in poor performance and possibly the rejection of potential investments (Muslim & Setiawan, 2021).

Financing constraints significantly impact corporate behaviors like investment, the composition of capital, the pricing of assets, risk management strategies, and

entrepreneurship, according to various studies (Denis & Sibilkov, 2010; Fazzari et al., 1988; Kerr & Nanda, 2009). Enterprises with debt overhang may reject positive investment opportunities, causing underinvestment and increased debt financing costs (Myers, 1977). Investment by enterprises falls short of ideal levels because of the financial challenges in accessing external funding (Fazzari et al., 1988; Song et al., 2015; Yu et al., 2021).

Traditional finance often allocates scarce resources toward premium clients, leading to credit rationing and underutilization (Chen et al., 2017). This can cause enterprises to fail to meet their financing requirements and compromise their financial safety (Dai & Lu, 2023). Access to external money is hampered by knowledge and incentive issues (Hope et al., 2011). Therefore, it is challenging for firms to completely equip themselves with financial knowledge and identify efficient funding avenues, which results in financing constraints (Huang et al., 2022).

Institutional ownership ranges from traditional asset managers (e.g., mutual funds and pension funds) to specialized entities (e.g., hedge funds and insurers) (Dasgupta et al., 2021). In recent years, institutional investors have significantly increased their ownership of listed firms worldwide (Aggarwal et al., 2011). According to Drobetz et al. (2021), by 2017, the majority (72%) of shares in American public companies were concentrated in the hands of institutional investors, and institutional ownership accounted for 41% of total market capitalization. State-owned enterprises (SOEs) report lower financial stress due to direct government funding (Cull et al., 2015). In addition, they gain preferential access to formal bank loans, which allows them to act as intermediaries and provide trade credit to non-SOEs (Giannetti et al., 2011). This growth leads to alternative financing channels like informal financial intermediaries and coalitions (Allen et al., 2017).

Private firms, which are more efficient than SOEs (Ge & Qiu, 2007; Goldeng et al., 2008), have contributed significantly to China's economic development (Guariglia et al., 2011; Héricourt & Poncet, 2009; Song et al., 2011). When comparing enterprises' profits to average assets in 2005, the ratio for SOEs was 11.9%, while for private firms it was 13.9% (Shi et al., 2023). By 2014, the ratio had dropped to 11.3% for SOEs and rose to 18.5% for private firms (Gu & Jia, 2022). Other than SOEs, publicly traded companies in China, experience financing constraints, according to several studies (Chan et al., 2012a; Chong et al., 2013; Wang et al., 2021; Zhang et al., 2019).

Financial inclusion refers to the ability of individuals and businesses to obtain useful and affordable financial products and services that meet their needs in a responsible and sustainable manner (Fu & Yi, 2023). It is an important promoter of implementing the United Nations' 2015 agenda for Sustainable Development Goals (Mader, 2018). The finance sector is undergoing significant transformations due to the rise of digital technologies like artificial intelligence (AI), blockchain, data analytics, and cloud computing (Moretto & Caniato, 2021; Li et al., 2024). Unlike traditional finance, where firms often face lengthy borrowing processes and high financing costs, digitalization improves access, liquidity, and risk resistance (Pan et al., 2022). These financial developments have spurred the emergence of digital financial inclusion (Tay et al., 2022), which aims to broaden access to affordable and efficient financial services for firms with limited resources (Mpofu & Mhlanga, 2022). As a policy-driven mechanism, digital financial inclusion reduced financing barriers and costs while enhancing efficiency, thereby boosting corporate fundraising efforts (Xia et al., 2022). Consequently, it has significantly impacted the capital market and reshaped enterprise financing practices (Zhang et al., 2023).

1.2.1 Financing Constraints of Firms in China

Financing constraints have always been challenging issues for nations worldwide and have long hampered firm growth (Wang et al., 2021; Guo et al., 2023), a problem that is also prevalent in China (Wang et al., 2021; Chen & Yoon, 2022). In 2023, 313 Chinese companies raised 357.763 billion yuan through IPOs, a 24.76% decrease from 2022, indicating increased financing challenges and scale constraints (Li et al., 2024).

China's rapid economic growth since reform and opening-up led it to become the second-largest economy by 2010 (Ni et al., 2023). Its manufacturing sector accounts for 30% of global manufacturing output (Peng et al., 2023). China has been viewed as a counter-example to most of the literature (Andrews-Speed & Zhang, 2018). It implies a favorable association between financial development and economic growth (Guariglia & Yang, 2016). However, the underdevelopment of China's legal framework and institutional system has weakened the effectiveness of its banking sector (Yao & Yueh, 2009). Consequently, most firms in China rely on informal financing sources like trade credit (Allen et al., 2005; Ayyagari et al., 2010; Lin et al., 2015). China's development miracle is largely attributed to internal financing, trade credit, and unofficial sources (Guariglia & Yang, 2016), as external markets have played minimal roles in financing and resource distribution (Allen et al., 2005; Guariglia & Yang, 2016).

In a 2012 study of 2,700 Chinese enterprises conducted by the World Bank, 75% of listed nonfinancial firms identified financing constraints as the main barrier to investment and expansion (Claessens & Tzioumis, 2006; Cao et al., 2020)— the highest percentage out of 80 nations (Wang et al., 2021).

Recently, the rise of anti-globalization thinking has been a source of uncertainty for enterprises (Khan et al., 2021). Moreover, China's COVID-19 in early 2020 led to

93% of food and beverage companies closing, causing financial distress and financing shortages due to investor sentiment and the “Stay-at-home economy” (Ling et al., 2021). It significantly impacted enterprise operations (Bai et al., 2022), exacerbating companies’ financing constraints (Hu & Wang, 2023). Underdeveloped financial markets make conventional financing practices difficult (Bloomfield & Wilks, 2000; Francis et al., 2004).

China’s economy has two pressing issues that must be addressed: enhancing the accessibility of high-quality financial services, and lessening the financial restrictions imposed on businesses (Hao et al., 2020; Peng et al., 2022). In 2022, the State Council released a circular outlining a suite of policy measures (Lyu et al., 2022). The aim is to prevent epidemics, stabilize the economy, and ensure safe development, addressing financing issues and promoting healthy development for enterprises (Tang & Geng, 2024).

Chinese firms primarily rely on debt for external financing, but the scarcity of such financing poses significant financing constraints, including for listed companies (Chen & Yoon, 2022).

Therefore, academics and policymakers must comprehend the factors influencing enterprise financing in China.

1.2.2 Ownership Structure of Firms in China

Ownership structure refers to firms owned by diverse investors with different trading styles, clientele, legal environments, and information processing abilities (Connelly et al., 2010). These investors seek to achieve financial objectives (Alkurdi et al., 2021). Insiders’ equity promotes alignment between managers and shareholders (Dalton et al., 2003), while outsider equity, encourages shareholders to closely monitor managers’ conduct (Connelly et al., 2010). A firm’s ownership structure can influence

the efficiency of capital allocation through financial markets (Wurgler, 2000). Firms' ownership structures offer them access to resources and information unavailable in traditional centralized institutional arrangements (Choi et al., 2011).

The ownership structure of a company in China has a significant impact on its financial decisions and subsequent economic outcomes (Xiao & Wang, 2020). Ownership reforms significantly impact funding sources and reliance on external financing (Duggal & Millar, 1999). China, the world's largest emerging economy (Garcia-Herrero, 2006), has liberalized its capital market by opening stock markets to qualified investors and implementing a split-share structure reform (Cao et al., 2020).

The capital market of China enables shareholders to pledge shares freely, while the government controls the financial system, with state-owned commercial banks dominating the banking sector (Shi et al., 2023). In China, the legal and regulatory environment, characterized by its weakness, fails to provide adequate protection for investors (Wu et al., 2009). Listed companies in China with relatively low state ownership may exhibit majority shareholder control or a diversified shareholding structure, which often creates a free-rider challenge for minority shareholders (Yu, 2013). Due to ambiguities in ownership and agent incentives and control, firms with mixed control tend to underperform compared to pure SOEs or private firms (Ng et al., 2009).

1.2.2(a) Institutional Ownership of Firms in China

Institutional ownership refers to financial institutions such as investment banking, insurance services, retirement planning, and asset management (Hidayat et al., 2019), which invest money on behalf of other individuals or organizations (Velte, 2024). Institutional ownership in China includes qualified foreign institutional investors

(QFIIs), commercial banks, brokerage firms, mutual funds, insurance firms, pension funds, corporate legal entities, and brokerage firms (Chen et al., 2011).

Institutional investors possess advanced resources like management skills and professional knowledge, which enhance a company's efficiency and aid in making business decisions (Lin & Fu, 2017). In addition, they can either provide funding resources or utilize their relationships to assist a firm in securing financing for expansion (Farooq & Noor, 2023). Institutional ownership significantly influences China's security market and financing for listed companies, injecting capital, enhancing financial management, and reducing irrational decisions (Xie et al., 2022).

Institutional investors, typically professionals in specific fields, possess greater expertise, fundraising networks, and information advantages than individual investors (Lin & Fu, 2017; Oh et al., 2017). Through shareholder organizations like the Asset Management Association of China, institutional investors are able to obtain exclusive information resources that are unavailable to the general public (Song et al., 2016). Previously, the Chinese stock market was primarily composed of individual investors with limited expertise, focusing on speculation (Chen, Jiang, et al., 2017). But since 2001, China has leveraged market liberalization initiatives and investor incentives to promote rational and long-term investment (Peng et al., 2021). The aim is to reduce stock market volatility by encouraging institutional investors (Zhao & Zhang, 2023). In 2002, 2003, and 2004, China opened up its stock exchange to QFIIs, social security funds, and insurance firms, respectively (Lin & Fu, 2017). As a result, institutional ownership of Chinese listed companies increased significantly from 3.04% in 2004 to 32.65% in 2014 (Lin & Fu, 2017; Ali & Tauni, 2021). The rapid growth of institutional investors in China presents a promising opportunity to explore the influence of external corporate governance on their monitoring function (Guo & Platikanov, 2019).

1.2.2(b) State Ownership of Firms in China

State ownership refers to the government's ownership stake in a firm (Zhou et al., 2017), with SOEs being majority government-owned firms (Boisot & Child, 1996; Jefferson et al., 2003). The state-owned structure in China is complex and consists of a multi-level system (Zeng, 2010). Shares were categorized based on their state affiliation, including shares owned by various levels of government and by state-owned institutions or corporations (government-related legal persons) (Firth et al., 2008). SOEs in China have become dynamic dynamos (Ralston et al., 2006; Stan et al., 2014), contributing 23-28% of China's GDP in 2017 (Chan, 2022).

Resources in emerging economies are controlled by the government (Bai et al., 2006; Su & He, 2010). Government-linked firms can access essential resources like bank loans and land, and benefit from tax breaks, improved project approval, and property protection (Chan & Pattnaik, 2021; Song et al., 2016). More specifically, the government controls the availability of financial capital in numerous emerging economies (Zhou et al., 2020). SOEs have strong government ties, benefiting from preferential treatment for input factors like capital (Wang et al., 2008). SOEs have significant control over financial resources after acquiring them (Cull et al., 2015). In China, financial capital is primarily controlled by state-owned banks, which give preference to SOEs (Chen et al., 2014), enabling firms to borrow more and receive subsidies (Ramaswamy, 2001; Khwaja & Mian, 2005). SOEs implement state policies and regulations (Shleifer, 1998), representing as much as 20% of the entire global stock market value (Zhou et al., 2017). The Communist Party appoints top large SOE leaders through its ministerial-level decision-making structure (Beck & Brødsgaard, 2022), with CEOs having a unique red phone to directly contact top government officials (Cull et al., 2015).

Before 1978, China's economy was predominantly driven by state-controlled enterprises and a centralized planning framework (Bai et al., 2021). During China's economic reforms, the privatization of small- and medium-sized SOEs and the corporatization of large SOEs have been carried out (Morris et al., 2002). Consequently, a significant number of publicly listed companies in China possess a high degree of state ownership (Yu, 2013). In 2005, the Chinese government implemented the Split Share Structure Reform with the goal of eliminating non-tradable shares by 2006 (Beltratti et al., 2012), mitigating price fluctuations and fostering stability in the stock market (Jiang et al., 2008). The rise in the proportion of tradable shares signified the onset of the reduction in state-owned shares (Yu, 2013).

While state ownership remains prevalent, some large SOEs have undergone partial privatization and traded on the public stock exchange (Tian & Estrin, 2008). Chinese authorities prioritize SOEs' financing by imposing financing constraints on private sectors and incorporating ownership-based distinctions in financial policies (Bai et al., 2021). This makes it a challenge for private firms to obtain financing from the banking sector, leading to resource misallocation and adversely affecting economic growth (Guariglia & Poncet, 2008; Bai et al., 2021).

1.2.2(c) Foreign Ownership of Firms in China

Foreign ownerships are likely to possess more experience, suitable expertise (Kim et al., 2016), and vast financial resources (Töpfer, 2017). Besides financial resources, foreign ownerships offer Chinese firms high-quality resources such as advanced technology and management expertise (Choi et al., 2011). In the 1980s, China liberalized foreign direct investment (FDI) policies by establishing special economic zones, promoting lower tax rates, and duty-free imports (Kamath, 1990). Private domestic firms can mitigate lending market flaws by establishing cross-border

relationships with overseas companies and providing liberal trade credit financing (Poncet et al., 2010). In 2009, Chinese foreign direct investment inflows reached 91.8 billion US dollars, a 2.6% decline from the previous year (Chen & Luo, 2014). As the Chinese government has encouraged companies to list on foreign stock exchanges in recent years (Meng, 2011), foreign investors in Chinese-listed companies have emerged as one of the most important shareholder groups (Beatson & Chen, 2018). Chinese listed firms are increasingly holding significant foreign minority equity stakes (McGuinness et al., 2017).

China remains a popular destination for foreign investment, as it helps close the “savings gap” in development economics (Pei & Liu, 2021). Foreign-invested businesses can obtain finance globally, acting as a visible hand in an imperfect financial market (Chen & Luo, 2014). Foreign firms in China are extending lenient trade credit financing to local firms to create local customer networks, a trend seen in other developing countries (Harrison et al., 2004).

China’s banking system’s flaws may compel privately held Chinese companies to seek international investors (Huang, 2002). Individual investors, known for their strong sense of speculation and irrational investment behavior, currently dominate the A-share market in China (Zhao & Zhang, 2023). The introduction of foreign institutions into China’s stock market aims to attract foreign value investors and capital, guiding Chinese investors towards a more mature value investment concept (Koosakul & Shim, 2021).

A-shares are issued by all Chinese-listed companies to both domestic and foreign investors, with some of these companies issuing shares to overseas investors as well (Beatson & Chen, 2018). Chinese listed firms attract foreign ownership via cross-listing abroad (Doidge et al., 2004; Sun et al., 2013). The two most common foreign

shares are H-shares, which are exchanged in Hong Kong, and B-shares, which are traded on the Shanghai or Shenzhen stock exchange (Liu & Alexander Eddie, 2007). Firms with foreign ownership face distinct regulatory mandates and information landscapes in comparison to those solely owned by domestic shareholders (Li et al., 2015). For example, from 1996-2003, firms with A-shares were required to provide financial reports in accordance with domestic accounting standards (Gul et al., 2010; Chamisa et al., 2012). In contrast, firms with B-shares or H-shares had to comply with International Financial Reporting Standards or Hong Kong Generally Accepted Accounting Principles (Liu & Alexander Eddie, 2007). These reports were audited by international Big Four auditors (Haverty, 2006; Liu & Alexander Eddie, 2007). A-shares are traded in Chinese Renminbi, while B-shares, although open to foreign investors and traded in USD and HKD, are smaller in scale, less liquid, and more susceptible to exchange rate fluctuations and regulatory adjustments (Ding et al., 2020). Although a rigorous separation exists between the A-share market and the B-share or H-share markets, investors in either market can review the financial disclosures of the other (Zhang & Zhao, 2003).

Foreign investors significantly contribute to China's economic growth during the reform era by promoting knowledge transfer, promoting technology diffusion, and transforming industries, particularly in the energy sector (Kong et al., 2020). QFIIs hold significant equity stakes in the Chinese stock market, under the QFII program introduced by the China Securities Regulatory Commission in 2002 (Beatson & Chen, 2018). Since 2003, the Chinese stock markets have seen a competitive race between local and foreign funds (Chien & Gordon, 2008), with both types of funds playing on a level playing field (Ding et al., 2020). By the end of December 2014, the Chinese government had granted a total investment quota of USD 78.975 billion to 262 QFIIs

(Ding et al., 2020). The investment quota of over 280 QFIIs has reached USD 100 billion as of January 2019 (Liu et al., 2020). Over the past decade, the QFII act has increased institutional involvement in China's stock market, aiming to enhance market effectiveness and corporate governance among listed firms (Chatterjee et al., 2023). Meanwhile, QFIIs leverage their political connections with state-controllers in SOE to secure more RMB funding (McGuinness et al., 2017).

Foreign businesses may be less reliant on China's financial system by relying on external sources to finance expansion, even if credit channels lack formal assessment (Guariglia & Yang, 2016). Foreign ownership in companies can provide growth opportunities by offering foreign shares, access to external funding, and facilitating capital raising (Kampouris et al., 2022). Furthermore, foreign ownership can provide preferential policies (Luo, 2007), and reduce the risk of bankruptcy (Garba & Mohamed, 2018).

1.2.3 Financial Inclusion in China

Institution-based view theory suggests that formal rules, informal norms, and cultural-cognitive factors significantly influence the operations and competitiveness of organizations (Peng et al., 2023). Financial inclusion has emerged as a policy-driven mechanism (Yang & Zhang, 2020), addressing limitations of traditional finance and expanding access to underserved organizations (Tay et al., 2022).

Encouraged by initiatives like the G20's High-Level Principles (Danladi et al., 2023), the Chinese government has actively promoted the development of digital financial inclusion through a series of policy initiatives (Jin & Liu, 2024).

China has integrated digital technologies into its financial ecosystem (Gomber et al., 2017). These technologies include AI, blockchain, big data, and cloud computing, which help enhance credit evaluation and reach diverse users through predictive models

(Liu & Chen, 2022; Li et al., 2023). As a result, digital financial inclusion has expanded affordable, accessible and inclusive financial services (Mpofu & Mhlanga, 2022) to underserved regions and enterprises traditionally excluded from the formal financial system (Li & Zhang, 2024).

China's emerging transition economy and continuous social institutional evolution have led to widespread financial development imbalances and structural credit contradictions (Yang & Zhang, 2020). In China, the transformation of both formal and informal institutions is typically uneven (Peng, 2003), with significant regional variations observed among different provinces (Fan et al., 2019). Since 1999, China has implemented a comprehensive regional development strategy, dividing its 31 provinces into Eastern, Central, Western, and North-Eastern regions (Chen et al., 2023). Its rapid economic development has led to regional and inter-provincial differences, resulting in persistent economic imbalances and financial decentralization (Zou & He, 2018).

Traditional finance in China varies significantly between economically developed and underdeveloped regions (Chen et al., 2023; Hu et al., 2019), with different provinces showing varying levels of digital financial inclusion development (Jiang et al., 2019; Wang et al., 2023). The development of regional institutions is more pronounced in eastern coastal provinces like Shanghai, Beijing, Zhejiang, Jiangsu, Guangdong, Fujian, and Shandong than in the interior regions (Su et al., 2021).

However, China has significantly improved its digital finance over the past decade, thereby fostering economic growth (Liu & Chen, 2022; Wu & Huang, 2022). China's digital finance industry started with the Alipay account system in Zhejiang Province in 2004 and has rapidly developed since the opening of Yu'e Bao in 2013 (Jia & Wang, 2024). China's tightening monetary policy caused liquidity squeezes in small banks during the 2013-2014 banking reforms (Yang et al., 2017). Yu'e Bao resolves

issues by attracting funds and buying “negotiable deposits” (Li et al., 2021). China’s leading digital finance companies such as Ant Financial (headquartered in Zhejiang Province), WeBank (headquartered in Guangdong Province), JD Finance (headquartered in Beijing) and ZhongAn Insurance (headquartered in Shanghai) (Kshetri, 2016; Lyu et al., 2023), have driven innovation in digital financial inclusion by providing third-party payment, online loans, and digital currency services (Zhang-Zhang et al., 2020). Digital finance has experienced rapid development, with an average annual growth rate of 43.785% from 2011 to 2017 (Guo et al., 2020; Cao et al., 2021). In 2019, China’s mobile payment market has surpassed RMB 200 trillion (Ye et al., 2023).

The digital finance model, with powerful data mining capabilities (Gomber et al., 2017), is an essential component of China’s financial system (Li et al., 2020) and optimizes resource allocation (Zhang & Ling, 2023). It is breaking traditional financial models in China (Yao & Yang, 2022), filling market gaps, and expanding financing channels for firms (Ren et al., 2018).

Building on this progress, digital financial inclusion has become a strategic pillar in China’s digital economy and regional development policies (Liu et al., 2021). China’s primarily bank-based financial system (Allen et al., 2017; Chen et al., 2018), characterized by strict risk control and collateral requirements (Weng, 2023), faces structural issues hindering high-quality development (Jia & Wang, 2024). Through programs like “Internet +” “14th Five-Year Digital Economy” (Wang, 2022) and “The Financial Technology (FinTech) Development Plan (2019-2021)” (Jia & Wang, 2024), China aims to leverage digital finance to mitigate structural credit constraints (Yang et al., 2025), promote inclusive growth (Xin et al., 2023), and reduce regional financial disparities (Li et al., 2022).

As digital infrastructure deepens and institutional reforms continue, digital financial inclusion is expected to play a transformative role in reshaping China's financing landscape. Liu et al. (2023) reveal that the eastern region consistently has a high level of financial inclusion development, while the central and western regions are relatively lagging. The digital financial inclusion index value in the eastern region increased 2.05 times in 2011 and 1.17 times in 2019 higher than in the western and central regions (Lv et al., 2022). From 2011 to 2019, Shanghai, Beijing, and Zhejiang consistently topped the list of provinces in the field of digital financial inclusion, primarily attributed to their distinctive spatial agglomeration advantages (Chen & Zhu, 2021).

As China's financial market environment improves and multi-level capital markets emerge, financing options and channels will become more diverse (Jing et al., 2020). In a sense, the development of financial inclusion, is a necessary condition for the shortcomings and chronic undersupply of traditional financial services.

1.3 Scope of the Study

The study focuses on China, the world's largest developing nation (Kalsie et al., 2019). And in recent years, Chinese firms have faced unprecedented financial and operational crises due to both domestic and global economic pressures (Wang et al., 2021).

Firstly, institutional investors in China face challenges like concentrated ownership, weak legal systems, and corruption, causing intense competition among domestic and international investors (Dvořák, 2005). The Chinese context provides an appropriate laboratory for studying enterprises' investment decisions amid both financing constraints and agency conflicts (Guariglia & Yang, 2016).

Secondly, China allows foreign investors to allocate capital to both SOEs and non-SOEs (Luo et al., 2017). It provides fertile ground for studying the resource advantages and their role brought about by internal and external ownership (Ding et al., 2020).

Finally, as the largest state capitalist economy and a key foreign investment destination, China offers intriguing evidence in its own right (Lim, 2010). Also, China is an ideal natural laboratory for this research, with a diverse array of institutions supporting the market throughout its 31 provinces (Chatterjee et al., 2023).

1.4 Motivation of the Study

The primary motivation behind this study lies specifically in the following aspects.

First, in comparison to developed nations, developing nations' capital markets and financial systems are sometimes categorized as underdeveloped (Dominguez, 2010; Tian & Lin, 2019). Globally, the benefits of opening up on easing financing constraints for Chinese firms have been diminished due to an unexpected slowdown in the global economy (Tian & Lin, 2019; Song & Zhou, 2020). Domestically, traditional industries are being modernized and transformed because of the unsustainable high growth rate of the nation (Tian & Lin, 2019). Thus, it becomes critical that the Chinese government reduce funding restrictions on businesses and enhance financing circumstances (Cull & Xu, 2005a; Tian & Lin, 2019).

Second, China makes for a good scenario for examining the causal link between ownership structure and financing constraints. China's capital market gives the shareholders the right to freedom of stock pledge (Shi et al., 2023), but bank discrimination is severe due to the underdeveloped banking industry (Allen et al., 2005).

Private firms contribute significantly to economic growth (Ge & Qiu, 2007; Lu et al., 2012), but experience discrimination in the bank-dominated credit environment (Brandt & Li, 2003; Guariglia et al., 2011; Poncet et al., 2010; Song et al., 2011). Since 2002, China has emphasized institutional investors to stabilize the stock market (Chen et al., 2013). The state-owned market, limited minority shareholder protection, and weak enforcement may be relevant for transition and emerging economies (Firth et al., 2016). The China Securities Regulatory Commission also allowed QFIIs to convert foreign capital into Chinese currency and invest directly in China's domestic A-share market (Tam et al., 2010). This introduces advanced investment and management skills to Chinese local investors (Chen et al., 2013). It is highly pertinent to investigate the effect of ownership structure on financing constraints faced by firms in China.

Third, financial inclusion reduces transaction and regulatory costs, increases liquidity, and mitigates agency problems in traditional financial markets (Tian & Shao, 2023), aiding in internal information processing, market understanding, and risk management (Guo et al., 2023). Public attention to digital financial inclusion is growing, and government regulations have been increased to reduce financing constraints (Chen & Yoon, 2022). However, this factor that contributes to the “financing gap” for enterprises has not yet been fully investigated, especially in light of a developing financial system like China (Chong et al., 2013).

This study explores the influence of ownership structure on firm financing constraints and the moderating role of financial inclusion, aiming to expand existing empirical research.

1.5 Problem Statement

Financing constraints have generally emerged as a crucial impediment that restricts the growth of Chinese businesses (Cull et al., 2015). Financing constraints, a result of market incompleteness, significantly impacted business behavior during the subprime crisis (Campello et al., 2010). Firms with strong financing constraints increase investments in short-term, reallocatable capital, compromising medium-term growth (Pérez-Orive, 2016). They limit investment expenditure and forego good investment prospects (Acharya et al., 2013; Almeida et al., 2004), reducing dividend payouts and share repurchases, potentially affecting stock prices (Bliss et al., 2015). The financing conditions for private businesses are exacerbated by capital allocation and credit market inefficiencies, leading to a significant loss in economic efficiency (Hsieh & Klenow, 2009; Wang et al., 2021).

Financing constraints globally are a significant issue for enterprises (Beck et al., 2005), impacting growth, performance, and society's economic development (Kaplan & Zingales, 1997; Campello et al., 2010; Zhao et al., 2023), leading them to seek informal alternatives when formal channels are insufficient (Carvalho, 2015; Shi et al., 2023). Worldwide commerce declined significantly by 12% when the 2008 global financial crisis broke out (Pan et al., 2022). A World Bank Group's World Development Report revealed that only 34% of businesses worldwide were able to borrow money via a formal financial system by 2013 (Klapper et al., 2019), a figure that is even lower for firms in developing nations (Pan et al., 2022).

While a global challenge, this problem is exceptionally acute and structurally complex in China, creating severe consequences for the world's second-largest economy (Ge & Qiu, 2007; Liu & Raven, 2010; Liu et al., 2016). The World Bank's 2012 poll of 2,700 Chinese enterprises revealed financing constraints as the most

significant challenge, hindering their development (Li et al., 2023). They are often forced resort to informal , high-cost, and high-risk financing methods such as private loaning (Allen et al., 2019; Mertzanis, 2019) or commercial financing (Brandt & Li, 2003; Ge & Qiu, 2007), political or professional linkages (Allen et al., 2019; Mertzanis, 2019). In China, unofficial finance has grown significantly in relevance and acceptance as a complementary method of easing the capital shortage for companies (Ge & Qiu, 2007; Lu et al., 2012), but they often rely on informal contracts (Allen et al., 2019), which may jeopardize their legal standing and long-term stability (Shi et al., 2023).

Financing constraints significantly impact Chinese firms, particularly those utilizing indirect financing (Chan et al., 2012b). Although indirect finance is the most common form of financing, many Chinese firms still face financing shortages as it can be tough to find enough external financing support (Li et al., 2023). Also, financing constraints have been a persistent challenge for firms' development, affecting countries like China (Guo et al., 2023). A survey by the World Bank confirmed this is the single most significant obstacle for Chinese firms (Claessens & Tzioumis, 2006; Cao et al., 2020), with studies showing the resulting capital misallocation causes an aggregate total factor productivity loss in the manufacturing sector (Piao et al., 2023).

As stated by Fama (1974), companies' investment is crucial for increasing their value. Financing constraints can significantly hinder a company's growth and sustainability by negatively impacting its operations and investments (Chen & Yoon, 2022).

Enterprises can use internal or external financing options, with external sources like equity markets, banks and other financial entities, and companies specializing in venture capital investments often used (Berger & Udell, 1998). High financing constraints mean that it is challenging for enterprises to raise money externally (Bai et

al., 2022). The tangible consequences for firm behavior are clear: financing constraints directly raises financing expenses and may even push them into a financial crisis (Mertzanis, 2020), forces an over-reliance on internal cash flow which limits growth potential (Wang et al., 2021), and make it difficult to obtain external investment for valuable projects (Rajan & Zingales, 1998; Ali et al., 2019).

Chinese firms face persistent and well-documented financing constraints, largely due to underdeveloped and bank-dominated financial markets (Allen et al., 2017; Wang et al., 2021; Shi et al., 2023). Despite four decades of reform, capital market imperfections remain prevalent (Yueh, 2009), with slow progress in financial sector liberalization compared to labor and product markets (Allen et al. 2005). Weak legal protections, information asymmetry (Bai et al., 2021), and government-controlled resource allocation create credit rationing (Zhou & Li, 2023) and ownership-based discrimination, making it particularly difficult for non-SOEs to obtain affordable financing (Cull & Xu, 2005a). The underdeveloped stock market, representing only 18% of financial assets in 2018 (Shi et al., 2023), limits equity financing, making debt—primarily from banks—the dominant funding channel (Allen et al., 2005). These structural and institutional barriers constrain firms' investment capacity (Modigliani & Miller, 1958), hinder innovation, and slow economic development (Chen & Feng, 2000).

Between 2010 and 2016, 60% of loans were allocated to SOEs, while private firms received just over 30% (Shi et al., 2023). The 2012 World Bank survey revealed that Chinese firms face significant financing constraints (Harrison et al., 2004; Chen et al., 2024), with over two-thirds of managers stating that these constraints limit their operations and growth (Tang et al., 2022). The 2016 survey by the Development Research Center of the State Council revealed that over a third of Chinese enterprise managers deem financing as the primary challenge for their operations and growth

(Yang et al., 2022). The 2017 All-China Federation of Industry and Commerce report highlights financing difficulties as one of the three factors hindering the growth of private enterprises in China (Yang et al., 2022). The 2019 survey results of the China Entrepreneur Development Confidence Index reveal a rise in the cost of raising funds for nearly half of enterprises (Yang et al., 2022).

In China, banking loans are viewed as “price-taking” as they are not subject to competition and are allocated by the government to state-owned companies (Wang & Li, 2023). This unethical resource allocation reduces firms’ capacity for innovation and increases the risk of innovation (Peng et al., 2023). Financing constraints are frequently cited by enterprises as one of their biggest investment roadblocks (Harrison et al., 2004). Kampouris et al. (2022) reveal that financing constraints significantly impacted the innovation of Chinese enterprises between 2000 and 2007, with private businesses being the most affected. The private equity market’s lack of state ownership and political characteristics can lead to increased financing constraints, reducing investment in R&D and innovation levels (Lin et al., 2010; Boeing et al., 2016; Yu et al., 2021).

Even while private enterprises have significantly boosted the nation’s economy, they face discrimination in the credit market, which is dominated by banks (Shi et al., 2023).

Plenty of Chinese firms struggled with financing constraints (Zhang et al., 2020; Zhao et al., 2023), which in some cases limit their ability to grow (Liu et al., 2022). According to the “Chinese enterprises’ operators questionnaire investigation report (2021)”, financing constraints are a significant barrier to the growth of Chinese enterprises (Li et al., 2023). In underdeveloped countries like China, access to financing is crucial for firm growth and performance (Kinda et al., 2011; Kmpouris et al., 2022), as it enhances the efficient allocation of resources and capital (Levine, 2005). Effective

Financing is crucial for Chinese enterprise development and directly influences technology-based micro-enterprise innovation (Madrid-Guijarro et al., 2016). Capital-based financial systems promote business innovation and economic growth by overcoming moral hazards and negative data collection, processing, and disclosure choices (Li et al., 2023). In China, current financial systems struggle to meet these needs, and market competition forces enterprises to speed up fund operations and external sources (Peng et al., 2023).

Financing constraints significantly influence risk in both financial and real sectors, with risk levels increasing as the degree of financial constraints increases (Wen et al., 2023). China's financial markets have not done a very good job of allocating resources and reducing financial pressures (Song et al., 2011). This is a major problem for many Chinese companies and might lead to underinvesting (Guariglia & Yang, 2016). This lack of funding for investments may be brought on by credit constraints, the difficulty of borrowing, the inability to issue equity, reliance on bank loans, or the illiquidity of the assets (Lamont et al., 2001).

Financing constraints restrict a company's profitability and expansion, which ultimately prevents China's economy from developing (Hope et al., 2011; Mertzanis, 2020; Kampouris et al., 2022). Financing constraints make it difficult for Chinese enterprises to secure appropriate finance and have a significant role in investment and financing choices (Xiao & Wang, 2020), hindering a company from funding all targeted investments (Lamont et al., 2001).

Research indicates that financing constraints potentially limit China's exports (Manova, 2013), hindering innovation and R&D (Caggese, 2007; Ayyagari et al., 2011), and reducing productivity (Chen & Guariglia, 2013; Liu & Mao, 2019). Financing constraints have implications for business investment, financial system stability, and

economic growth (Kampouris et al., 2022), which are prevalent issues that both domestic and foreign firms face during their operations and development (Clementi & Hopenhayn, 2006; Krasikov & Lamba, 2021).

Financing constraints are crucial for the development and growth of Chinese enterprises, impacting the private interests of shareholders if not addressed promptly (Gopalan et al., 2007; Shi et al., 2023). Severe financial distress can destabilize investors, causing minority shareholders to vote with their feet, leading to a decline in controlling shareholder shareholding returns (Bharath et al., 2013). This can damage the company's reputation and negatively impact other companies within the group (Gopalan et al., 2007).

The study of financing constraints is important to corporate finance (Nikolov et al., 2021). The growth of Chinese firms has always been constrained by financial concerns (Zhao et al., 2023), as external financing costs are higher due to information asymmetry and agency issues in China, hindering enterprise development (Fazzari et al., 1988; Zhao & Xiao, 2019). Addressing these constraints is crucial for Chinese enterprises' growth in emerging economies (Zhao et al., 2023).

1.6 Research Questions

This research will be focusing on answering the following questions:

1. Does institutional ownership alleviate financing constraints?
2. Does state ownership alleviate financing constraints?
3. Does foreign ownership alleviate financing constraints?
4. Does financial inclusion strengthen the negative effect of institutional ownership on financing constraints?

5. Does financial inclusion strengthen the negative effect of state ownership on financing constraints?
6. Does financial inclusion strengthen the negative effect of foreign ownership on financing constraints?

1.7 Research Objectives

The primary objectives of this study are to explore the impact of different dimensions of ownership structure on financing constraints. To explore the role of the financial inclusion in China, the study separates issuers into those headquartered regions with high and low levels of digital financial inclusion based on the Chinese provincial-level digital financial inclusion index developed by Guo et al. (2020). The study aims to fulfill the following specific objectives:

1. To examine whether institutional ownership alleviates financing constraints of firms in China.
2. To examine whether state ownership alleviates financing constraints of firms in China.
3. To examine whether foreign ownership alleviates financing constraints of firms in China.
4. To examine whether financial inclusion strengthens the negative effect of institutional ownership on financing constraints of firms in China.
5. To examine whether financial inclusion strengthens the negative effect of state ownership on financing constraints of firms in China.
6. To examine whether financial inclusion strengthens the negative effect of foreign ownership on financing constraints of firms in China.