

**THE IMPACT OF BUSINESS ENVIRONMENT
AND GOVERNMENT SUPPORT TOWARDS
FINANCIAL PERFORMANCE: THE MEDIATING
ROLE OF TECHNOLOGICAL INNOVATION
AMONG PRIVATE LISTED COMPANIES IN
CHINA**

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CHINA**

by

WANG XIAORAN

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LIST OF ABBREVIATIONS

CSMAR	China Stock Market &Accounting Research
HQD	High-Quality Development
ROA	Return on Asset
ROE	Return on Equity
GDP	Gross domestic product
CSRC	China Securities Regulatory Commission
R&D	Research and Development
SOE	State-Owned Enterprises
SME	Small-Medium-sized Enterprises
ST	Special Treatment
RBV	Resource-Based View
IPR	Intellectual Property Rights
CSY	China Statistical Yearbook
S&T	Science and Technology
EU	European Union
VIF	Variance Inflation Factor

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**KESAN PERSEKITARAN PERNIAGAAN DAN SOKONGAN KERAJAAN
TERHADAP PRESTASI KEWANGAN: PERANAN PENGANTARA
INOVASI TEKNOLOGI DALAM KALANGAN SYARIKAT SWASTA
TERSENARAI DI CHINA**

ABSTRAK

Prestasi kewangan firma adalah salah satu elemen teras penting dalam pengurusan kewangan. Oleh itu, kajian ini bertujuan untuk mengkaji kesan persekitaran perniagaan (pentadbiran awam, pembinaan undang-undang, perdagangan asing, dan perkhidmatan kewangan) dan sokongan kerajaan (subsidi inovasi langsung, dan perbelanjaan fiskal tidak langsung) ke atas prestasi kewangan syarikat swasta tersenarai di China. Kajian ini juga melihat bagaimana inovasi teknologi teguh memainkan peranan pengantara antara persekitaran perniagaan, sokongan kerajaan dan prestasi kewangan. Kajian ini meliputi 4,635 syarikat swasta tersenarai di China dari 2013 hingga 2022, dengan jumlah pemerhatian sebanyak 30,351. Kajian ini awalnya menggunakan *fixed effects model* untuk regresi penanda aras. Didapati bahawa pentadbiran awam, pembinaan undang-undang, perdagangan asing, perkhidmatan kewangan, subsidi inovasi langsung, dan perbelanjaan fiskal tidak langsung mempunyai kaitan secara signifikan dan positif dengan prestasi kewangan firma. Inovasi teknologi firma mengantara hubungan antara persekitaran perniagaan dan sokongan kerajaan untuk prestasi kewangan syarikat. Kedua, dalam ujian kekukuhan, kajian ini menggunakan kuasa dua terkecil dua peringkat, pembahagian masa dan proksi alternatif untuk menyandarkan penemuan regresi garis dasar. Kesimpulan kajian menunjukkan bahawa persekitaran perniagaan yang optimum dan sokongan kerajaan yang berkesan adalah kunci untuk meningkatkan

prestasi kewangan firma. Selain itu, terdapat mekanisme pengantara yang berpotensi bagi inovasi teknologi korporat dalam laluan kesan persekitaran perniagaan dan sokongan kerajaan terhadap prestasi kewangan firma. Penemuan ini memberikan bukti empirikal untuk firma swasta dan kumpulan berkaitan, seperti penggubal dasar di China. Sebagai contoh, penggubal dasar boleh menerima pakai dasar terbuka dan telus serta dasar perundangan yang berkesan untuk membentuk persekitaran pengurusan awam yang lebih adil serta persekitaran pembinaan undang-undang untuk melindungi persaingan bebas perusahaan swasta. Kajian ini kondusif untuk mengurangkan kesulitan pembiayaan perusahaan swasta dan juga membantu untuk merangsang inovasi perusahaan swasta dan meningkatkan tahap kemudahan perdagangan.

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ABSTRACT

Firm financial performance is one of the key essential elements of financial management. Therefore, this research aims to investigate the effects of business environment (public administration, legal construction, foreign trade, and financial service) and government support (direct innovation subsidy and indirect fiscal expenditure) on the financial performance of private listed firms in China. This study also looks at how firm technological innovation plays a mediating role among business environment, government support and financial performance. This study covers 4,635 privately listed companies in China from 2013 to 2022, with a total of 30,351 observations. This study firstly adopts a fixed effects model for baseline regression. It is found that public administration, legal construction, foreign trade, financial service, direct innovation subsidy, and indirect fiscal expenditure are significantly and positively related to firm financial performance. Firm technological innovation positively mediates the relationship between business environment and government support on company financial performance. Secondly, in the robustness test, this study applied two-stage least squares, time segmentation, and alternative proxies to back up the findings of the baseline regression. The conclusions indicate that an optimised business environment and effective government support are key to improving firms' financial performance. Moreover, there is a potential mediating mechanism of corporate technological innovation along this path of the influence of

business environment and government support on firm financial performance. The findings provide empirical evidence for private firms and related groups such as policymakers in China. For example, how policy makers can adopt open and transparent policies and effective legal policies to form a fairer public administration environment as well as a legal construction environment to protect the free competition of private enterprises. This research can help ease private companies' financing woes, which in turn can encourage private companies to innovate and boost trade facilitation.

CHAPTER 1

INTRODUCTION

1.1 Introduction

The business environment obviously involves the external factors on which market players rely for their production and operation, including surrounding conditions and development conditions, reflecting the comprehensive competitiveness and economic soft power (Wang, Cui, & Dong, 2023). As of 2020, the World Bank's "Doing Business" has been published for 18 consecutive years and has had a profound impact on the attraction of investment, institutional optimization, macroeconomics, and enterprise development in various countries. To benchmark the business environment report and boost investment in their own countries, different countries are also starting to pay attention to the business environment (Majercak, 2015).

Without exception, China is trying to improve business environment. For example, according to Doing Business 2020 Global Report, a total of 77.9 points was awarded to China's business environment, ranking to 31st place in the world, up 15 places from last year. For two consecutive years, China has been selected by the World Bank as one of the 10 economies with the largest improvement in the world's business environment (World Bank, 2020).

Lukac (2017) proposes that the direct beneficiaries of an optimised business environment are enterprises. Among them, private companies are no exception as private companies contribute significantly to investment, employment, and economic growth in China. Just as one of the elements of China's basic economic system is that, while unswervingly consolidating and developing the publicly owned economy,

China must insist on unswervingly encouraging, supporting and guiding the development of the non-publicly owned economy, which requires that people must clearly recognize the important position of private enterprises in China's economic development (Zhang, 2018). A few studies have found that business environment optimization contributes to the improvement of technological innovation in private firms (Wang et al., 2023), and that these effects are more pronounced than in state-owned enterprises. It is evident that private companies are more sensitive to business environment and have a greater need for an optimised business environment to enhance their production and firm financial performance (Yao, Zhang, & Ma, 2023).

In an imperfect market mechanism, the government often becomes the dominant force in the allocation of resources and factors (Gomes, Osborne, & Lisboa, 2022). To a certain extent, the survival and development of enterprises are also depending on the financial support of the government. Firms should be encouraged to innovate by the government, which is responsible for allocating resources optimally (Hu, Chen, & Fan, 2023). To build an innovative country, China has introduced various industrial policies to increase support for the innovation activities of private companies, with the aim of promoting their profitability and improving their quality development. For example, the government provides innovation-based subsidy to private companies to share innovation risks and ease financing constraints (Li, Lien, & Zheng, 2021).

But private companies' access to capital has worsened in recent years due to factors like the global economic downturn and the COVID-19 pandemic. Many private companies are operating under pressure and are at high risk of defaulting on their related debts. If this situation persists, it will inevitably lead to increased share

price volatility, a decline in operating performance and even bankruptcy (Qian & Fan, 2020). In addition, the high barriers to market access for private companies, the lack of effective legal protection for property rights and the obstacles to foreign trade make it difficult to rely on the market alone, thus highlighting the necessity of government "visible hand" in fostering the growth of micro-entities (Sun, Guo, & Zeng, 2013). Therefore, optimising business environment and enhancing government support will enable China's private companies to adapt to the new normal as soon as possible and become a positive force in leading high-quality development (HQD) under the new normal, achieving transformation and upgrading and efficiency change.

Besides, as China embarks on a new era of Chinese-style socialism, China attaches more importance to support the innovative development, connotative development and high-quality development of the private companies (Xi, 2022). The government's proposal of "mass entrepreneurship and innovation" has facilitated the emergence of many innovative subjects and new production organizations based on innovative achievements. Therefore, it is of great significance for private companies to emphasize technological innovation for their own development and the progress of the whole society. Enterprise competition is propelled by technological innovation, which also has the potential to foster the long-term prosperity of industry, society, and the nation (Zhang, Zhang, Brown, & Yin, 2021).

With the focus on business environment in recent years in various countries, previous studies have also taken a keen interest in the topic of business environment. It can be found that business environment has an important impact on several perspectives, such as the urban-rural income gap (Zhao & Jiao, 2022), economic

growth (Dong, Wei, & Tang, 2012), total factor productivity (Wei, Ge, & Wang, 2017), adoption of technology (Acemoglu, Antràs, & Helpman, 2007), outward foreign direct investment (Contractor, Dangol, Nuruzzaman, & Raghunath, 2020), high-quality development (Du, Liu, Chen, Xiao, & Li, 2022; Zhong & Chen, 2023), and so on. Nevertheless, research on how the business environment affects financial performance of private companies is lacking.

A larger body of prior research has concentrated on how internal firm inputs affect financial performance (Jerdea, 2023; Ling & Jaw, 2006; Vu & Nga, 2022), because financial performance is critical to many stakeholders of the firm. However, less attention has been received to the influence of the combined effect of two external input factors (government and market) on private firm performance. Considering that the performance of private firms may be affected by government support and external business environment, this research begins with the two tiers of government and market as the entry point. Then, with firm technological innovation as the mediating variable, the research will examine how business environment and government support affect financial performance of private firm.

1.2 Background of the Study

1.2.1 Recent Trends of Financial Performance in Private Listed Companies in China

China is the largest developing country that has shifted from a state-dominated economic system to a market economy (Hou, Hsueh, & Zhang, 2020). As an important component of the market economy, private listed companies in China are mainly corporations whose shares are held by private companies or private investors and are traded through shares listed on stock exchanges. These companies

are different from state-owned enterprises (SOEs), which are companies in which the government holds or controls the majority of shares. In contrast, the control of private listed companies is mainly in the hands of private entrepreneurs and investors (Fan, Wong, & Zhang, 2013).

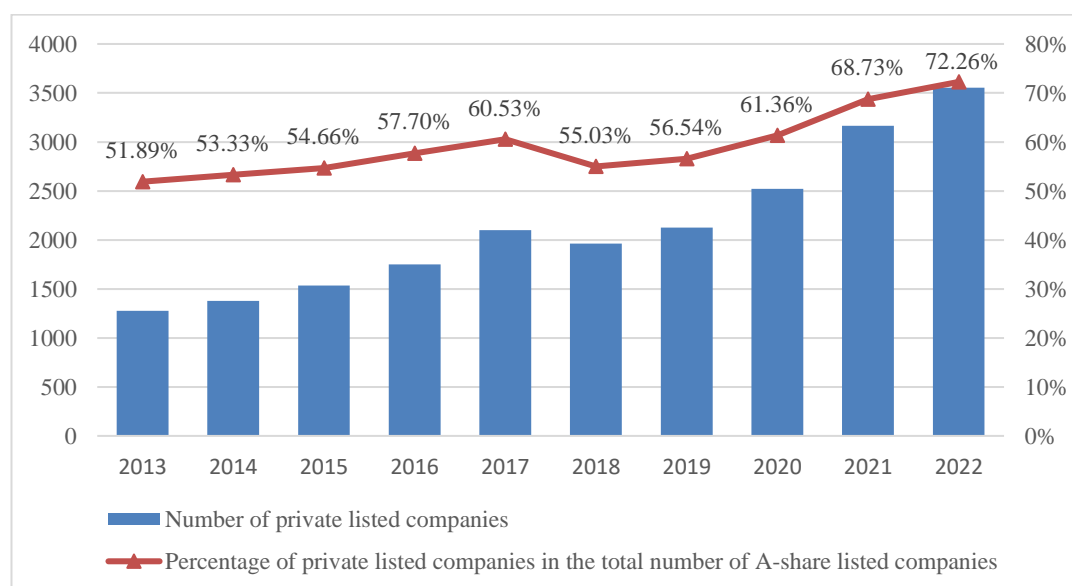


Figure 1.1 Number of private listed companies and percentage of total number of A-share companies (2013-2022)

Source: China Stock Market & Accounting Research database (2013-2022)

The private listed companies have become the backbone of the A-share market due to their large operating income and increasing number of listings in recent years. According to Figure 1.1, the number of private listed companies was 1,277 in 2013 and increased to 3,553 in 2022, an increase of 2.78 times (Ma, 2023). The number of private listed companies accounted for the total number of A-share market from 51.89% in 2013 to 72.26% in 2022, and the proportion of private listed companies is close to two-thirds, which has become the "main force" of China's A-share market. In addition, the operating income of private A-share listed companies will be RMB 8.6 trillion in 2018 and RMB 16.4 trillion in 2022, a five-year increase of 90.7%, and the share of operating income of A-share listed companies will increase from 19% to 23%, which has already exceeded the operating income of

local state-owned A-share listed companies (Ma, 2023). This means that private listed companies are an important component of China's capital market and China's economy.

The steady growth of private listed companies is attributed to the Chinese government's strong emphasis on the HQD of private firms, as well as its strong support for private firms to obtain development funds through the capital market (Chen, Lu, Lin, & Song, 2019). For example, in 2023, Premier Li Keqiang still highly emphasized the need to effectively implement the "two unwavering" in the Government Work Report. Moreover, the property rights of private firms and the interests of entrepreneurs should be protected in accordance with the law to ensure equal access to factors of production and fair access to markets and products. China's private firms should be strengthened, not only not to 'leave the field', but also to move to a broader stage (Wei, Lin, Zheng, Wu, & Du, 2022).

However, while the rapid development of private listed companies, there are some shortcomings and weaknesses, which are mainly reflected in the overall weak profitability of private listed companies. From 2018 to 2022, the average proportion of operating income of A-share private companies in the operating income of all A-share enterprises is 20.8%, but the net profit of A-share private companies accounts for only 14.1%. Moreover, the profit margin of operating income of A-share private companies during the five-year period is only 5.04%, which is 68.5% of the 7.36% profit margin of operating income of all A-share listed enterprises, less than 70% (Ma, 2023). The potential reason for this may be that private listed companies are not as strongly supported by national policies as state-owned enterprises and lack government financial support and innovation subsidy. The lack of strong resistance of private firms to the risks associated with changes in business environment will

inevitably have an adverse effect on the financial situations, so that the firms may face the challenges of declining profitability, cash flow constraints, or insufficient funds (Kuswanto, Sholihin, & Djajadikerta, 2022). These phenomena do require researchers to focus on and further analyse the causes.

Besides, the study of financial performance is crucial for private sector stakeholders. For example, for shareholders and investors, good financial performance can attract investors and increase shareholders' stock value and return on investment (Barauskaite & Streimikiene, 2021). For employees, good financial performance has a direct impact on employee wages, benefits, and employment stability (Kruse, 2022). For suppliers, suppliers want to work with financially stable firms because it reduces payment risk, increases order reliability, and provides more attractive business partnership opportunities (Gu, Shi, Wang, & Xu, 2022).

This study focuses on the financial performance of private firms in China to guarantee the financial stability of private firms and the sustainability of corporate development. For example, Danso, Adomako, Amankwah-Amoah, Owusu-Agyei, and Konadu (2019) use time lag data acquired from 269 firms in Ghana, claim that by continuously assessing and analysing firm performance, companies can identify problems and opportunities for improvement. Thereby, they can maintain a sharp competitive edge and achieve better results by taking the necessary steps to improve performance. Similarly, Ukko, Nasiri, Saunila, and Rantala (2019) collect sample from 280 SMEs in the service and manufacturing sectors in Finland using a structured questionnaire. It was discovered that financial performance can provide important information and insights that can help the management to make and adjust strategic decisions and reform business processes.

Therefore, analysing firm financial performance has been a topic of focus for researchers. Although, there are more current articles in the field of research performance and previous scholars analyse the impact on firm performance from a micro perspective, such as corporate governance (Maali, Rakia, & Khairredine, 2021), leadership capability (Lisdiono, Said, Yusoff, & Hermawan, 2022), human capital (Melo & Velasquez, 2022). This research attempts to understand the effects on the financial performance of private listed companies from a macro perspective, including government support and business environment.

1.2.2 The Development of the Business Environment

Regional business environment is a strong reflection of its economic soft power and a key indicator of its global competitiveness (Cui, Yao, Bian, & Cui, 2022). Besides, it is described as a collection of diverse surrounding situations and conditions that affect business operations across the full course of company activities, from start-up to end. The World Bank initially introduced the concept of business environment to China with the 2003 release of the first "Doing Business" report, which aimed to stabilise foreign investment, foreign trade, and expansion of opening up to the outside world (World Bank, 2004).

Recently, as stated in the "Doing Business 2020" report by the World Bank, China jumped from 78th to 31st out of 190 economies, and its overall business environment score was 77.9, up 4.26 points from the previous year (World Bank, 2020). Efforts to improve the business environment and maintain a positive pace of reform have been clearly maintained by China (Zou & Lei, 2023). To revitalise the market and inspire innovation among participants, and to further reform the administrative approval system, China has made it a priority to improve and optimize the regional business environment and is constantly striving to meet world standards.

As shown in Table 1.1, each year from 2019 to 2022, China has issued policies related to optimizing the business environment. In 2021, the main purpose is to formulate theories and make summaries, and from 2021, for the first time, China will select six cities, including Beijing, Shanghai, Chongqing, Hangzhou, Guangzhou and Shenzhen, to carry out pilot work on business environment. The aim is to promote the business environment to a higher level, stimulate market vitality and social creativity, stabilise market expectations and keep the economy running smoothly (Xin, Liu, & Zhang, 2023). Besides, the content of business environment policy reveals that China places a high priority on improving the public administration environment, the legal construction environment, the financial service environment, and the foreign trade environment faced by micro enterprises.

Table 1.1 Policies Related to Business Environment

Year	Report	Main findings and aims
2019	Regulations on Optimizing the Business Environment	Constantly strengthen the public administration and legal construction environments; a sign that optimizing business environment has become an important national strategy
2020	China Business Environment Report 2020	The first national report on China around business environment; dedicated to continuing to build a first-class business environment (Public administration, legal construction, financial service, foreign trade) for Chinese firms and foreign capital
2021	Opinions on Pilot Work on Innovation in Business Environment	Considering the economic volume, the number of market players and the basic conditions for reform; six cities have been selected to carry out pilot work on innovation in business environment
2022	Opinions on Further Optimizing Business Environment and Reducing Systemic Transaction Costs for Market Players	An important initiative to reduce systemic transaction costs for market players; the aim is to create a fairer, more transparent and stable market environment for the development of private companies

Source: General Office of State Council (2019-2022)

However, Chinese researchers started relatively late in discussing business environment. Few previous studies have focused on the empirical analysis of the impact of business environment on the financial performance of private companies. In recent years, more and more researchers have begun to focus on this area, with the emergence of policies to optimize business environment (Cui et al., 2022; Dong & Zhang, 2022). Khan and Quaddus (2015) stress that enterprises can be better supported in their production and operation when the business environment is favourable. The direct beneficiaries of an optimized business environment are the market players. As Khazaei and Azizi (2020) and Prajogo (2016) agreed, a favourable business environment is an essential condition for enterprises to avoid risks and to innovate, as well as a fundamental reason for companies to adopt differentiated behavioural patterns of research and development (R&D) decisions.

Furthermore, studies have concentrated on the "hard" and "soft" aspects of the business environment when selecting its constituent parts. First, the soft environment mainly includes the legal construction (Kafouros, Wang, Piperopoulos, & Zhang, 2015), public administration (Zhang, Kang, & Zhang, 2020), financial service (Dong, Wei, & Tang, 2012), and foreign trade (Zhao et al., 2021). Second, the hard environment mainly includes the level of transportation infrastructure (Reyes, Roberts, & Xu, 2021), network coverage (Clarke, Qiang, & Xu, 2015), and so on. Thus, the dimensions of business environment chosen by researchers have been changing due to the different definitions and thinking perspectives, coupled with the different importance of the constituent elements of business environment (Zhong & Chen, 2023).

This study mainly chooses four dimensions, including public administration, legal construction, financial service, and foreign trade. There are two main reasons

for this division. First, the classification is constructed according to the three principles of "international comparability, benchmarking against the World Bank, and Chinese characteristics" (Zhao & Jiao, 2022). The most prominent problems faced by private companies in business environment mainly exist in these four environments. Specifically, in recent years, due to the complex situation of China's domestic and international environment, the lack of openness in the public administration environment makes it difficult to implement government policies (Lee, Ning, Hsieh, & Lee, 2020); the legal system environment is still unbalanced (Gao, Meng, Ling, Liao, & Cao, 2022); the financial service environment does not satisfy the requirements of financing for private companies (Lee, Li, Yu, & Zhao, 2021); and the development of foreign trade for private companies has been severely hindered (Chen et al., 2022), and the environment for scientific and technological innovation lacks vitality (Feng, Glinskaya, Chen, Gong, Qiu, Xu, & Yip, 2020), which increases the transaction costs of private companies and is not conducive to the HQD of the private enterprises. Even if the state introduces policies, there are still loopholes in the process of implementation.

Second, based on the classification of Xiong (2021), Gong and Jin (2023) and Yuan and Yang (2021), it is important to find that these four factors are the focus of Chinese scholars' attention and appear more frequently. Specifically, according to the transaction cost theory, an excellent public administration environment can reduce the transaction costs of corporate innovation activities, improve the allocation efficiency of innovation capital, and help to enhance corporate profitability (Cheng, Guo, Xiong, & Qiu, 2023); the optimization of the legal environment can motivate enterprises to strengthen information disclosure, and thus alleviate the financing difficulties caused by information asymmetry (Haselmann & Wachtel, 2010); the

optimization of the financial service can boost the information gathering capacity of financial intermediaries, which can more effectively evaluate information on innovative projects and identify promising entrepreneurs, accelerating the process of technological innovation (Chava, Oettl, Subramanian, & Subramanian, 2013); the foreign trade environment is an important influence on the internationalization of business environment, because the optimization of the internationalization environment influences the enterprises' investment decisions (Contractor, 2021).

Therefore, this study divides China's business environment into four aspects, including public administration, legal construction, financial service, and foreign trade. Besides, one of the aims of this study is to examine the impact of business environment on financial performance of private companies.

1.2.3 The Status of Government Support for Private Firms in China

For private companies, continuous improvement of the external development environment and growing up in a superior business environment can create good conditions for their quality development (Wei et al., 2022). However, to increase profit levels and improve financial performance, enterprises face many problems, such as inadequate basic technology, high capital investment and long payback periods, which are difficult to correct by the market alone (Yang, Qian, & Li, 2023). Therefore, it is necessary for the government, the "visible hand", to give full play to its functions. The development of the economy cannot rely solely on business environment as a large economic market, but also needs to rely on the cooperation of the government, otherwise the economy will become dysfunctional. The government needs to work with business environment to allocate resources to maximize the benefits to society more effectively (Wan, Ye, Zheng, Tan, & Tang, 2023).

To support for the better and faster development of private companies, the Chinese government has taken policy measures to increase the financial incentives to support private companies (Zhang, Zhou, & Tian, 2022). For example, in 2023, the Hainan Provincial Government announced "Several Measures on Supporting the Development of the Private Firms", in which a one-off award of 5 million yuan was given to private companies in Hainan Province that were rated as one of the top 500 private companies in China for the first time (Hainan Daily, 2023). It can be found that local governments gradually pay attention to the private companies, which is conducive to promoting the transformation and upgrading of private companies and their healthy development (Wong, Miao, Cui, & Tang, 2018).

Furthermore, previous studies on the government-firm relationship (Xie & Zhang, 2020), and government intervention to improve enterprise financial performance (Deng, Jiang, Li, & Liao, 2020), have been extensively analysed. However, there is a lack of theoretical research and even less empirical research analyse the impact of government support on financial performance using private firms as the research target. Therefore, this study utilises government support as a dependent variable to discuss in depth the relationship with the financial performance of private enterprises.

Past researchers have analysed the definitions and classifications related to government support from different perspectives. Zhang, Huang, Kim, and Wang (2022) reckon that government support as an important investment that refers to direct government assistance and support to a specific firm, industry, or field. For example, it includes direct financial allocations, innovation subsidies, tax breaks and other forms, which are usually the measurements used in previous studies. The aim of government support is to promote the development of a specific firm or industry

and enhance its competitiveness and innovation. The narrow definition views government support as targeted policy measures for specific economic agents (Hansen, Rand, & Tarp, 2009).

In this study, according to Xiong (2021), government support is categorized into two levels, including direct innovation subsidy and indirect fiscal expenditure. There are two main reasons. First, direct innovation subsidy is the amount of direct subsidy from the micro level, the government subsidizes the innovation activities of enterprises with the purpose of stimulating the R&D investment, and the subsidy to promote the technological upgrading of the industry. It is characterized by a precise support of scientific and technological orientation. As a manager of rational allocation and utilization of resources, the government should use innovation subsidy to increase the motivation of enterprises' innovation activities, which in turn improves their competitive advantages (Lin & Li, 2014).

Second, indirect fiscal expenditure can support local science and technological innovation projects (Chen & Lei, 2021). The purpose of fiscal expenditure is to indirectly expand the scale of industry, share innovation risks, alleviate financing constraints, and favour advancements in the technological and scientific sectors to effectively support enterprises to maintain a state of continuous innovation (Lin & Li, 2014).

Therefore, this study divides China's government support into two dimensions, including direct innovation subsidy and indirect fiscal expenditure. In addition, one of the objectives of this study is to examine the impact of government support on the financial performance of private enterprises.

1.2.4 The Role of Firm Technological Innovation

Nowadays, society has entered an era of rapid development of the knowledge economy (Shahin & Sharabati-Shahin, 2023). In the context of market globalization, economic internationalization and fierce technological competition, the success of innovation has become a major choice that affects the fate of enterprises (Xie, 2023). Innovation is an important symbol for enterprises and the country, to keep pace with the times, and serves as the primary motivator for the ongoing expansion of private enterprises (Zhu, Zhang, & Sun, 2021).

Technological innovation have become essential for private firms seeking to boost revenue, maintain market competitiveness, and achieve long-term growth (Wang et al., 2023). The technological development of private companies has been given high priority. For example, General Secretary Xi Jinping at the 2018 Symposium on Private Companies pointed out that private companies should enhance their innovation capability and core competitiveness; and at the 14th Session of the National Committee in 2023, Xi Jinping also stressed that private companies ought to do more to foster scientific and technological autonomy, as well as the application of scientific and technological advances, by bolstering independent innovation and assuming a more active role in this regard (Brødsgaard & Beck, 2023).

This undoubtedly indicates that firm technological innovation may play an important role in the performance of private enterprises and have a significant impact on the structural transformation of the enterprises. It can be reflected in two aspects: from the micro perspective, it has the potential to boost business profitability and contribute to their long-term viability (Zhang, Xing, & Wang, 2020); from the macro

perspective, it has the potential to support the long-term growth and prosperity of China's economy and society (Chen et al., 2022).

Implementing China's innovation-driven development strategy relies heavily on the shift from factor-input-driven to technological innovation-driven development modes of private enterprises. This shift is a significant main body of technological innovation (Rong, 2022). Moreover, a favourable business environment and good government support can provide more convenient financing channels and tax policies to encourage private enterprises to increase their investment in R&D. This will likely promote technological innovation and improve the technological level of firms, which in turn increases the competitiveness of products or services and helps to improve financial performance. Therefore, this study tries to take enterprise technological innovation as a mediating variable to explore the impact of business environment and government support on the performance of private enterprises.

Moreover, prior research has also shown that technological innovation can serve as a mediating variable (Jin & Lee, 2020). For example, Bagheri, Mitchelmore, Bamiatzi, and Nikolopoulos (2019) select a sample data of 116 SMEs in the U.K. from the perspective of internationalization environment, and using firm technological innovation as a mediating variable, the study shows that technological innovation positively contributes to the positive impact of international orientation on international firms' performance, which in turn suggests that firms in the international market tend to adopt novel business models to ensure value-creating capabilities. In addition, Jin and Lee (2020) select 105 SMEs in South Korea from the perspective of government support, and using corporate technological innovation as a mediating variable, the study finds that corporate technological innovation positively contributes to the positive impact of governmental R&D funding inputs on

the profitability of SMEs. It also recommended that SMEs make efforts to participate in various government R&D financial support programs to improve technological innovation in areas such as product service and process innovation capabilities. From the above studies, it was found that most of the scholars have a unitary research perspective, mostly considering from a single environment.

Therefore, this study differently is to subdivide business environment and government support into multiple dimensions, respectively examining the impact on financial performance along with technology innovation as a mediator.

1.3 Problem Statement

The major real-world problem is the declining financial performance of privately listed companies. Since return on assets is a key financial indicator, it provides an effective insight into financial performance by measuring the effective utilisation of assets by privately listed companies. According to Return on Assets of Private Listed Firms in China (Figure 1.2), there is a general downward trend in the return on assets of private listed companies from 2013 to 2022, accompanied by a decline from 4.89 per cent in 2013 to 3.77 per cent in 2022. Moreover, it is found that there are local minima in the percentages of 2015, 2018, and 2020, which are 4.38%, 3.97%, and 3.89%, respectively. This may be related to major events such as the crash of Chinese stock market in 2015, the consequence of global monetary policy contraction in 2018 and the outbreak of COVID-19 in 2020. It also reflects the impact on private enterprises in adapting to the new normal and grasping the new trend, especially the severity of which was further exacerbated by the emergence of COVID-19 in 2020 (Li, Xu, Guo, & Wang, 2023).

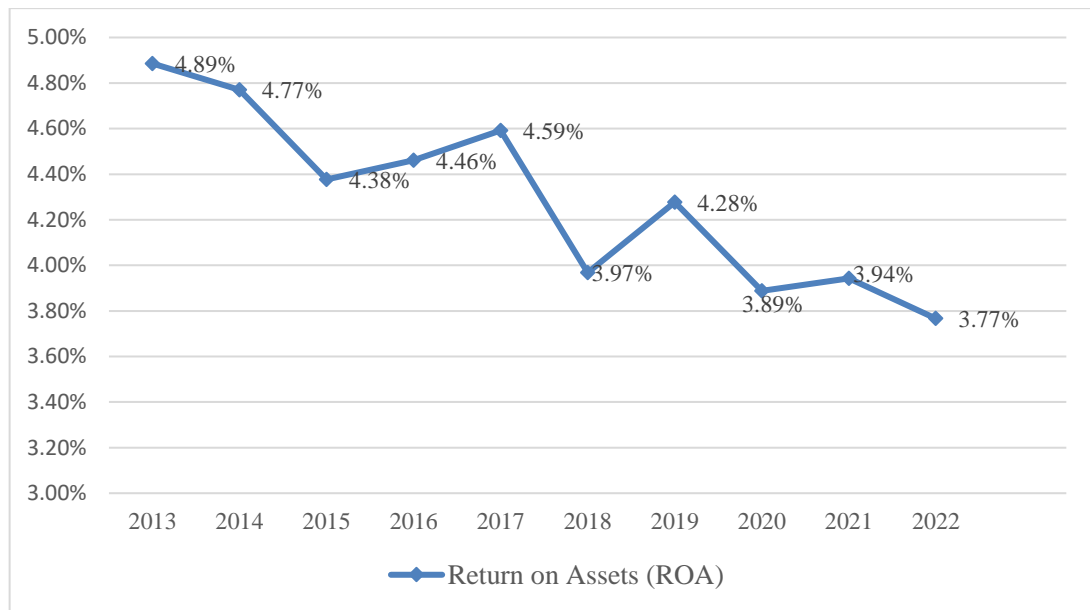


Figure 1.2 Return on Assets of Private Listed Firms in China (2013–2022)

Source: CSMAR database (2023)

In addition, the decline in the financial performance of private companies has led to certain consequences. For example, declining financial performance has led to a weakening of some investors' trust in the private firm, which in turn has affected the firm's market reputation. Moreover, compared to state-owned companies, private companies have difficulty in obtaining loans or financing, which in turn limits their ability to grow and expand in the future. Moreover, it is difficult for companies to meet their daily operation and investment needs, and even the phenomenon of closure exists (Chen, 2022). Therefore, it is crucial to analyse the reasons for the decline in corporate financial performance in order to mitigate it.

Experts and researchers have found that there are many factors affecting the financial performance of private enterprises, including internal factors as well as external factors. Moreover, previous studies have analysed the causes mostly in favour of the study of internal factors of enterprises. For example, shareholding (Reddy & Wellalage, 2023; Tsafack & Guo, 2021), directorships (Reguera-Alvarado & Bravo, 2017), organisational culture (Gamage & Tajeddini, 2022; Upadhyay &

Kumar, 2020) and corporate social responsibility practices (Maury, 2022; Salam, Jahed, & Palmer, 2022). This is because the internal factors of a firm can be changed or manipulated by management (Yu, 2023).

In contrast, although external drivers of private firms' financial performance also exist, a poor business environment and lack of government support are usually the main reasons for firm collapse (Cepel, 2019; Qiao & Fei, 2022). Previous studies have rarely examined multiple aspects of business environment, resulting in a lack of detailed optimisation of business environment and a lack of feedback, which hinders the achievement of better financial results by private companies. Based on Xiong (2021) and Gong and Jin (2023) and Yuan and Yang (2021), it is necessary to select four dimensions of business environment, including public administration, legal construction, foreign trade, and financial service to analyse how business environment affects financial performance of enterprises in more depth.

In addition, previous studies have found that the development of private enterprises cannot be sustained by the market alone, which highlights the need for the "visible hand" of government to invest in enterprise innovation (Long, Xu, & Yang, 2022). Moreover, while previous research has concentrated on how government subsidies affect financial performance (Luan & Lin, 2022), relative lack of studies has explored the relationship between government support and firms' technological innovation or firm financial performance in a more detailed or in-depth manner. Therefore, this study divides government support into direct innovation subsidies and indirect fiscal expenditure (Xiong, 2021). This is because the government should give innovation subsidy policy to private enterprises to stimulate their innovation vitality. Moreover, the government should provide financial expenditures to enterprises or research institutions with the aim of indirectly

supporting companies with the creation and introduction of innovative goods and technology. To enrich and add value to the existing business growth and development, so this study takes the government and market levels as the entry point to explore the impact of both government support and external business environment on the financial performance of private enterprises.

From the perspective of enterprise technological innovation as a mediating variable, as previous studies have examined the influence of business environment and government support on technological innovation (Wang et al., 2023); and the effect of enterprise technological innovation on firm financial performance (Lee, 2023). There is a lack of studies that use enterprise technological innovation as a mediating variable to measure the impact of business environment and government support on financial performance of private firms. Therefore, it is necessary to examine the mediation function of enterprise technological innovation between business environment, government support and enterprise financial performance, and further verify the impact of business environment and government support on enterprise financial performance. For the sustainable development of enterprise profitability, a good business environment and strong government support can provide convenience and support for enterprise production and operation.

1.4 Research Objectives

1. To examine the direct effect of business environment on financial performance of private listed companies in China.
2. To investigate the direct effect of government support on financial performance of private listed companies in China.

3. To evaluate the mediating effect of firm technological innovation on the relationship between business environment and financial performance of private listed companies in China.
4. To evaluate the mediating effect of firm technological innovation on the relationship between government support and financial performance of private listed companies in China.

1.5 Research Questions

1. Does business environment affect financial performance of private listed companies in China?
2. Does government support affect financial performance of private listed companies in China?
3. Does firm technological innovation mediate the relationship between business environment and financial performance of private listed companies in China?
4. Does firm technological innovation mediate the relationship between government support and financial performance of private listed companies in China?

1.6 Significance of the Study

This research aims to explore and identify the effect of business environment and government support on financial performance which mediated by firm technological innovation. Moreover, it can be divided into two significant perspectives which are theoretical and practical significance.

1.6.1 Theoretical Significance

The present study contributes to enhance the existing literature and enrich the body of knowledge. Besides current study attempts to fill a research gap through considering the association between business environment, government support and the financial performance of private companies. Understanding this research will help to provide a basis for future research and further develop a broad body of knowledge on issues related to business environment, government support and the financial performance of private companies in China. The specific theoretical implications are as follows:

First, this study extends the literature on the firm financial performance. Most previous studies have focused their examination primarily on intra-firm factors that affect firm financial performance, with the aim of improving firm sustainability. However, recent findings suggest that the relationship between the market, which plays the "invisible hand", and the government, which plays the "visible hand", and the firm financial performance should not be ignored. This is because the market and the government may also affect corporate profitability, future cash flows and firm value in China. There is a certain gap in the theory and framework of firm financial performance in this area. In addition, previous scholars have studied firm financial performance more in terms of all firms in a country, but this study focuses on private firms, and the findings are more targeted and can provide a clearer view on the sustainable development of private firms.

Second, correctly understanding and grasping the connection between business environment and private firms' performance is conducive to providing more scientific theoretical support for the optimization of business environment. This research devotes to the literature regarding the correlation between business

environment and firm financial performance. In the past, conclusions have varied due to different research perspectives and methods. It can be summarized that most of the studies have selected a certain category in business environment as an external factor affecting firm performance. For example, the main focus has been on studying the governmental environment (Huang, 2022), innovation environment (Gallegos & Seclen-Luna, 2022), infrastructure environment (Erica & Lukman, 2023), and so on. Therefore, this study expands and deepens the analysis of the impact of various sub-environments of business environment on the profitability of private firms, which can help Chinese private firms to acquire experience and knowledge to ensure the continuity of communication with the external environment and to add value to the company. According to transaction cost theory, Li and Ferreira (2011) suggest that the external environment influences firm financial performance and improves the firm's sustainability. Therefore, current thesis also provides a real basis for the implementation of this theory.

Third, present study will further enrich the relevant theories on the correlation between government support and firm financial performance. Prior research has not extensively examined the correlation between various forms of government support and financial performance of private companies. On the contrary, more studies have assessed the effect of government support as a single factor on financial performance. This study divides government support into government direct innovation subsidy and indirect fiscal expenditure, which improves the research content of government support, technological innovation and financial performance, and promotes the research progress in this field. In addition, the effect of governmental support on financial performance can be better understood by applying transaction cost theory.

Therefore, this research also provides a relevant basis for the application of this theory.

Fourth, this study illustrates differently about firm technological innovation, and describes how it mediates the connection between business environment, government support, and private firms' financial performance. Besides, this relationship has not been tested in previous studies. This study also presents an applied contribution to resource-based view (RBV) theory. This theory posits that entrepreneurs are able to realize entrepreneurship in the presence of limited and scarce resources (Khamaludin, Syam, Rismaningsih, Lusiani, Arlianti, Herlani, Fahlevi, Rahmadi, Windyasari, & Widiyatun, 2022). The application of RBV theory can guide the government to better develop innovation strategies and energize market players.

1.6.2 Practical Significance

Exploring the effect of business environment and government support on the financial performance provides reference value for the cooperation of groups such as the government, financial institutions and private companies. The practical implications are mainly in the following five areas.

First, this study is conducive to strengthening the government support and forming a fairer public administration environment, which will escort the free competition of private companies. Besides, reducing the tax burden on private entrepreneurs is crucial, which is beneficial to standardizing the tax reform and continuously promoting the modernization of the national management capacity and governance system (Li & Shen, 2023). At the same time, current study facilitates government-enterprise cooperation. Experienced governments are more aware and better able to make appropriate decisions, thus improving the efficiency of their