THE IMPACT OF DEBT FINANCING ON STARTUP PROFITABILITY

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THE IMPACT OF DEBT FINANCING ON STARTUP PROFITABILITY

by

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LIST OF ABBREVIATIONS

NEEQ	National Equities Exchange and Quotations
IBM	International Business Machines Corporation
SME	Small and medium-size enterprise
RBA	Reserve Bank of Australia
STAR Market	The Science and Technology Innovation Board
FDIC	Federal Deposit Insurance Corporation
FEM	Fixed Effects Model
REM	Random Effects Model
OLS	Ordinary Least Squares
ST	Special Treatment
SSBF	Symbiosis School of Banking & Finance
GEM-Backed	Growth Enterprise Market

KESAN PEMBIAYAAN HUTANG TERHADAP KEUNTUNGAN PEMULA

ABSTRAK

Disebabkan kesan pandemik COVID-19, keadaan ekonomi di Asia semakin tegang. Akibatnya, beberapa syarikat baru baru ini telah memasuki pasaran, yang mungkin mendorong mereka mencari pembiayaan hutang. Dari segi kesan ekonomi, penyelidikan terhadap syarikat-syarikat pemula dianggap positif kerana mereka membawa perubahan dalam aliran tunai yang menyumbang kepada peningkatan operasi ekonomi di rantau Asia. Pembiayaan hutang adalah satu bentuk pembiayaan, dan kajian mengenai pembiayaan hutang bagi firma-firma usahawan membantu dalam pertumbuhan mereka. Apabila sebuah syarikat pemula dibenarkan untuk mengambil hutang, ia secara umumnya dipercayai bahawa syarikat tersebut akan mempunyai peluang yang munasabah untuk mencapai matlamat operasi dan membayar hutang. Kajian ini menggunakan teori pertukaran, teori isyarat, dan teori perintah memetik untuk mengkaji kesan pembiayaan hutang terhadap keuntungan firma usahawan. Penyelidikan ini menggunakan pendekatan analisis regresi dan memilih firma-firma yang tersenarai di Sistem Penukaran Ekuiti dan Quotation Kebangsaan (NEEQ) dari tahun 2020 hingga 2022. Dalam penilaian, kajian ini menyiasat pengaruh pembiayaan hutang terhadap keuntungan firma-firma pemula. Akhirnya, kajian ini merangkumkan hasil penyelidikan, mengetengahkan kekurangan, dan memberikan prospek untuk penyelidikan masa depan. Kajian mendapati bahawa nisbah hutang terhadap aset berkorelasi negatif dengan keuntungan, menunjukkan bahawa struktur tahap hutang

mempunyai kesan buruk terhadap keuntungan firma usahawan. Berkenaan dengan struktur matang hutang, kedua-dua nisbah hutang jangka panjang dan jangka pendek berkorelasi negatif dengan keuntungan firma-firma pemula. Mengenai jenis struktur hutang, kedua-dua kredit perdagangan dan pembiayaan bank mempunyai kesan negatif yang signifikan terhadap usahawan. Secara keseluruhannya, pembiayaan hutang mempunyai kesan buruk terhadap keuntungan firma-firma usahawan.

THE IMPACT OF DEBT FINANCING ON STARTUP PROFITABILITY

ABSTRACT

Due to the impact of the COVID-19 pandemic, the economic situation in Asia has become increasingly tense. As a result, some new companies have recently entered the market, which may prompt them to seek debt financing. In terms of economic impact, researching startups is considered positive because they bring changes in cash flows that contribute to the expansion of economic operations in the Asian region. Debt financing is one form of financing, and studying debt financing for start-ups aids in their growth. When a startup is allowed to take on debt, it is generally believed that the company will have a reasonable chance of achieving its operational goals and repaying the debt. This study utilizes the trade-off theory, signaling theory, and pecking order theory to examine the impact of debt financing on the profitability of start-ups. The research employs a regression analysis approach and selects companies listed on the National Equities Exchange and Quotation System (NEEQ) from 2020 to 2022. In the assessment, the study investigates the influence of debt financing on the profitability of startups. Finally, this study summarizes the research findings, highlights limitations, and provides prospects for future research. The study finds that the debt-to-assets ratio is negatively correlated with profitability, indicating that the debt level structure has an adverse impact on the profitability of start-ups. Concerning the debt maturity structure, both long-term and short-term debt ratios are negatively

correlated with the profitability of start-ups. Regarding the type of debt structure, both mercantile credit and bank financing have a significant negative impact on start-ups. Overall, debt financing has an adverse effect on the profitability of start-ups.

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

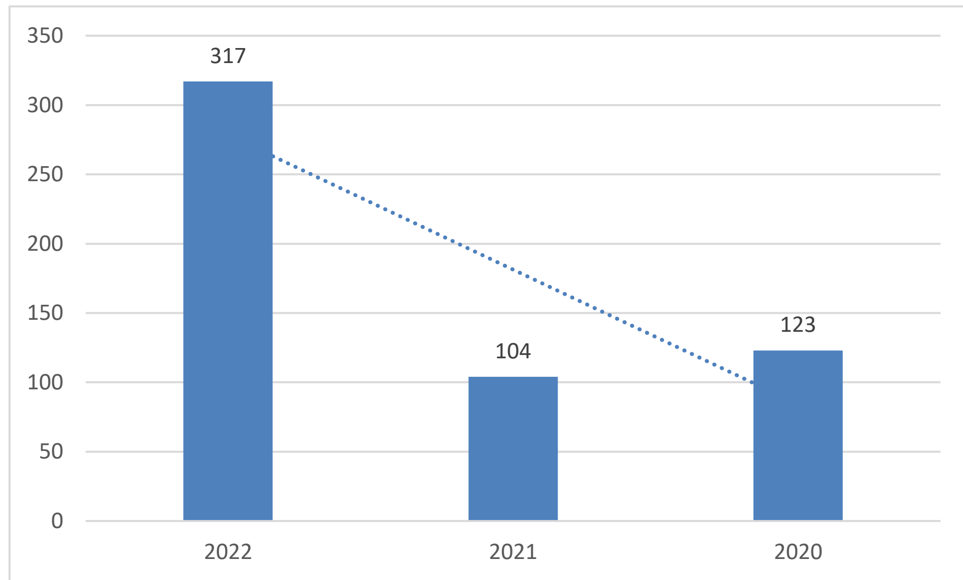
Start-ups are mostly new companies that focus on developing innovative products or services, or finding new markets (Ruhnka & Dean 2022). It provides and develop innovative services and products, often utilising technologies such as robotics, telecommunications, computers, e-commerce, and the Internet (Cole & Sokolyk, 2018). Start-ups are also small companies that explore new business opportunities, with limited economic, human, and material resources (Giardino et al., 2014). They are institutions designed to provide new products or services under extremely uncertain conditions (Ries, 2010). Start-ups are perceived differently by different individuals. Essentially, they involve doing new things, which is a continuous trial-and-error process (Livingston, 2008). During the Great Depression, start-ups emerged for the first time in the 1920s. Silicon Valley's business community was formed by start-ups such as IBM which stands for International Business Machines Company (IBM). IBM was established in 1911 and has been producing software, middleware, and hardware ever since. Similarly, Apple and Google laid the foundation for all the companies. According to a report published by the China Centre for Service Outsourcing Research, the number of start-ups in the United States would increase by 26% in 2020, i.e., from 3.5 million in 2019 to 4.4 million in 2020. Chile, Turkey, and

the United Kingdom also saw a 24% increase in the number of start-ups. However, other economies were less active in terms of start-ups, such as Portugal and Russia, where numbers fell by 25%, and China, where start-ups increased slightly, by 3% year-on-year in the first three quarters of 2020.

Previous studies, such as Ahmed (2018) and Miglo (2016), have highlighted that financing are one of the most significant issues affecting start-ups worldwide, as many failed within a few years due to lack of funding. Companies that rely solely on equity financing during the start-up phase are less likely to survive and earn higher profits than businesses who employ debt financing (Cole & Sokolyk, 2018). Research has shown that a start-up's debt decision has a significant impact on its future company decision-making (Hanssens et al., 2016). However, the impact of debt funding on start-up survival is contested in academic literature. According to Carpenter and Petersen (2002), capital market imperfection may prevent start-ups from accessing debt markets, reducing their creditworthiness, and increasing the likelihood of bankruptcy. In contrast, equity financing does not require collateral and has no upper limit on returns to investors compared to debt financing. However, according to Sahlman (2022), the survival rate of venture-backed companies ranged from 65% to 85%, with 20% failing to provide adequate returns for venture money, emphasising the need for increased care when investing in innovative start-ups. Additionally, debt financing can concentrate a start-up's equity, which can be useful for managing the company after future expansion, and debt funding is more widely available than equity financing.

1.2 Development of Start-ups in China

Start-ups are a new, modern, and innovative way of working (Cockayne, 2019). Successful start-ups typically focus on highly innovative market segments within competitive ecosystems in order to grow quickly (Giardino, 2014). Start-ups create new jobs and have become a major driver of national economic growth (Kalyanasundaram, 2018). In 2015, China put forward the slogan "Mass Entrepreneurship, Mass Innovation". Policies that encourage and promote innovation and entrepreneurship have been implemented and promoted since then. As a result, during this period, a big number of start-ups arose in China, which promoted regional economic development. This has made an increasing contribution to economic growth and has become a major channel for job creation. Start-ups typically start with a few people, and the company only focuses on one product or service (Giardino et al., 2014). Therefore, Chinese start-ups are usually short-lived, small in size, and have a small number of employees.



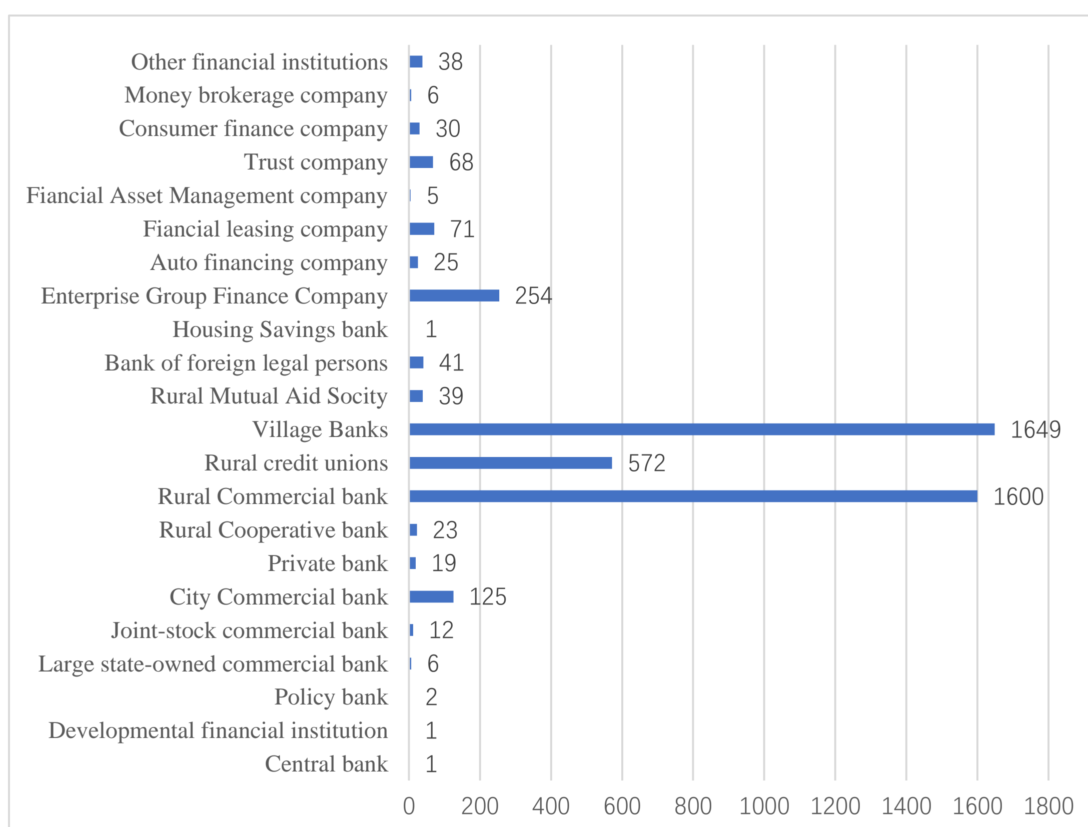
*Source: wind database (2020-2022)

Figure 1.1 Number of newly listed companies in NEEQ

Figure 1.1 shows the newly listed companies on the National Equities Exchange and Quotation System from 2020 to 2022. It can be seen that the number of startups was 123 in 2020 and dropped to 104 in 2021. The reason for the decrease in number could be due to the impact of COVID-19. The number of companies listed on the NEEQ has increased significantly in 2022, increased to 317, which may be due to the economic recovery.

The application process is an essential aspect of debt financing research. Cumbersome application processes and high collateral requirements discourage borrowers (Wernli & Dietrich, 2022). The amount of debt required by a business at this stage is determined by the entrepreneurs' idea, and they face numerous challenges in raising funds and maintaining operations. The majority of fledgling entrepreneurs

are aware of the availability of external sources of capital (Bamata et al., 2019). The most difficult barrier to acquiring these money, however, is the complicated application process for government grants and bank loans. This is followed by bank interest rates which are often seen to be excessive in the banking or corporate sectors. China's banking sector and other financial institutions play an important role in fuelling the economy and providing start-up financing (ESCAP, 2022). Figure 1.2 provides data on the number of banking and financial institutions in China as of June 30, 2022. It comprises not only financial institutions, but also other institutions that provide debt financing, such as banks and lease-bond-issuing institutions.



*Source: China Banking and Insurance Scheme Supervision (2022)

Figure 1.2 Statistics of Banking Financial Institutions

Figure 1.2 shows the wide variety of banks and financial institutions available in China. According to the FDIC (www.fdic.gov), as of June 2020, there were 5,156 banking institutions in the United States compared to 4,588 in China. As a result, there are many institutional channels through which businesses can obtain financing assistance. However, some financial institutions, such as central banks, housing savings banks, policy banks, conglomerate finance companies, auto finance companies, financial asset management companies, trust companies, consumer finance companies, and money economy companies, are not able to provide loan services to enterprises. Although there are 41 foreign-incorporated banks, they may face more challenges when operating in China compared to local firms. The costs of gathering information to better understand the economy, language, laws, and politics of the country, as well as the firms' exposure to costs of discrimination from the local community, are among the overseas operating costs that foreign firms incur when conducting business outside of their home country (Ng & Curran, 2016). However, village banks and rural mercantile banks have the highest proportions, with 1,649 and 1,600 respectively. In addition, there are 71 financial leasing companies providing services related to operating leases for businesses.

1.3 Debt Financing for Start-ups in China

Discussing the development of debt financing for start-ups in China can help researchers have a further understanding of the current situation of debt financing for

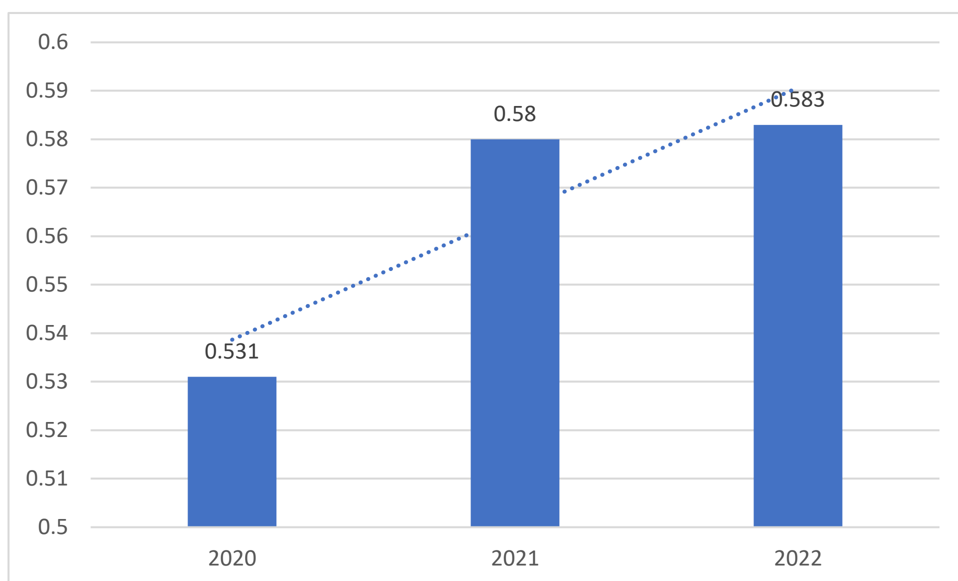
start-ups. Debt financing is discussed from three perspectives, including debt level structure, debt maturity structure and debt type structure.

1.3.1 Debt Level Structure

In recent years, as China's entrepreneurial landscape continues to thrive, debt financing for Chinese startups has garnered significant attention. Startups in China have access to various sources of debt, including bank financing, mercantile credit, venture debt, and even government-supported financing programs (Sun & Ouyang, 2019). This diversity allows entrepreneurs to tailor their financing needs to match their business models and growth strategies. However, debt financing for Chinese startups also comes with challenges. Managing debt, especially for companies in their early stages, can be a double-edged sword (Brown et al., 2019). While it provides much-needed capital for expansion, it also introduces financial obligations and risks that require careful planning and management. Debt financing plays a crucial role in the journey of Chinese startups (Yin & Pi, 2017). It offers a valuable avenue for capital injection and accelerated growth. Nevertheless, entrepreneurs must navigate the landscape judiciously, leverage available resources, and maintain a keen focus on financial sustainability.

Debt level structure, often referred to as the debt-to-asset ratio or debt ratio, is a financial metric that assesses the proportion of a company's financing that is comprised of debt relative to equity (Gralha et al., 2018). It provides a crucial snapshot

of a company's leverage and financial health (Siwińska-Gorzelak & Brzozowski, 2019). A high debt level structure indicates that a significant portion of a company's capital is sourced from debt, which can be in the form of loans, bonds, or other borrowed funds. Conversely, a low debt level structure suggests that the company relies more on equity financing, which can come from shareholders' investments or retained earnings. Understanding a company's debt level structure is vital for various stakeholders, including investors, creditors, and management.



*Source: wind database (2020-2022)

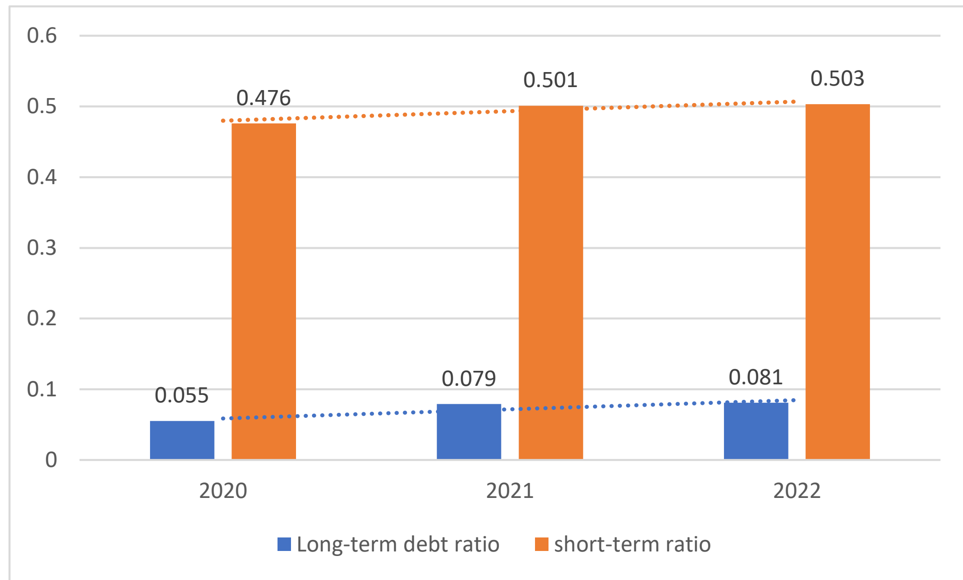
Figure 1.3 Average of Debt Level Structure of NEEQ New Listings (%)

Figure 1.3 shows the average of the debt to asset ratio of newly listed companies in NEEQ from 2020 to 2022. The results show that the debt to asset ratio has continued to rise in the past three years. Especially from 2020 to 2021, it rose from

0.531 to 0.58. The magnitude of the change in 2022 is not significant, at 0.583. In general, the debt level of startups in recent years is not high.

1.3.2 Debt Maturity Structure

Debt maturity ratio, often referred to as the debt maturity structure or debt maturity profile, is a financial metric that assesses the distribution of a company's outstanding debt between short-term and long-term obligations (Priyanka et al., 2023). It provides insights into the timing of debt repayments and the company's ability to manage its debt obligations effectively. This ratio typically comprises two key components: long-term debt and short-term debt (Chen & Zou, 2019). Companies often use the debt maturity ratio as part of their strategic planning. It helps them determine the appropriate mix of short-term and long-term debt to fund their operations and growth initiatives, and offers insights into a company's debt management practices and its ability to meet its financial obligations. Maintaining a balanced maturity structure is essential for financial stability and strategic decision-making.



*Source: wind database (2020-2022)

Figure 1.4 Average of Debt Maturity Structure of NEEQ New Listings (%)

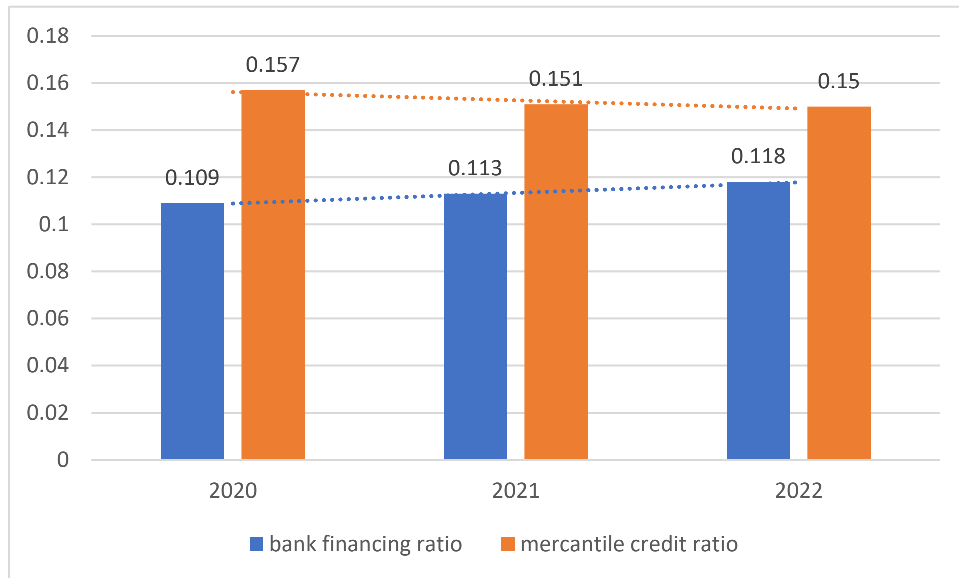
Figure 1.4 is about the average of short-term debt ratio and long-term debt ratio of companies newly listed on NEEQ from 2020 to 2022. The results show that the short-term debt ratio and the long-term debt ratio do not fluctuate much in the last three years. Moreover, the short-term debt ratio is more than the long-term debt ratio. Indicates that start-ups use short-term borrowing more in the early stages.

1.3.3 Debt Type Structure

It is worth emphasizing that the banking and financial industry is experiencing mercantile sustainability challenges (ESCAP, 2022). Business owners generally expect to obtain bank financing in order to maintain control over their operations (BRAV, 2009). Banks are the main implementers of various policy tools (Teglio et al.,

2019). Bank financing contributes to the stability of a company's situation as banks play a key role in helping companies deal with financial strains. The nature of start-up financing for the vast majority of firms depends on the linkage of nascent entrepreneurs and start-ups to banks (Robinson, 2012). The outbreak of COVID-19 saw a drop in profits for many companies and severely impacted the economy (Seong & Kim, 2021).

Mercantile credit is prevalent in various industries, where businesses purchase goods or services from suppliers (Sun & Ouyang, 2019). It allows buyers to acquire necessary supplies or inventory without immediate cash payment, which can be particularly beneficial for managing cash flow. Buyers may need to apply for mercantile credit with the seller. While mercantile credit typically doesn't involve interest charges like traditional loans, sellers may charge late fees or interest on overdue payments if the buyer fails to meet the agreed-upon payment terms (Priyanka et al., 2023). Mercantile credit plays a significant role in the world of business, enabling companies to trade efficiently while managing their cash flow.



*Source: China Statistical Yearbook (2022)

Figure 1.5 Average of Debt Type Structure of NEEQ New Listings (%)

Figure 1.5 presents the average of bank financing and mercantile credit ratios for NEEQ newly listed firms from 2020 to 2022. The results show that the bank financing ratio and the mercantile credit ratio do not fluctuate much in the last three years. However, the mercantile credit ratio is significantly larger than the bank financing ratio. This shows that start-ups are more inclined to mercantile credit than bank financing.

1.4 Problem Statement

As a result of the current COVID-19 situation, the economy has been severely affected (Barua, 2020). In the current market, innovation is essential, and companies must generate revenue through creative business models to stay competitive (Jeong et al., 2020). However, start-ups face difficulties that result in short life cycles and high

bankruptcy rates (Chong et al., 2014). It is critical to look at the financial structure of enterprises, which includes both debt and equity, when the pandemic declines and economic performance improves. Start-ups have been hit the hardest, and they lack risk aversion compared to larger companies (Cantamessa et al., 2018). For this reason, understanding a start-up's capital structure, particularly its debt financing, is crucial to its success.

Very little information is available regarding the debt structure of a large number of start-ups. As they do not have access to a variety of funding options like equity investments or business research, most empirical and theoretical research has focused heavily on the impact of large firms (Cole & Sokolyk, 2018). Over the past few years, a large body of work has been generated around these frameworks. The effect of debt financing on the profitability of start-up businesses is the main topic of this study. Debt financing is an available option for start-ups as most do not have sufficient internal funds to cover all operational activities and the threshold for equity financing is high. However, this premise is predicated on the notion that debt funding has a positive effect for start-ups. Access to debt financing is a crucial component for start-ups growth and performance (claim & Ishengoma, 2021). Therefore, access to debt financing is an essential component of start-ups growth. When a business is in trouble, excessive debt is only a symptom of the problem, the underlying cause is a lack of profitability. Thus, it is essential to look into how debt financing affects start-

ups' profitability because doing so can help them strengthen their internal structures and managerial skills (Yazdanfar & Ahman, 2015).

The factors that necessitated this study were identified through the development of a problem statement. As a result, this study examined start-ups that have utilised debt financing, including debt levels, maturity, and types, to comprehensively understand the complex relationship between debt financing and start-up profitability. The effect of debt financing on start-up profitability and its underlying causes were thoroughly studied using a combination of theoretical and empirical investigations. Consequently, the purpose of this study was therefore to examine how critical debt funding is to the profitability of a start-up.

1.5 Research Questions

The following are the study's research questions.

1. Does the size of a start-up's debt financing have effect on profitability?
2. Do different debt maturities have effect on a start-up's profitability?
3. Do different types of debt financing have effect on start-up profitability?

1.6 Research Objectives

In order to accomplish the objectives from various debt financing viewpoints, this study's research goals are, in particular:

1. To identify the impact of size of a start-up's debt financing on the profitability of start-ups.

2. To investigate the impact of different debt maturities on the profitability of start-ups.

3. To explore the impact of different types of debt financing on the profitability of start-ups.

1.7 Significance of the Study

This study is significant in two ways, as it has both theoretical and practical ramifications. The theoretical significance of this study is to its contribution to the current literature on entrepreneurship and finance. This study adds to the body of research on the effects of debt financing on the establishment and growth of start-ups, thereby expanding our understanding of the sector.

This study focused on the importance of debt markets and debt financing in the early stages of the company life cycle, which is important for the survival and development of businesses. This study also adds up to the existing body of knowledge about the impact of early-stage decisions on long-term consequences. Besides that, it emphasises the necessity of making educated decisions early on in a firm's operation or development because these decisions may have long-term ramifications for the firm's performance prospects. This study can serve as a guide for policymakers and investors in establishing effective methods to assist the growth of start-ups and drive economic development by filling gaps in the start-up debt financing literature. Ultimately, the theoretical and practical consequences of this study make it a valuable addition to the existing body of research on entrepreneurship and finance.

Practically, China's financial market is at an immature level of development, and start-ups receive limited financial services, resulting in varying economic contributions. Its growth approach is shifting from scale to efficiency, from speed to sustainability, and from input-driven to innovation-led (Hu & Wang, 2022). This study aimed to provide solutions and recommendations to improve China's finance sector, facilitating the co-development of start-ups and access to finance. The ultimate goal is to promote China's economic development and expand the country's innovative enterprises. This study provides guidance to practitioners and policymakers to improve the profitability of start-ups and enhance their long-term sustainable competitive advantage.

1.8 Scope of the Study

The study area is China, chosen not only because it has the second largest economy in the world but also because of the large range of start-ups operating and the openness of its entrepreneurial market. This study selected new companies listed on the National Equities Exchange and Quotation System (NEEQ), focusing on newly listed startups between 2020 and 2022.

1.9 Definition of Key Terms

The relationship between profitability and debt is frequently disregarded when analysing the factors that impact start-up financing decisions. As internal financial resources are limited, debt financing is essential and provides financial support in the early stages. The effect of debt financing on the profitability of start-ups was the focus of this study. By defining the concepts of debt financing, profitability, and start-ups, the groundwork for what follows was laid and the boundaries of the study defined.

1.9.1 Start-ups

As different scholars have different views on the long-term viability of start-ups, there is no fully agreed-upon definition of what a start-up is. The most straightforward evaluation of a start-up generally refers to a newly formed business firm, as it is sometimes confused with a new small business (Cerqueiro & Penas, 2016). Longer and larger existing companies are called "companies," while recently entrepreneurial companies are called "start-ups" (Freeman et al., 2007). However, newly established companies are not enough to be called start-ups (de Oliveira, 2018). According to Ahmed (2018), the foundation of a new company should be based on existing conditions and motivations in order to thrive. Therefore, it is necessary to establish a link between the determinants of firm profitability and the access of start-ups to external financing. Compared to larger companies, start-ups have higher risks, such as technological risk due to technological uncertainty, market risk due to product

uncertainty, and agency risk due to uncertainty in corporate governance (Kalyanasundaram, 2018). The start-ups selected for this study are already operating successfully and have a complete business model. While most start-ups fail, only start-ups with growth potential were investigated in this study. The following qualities were shared by the start-ups in this study:

1. At this stage, the organization must have a high level of flexibility in order to sustain market expansion and product innovation. The company's current cash flow, i.e., net cash flow, is relatively modest or negative, and its value is primarily based on future growth projections.

2. There are concerns about the company's business information and growth opportunities due to its small size and low percentage of assets. Future earnings are uncertain.

3. It has a high debt-to-asset ratio and a high price-to-earnings ratio, according to its financial filings.

1.9.2 Debt Financing

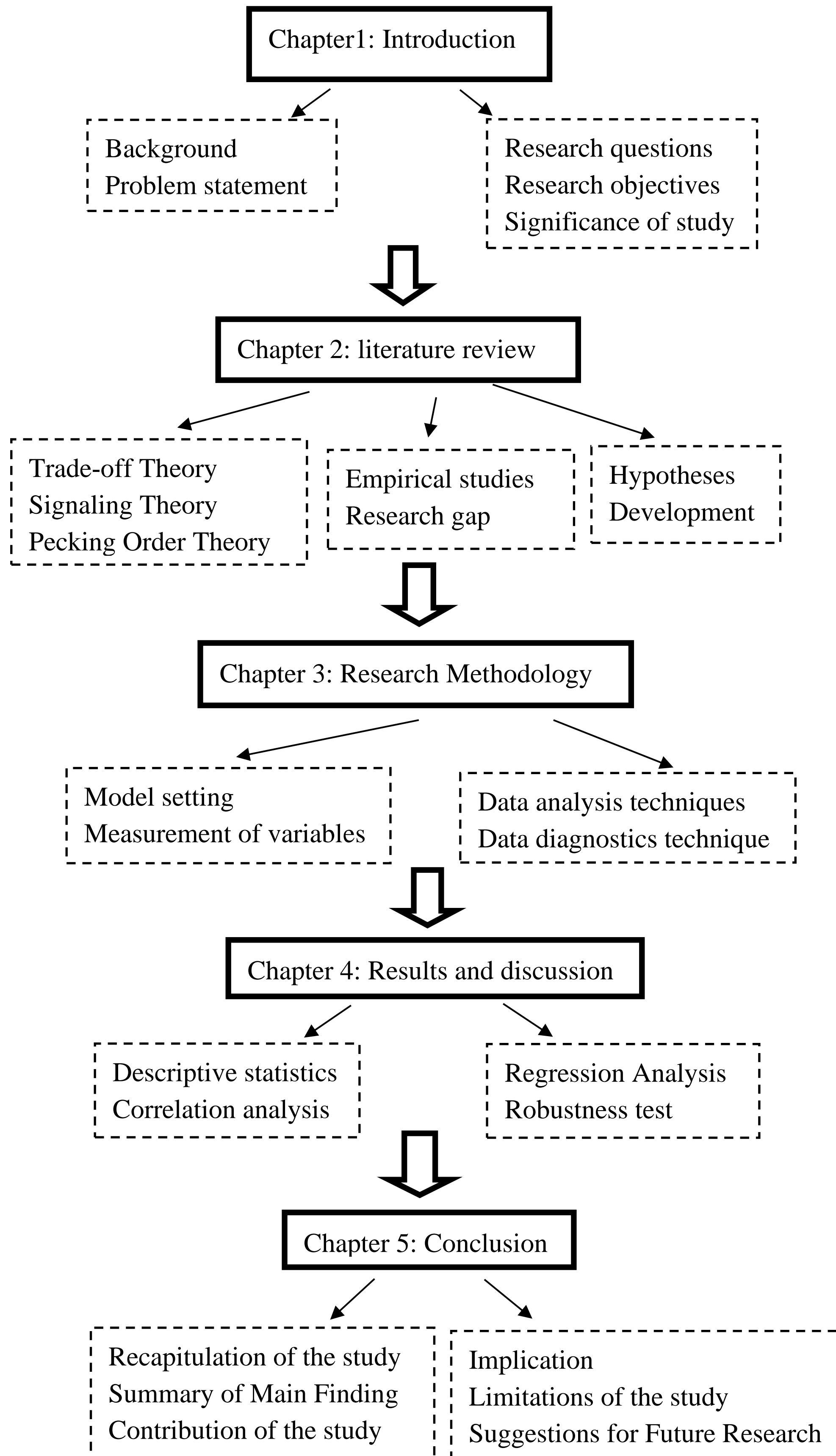
Debt financing is a type of external financing where the borrower receives financial assistance through a credit or mortgage loan, which they then repay with principal and interest when the loan matures (Wondemhunegn et al., 2021).). Unlike equity financing, it does not require the sale of shares in the company and maintains

concentration of management in the company. In comparison to equity investments, creditor income is limited and business risk is high (Singh & Mungila Hillemane, 2021). If the company's operations falter, it may choose not to pay dividends to shareholders but must still repay its creditors' debts. This study first went over three components of debt financing: debt levels structure, debt maturity structure, and debt type structure. The level of debt financing is defined as the ratio of a company's total debt to total assets. The term "debt maturity structure" refers to the different categories of debt arranged according to the time until maturity, including the long-term debt ratio and the short-term debt ratio, with debt typically classified as short-term debt if it matures in less than a year and long-term debt if it does not. The source of debt finance for start-ups is referred to as the debt type structure. The two most common sources of start-up capital are bank financing and mercantile credit (Hou, 2009). A bank financing is a business transaction in which the bank loans money to someone in need at a certain interest rate in accordance with national regulations and then receives the money and interest back within a predetermined timeframe (Beck, 2013). Mercantile credit is a loan relationship between enterprises formed in a commodity transaction as a result of deferred payment or advance receipt of payment (Meltzer, 1960).

1.9.3 Profitability

Profitability is the process by which a company uses its various economic resources to carry out business activities in order to make money and is usually measured by the return on assets ratio and the return on equity ratio (Geroski et al., 1993). It can be used as an investment criterion for investors and as a key indicator for obtaining debt financing, so there is a close relationship between profitability and financing. The economic performance of a business can be measured in a variety of ways, including profitability indicators, cash flow and revenue growth (Singh & Kumar, 2017). Therefore, profitability is also a measure of how effective a firm is in generating revenue from its assets. Investors are often wary of investing in start-ups due to information asymmetry. Financial statements are often used to check whether a company has the potential to continue to grow in the future and to assess whether a company can grow sustainably. Assessing the profitability of a start-up is therefore important for financing.

1.10 The Structure of the Study



CHAPTER 2

LITERATURE REVIEW

2.1 Theoretical Underpinnings

This chapter examines current theories on modern capital structure, including trade-off theory, signaling theory and pecking order theory. Specifically, this study aims to understand the impact of companies when they obtain debt financing, as well as the messages they convey to outsiders and the order in which they are financed.

Theory	Relationship
Trade-off	Debt level structure
Signaling	Debt maturity structure
Pecking Order	Debt type structure

2.1.1 Trade-off Theory

Trade-off theory is drawn from Modigliani-MM Miller's MM theory in 1958, and it proposes to determine the ratio of debt to equity by weighing the benefits and drawbacks of liabilities. MM theory is classified into two types: MM theory without tax and MM theory with tax (Basov et al., 2016). The former contends that when a firm's debt financing rate is kept at the risk-free rate and there are no transaction costs in capital market transactions, the capital structure has no effect on its value. This means that interest expenses must be subtracted when filing income taxes. The lower the income tax, the larger the profit and enterprise value. According to trade-off theory,

although interest expenses can be deducted from income tax, the larger the debt ratio, the greater the leverage, and, consequently, the bigger the risk to the organisation. Debt puts a company at risk of insolvency. Thus, business managers must be cautious when selecting debt financing. The best capital structure for a company, according to trade-off theory, is when the tax benefits from using debt financing and the risk of insolvency from debt financing are equal. In managing finance, the connection between debt financing and company performance is an important and much debated topic. Debt financing is connected to cost-benefit analysis (Harris et al., 1991). When businesses are highly lucrative, they will prefer debt financing to boost shareholder wealth as it offers more tax advantages than equity. However, if a company is extremely low, using more debt raises the risk of insolvency.

Financing is always one of the most challenging aspects for start-ups during their developmental phase. Financing options must be aligned with the appropriate growth stage or level of development to determine financing needs. According to Fama and French (2005), companies with low growth and high profitability typically do not retire or issue large amounts of equity, which leave start-ups particularly vulnerable since they lack a track record of success. Financial institutions are typically conservative and only lend companies that have been in business for at least five years and have a track record of financial statements. In many countries, lending decisions are made by the state rather than on mercantile basis, which can complicate debt financing. Changes in the characteristics, activities, structure, and environment of a

business impact the determinants of its financial resources. As a start-up prepares to bring a product to market, it will increase its expenditures, build relationships with partners, customers, and suppliers, as well as hire employees, resulting in small or no revenue. At this time, a start-up can alter the proper debt-to-equity ratio to maximise the benefits of financing costs, which is necessary to provide the business an advantage in long-term growth. According to trade-off theory, choosing the capital structure with the highest predicted amount of debt is the best option. This conveys to the market that the projects of the company worth more as the higher the stock value of the company.

2.1.2 Signaling Theory

Due to the existence of information asymmetry, companies may aim to release certain signals by communicating internal company information to the outside world. Signaling theory suggests that common signals include (1) profit announcements, (2) dividend announcements, and (3) financing announcements. However, adjustments to debt ratios can also send signals to the outside world as they can affect changes in equity ratios. The quality of the company has an inverse relationship with the chance of bankruptcy, whereas the debt ratio has an opposite relationship. If a firm chooses a higher debt ratio, it means that the firm retains more equity, which can reflect the confidence of the firm's managers in the firm's future ability to service its debt. This can serve to signal to the outside world the future trend of the firm and increase the number of potential investors. It also explains why a company's stock price rises when