



The Influence of Capital Structure Strategies on Vietnamese SMEs' Business Performance

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Abstract

Vietnamese small and medium-sized enterprises (SMEs) account for approximately 97% of all businesses in the country. As a business type, SMEs provide significant employment opportunities through job creation, while playing a critical role in the country's socioeconomic growth, by reducing poverty and contributing to the nation's gross domestic product.

However, despite these important economic contributions, Vietnamese SMEs face significant challenges, including difficulty in determining effective financing strategies for their operations, which involve sourcing both internal and external capital. To address these challenges, obtaining adequate funding and then deciding whether to rely on debt financing or equity funding have become fundamental decisions for these enterprises to take. Reflecting this, this study explored the financing strategies utilised by Vietnamese SMEs before assessing the effects of capital structure on the business performance. However, to date there has been relatively little research conducted from a Vietnamese perspective and even less which has been focused on determining the most optimal debt or equity capital strategy for a SME to follow.

Informed by the existing empirical studies into capital structure and borrowing strategies across the world, the deductive study undertook a series of expert panel interviews using a Delphi technique. This approach involved 12 financial experts, to gain a consensus as to which capital borrowing strategies and forecasting techniques are the most effective for Vietnamese SMEs. Based on the outcome of this consensus, the study then drew on publicly available Vietnamese stock exchange data from 2015 to 2023, to analyse 362 companies, to generate 3,258 financial data points, which were then tested using a regression analysis. The outcome of the regression analysis validated the financial experts' perspectives as to how capital structure can affect the business performance in a Vietnamese SME.

The findings revealed significant adverse impacts of the capital structure measured by short-term, long-term and total debt on Vietnamese SME business performance. The results indicated that SMEs need to carefully assess their use of borrowing, including short-term, long-term, and total debt, as having a significant influence on this type of business. Based on the regression results, the study contends that it is advisable for Vietnamese SMEs to reduce their debt ratio to enhance their business performance. The outcome of the study also suggests that there is no optimal level of debt for these Vietnamese SMEs to follow. The limitations of the study include the acknowledgement of the involvement of 12 Vietnamese financial experts; however, the usage of the Delphi method enabled the generation of a consensus which was then supported

by a regression analysis of existing SME financial data. Future research should consider extending this study to include conducting a mixed method strategy and extending the project beyond Vietnam.

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Chapter One

Introduction

1.1 Introduction

As a type of business, SMEs are acknowledged as an important economic contributor to a nation's economy, especially in developing economies, like Vietnam (Harvie & Lee, 2002). However, while recognising the importance of this type of business, there are many obstacles which still exist for SMEs, which includes sources of innovation, and access to investment, which is particularly prevalent in developing economies. The lack of available funding and investment is seen as being a crucial constraint for the SMEs, including having access to sufficient sources of external and internal financial options. Often, SMEs are faced with the challenge and the need to balance how to retain their earnings while also needing to rely on and borrow funds from family and friends, due to the difficulty in accessing external finance, such as obtaining credits and or new equity, partly due to low profitability and asymmetric information associated with lender–borrower relationships.

To address this, there have been a series of studies which have examined the determinants of investment decisions from both a theoretical and empirical perspectives such as Kaplan and Zingales (1997, 2000), Moyen (2004), and Cleary et al. (2007). These studies have tended to be focused mainly on macroeconomic factors, such as the real exchange rate, inflation, and capital flow (Driver & Moreton, 1991; Ferderer, 1993; Aizenman & Marion, 1999; Darby et al., 1999), while other publications including Fazzari et al. (1988), Hoshi et al. (1991), Hubbard et al. (1995). Kaplan and Zingales (1997, 2000), Cleary (1999), Gomes (2001), Boyle and Guthrie (2003), Hennessy (2004), Moyen (2004), Cleary et al. (2007), Hennessy et al. (2007) have investigated the role of business-level factors, such as financing constraints, internal and external funds, cash flow, and corporate structure. At the same time, there have been several studies which have investigated the role of capital structure, focusing often on measured financial leverage, as a determinant for the capital structure decisions, for instances, Graham and Harvey (2002), Frank and Goyal (2003), and Benkraiem and Gurau (2013). However, most studies have been focused on relatively large-sized listed businesses, which have tended to be in developed countries such as Kyereboah-Coleman (2007), Gill et al. (2011), Nasimi (2016), Bui (2017) and Yazdanfar (2013). Due partly to the lack of data available about unlisted companies, there have been relatively few studies focused on how capital structure is related to capital structure strategy for SMEs, and even fewer in new and emerging economies like Vietnam. To understand this challenge further, it is necessary set out the basic concepts. Equity

capital can be seen as being debt-free finance, which can consist of four common components, including hybrid financing, convertible equity, preferred equity, and common equity (Berger & Di Patti, 2006). To manage the most optimum solution, debt management is often used to determine the business's most optimum debt level, indicating the highest level which the business can operate under (Altaf & Shah, 2020). There is however a lack of research from the Vietnamese perspective on how these constructs can be used effectively by finance managers in Vietnam, especially for small and medium-sized enterprises. By studying this type of business, this project intends to understand how the capital structure strategies operate in Vietnamese SMEs when raising funds. To achieve this, the study will focus on how Vietnamese SME capital structure strategy is implemented and the potential effects on the sustainability and performance of the business. To achieve this, a Delphi Panel technique with Vietnamese corporate finance experts along with conducting a quantitative review generated from data gather from 362 Vietnamese SME businesses over a period of 9 years from 2015 – 2023 will be conducted. The next section will present the aim of the project along with the associated research objectives which are aligned to the thesis structure and focus of the study, before setting out the background of the thesis, by providing an overview of Vietnamese SMEs.

1.2 Aim

To research financing strategies in small and medium enterprises (SMEs) in Vietnam, assessing the effect of capital structure on business financial performance.

1.3 Research objectives

To achieve the research aim, the following objectives will be answered:

Research Objective One: To critically identify and evaluate existing theories on capital structure and financing strategies to understand how they influence SMEs.

Research Objective Two: To evaluate, based on empirical findings from a Delphi panel of experts, the critical factors that affect capital structure strategies when financing SMEs in Vietnam.

Research Objective Three: To analyse and determine the effects of capital structures and financing strategies on Vietnamese SMEs performance by conducting a series of quantitative statistical tests using published data on Vietnamese SMEs.

Research Objective Four: To discuss the results to illustrate how capital structures and financing strategies can affect Vietnamese SMEs performance, then make informed

recommendations for optimising capital and funding structures in the future for this type of business.

1.4 Background to the study – an overview of SMEs in Vietnam

Since the 1999 Enterprise law came into effect in 2000 in Vietnam, the number of Vietnamese enterprises has been growing dramatically. As in most countries, SMEs account for most enterprises or businesses in Vietnam, which includes the number of employees and income generation. Under Article 5 of Decree 80/2021/ND-CP the regulation stipulates the criteria for determining a small and medium enterprise, as being the following:

Business Types	Micro	Small	Medium
In the sectors of agriculture, forestry, fishery industry and construction	Up to 10 employees	Up to 100 employees	Up to 200 employees
	Total revenue of the year not exceeding VND 3 billion or total capital of the year not exceeding VND 3 billion.	Total revenue of the year not exceeding VND 50 billion or total capital of the year not exceeding VND 20 billion.	Total revenue of the year not exceeding VND 200 billion or total capital of the year not exceeding VND 100 billion.
In the sectors of trade and services	Up to 10 employees	Up to 50 employees	Up to 100 employees
	Total annual revenue of the year not exceeding VND 10 billion or total capital of the year not exceeding VND 3 billion.	Total annual revenue of the year not exceeding VND 100 billion or total capital of the year not exceeding VND 50 billion	Total annual revenue of the year not exceeding VND 300 billion or or total capital of the year not exceeding VND 100 billion.

Table: 1.1 Profile of Vietnamese small and medium-sized businesses

In summarising and contextualising above, in Vietnam, those SMEs in the agricultural, forestry, and fishery, industry and construction sectors have a total capital of an estimated less than VND 100 billion, which is approximately equal to USD 3.89 million, or have a total revenue less than VND 200 billion which is approximately equal to USD 7.78 million, and employs up to 200 individuals. In the trade and services sectors, these SMEs have a total capital of around VND 100 billion or have a total revenue of less than VND 300 billion, which is approximately equal to USD 11.67 million, with each enterprise employing up to 100 workers.

As noted previously, SMEs in Vietnam play an important role in the socioeconomic growth of the country economy, as this type of enterprise significantly contributes to national social and economic development in terms of job creation, poverty reduction, and social security. This was demonstrated by the General Statistical Office of Vietnam (2024), which noted that SMEs in Vietnam accounted for around 97% of total enterprises, which provided around 36% of total jobs for those employed.

Over the past twenty years, as Vietnam has transitioned from a centrally planned economy toward a more market-oriented approach, the traditional investment in state-owned enterprises, which used to be considered a driving force for Vietnamese economic growth, has declined. With the introduction of the Enterprise Law and the commencement of the privatisation process, the share of investment in state-owned enterprises has significantly reduced. Meanwhile, the investment in private or non-state-owned enterprises has dramatically increased and was projected to be at the same level of investment in state-owned enterprises by 2005. By 2007, the proportion of private investment of national investment had reached about 38.5%, which was higher than state investment (37.2%), and 24.3% was foreign investment (General Statistics Office of Vietnam, 2010). By 2024, private investment represented approximately 75% of total investment in Vietnam, which exceeded both State and foreign investment. Furthermore, the total capital from SMEs in Vietnam's business sector in 2024 was around 32% (General Statistics Office of Vietnam, 2024).

While there has been a significant growth, one of the important constraints on the development of SMEs has still been the limited access to financing sources for their daily operations and short-term investment opportunities, including an internal shortage of capital and the inaccessibility to external credit. There are also other issues, including the limited demand for products, excessive competition, and inadequate land or premises for SMEs to access and use. This has led to writers, including Freeman and Le (2013) who have emphasised that Vietnamese SMEs and their financing options remain potentially problematic, which can be likened to a 'pyramid'. This pyramid metaphor illustrates the number of enterprises, and their

access invest, with smaller SMEs at the base, which represent most SMEs. These SMEs tend to be mainly dependent on internal sources of finance, with limited access to more formal external sources of financing options. Then as the SMEs grow, the enterprise can access and obtain more formal and external financing options, whereby the enterprise progresses up the pyramid. At the top of the pyramid, are a limited number of SMEs, who can utilise external sources, including private equity as an additional option. Most of those SMEs in the middle part of the pyramid, tend still to have financial constraints in accessing external finance, such as through bank loans, with limited available external funding options, which can be problematic if the business is trying to grow.

Given that SMEs in Vietnam are generally confronted with insufficient internal financing sources and a lack of opportunities to access external financing sources, there is a need to have access to higher financial leverage of capital structure, which could help to improve the accessibility of external financing sources. But how can this be achieved and what theory or mechanism is best suited? For those SMEs with high financial leverage the company can obtain credit for new investment with less difficulty than those with low financial leverage. Therefore, capital structure or financial leverage can be a useful indicator for financial conditions and determining investment decisions. To understand the complexities and options available the next section will provide an overview of the fundamental capital structure theories.

1.5 Background to capital structure theory

To contextualise the challenges faced by SMEs in seeking funds and investment options, there have been several different studies conducted which have been used to determine which investment decisions are available, while investigating how this type of business can decide which is their most suitable capital structure. Reflecting this, this section will provide an overview of these theories, commencing with the seminal work of Modigliani and Miller (1958). Modigliani and Miller (1958) theory, known also as MM theory, focused on the capital structure where the business' value is independent of its cost of capital, therefore based on the SMEs value but is not related to the ratio of debt of the business. As a concept, the theory was the first methodology based on capital structure which used market value of a company to calculate the present value of its future earnings and underlying assets (Luigi & Sorin, 2009). However, since its inception, the Modigliani and Miller or the MM approach, which is focused on the capital structure, is contentious as it assumes that there are perfect capital market conditions where there were no taxes, no transaction costs and no information asymmetry (Modigliani &

Miller, 1958). Therefore, the SME value is irrelevant to capital structure or financing decisions taken, which arguably does not represent true market conditions (Shahar et al., 2016). Furthermore, the Modigliani and Miller theory claims that business' value is self-determining, and the value of the enterprise remains same even if the business is levered or not. This theory therefore indicates that there is no optimal capital structure that maximises the value of the SME. Reflecting this, Sheikh and Wang (2010) stated that Modigliani and Miller's theory is based only on assumptions which does not hold true in real world. Since these assumptions do not hold in the practical world, this irrelevance of Modigliani and Miller (1958) theory has been criticised for being purely theoretical (Danso & Adomako, 2014).

Reflecting this argument, the issue of optimal capital structure has witnessed an interest within academia. The irrelevance of MM's capital structure is due to the market's imperfection, which includes the existence of taxes, and the need to factor this into the theory. To address this potential issue, Modigliani and Miller (1963) corrected the flaw or oversimplification of the theory and included the element of tax advantage when financing debt. With this update, Modigliani and Miller (1963) considered the value of the business as a function of leverage and the tax rate. In concluding Modigliani and Miller (1963) noted that while dividends and retained earnings are not deductible for tax purposes, interest on debt remained a tax-deductible expense. Miller (1977) later attempted to improve their earlier work of 1963 and considered the effect of personal taxes, by adding personal taxes, which were classified into two categories: that of tax on income from holdings shares and tax on income from debt securities. With this study, Miller (1977) identified certain special cases where return from leverage is zero, however, this study did find that there is an optimal capital structure at the macro level but not at the micro level, which is important for an SME.

Since the publication of Modigliani and Miller (1958) original MM approach, there have been many theories, including the Trade-Off, Pecking Order theories of debt, Free-Cashflow theory, and Market Timing theory, which have been proposed as alternatives (Frank & Goyal, 2008). The trade-off theory, proposed by Myers (1984), suggested that a business can balance the tax-related benefits of debt against the costs of financial distress associated with the likelihood of bankruptcy. The theory states that companies can maximise their value by finding the optimal mix of debt and equity to minimise their weighted average cost of capital, also known as WACC. The approach involves balancing the tax benefits of debt against the costs of bankruptcy. The theory predicts that companies will increase their debt when: interest rates are risk-free, the tax code offers more generous interest rate deductions, and bankruptcy

deadweight losses decrease. Therefore, the theory also predicts that the marginal tax benefit of debt should be equal to the marginal expected cost of bankruptcy.

Unlike the trade-off approach, the Pecking Order theory was first developed by Myers (1984), which drew on the work of Jensen and Meckling (1976) Agency theory, Myers and Majluf (1984) on information asymmetry, and Ross (1977) on signalling theory. These two concepts are theoretically based, with Agency theory being an economic construct that examines the relationships between principals and agents in organisations. A principal is an owner or shareholder who delegates authority to an agent, such as a manager or executive, to run the business. It should be noted that the agency theory introduced by Jensen and Meckling (1976) which emerged due to conflicts between shareholders and debtholders, and shareholders and managers. The theory explores how these parties interact and how disagreements may arise between them, often due to conflicting interests or information asymmetry. As for the signalling theory, the concept sets out how information is conveyed between two parties when they have different information. From a financial perspective, the signalling theory assumes that managers of issuing enterprises know more about their company's quality than outside investors, for example, that the business can use dividends or stock buybacks to signal prospects.

With the Pecking Order, this theory sees a company having a preference (pecking) order for different types of finance, which are organised in a hierarchical order. Businesses prefer internal finance when available, then debt is preferred over equity and when external financing is required. The Pecking Order theory was originally proposed by Donaldson (1961), a development of signalling theory, which suggested that the information costs are significant enough to justify managers issuing securities with the least information costs (Barclay & Smith, 1999). The theory suggests that, to avoid the effect of information cost on new shares, a business is more likely to choose a debt fund rather than an equity fund. Martin et al. (1988) contended that this theory would mean that management would prefer internal financing to debt financing and finally external equity financing. Therefore, the Pecking Order theory is suitable for large and highly profitable business which has enough internal funds, are most suitable for highly profitable enterprises that prefer internal funds and when external funds are required, the concern can borrow, rather than issuing equity.

The trade-off theory is one of the best-known capital structure theories (Singh & Pandey, 2017). This theory originates from the study by Kraus and Litzenberger (1973), which is considered one of the oldest theories and is also connected to the theory of Miller and Modigliani on capital structure, emphasising the optimal capital structure (Shahar et al., 2015). This theory claims that the optimal level of leverage is achieved by balancing the benefits from interest payments and the costs of issuing debt (Jahanzeb et al., 2015). Sheikh and Wang (2010) contended that this theory tends to choose a capital structure that maximises the value of a business by minimising the costs of market imperfections, which has led to the theory also being called the tax-based and bankruptcy costs theory (Shahar et al., 2015). As a concept, this theory represents how each of these sources of money has its own cost and return and this can affect business's earning capacity and insolvency risks (Awan & Amin, 2014). Therefore, the businesses with a tax advantage will issue more debt to finance its operation to balance the cost of financial distress and benefit from the tax shield (Shahar et al., 2015). From the context of SMEs, which tend to have a lower level of profitability, a higher risk of financial distress, and a less valuable debt tax shield, this theory for Mac and Lucey (2010) may be invalid. However, other studies including Hall et al. (2004) have shown that the Pecking Order theory has relevance for SMEs. This theory could also enable the lender–borrower information asymmetry to exist, with the higher cost of external financing, and the desire of SME owners to keep managerial independence.

The next theory, Free Cash Flow theory was devised by Jensen (1986), which was originally designed for well-managed and mature businesses that tend to be overinvest, which for this study may not be suitable as often SMEs, as they tend to be new business concerns. Shoven and Waldfogel (2012) noted that the Free Cash Flow theory for a business is related to the dividend amount, which can be the residual cash flow used for a business's investment strategy. In terms of evaluating a new investment project, the Net Present Value or the NPV method can be applied to generate the result of the assessment, therefore the Free Cash Flow theory tends to use internal cash sources to determine the business's financial position and options (Petty et al., 2015). There are some popular methods to calculate the free cash flow of a business (Keown, 2002), using the following formula: $FCF = \text{Operating cash flow} - \text{all capital expenditure}$. Although the theory provides and indicates that a business can invest by utilising Free Cash Flow, there are limitations. By applying the theory, it potentially reduces the free cash flow in the company and the available cash flow to managers. Therefore, it seems only be suitable for those businesses with the healthy free cash flow, which might be problematic for SMEs who often face challenges as to internal funding and cash flow. Then, when applied

to businesses with limited or unhealthy cash flow, this approach can potentially generate difficulties when trying to gain new investments, as it can lead to a shortage of cash flow for other business activities. Managers, owners and financiers therefore need to manage working capital very carefully before using any amount of free cash flow for new investments to avoid lacking cash for financing working capital daily.

The final theory is the market timing theory, which is relatively new and therefore, there is limited research conducted to test its validity (Danso & Adomako, 2014). This theory was created by Baker and Wurgler (2002), who proposed that businesses have a timing to issue new equity shares. For instance, a company was to issue new stock when the price is perceived to be overvalued or high priced and repurchase its shares when the price is undervalued at a lower price (Luigi & Sorin, 2009; Mostafa & Boregowda, 2014; Baker & Wurgler 2002). As a result, with the fluctuations of stock prices, this can affect the business's decision on capital structures, which Welch (2004) noted that the stock return is also an important determinant of capital structure, which is the basis of the rationale of the project, which is presented in section 1.6 below.

1.6 Research Rationale

Reflecting the concepts above, this study will critically examine how Vietnamese SMEs businesses can borrow capital. The main purpose of the project is to investigate how debt can have impacts on the business performance of Vietnamese SMEs before determining which financial measurements can assist in improving these businesses' financial position and benefit the country's economy. As a nation, Vietnam is a part of the Association of Southeast Asian Nations (ASEAN), which includes ten regional countries who have developed trade links for economic growth in the region. The Trading Economic forum forecast that economic growth in Vietnam for the first quarter of 2024 would be similar to the previous year, whereby ranking the country as third most growing economy amongst the 10 ASEAN countries (General Statistics Office of Vietnam, 2024), as shown below in Figure 1.1.

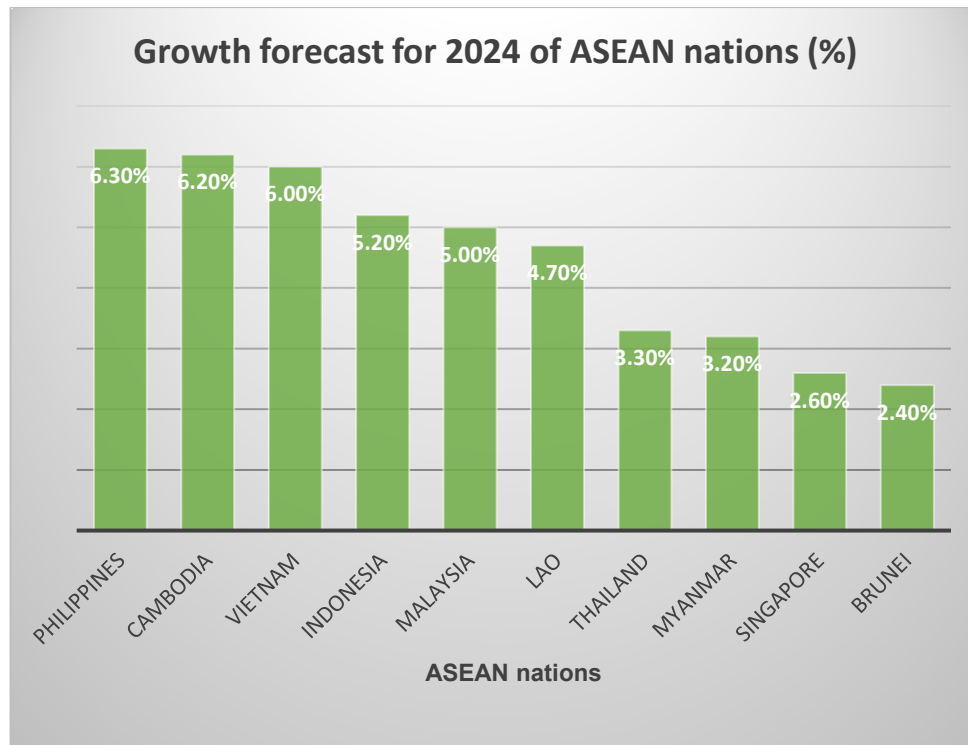


Figure 1.1: Growth forecast for 2024 of ASEAN countries from Trading Economics.

Source: General Statistical Office of Vietnam (2024)

The Banking Review (2023) revealed that Vietnam’s economic growth rate had increased by approximately 7% each year, which is predicted to continue this growth pattern for the next 35 years (Pham, 2023), as shown below in Figure 1.2.



Figure 1.2: Vietnam GPD in current prices from 1987-2027

Source: Statista.com (2024)

Part of this economic growth can be attributed to the country's SMEs. In 2024, the General Statistics Office of Vietnam indicated that SMEs accounted for around 97% of the total number of businesses in the country. Phan et al. (2015) investigated a series of economic and financial characteristics including the generation of 500,000 new jobs each year, of which the majority were attributed to SMEs, with around 36% of the total workers being employed in this type of business and accounting for 32% of total capital in the business sector. This led to the General Statistics Office of Vietnam (2024) to conclude that SMEs are a major contributor to the Vietnamese economic growth.

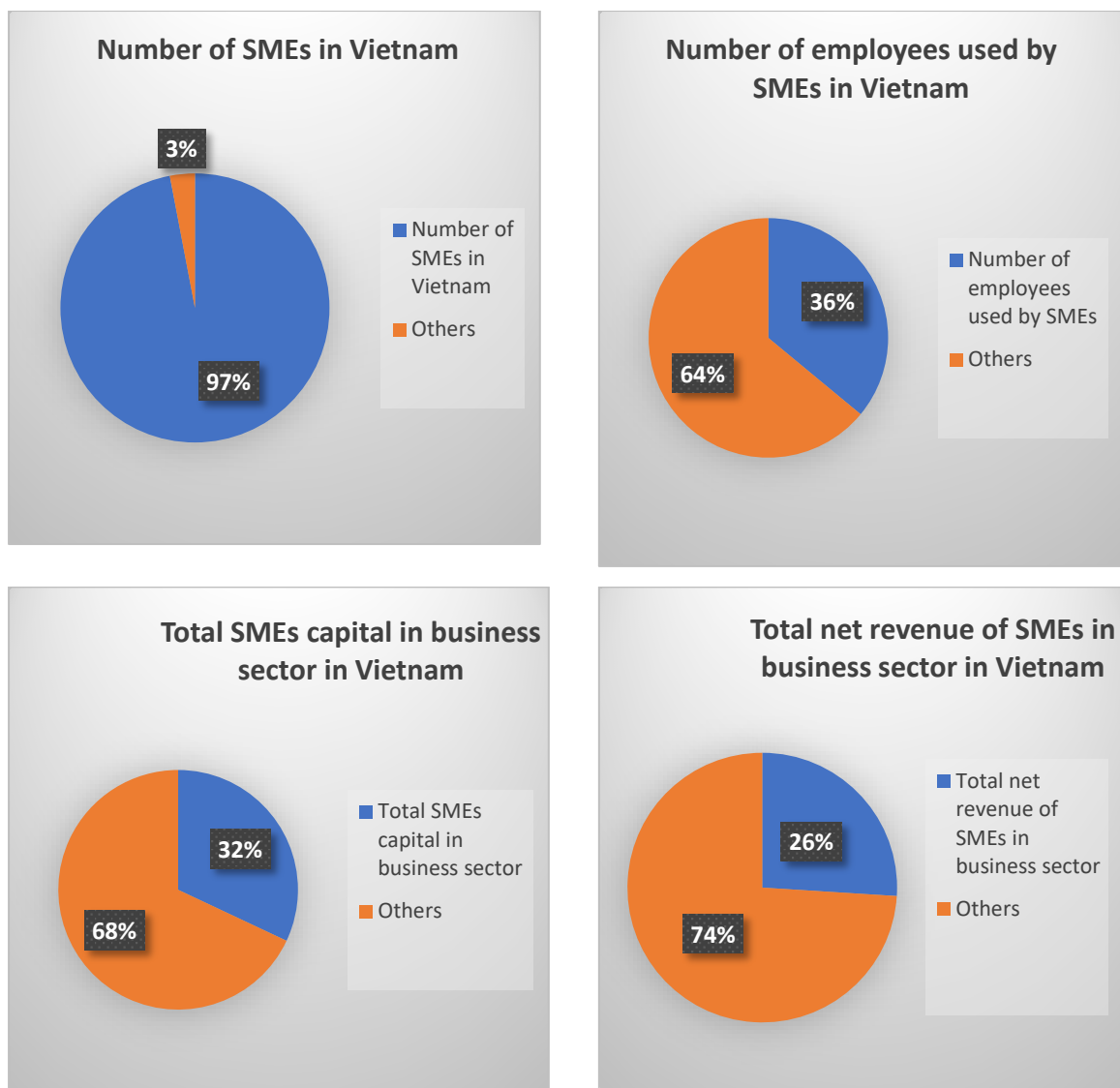


Figure 1.3: An overview of Vietnamese SMEs

Source: General Statistics Office of Vietnam (2024)

From a financial perspective, however, there remains a clear gap in understanding as to the importance of seeking the appropriate strategy for Vietnamese SMEs to raise capital. This omission is important to understand as to have a robust capital structure strategy which can provide a strong and sustainable business growth. However, in determining which capital strategy is the most effective, the question which emerges is whether SMEs in Vietnam are reliant on equity capital or on debt funds, or a mixture of both? This question is particularly important as SMEs have several distinctive characteristics including small capital value, relatively limited finances, and employing only a few employees. Due to the limitation of these resources, the SMEs must be careful when making financial decisions. In terms of maintaining a sustainable business performance and profitability, these small enterprises often need to seek a sustainable debt and equity ratio. If not correctly assessed, the outcome can lead to a high

cost of capital which can culminate in a higher cost of production or services. Reflecting this, this study intends to provide an invaluable insight for financial managers in Vietnamese SMEs to pursue an effective capital strategy to enhance the financial performance of the business, which is presented in the next section 1.7, detailing the significance of the project together with the scope.

1.7 Significance of the research

This study intends to investigate how Vietnamese SMEs use capital structure to influence business performance. To achieve this, the study will determine how these companies are managing the financial resources to get satisfactory returns and the effectiveness of the company's management from a financial expertise viewpoint and then examine how capital structure can influence the SME business performance. The purpose of the research is to contribute to the conceptual and practical understanding to how management, investors, and this type of business can use capital structure to improve the business performance.

To achieve this, this study intends to understand how the management of debt and equity funds can be used to improve the performance of the Vietnamese SME. This will assist, Vietnamese financial service companies in determining how to invest strategically and understand the challenges of this type of business. This will assist to the investors and to those who intend to invest in the Vietnamese SMEs, as they judge the performance of the company. This study will also become an important starting point for future research in the study of capital structure and the profitability of a SME. This study will also be beneficial for future research in related fields to different industries and variables, time periods, different models for evaluating potential SMEs investment decisions.

1.8 Scope of the Study

To understand the financial capital structures and strategies available and used by Vietnamese SMEs, the study will use a series of expert panel interviews using a Delphi technique to gather a consensus of opinions before conducting a linear regression analysis of secondary SME financial data gained from published annual reports and financial statements between 2015 - 2023 from the Vietnamese Stock Exchange. This will enable the study to focus on understanding the effects of capital structure on profitability. The main concerns and focus are to study the effects of independent variables which are short-term debt (STD), long-term debt (LTD), total debt (TD) and debt to equity (D/E) and internal factors such as asset size, asset growth, liquidity, and external factors such as financial crisis and inflation rate. To achieve this,

the dependent variable used in the study is profitability, which will be measured as return on assets (ROA), return on equity (ROE), return on sales (ROS), EBIT margin and earnings per share (EPS) to analyse the secondary data from the Vietnamese Stock Exchange.

1.9 Thesis structure

This study consists of seven chapters. **Chapter One** has introduced the outline of the study. The chapter has provided an insight into the topic of how capital structure strategies can affect this type of business to raise funds and influence the performance of the enterprise. The chapter has also included the aim and objectives of the project. Finally, an overview of the concepts relating to the topic of capital structure and key terms has been provided.

Chapter Two will present a literature review that addresses the current academic debate, highlighting the fundamental features of capital structure theories. The chapter will cover an introduction to capital structure along with the connection to business performance, followed by a discussion of the main theories, including the Pecking-Order, Trade-Off, and Agency Cost theories.

Chapter Three will set out the methodology adopted in the project. The methodology will present the research approach adopted along with a justification for the methodology used. The chapter will present the profile of the experts, the data analysis technique adopted along with the ethical considerations of the study.

Next, **Chapter Four** is related to presenting the findings from the expert Delphi panel, which will include the interview data generated during each round, and will then be linked to the secondary quantitative data. To contextualise this, the chapter will indicate the relevance of the findings to the existing literature. This chapter will include the consensus of the experts as to critical factors which influence capital structure decisions when financing Vietnam's SMEs. Special attention will be given to those critical factors which influence the capital structure decisions being made by these experts when financing Vietnamese SMEs.

Chapter Five will then build on the findings from the expert interviews in Chapter Four, by validating the outcomes through a series of quantitative statistical tests applied to published data on Vietnamese SMEs, using a regression analysis. To achieve this, this chapter will present the quantitative data by conducting a multiple regression analysis.

In **Chapter Six**, the chapter will present a critical discussion which will compare the empirical findings of this study with existing literature. The focus will be to present the consensus generated from expert Delphi panel interviews and statistical data compared to the existing literature from a Vietnamese SME perspective. Finally, **Chapter Seven** will set out the

conclusions and recommendations from both an academic and business / professional perspective, which will include how the aim of the project was achieved. Finally, the limitations of the study and the themes for future research will be presented.

1.10 Chapter summary

Chapter One has provided an overview of the study, including the research aim, objectives, background to the project, along with the rationale, significance, and the scope of the study related to Vietnamese SMEs and capital structure. There have been several studies that have focused on the theme of capital structure; however, most of these have investigated relatively large and established businesses, while others have conducted research in developed countries such as the US or in Europe. Reflecting this, there has been a lack of recent studies on capital structure and financing strategies for SMEs and even less in new and emerging economies like Vietnam.

The aim of the research is therefore to *research financing strategies in small and medium enterprises (SMEs) in Vietnam, assessing the effect of capital structure on business financial performance*. To achieve this aim, the following four research objectives were presented. The **first objective** is to critically identify and evaluate existing theories on capital structure and financing strategies to understand how they influence SMEs. The **second objective** is to evaluate, based on empirical findings from a Delphi panel of experts, the critical factors that affect capital structure strategies when financing Vietnamese SMEs. The **third objective** is to analyse and determine the effects of capital structures and financing strategies on Vietnamese SMEs' performance by conducting a series of quantitative statistical tests using published data on Vietnamese SMEs. Finally, the **fourth objective** is to critically discuss the results to illustrate how capital structure strategies can affect the financial performance of Vietnamese SMEs and to make informed recommendations for optimising capital structure strategies in the future.

The first objective will be presented in Chapter Two, Literature Review, with the purpose of identifying and evaluating from existing theory related to capital structures and financing strategies on SMEs. This chapter will summarise several capital structure theories and focus on the three key theories of capital structure, including Trade-off theory, Peking-order theory and Agency Cost theory. Next, the second objective will critically evaluate the empirical findings generated from the Delphi panel of experts on critical factors which influence capital structure strategies when financing Vietnam's SMEs. The third objective will be discussed in Chapter Five, which focuses on the statistical validation of the Delphi expert interview. This section

will present the regression results that validates the relationship between capital structure and the performance of Vietnamese SMEs. Lastly, the fourth objective will critically analyse these results to illustrate as to how capital structure strategies can affect the financial performance of Vietnamese SMEs. The Chapter will also provide informed recommendations for optimising capital structure strategies in the future.

Chapter Two

Literature Review

2.1 Introduction

The focus of this study was to investigate how capital structure strategies can influence business performance in Vietnamese SMEs. To achieve this, this chapter will present the existing literature as to how this theme has been previously researched and provide an in-depth insight and context related to how capital structure strategies can influence business performance (Boote & Beile, 2005). The chapter will set out and justify the decisions taken by the researcher as to the boundaries of the themes and topics being researched. The chapter will also identify those themes already explored, along with those unexplored topics, including knowledge gaps, while informing the creation of the study's hypotheses. Levy and Ellis (2006) summarise the main literature review characteristics as being

- To analyse the existing knowledge methodologically and then synthesise the quality of the literature.
- Provide a robust foundation for the research.
- Provide a robust justification of the selection for the intended research methodology.
- To demonstrate how the research will contribute a new insight into the overall body of knowledge or advance the existing knowledge base.

To achieve this, a thorough literature review will be conducted on the debate associated with how capital structure strategies can influence business performance with a focus on how this theme has been conducted in the past and the methods and models used. Finally, the outcome of the existing literature will be discussed as to the existing gaps of knowledge and the research questions that need to be asked during the Delphi technique with financial experts. The main objective of this quantitative study is firstly to reach a consensus of opinions from the experts and then determine how the capital structure strategies can influence business performance. To present the current academic debate, this study adopted a systematic approach, which will be justified in the next section.

2.2 Systematic literature review

To understand the underlying research problem, a critical literature review needs to be conducted, which is reflective of the overarching quantitative approach adopted in this study.

By conducting this review, the outcome can be used to form a theoretical and conceptual framework, whereby identifying which ratios, measurements and financial techniques have been effectively used to determine the capital structure strategies which can influence business performance.

After much consideration of these aspects, particularly as to the importance of the literature being the basis of the study, the objectives below guided the selection of the literature sources, and then the in-depth review approach adopted, which ultimately helped to meet the research objectives.

Research Objective One: To critically identify and evaluate existing theories on capital structure and financing strategies to understand how they influence SMEs.

Research Objective Two: To evaluate, based on empirical findings from a Delphi panel of experts, the critical factors that affect capital structure strategies when financing SMEs in Vietnam.

Research Objective Three: To analyse and determine the effects of capital structures and financing strategies on Vietnamese SMEs performance by conducting a series of quantitative statistical tests using published data on Vietnamese SMEs.

Research Objective Four: To discuss the results to illustrate how capital structures and financing strategies can affect Vietnamese SMEs performance, then make informed recommendations for optimising capital and funding structures in the future for this type of business.

This study decided to achieve these objectives by conducting a systematic and not a narrative review of the current literature.

This strategy therefore suggested that the problem formulation in this study was informed and influenced by determining how capital structure strategies can influence business performance through understanding previous studies and methodologies. There are many approaches for obtaining knowledge whether that is new or existing. This could be through personal experience, from professional reflection, socially derived, for instance through the exchange of experience with peers and experts, attending conferences or informed by professional training. Irrespective of how the researcher reaches the focus of the study, this process could be seen as being subjective, therefore unreliable and potentially without being academically and rigorously justified. This is the same when the research is based or grounded in a single source of information, where the study is too narrow to be seen as creditable or reliable. Therefore, when undertaking research to tackle theoretical and practical issues, it is necessary for a

researcher to choose a more robust means to gain knowledge. One such possibility to close a knowledge gap or to comprehensively understand the existing knowledge is through conducting a comprehensive literature review.

This systematic methodology was designed around providing quality of the review process through improving the design and conducting the research in a more systematic, transparent and reproducible manner (Tranfield et al., 2003). Collins and Fauser (2005) stated that the systematic review is more appropriate for research which has a focused and clearly defined topic and specific research objectives. Through using a systematic approach, the strategy can synthesise the literature to make the debate more explicit (Greenhalgh, 1997; Saunders et al., 2009; Tranfield et al., 2003). Systematic reviews can develop methods and strategies of locating relevant publications on defined topics, including explicit criteria addressing content and methodological quality. By using specified criteria, the systematic review attempts to reduce reviewer subjectivity. Therefore, the strategy involves clearly stated, explicit and transparent methods for reviewing the literature which are comprehensible, reproducible and objective (Collins & Fauser, 2005). Systematic literature reviews are therefore widely seen as providing good quality evidence which now includes business associated studies, as the method was first designed for medical research (Tranfield et al., 2003), which will be justified below.

2.3 Justification for conducting a systematic literature review

This literature review was focused on identifying, appraising, selecting, and synthesising the existing literature in the relevant field of interest (Fink, 2013). This strategy serves as a key tool in creating an evidence-based insight for contextualising the respective research, as justified by Tranfield et al. (2003). A systematic literature review represents a significant methodology and approach for researchers and is widely used in different research areas, e.g., the health sector (Mulrow, 1994), and other disciplines including business (Tranfield et al., 2003; Higgins & Green, 2008).

To conduct a systematic literature review, there are a series of phases or stages to be followed. The first phase was the screening of existing academic literature, which included how capital structure strategies have been researched before, to determine the influence on business performance. To emerge from the first phase, there was the prevalence of deskbound research projects which have been based on secondary data mainly from stock market data, which then informed the modelling of the financial analysis methodologies used. The studies identified in this literature review enabled this research to generate the first round of interview questions

which were used in the Delphi technique, and then for the creation of a model which could be used to analyse the financial data drawn from various Vietnamese SME companies.

However, it should be noted that the review conducted in this chapter did follow a robust systematic approach which involved gathering literature from extensive usage of academic databases which was focused on those studies which were related to how capital structure strategies can influence business performance. A detailed and planned process was followed to identify and understand the current debate, which then informed the study's research hypotheses and panel questions. Ultimately only relevant articles were selected for this review, which will be presented later in this chapter.

As the literature review was being conducted, it emerged that the existing studies were deskbound projects, which had adopted various methodologies and methods. Many of these studies were based on and had drawn on only secondary data from either annual reports or stock market data.

To avoid any form of redundancy of materials, it was essential to consider all research related to the field of interest. This was achieved by ensuring that practitioners' and academics' sources were included in the initial stage of the systematic approach (Tranfield et al., 2003). Through adopting this strategy, the approach followed Mulrow and Cook (1998) advice of how to improve the overall research process, including the possibility of detecting discrepancies, and enabling the researcher to integrate valid information more efficiently, therefore providing a robust and extensive insight into the current debate.

Mulrow (1994) earlier contended that adopting a systematic literature review can significantly improve the transparency, reproducibility, and synthesis qualities of the activity. Systematic literature reviews are, by definition, retrospective, since the studies included can only be identified after they have been published. During this process, the review should maintain a practical perspective (Higgins & Green, 2008), although limiting any form of personal bias. Explicit and systematic methods therefore can lead to more reliable results, which in turn act as a basis for drawing conclusions and making decisions (Oxman & Guyatt, 1993; Higgins & Green, 2008). By carrying out a systematic review, the researcher was able to develop a set of "field-tested and grounded technological rules" (Fink, 2013) and therefore achieve a robust and critical insight into the current debate related to capital structure and business performance. Higgins and Green (2008) further advocated and outlined the following six steps for preparing and maintaining a systematic review.

The review should start with formulating the problem, followed by locating and selecting suitable studies. Next, the assessment of the quality of studies should be carried out. The next step deals with the collection of data, before analysing and presenting the results. The results are then interpreted, improving and updating the existing knowledge which will inform the hypotheses, which is the final step. Tranfield et al. (2003) and Fink (2013) also recommend applying a similar approach and sequence to management research and listed the following nine points consisting of the two major stages of planning the review (stage I) and conducting the review (stage II) as shown in the following list (Tranfield et al., 2003. p.214):

Stage I - Planning the review

- *Phase 0 - Identification of the need for a review*
- *Phase 1 - Preparation of a proposal for a review*
- *Phase 2 - Development of a review protocol*
- *Phase 3 - Identification of the research question*

Stage II – Conducting a review

- *Phase 4 - Selection of studies*
- *Phase 5 - Study quality assessment*
- *Phase 6 - Data extraction and monitoring progress*
- *Phase 7 - Data synthesis*
- *Phase 8 - The report and recommendations*
- *Phase 9 - Getting evidence into practice*

Stage III – Reporting and dissemination

While the focus of this systematic literature review was to determine how capital structure strategies had been used to study the influence on business performance, including the profitability, there were some identified weaknesses. In the medical field, it has been noted that systematic reviews are not always fully reliable (Moher *et al.*, 2007). To address this, writers including Higgins and Green (2008), advocate the usage of guidelines and standards to improve the standard of reporting while ensuring a high quality and reliability.

Research questions and formulation of search string.

Based on the above, the research questions for the systematic literature review were informed by the sub-questions of the study:

- What financial formulas and ratios are used to determine the capital structure, business performance and profitability?
- What the theories are used to determine the capital structure, business performance and profitability?
- What dependent, independent and controlling variables were used to determine the impacts of capital structure, business performance and profitability?

To summarise, the main interest of the systematic literature review was related to how capital structure strategies can influence business performance; therefore, the following search string was formulated:

Search string 1: the review limited the search to full-text publications with a date range from 1980 to 2024 and included databases of Proquest.com, which was accessible from the University of Gloucestershire. The search string included: “Capital structure” AND “Business Performance” AND “Trade off theory” AND “Agency Cost theory” AND “Pecking Order theory.”

From the first search, the outcome generated 2,082 results, which included 1,506 scholarly journals, 480 dissertations and theses, and 16 business or non-business-related reports.

Search string 2: the review was limited to full text publications, with a date range from 1980 to 2024, accessed from the Proquest.com database using the University of Gloucestershire’s Discovery system. The following search strings was used: “Capital structure” AND “business performance” AND profitability AND “Trade Off theory” AND “Agency Cost theory” AND “Pecking Order theory” AND “Market Timing theory” AND “Free Cashflow theory of capital structure”. From this search criteria, 459 results were generated which included 215 scholarly journals, 224 dissertations and theses, and 22 business-related reports.

Technical description of systematic literature search

As mentioned above, the systematic literature review was carried out using mainly the University’s Discovery database and Google Scholar. However, with Google Scholar, the search engine does not allow for bulk download of search result; therefore, a software package called Publish or Perish was used. After entering a search string and specifying the range of year or years of publication and the literature database to be used along with the maximum

number of search results, the software searches enabled the researcher to access the literature. The usage of the Publish or Perish software allowed for the export of the search results in different formats, including into a spreadsheet.

This process commenced in 2021, and the last search was carried out in 2024, using the search string Search string (1): “Capital structure” AND “Business Performance” AND “Trade off theory” AND “Agency Cost theory” AND “Pecking Order theory”. The Search String (2): “Capital structure” AND “business performance” AND profitability AND “Trade Off theory” AND “Agency Cost theory” AND “Pecking Order theory” AND “Market Timing theory” AND “Free cashflow theory of capital structure”.

The search was limited to publication years 1980 to 2024, as the modelling and ratio approaches have been consistent. To enhance the searching process, within Publish or Perish there was an option to exclude citation records or patents. The decision was made to exclude citation records, since trial searches had shown that with this option activated, only citations of a publication were shown in the search results, which then required additional analysis to identify the full publication. Patents were excluded since the search was focused on identifying academic literature only.

Using the above-mentioned parameters, 2,541 search results were identified. These were then exported into EndNote literature management software and subsequently imported into EndNote, within which further analysis was carried out. The following steps were then taken to eliminate publications from the list and narrow down the analysis, as presented in Table 2.3.1

Table 2.3.1: Criteria used to eliminate publications from initial search results

Criteria	Rationale	Number of results remaining following application of criterion
Original results		2,541
Eliminate all publications which have been duplicated, or do not contain any financial analysis, or publication year that is not available.	There were studies which did not declare their quantitative methodology, or provide a summarised overview of the project, or there were mostly sources	720

	considered non-citable for a PhD-thesis.	
Reduce search results to any field in EndNote NOT containing: “Capital Structure” OR “Profitability” OR “Trading-Off Theory” OR “Pecking Theory”	The initial search results from the “Publish or Perish” were not sufficiently focussed	390
Reduce research results to any field in EndNote NOT containing the term “business performance”	Business performance is another aspect of interest to this study, yet there were no results NOT including the term business performance	360
Reduce research results to any field in EndNote NOT containing the term “profitability”	Profitability is another aspect of interest to this study, yet there were no results NOT including the term profitability	231
Reduce search results to publication type “Journal Article”	Books included non-citable sources (e.g., Bachelor and Master theses) or were not accessible (only individual chapters of Google-Books)	231
Add books with any field in EndNote containing "capital structure" and "business performance" OR “Trading-Off Theory” OR “Pecking Theory”	Books dedicated to “capital structure” and “business performance” were to be included in results	231

For the remaining 231 publications, the titles, abstracts, and where available, keywords were analysed to enable the categorisation of the publications. The process also included reviewing the publications which did not align or could be categorised accurately. At this stage, these articles and publications were eliminated from the search results. The remaining categorised articles were then analysed as to their content. The outcome of this process is presented in Table 2.3.2.

Table 2.3.2: List of categories and assigned papers.

Nr.	Categories	Rationale	Number of papers assigned
1	Capital structure	Papers dealing generically with capital structure, in business, but not specifically the subject of investigation	42
2	Capital structure – business performance	Papers which have measured capital structure and business performance were investigated explicitly	90
3	Capital structure – profitability	Papers presenting studies on capital structure and profitability	30
4	Capital structure, business performance and profitability, along with Trading-Off Theory OR Pecking Theory OR agency cost theory	Papers focused on capital structure, business performance and profitability which specifically focused on providing formulas	57
5	Capital structure, business performance and profitability in SMEs, along with Trading-Off Theory OR Pecking Theory	Papers focusing on Capital structure, business performance and profitability in SMEs	6

6	Capital structure, business performance and profitability in SMEs with models and formulas	Papers presented capital structure, business performance and profitability in SMEs with models and formulas	6
7	Papers eliminated from results as they fulfil any of the elimination criteria presented in Table 2.3.1	Upon closer inspection, these papers were categorised to fall under elimination criteria established earlier, like those studies which did provide a comprehensive methodology of the financial analysis of the capital structure, business performance and profitability.	0

It should be noted that some articles were assigned to more than one category, for example a paper could be relevant for both categories 4 and 5. However, those papers categorised in categories 6 and 7 were sometimes aligned with 1 and were eliminated from further analysis since this study was focused on capital structure, business performance and profitability. In the next section, the results and outcome of the literature review will be presented to provide clarity to the reader.

2.4 Results and outcomes of the systematic literature review

In Table 2.3.2 above shows only the results for those publications which are aligned to the search criteria. This table provides a summary of the results, a summary of the papers, the category and focus. While analysing the journal content from the 231 papers selected for closer analysis based on the content of the articles, another 2,310 publications needed to be eliminated as these studies met the exclusion criteria, as they were either not relevant or non-citable. Following this process, subcategories were also identified to allow for a more robust strategy to identify the content of the article. The outcome of the systematic approach is shown in Appendix 5 and Appendix 6, which will then be critically presented.

2.5 Theoretical conceptual underpinning

Before proceeding and presenting the current academic debate associated with analysing how capital structure strategies can influence business performance, it is necessary to set out the theoretical structures and theories to understand the background of previous studies on these two financial themes. This section will include the presentation of the capital structure theories of the net income approach, revisiting the Modigliani and Miller approach as presented in the previous chapter from a conceptual perspective, the net operating income, and the traditional approach. Then, from a profitability viewpoint, the section will focus on the different theories associated with the relationship between capital structure and the value of the SME business, commencing with capital structure theory.

2.5.1 Capital structure theories

The first concept associated with capital structured theory is focused on the *net income (NI) approach*, which was developed by Durand (1952), who stated that the capital structure tends to be influenced by the value of the business along with the cost of capital needed (Linhong, 2021). Therefore, the approach is focused on the relationship which shows how overall or weighted average cost operates, so if the capital decreases, the debt increases, and vice versa. The theory also indicates that the cost associated with equity and debt is constant and as more debt is used, the overall cost of the capital starts to decline, which is illustrated below in Figure 2.1. In the figure below, K_e presents the cost of equity, K_d presents the cost of debt, K_0 presents the cost of capital or Weighted Average Cost of Capital. The NI approach highlights the importance of capital structure strategy for all businesses irrespective of their size to consider when determining their value. Those businesses with a higher level of debt financing tend to experience a lower cost of capital, which ultimately contributes to increasing the value of the enterprise.

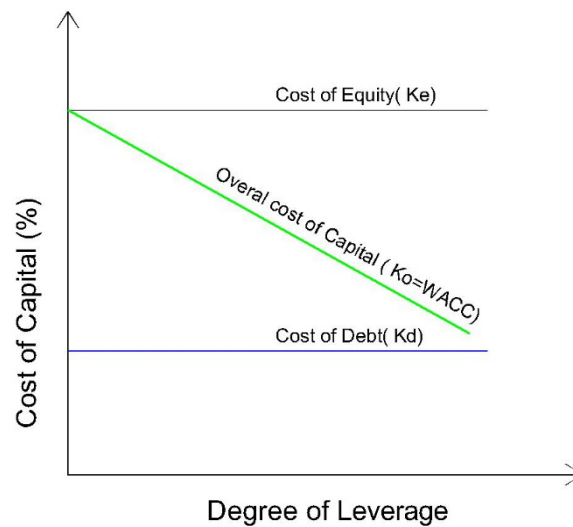


Figure 2.1: The relationship between the leverage and the cost of capital based on the NI approach

(Rao & Sharma, 2024; Ram, 2018; Banerjee, 2017).

The Net Income approach can be used calculate the value of a business by applying the following formulas below:

Total value of the business:

$$V = S + D$$

Market Value of Equity:

$$S = NI/Ke$$

Overall cost of capital can be ascertained as follow:

$$K_0 = \frac{EBIT}{V} \quad OR \quad K_0 = K_d \left(\frac{D}{V} \right) + K_e \left(\frac{S}{V} \right)$$

(V = total value of the business; S = Market of Equity; D = Market of value of Debt;
Ke = cost of equity or equity capitalisation rate; NI = earnings available for equity shareholders; EBIT = *earnings before interest and tax*).

Source: Rao and Sharma (2024), Ram (2018), Banerjee (2017)

The net income approach is based on the following criteria and assumptions:

- Corporate taxes are avoided.
- The cost of equity is higher than the cost of debt.
- The debt capitalisation rate and the equity capitalisation rate remain constant.
- The proportion of the debt does not affect the risk perception of the investors.

- Dividend payout ratio is 100 per cent.

This approach of the net income can enable the business to determine and optimise the capital structure by borrowing and having debts that are less costly than equity in the business. In practice, the NI approach has several key principles which need to be followed, including (1) capital structure strategy is directed related to the business's value, (2) total cost of capital can be lowered by increasing debt financing, and (3) cost of debt is cheaper than cost of equity. However, the NI theory is based on unrealistic assumptions such as no corporate tax, or the cost of debt remains constant. Therefore, if the NI approach is adopted the SMEs should carefully consider managing debt repayments when applying this theory because excessive leverage can lead to financial distress.

The next strategy, although this will be presented in greater detail below, is the Modigliani and Miller (MM) approach, which represents the capital structure by introducing the perfect capital market conditions for borrowing, as the concept eliminates taxes, excludes transaction costs and ignores any asymmetry information (Modigliani & Miller, 1958). Therefore, when using the MM approach, the business's value is irrelevant to the capital structure when determining the ultimately financing decision of the concept (Shahar et al., 2015), instead the theory is based on the enterprise being self-determined, and the value remains the same even if the entity is levered or not. This criterion indicates that there is no optimal capital structure that maximises the value of the business, which has led to the criticism that the theory is only based on assumptions and not the real financial world (Danso & Adomako, 2014). The total cost of capital as a hypothesis as advocated by Modigliani and Miller (1958) is demonstrated in the Figure 2.2, where the total cost of capital (K_0) is constant irrespective of the capital structure change.

The Modigliani and Miller or M-M hypothesis is based on total market value of the business is indicated by capitalising net operating income ($\text{NOI} = \text{EBIT}$).

$$V = EBIT / K_0$$

$$K_0 = K_d \left(\frac{D}{V} \right) + K_e \left(\frac{S}{V} \right)$$

Where: V is the total market value of the business, K_0 = total cost of capital, EBIT is earning before interest and tax, K_d is cost of debt; K_e is cost of equity

Source: Banerjee (2017)

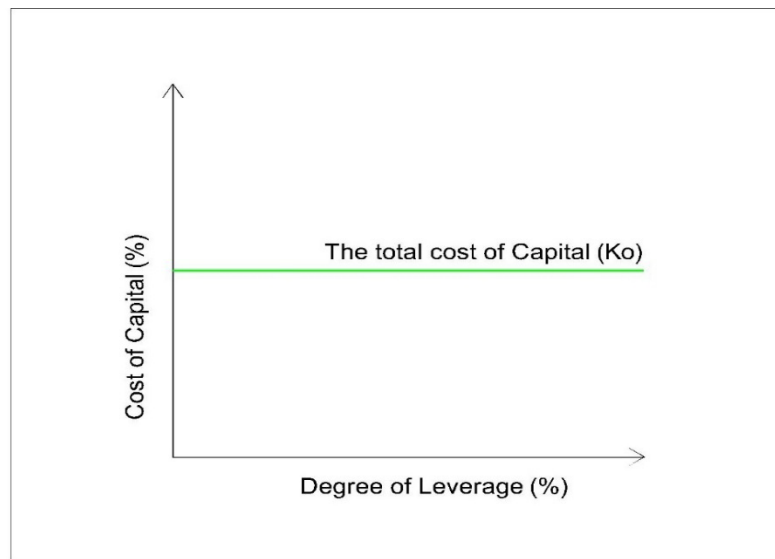


Figure 2.2: The relationship between leverage and the total cost of capital (Modigliani-Miller, 1958, cited in Banerjee, 2017).

The next strategy is the *net operating income* approach (NOI). The theory is opposite to the net income approach, which advocates that financial leverage does not affect the weighted average cost of capital within the business or the market value of the entity. Therefore, the capital structure decision is irrelevant, which is like the MM (1958) theory. Instead, the approach sets out the value of the business based on the earnings generated and the potential financial risk associated with the investment decision. To contextualise this, the financial risk is from the actual financial leverage used and not influenced the actual value. Therefore, if a business utilises increasing debt in its capital structure, the overall cost will not change despite the cheaper rate of debt compared to the equity used. This is because the equity from shareholders tend to increase their expectations on the return on their investment each time the debt in the company increases. Consequently, higher expectations of shareholders multiply the business risk, and the benefit of cheaper debt is often offset by higher expected rate of return on equity,

therefore, the overall cost of capital remains constant. The total value of the business is based on the net operating income NOI approach as advocated by Durand (1952), can be identified as follows:

The value of the business:

$$V = \frac{EBIT}{K_0} ; \text{ or } V = NOI/K_0$$

Verification of Overall Cost of Capital as per NOI Approach:

$$K_0 = K_d \left(\frac{D}{V} \right) + K_e \left(\frac{S}{V} \right)$$

Total Value of Equity:

$$E = V - D$$

The cost of debt K_d is constant; the cost of equity is:

$$K_e = (EBIT - 1) / S$$

where: V = total value of the firm; $EBIT$ = earnings before interest and tax; NOI = Net operating income; K_0 = Overall cost of capital; K_e = cost of equity; K_d = cost of debt.

(Source: Rao & Sharma, 2024; Banerjee, 2017)

With the net operating income approach, there are several assumptions:

- There are no corporate taxes.
- Cost of debt remains constant.
- Overall cost of capital remains constant.
- Value of the firm depends on expected net operating income and overall capitalisation rate or the opportunity cost of capital.
- Net operating income of the firm is not affected by the degree of financial leverage.
- The operating risk or business risk does not change with the change in debt equity mix. WACC does not change with the change in financial leverage.

This is shown in Figure 2.3, with K_e representing the cost of equity, K_d , the cost of debt and K_0 , the cost of capital or weighted average cost of capital (WACC).

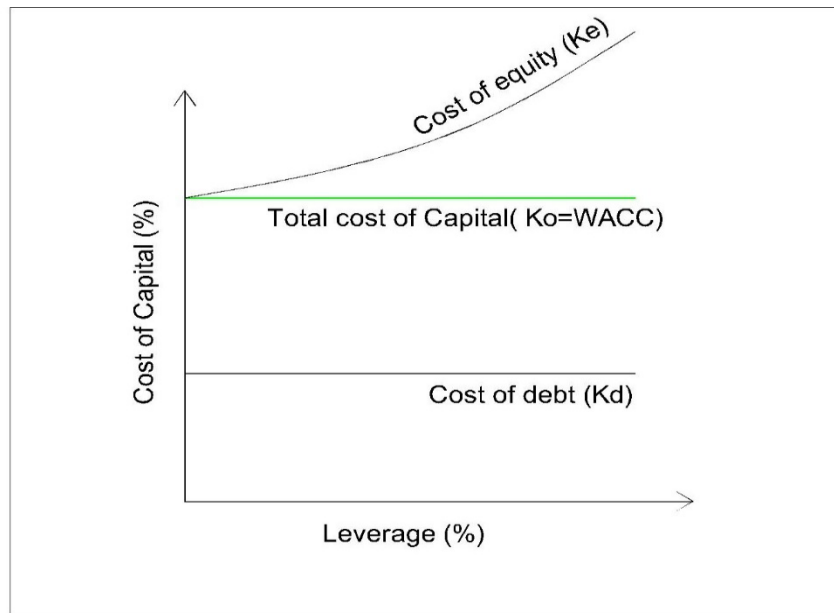


Figure 2.3: The relationship between leverage and total cost of capital based on NOI approach

(Roe & Sharma, 2024; Banerjee, 2017).

Unlike the above, the *traditional approach*, rejects the net income and net operating income methods, but instead contends that when the level of financial leverage increases, weighted average cost of capital decreases to a certain level, and will then start to increase once the mixture of debt and equity levels have reached the minimum level. Therefore, if a business attains an optimum capital structure when the cost of capital is minimal and the value of the business is maximised, as can be seen in Figure 2.4. K_e represents the cost of equity; K_d represents the cost of debt and K_o represents the cost of capital or weighted average cost of capital (WACC).

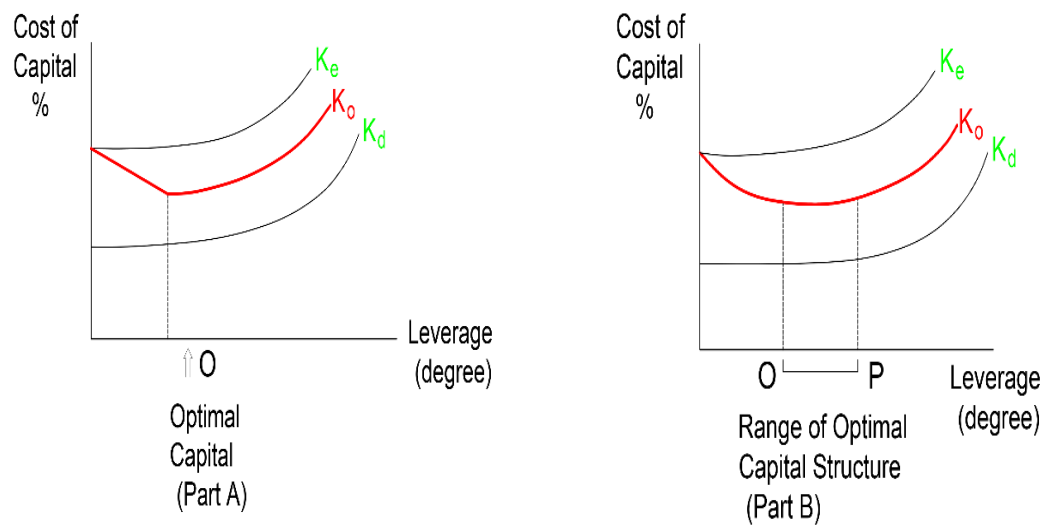


Figure 2.4: The traditional approach as to the relationship between leverage and cost of capital

Source: Rao and Sharma (2024) and Ram (2018).

2.5.2 Profitability analysis theories

Unlike above, this section will focus on the concepts associated with profitability analysis. Profit can be seen as the surplus of return over expenses, while profitability is the ability to generate a return based on the investment (Nimalathasan, 2009), or how a business can earn a profit (Tulsian, 2014). To assess profitability, there are two common types of ratios which can be used to analyse profitability. The first ratio is based on the sales, for example gross profit margin (GPM), operating profit margin (OPM) and net profit margin (NPM).

The gross profit margin indicates the profit generated in a business in relation to the sales or revenue created, after deducting the cost of goods sold (Van Horne & Wachowicz, 2009). This ratio shows the efficiency of the operation in relation to the product's price. This ratio for business management is considered positive or good, when the ratio is high. The next ratio is the operating profit margin, which is used to determine operational efficiency of management. This ratio establishes the relationship between operating profit and net sales (Tulsian, 2014), so when the ratio is high, this indicates that the operational efficiency is positive, therefore, a business can potentially increase its sales or cut or reduce the operating expenses. The net profit margin measures the profitability of the sales within the business after removing all the expenses and income taxes (Van Horne & Wachowicz, 2009).

The next set of ratios includes the return on assets (ROA) and return on equity (ROE), which are designed to demonstrate the overall effectiveness of the business and operational activities (Van Horne & Wachowicz, 2009), by measuring the ability to generate a profit (Nishanthini & Nimalathan, 2013).

The return on assets (ROA) is the rate of return earned by a business for its investors and lenders. This ratio shows how the profit from each unit of assets is generated. Therefore, this ratio shows the efficiency and effectiveness of the business (Petersen & Schoeman, 2008). The ratio also indicates how the business can earn a satisfactory return from all the assets invested within the business (Pinches, 1990), as the measurement indicates the company's ability to generate a return on its investment, while measuring the effective usage of the debt.

The next ratio is the return on equity (ROE), which measures the profitability of equity funds invested in a business. This ratio is a measurement of the performance as it measures shareholder's wealth when achieving the financial goal or signifying the earning power on shareholders as they invest in the business (Van Horne & Wachowicz, 2009). In contrast, the return on invested capital (ROIC) is focused on the return earned on the capital invested, therefore can be used to assess a business's efficiency in allocating capital to make profitable investments. This ratio can provide an insight into how the company uses the funds to generate returns whereby understanding how effectively the capital is being used (Mauboussin & Callahan, 2014). The final ratio, the return on capital employed (ROCE) is used to measure the efficiency and profitability of a capital investment, which indicates whether the company is earning sufficient revenue and profit, therefore indicating if the capital assets are being effectively used, which includes both equity and debt (Scarlet, 2006). Based on the presentation in this section related to the fundamentals associated with capital and profitability theories, it is necessary to understand the complexities and background of these methodologies.

2.6 Background to the current understanding

Leading from the fundamentals of the ratios associated with the profitability and capital structure, this section is dedicated to focusing on the theory behind the concept of capital structure, as to how this has been previously measured and assessed, including the methodologies adopted. Capital structure, which is part of the focus of this study, is a mixture of both debt capital and equity capital (Nasimi, 2016). These sources involve the use of short-term and long-term debt, along with preferred and common stock, also known as equity financing (Mutairi, 2011; Javed et al., 2014; Shahar et al., 2015; Singh & Pandey, 2017). When a business, including an SME raises capital, it is critical for the enterprise to decide on the

capital structure as ultimately the business can maximise the value while also affecting the performance and the profitability, which shown below in Figure 2.5 (Shahar et al., 2015).

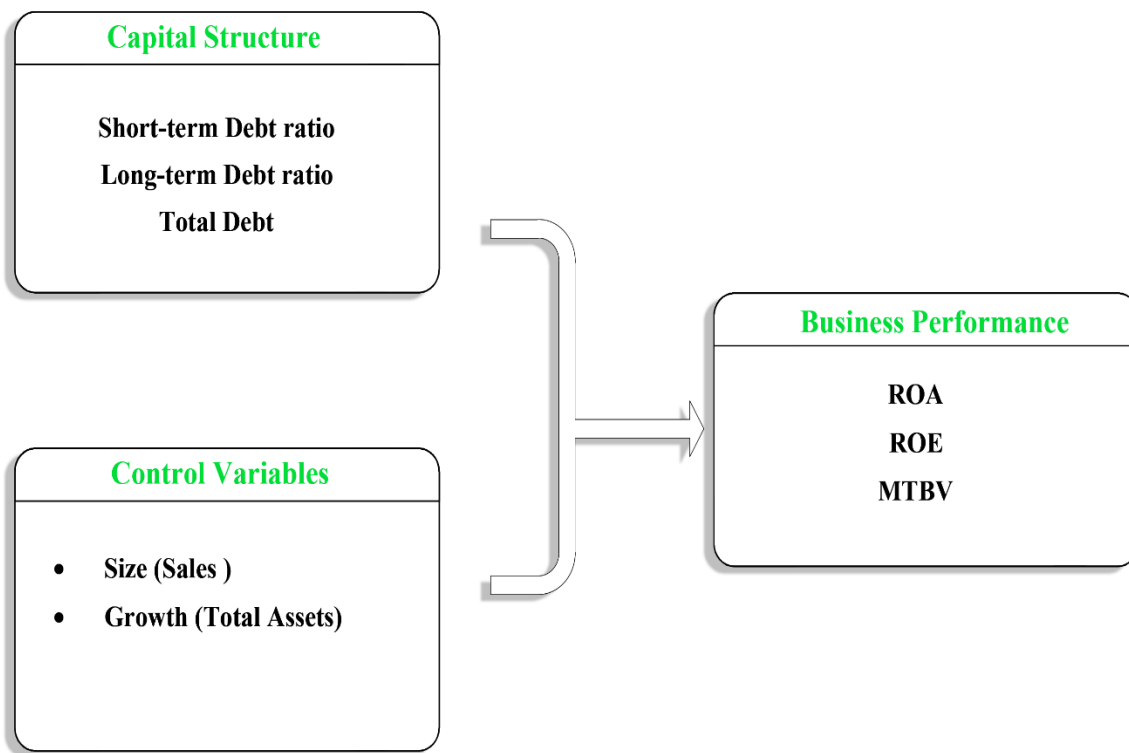


Figure 2.5: The impacts of capital structure on business performane
(Shahar & Shahar, 2015)

Based on the above, many business owners or managers tend to balance these financing options while maintaining their target capital structure ratio (Myers & Majluf, 1984; Myers, 1984). However, businesses do not use identical capital structures, instead the strategies tend to vary business to business reflective of their financial perspective (Javed et al., 2014), as the task is often complex. To increase the business performance and growth, this requires seeking the optimal capital structure. This can be achieved through a combination of debt and equity funding, which can maximise shareholder return or alternatively minimise the weighted average cost of capital. The type of capital structure selected can affect the business's value and performance, which can be traced back to the original theory of Modigliani and Miller (1958).

Modigliani and Miller (1958) theory

Modigliani and Miller's (1958) approach set out the different combinations of debt and equity or capital structure options available, designed not to affect the value of a business, and therefore the performance, while the optimal capital structure does not exist.

While the theory of Modigliani and Miller (1958) which is related to the value of the enterprise, the concept is not affected by capital structure or those aspects which are not relevant to the value of the business. This pioneering work of Modigliani and Miller (1958) was seen as the first generally accepted theory into capital structure (Luigi & Sorin, 2009), but there are limitations. For example, Modigliani and Miller (1958) theory were proposed under a perfect capital market condition, in which taxes, transaction costs and any asymmetric information are avoided, and the value of any business is independent of its financing decisions (Modigliani & Miller 1958). Although, Modigliani and Miller's theory is not based on the practical or real business world, instead the assumption behind the concept has become an important theory in the study of capital structure (Sheikh & Wang, 2010). For Shahar et al. (2015) there are a series of assumptions which underpin the theory, however, these assumptions are unsuitable in real business world, which have been criticised from a purely theoretical perspective (Danso & Adomako, 2014). These assumptions included:

- There are no transaction and bankruptcy costs factored into the capital markets.
- There are no different risk classes for the business.
- There are no corporate taxes.
- Cash flows are perpetuities.
- There are no information asymmetries for insiders and outsiders.
- There are no moral hazards on the manager's part, and they work to increase or maximise shareholders' wealth.
- Businesses issue solely two varieties of claims: equity with risk and debt without risk.

Later, Modigliani and Miller (1963) and then Miller (1977) adopted an approach which attempted to address this potential criticism, which included addressing how the MM theory had excluded corporate taxes in the original theorem by introducing a corrected approach, which has led to the emergence of the net income method (Ganesamoorthy, 2016). Since Miller and Modigliani (1963) revision and the incorporation of corporate taxes, capital structure now shows an effect on the cost of capital and the value of the business. This is because interest payments on debt are deducted from the business's profit due to the payment of corporate taxation (Devereux et al., 2006; Mooij, 2011). This is important to understand, as when a business uses a mix of debt and equity in their capital structure, the overall cost of capital decreases because the cost of debt can be cheaper than the cost of equity, prompting the market value of the enterprise to increase (Ganesamoorthy, 2016). However, since this revision, there has been a series of studies including Danso and Adomako (2014), who have criticised the MM

theory as to its remaining limitations. For example, the theory assumes that there is no transaction cost but in reality, these expenses still exist. These criticisms have led to the development of a series of alternative capital structure theories being proposed. As noted by Danso and Adomako (2014) the MM (1963) theory has inspired other theories to provide a more reliable concepts and models to be developed to represent the imperfect market conditions, which has included the Trade-Off theory, Pecking Order theory and Market Timing theory (Luigi & Sorin, 2009), which for Danso and Adomako (2014), the Trade-Off and Pecking Order models are the most significant.

When applying the theory to specific small and medium-sized enterprises (SMEs), it is important to recognise that real-world conditions often differ significantly from an ideal assumption or proposition as proposed by Modigliani and Miller (1958). Instead, SMEs often encounter different challenges when it comes to raising capital. For instance, SMEs frequently face borrowing constraints, which can push the business to rely on debt financing. Unlike large companies, SMEs tend to experience more severe challenges related to asymmetric information and agency costs (Hashemi, 2013; Pettit & Singer, 1985). Schulze et al. (2003) demonstrated that SMEs experience higher agency costs when they fail to allocate resources correctly. Supporting this, Barnea et al. (1980) noted that small businesses tend to deal with a more expensive cost of information asymmetry which relates to the publishing of financial statements rules and regulations. These issues can result in a higher cost of debt and an overall greater bearing on the capital needed in the SME, which challenges the original assertion of M&M theory which operates under idealised or perfect business conditions.

Trade-Off theory

The Trade-Off theory is the oldest model connected to the original concept of Miller and Modigliani's (1958) capital structure, which emphasises the optimisation of the capital structure. Kraus and Litzenberger (1973) indicated that a business to achieve an optimal capital structure tends to trade the cost against the benefits of the use of debt and equity, by considering other important aspects of the business including taxes, along with bankruptcy and agency costs. In following this theory, a business can achieve an optimal capital structure by adjusting its debt and equity levels, which means to balancing the company's tax shield and associated financial distress cost. Myers (1977) suggested that the use of debt to a certain level can balance the cost of financial distress while providing an interest tax shield. Later, Fama and French (2002) contended that the optimal capital structure can be identified through the benefits of debt tax deductibility from interest payments, along with factoring in the bankruptcy and agency costs. However, the trade-off theory does have its limitations including not considering

the impact of information asymmetry on the business value (Mostafa & Boregowda, 2014). This criticism has led to the development of the Pecking Order theory, which includes the inclusion of potential conflict between the business insiders and the outsiders who have different agendas and information (Mostafa & Boregowda, 2014; Abeywardhana, 2017).

In applying the Trade-Off theory to SMEs, this size of business should be focused on seeking a balanced capital structure which allows for greater leverage to enable the business to benefit from debt, such as tax-deductible options and having a lower overall cost of capital, therefore not taking excessive risks. Serrasqueiro et al. (2011) conducted a test of the Trade-Off theory in the context of SMEs and found that these businesses exhibit a lower level of adjustment of their actual borrowing towards the targeted debt ratio compared to larger businesses and organisations. SMEs being smaller in size tend to possess fewer tangible assets therefore often face higher transactional costs, which may account for their slower adjustment to their optimal debt level. In supporting this, Hashemi (2011) noted that the usage of the Trade-Off theory in SMEs as being a suitable financial model to determine and quantify debt or borrowing. In contrast, Uyar and Güzelyurt (2015) provided evidence which suggested that SMEs typically do not have a defined target debt ratio, which contradicts the benefit of using the Trade-Off theory.

The Pecking Order theory

The Pecking Order theory was originally proposed by Myers and Majluf (1984) and Myers (1984) to address the limitations of the Trade-Off theory. The model describes how a company can prioritise their sources of financing. The theory states that a company tends to prefer to use internal financial options first, then debt, and finally new equity as a last option. This hierarchical approach of seeking financing sources is dependent on the company's size and level of development. The theory suggests that managers follow this hierarchy to avoid adverse selection and wealth transfer to outsider parties. This model also provides a means to manage the costs of external capital by using cheaper internal funds first. Lowering costs can help maximise shareholder value. However, the Pecking Order theory does not consider optimal capital structure, which means there is no target capital requirement (Luigi & Sorin, 2009; Mostafa & Boregowda, 2014). Instead, this concept considers information asymmetry between insiders and the outsiders of the business, which for Myers and Majluf (1984) indicates that the pecking order theory assumes that there is a perfect market, which is Modigliani and Miller's (1984) original assumption, but does not really represent the real or actual business environment. The Pecking Order theory therefore tends to rely on internal sources which has

the lowest associated information asymmetry costs. The Pecking Order theory also advocates that a business with more profitability will have potentially less debt. However, since its introduction, studies including from Ganesamoorthy (2016) have shown that the Pecking Order concept does not explain capital structure entirely, which is seen as a potential weakness. The Pecking Order theory suggests that businesses, including SMEs should prioritise their sources of finance in a specific order to ensure that the business remains sustainable. Following the Pecking Order theory, based on the size and access to finances, SMEs are recommended to firstly use their retained earnings, followed by the usage of debt, and then consider issuing new equity as a last option. Several studies including Hashemi (2013) have supported this strategy for SMEs to adopt this Pecking Order theory approach. Hashemi (2013) focused on testing this theory in SMEs to provide evidence for this prioritisation strategy. The study of Hashemi (2013) found that SMEs tended to rely on internal funds rather than debt, which is consistent with the Pecking Order theory strategy. Supporting this, Martinez et al. (2018) highlighted that SMEs often had limited access to external financial options compared to larger companies, often due to the reduced availability of information or outside funding options. Uyar and Güzelyurt (2015) and Tekin (2020) also indicated that SMEs typically follow a Pecking Order approach in their financing decisions due to the limited resources.

Agency Cost theory

Harris and Raviv (1991) contended that the Agency Costs theory was initially proposed by Fama and Miller (1972) and then developed by Jensen and Meckling (1976). The theory is associated with how capital structure is determined by the costs of the agency, which for Pratt (2012) can lead to conflict to occur amongst shareholders, managers, and lenders. In contextualising this, Jensen and Meckling (1976) stated that the conflict can be between shareholders and managers, or alternatively disputes amongst debtholders and shareholders (Myers, 2001). In explaining these conflicts, part of the reason can be attributed to managers not seeing or benefiting from the proposed benefit, even though they will need to bear the costs to achieve the desired outcome. As a result, managers may put less effort into seeking highly profitable investments and be less cautious in managing the business financial resources, due to the perceived lack of benefits. This can lead to managers using financial resources for personal benefit or even mispend and waste the financial funds. However, the managers are still responsible for all costs in the business, therefore being accountable to their shareholders and owners, irrespective of the perceived benefits. There can be conflict between debtholders and shareholders or those holding equity in the business. This conflict can occur when the debt is incentivised at the expense of debtholders to attract potential equity holders when they are

making sub-optimal investment decisions. Therefore, if the investment achieves the necessary profit, then the shareholders will be the main beneficiaries, whereas if the investment opportunity fails, the debtholders will need to bear the consequences or losses (Chechet & Olayiwola, 2014; Nguyen & Tran, 2019; Harvey et al., 2004).

There are, however, several limitations associated with the Agency Cost theory, including the difficulty of measuring and analysing agency costs. Part of the reason for this, is how the concept is measured due to its complexity and dependency on the business's current financial position. This is compounded by the Agency Cost theory being associated with its inability to present the complexities associated with human behaviour and how the two key principals' debtors and shareholders differ as to their interests and motivation. In a study focused on SMEs, Hashemi (2013) concluded that agency costs and the lack of information on expenses can significantly affect the levels of both short-term and long-term debt in these small businesses. Therefore, SMEs due to the higher levels of agency costs and lack of information related to the expenses and borrowing opportunities can result in lower ratios of collateralised assets which can weaken the business's level of perceived equity. Consequently, SMEs tend to rely on lower levels of external funding, which led to Abor and Biekpe (2006) to highlight the insufficient evidence to support the Agency Cost theory as being a potential financial model for SMEs.

Market Timing theory

To address these identified potential weaknesses, Baker and Wurgler (2002) created a new capital structure approach, which was called market timing theory. Market Timing theory is an investing strategy that involves buying and selling financial assets based on predictions about price fluctuations. The goal of the theory is to determine the profit from market movements by anticipating when trade, commodities, stock and shares change. Market Timing can be used to enter or exit markets, choose between assets, and take advantage of price differences, which can be used for both long-term and short-term investments. Market Timing is the opposite of a buy-and-hold strategy, where investors buy securities and hold them for a long time, regardless of market volatility. Therefore, the goal is to take advantage of temporary fluctuations in the cost of equity relative to other forms of capital, which means that managers or owners can increase the wealth of current shareholders by timing when securities are issued. While this approach is feasible for traders, portfolio managers, and other financial professionals to use, it can be difficult for the independent investor. Setyawan (2012) argued that the Market Timing theory can help businesses avoid sub-standard returns to their shareholders when issuing new shares. Welch (2004) noted that the fluctuation in share prices can influence the capital structure

decisions of companies including SMEs. To contextualise this, Frank and Goyal (2003), highlighted that the Market Timing theory allows managers to assess the current financial markets, including access to external debt and equity. However, there is a lack of empirical evidence to determine whether this theory is suitable for SMEs. This limited understanding may be due to SMEs facing difficulties in accessing capital markets for raising funds, based on their limited assets, number of employees, and financial turnover (Frank & Goyal, 2003).

Free Cashflow theory

As indicated by Iavorskyi (2013), the Free Cash Flow theory was devised by Jensen (1986). Myers (2001) stated that the Free Cash Flow theory was designed for those well-managed and mature businesses that tend to be overinvested in. Shoven and Waldfogel (2012) highlighted the Free Cash Flow concept is based on the dividend amount held in a business, which can be the residual amount of cash or liquidity used in a company for new investment opportunities or projects. Therefore, the Free Cash Flow theory suggests using the internal cash or liquidity sources of a business to finance new profitable projects (Petty et al., 2015).

There are various methods to calculate the free cashflow of a business (Keown, 2002). In general, the formula for FCF is $FCF = \text{Operating cash flow} - \text{all capital expenditure}$. According to (Rau, 2017), $FCF = EBIT \times (1 - \text{Tax rate}) + \text{depreciation} + \text{Amortisation} - \text{Change in Net Working Capital} - \text{Capital Expenditure}$.

With Jensen (1986) the concept of the Free Cashflow is considered as having excessive cash or liquidity which can be used to fund the positive net present value (NPV) projects. Buus (2015) applied the theory of the Free Cash Flow model on capital structures advocating the following formula to represent equity cost and weighted average cost of capital (WACC): $C = D + E = U + T$ (Buus, 2015). E refers to equity, D is associated with debt, U are assets (total capital at debt-free firm); T is the tax shield, and C is business value.

When applying this theory specifically to SMEs, it is important to recognise that the theory was primarily designed for well-managed and mature businesses, which can access investment when needed due to their perceived low risk. Therefore, this theory may not be suitable for all SMEs particularly those who are startups or in their early stages of establishing their market presence. Markus (2021) focused on the analysis of cashflow strategies in SMEs by emphasising that cash and liquidity have a direct influence on the future competitiveness, sustainability and growth of the business, indicating the importance of an adequate cashflow to maintain a competitive performance in a SME. However, while there is evidence to indicate

that some of the methodologies could be potentially adopted, there is a need to focus on the current debate associated with capital structure to provide a robust context as to how they could be used in practice.

2.7 Review of the current academic debate

Based on the overview presented above, this section will present in greater depth the current academic debate associated with capital structure and profitability that of business financial performance.

Capital Structure Affecting Profitability

A key writer in the field of capital structure was Abor (2005) who investigated the relationship between capital structure and profitability in Ghana from 1998 to 2002, based on listed companies on the Ghana Stock Exchange (GSE). This desk-based study used a regression analysis, to analyse the data to find a significant and positive relationship between short-term debt ratio (STDR), total debt ratio (TDR) and return on equity (ROE). The study of Abor (2005) suggested that the increase of short-term debt would lead to an increase in the profitability of the business, as this research suggested that short-term debt is less expensive due to lower interest rates. In reaching this conclusion, Abor (2005) argued that the increase in total debts could lead to an increase in profitability.

In contrast to Abor (2005), Fama and French (1998) whose study was also a deskbound study, earlier noted that debt can negatively affect the profitability of a business, which indicates that debt does not provide tax benefits therefore decreases the profitability of the enterprise. This positive relationship between TDR and profitability is consistent with the findings of Roden and Lewellen (1995) and Champion (1999) who both indicated that debt financing can influence the profitability of a business. The findings of Abor (2005), Roden and Lewellen (1995) and Champion (1999) also showed that there was a negative relationship between the long-term debt ratio (LTDR) and ROE. However, with an increase in long-term debt which is often associated with a decrease in profitability, these studies have contended that long-term debt can be more expensive than short-term commitments. This finding was supported by Mesquita and Lara (2003) who found a negative effect of debt on profitability. However, as indicated above, all of these studies were generated from secondary sourced data from various annual reports or from stock market data.

In an Egypt based study, Ebaid (2009) focused on the capital structure on the performance of publicly traded firms within the Egyptian Stock Exchange between 1997 and 2005 only. Using

a multiple regression analysis approach, the study estimated the relationship between the leverage level and business performance of these Egyptian companies, which involved measuring the dependent variables of return on equity (ROE), return on assets (ROA) and gross profit margin (GPM). The results of Ebaid (2009) revealed that short-term debt and total debt had a negative effect on ROA. This outcome of Ebaid (2009) is consistent with other studies, including Chiang et al. (2002) which was based in Hong Kong, and the Jordanian study of Zeitun and Tian (2007) who found a negative effect in the property and construction sectors based on the available secondary data.

However, this finding of Ebaid (2009) is not conclusive, and it should be noted that short-term, long-term and total debt could have an insignificant effect on the ROE (Baum et al., 2007). Baum et al. (2007) confirm this, when studying North American industrial companies, by examining the relationship between the leverage levels and the business performance. Salim and Yadav (2012) examined the capital structure and business performance of 237 listed enterprises in Malaysia from 1995 to 2011, as illustrated below in Figure 2.6. The study of Salim and Yadav (2012) found that both long-term and total debt ratios can negatively affect the return on assets (ROA). This outcome of Salim and Yadav (2012) aligns with the results of Ebaid (2009) and Hassan et al. (2014) but contradicts the conclusions of Memon et al. (2012), who suggested a positive relationship between debt ratios and ROA. Furthermore, Salim and Yadav (2012) also identified a positive relationship between all debt ratios, including short-term, long-term, and total debt ratios through the adoption of the Tobin's Q formula. This finding was, however, not supported by Chadha and Sharma (2015), who reported no significant relationship between Tobin's Q and debt ratios. As to the association between debt ratios and return on equity (ROE), Salim and Yadav (2012) indicated that both short-term and long-term debt ratios can have a negative effect on ROE, which is consistent with the findings of Hasan et al. (2014), Muhammad et al. (2014), and Lucy et al. (2011), but challenges the assumptions of Ali (2011) and Hasan et al. (2014), who reported that there were no significant effects of debt ratios on ROE. This brings into question whether there is any significant effect on Vietnamese SMEs.

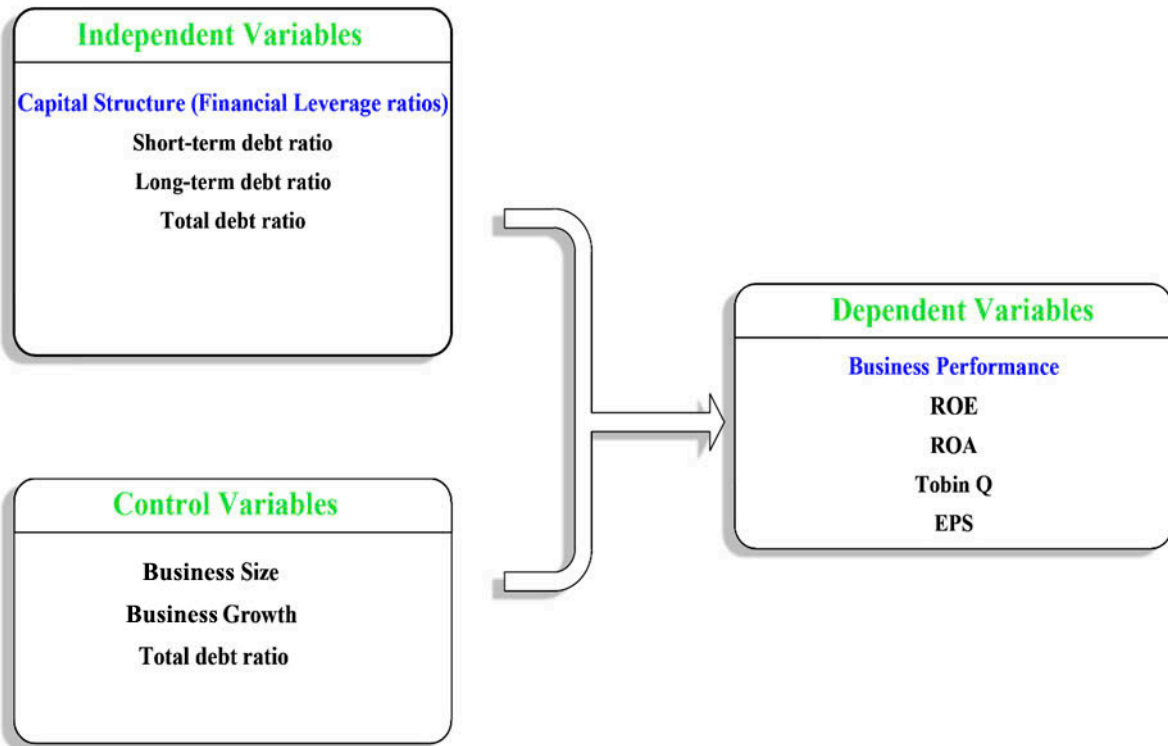


Figure 2.6: Capital structure and Business Performance

(Source: Salim & Yadav, 2012).

In extending the original work of Abor (2005), Gill et al. (2011) later examined the effect of capital structure on the profitability of American service and manufacturing enterprises. In this study, 272 listed American businesses were selected from the New York Stock Exchange over a three-year period from 2005 to 2007. Adopting a correlation and regression analysis approach, the desk-based study measured the effect of capital structure on the profitability of the businesses, to assess the return on equity. The findings of Gill et al. (2011) indicated a positive relationship to short-term debt and the total debt ratio as to the profitability within the service sector, which matched the outcomes of Abor (2005) earlier manufacturing study as presented in Figure 2.7 below.

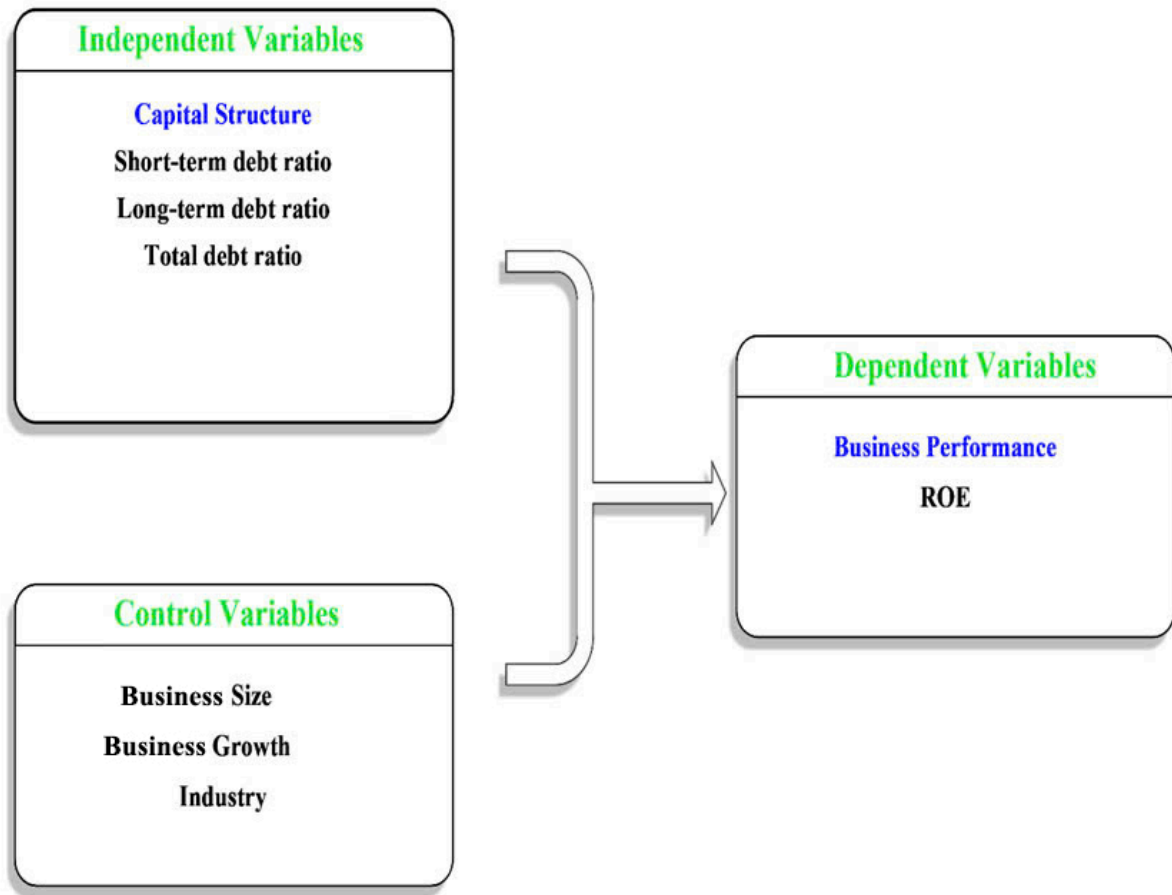
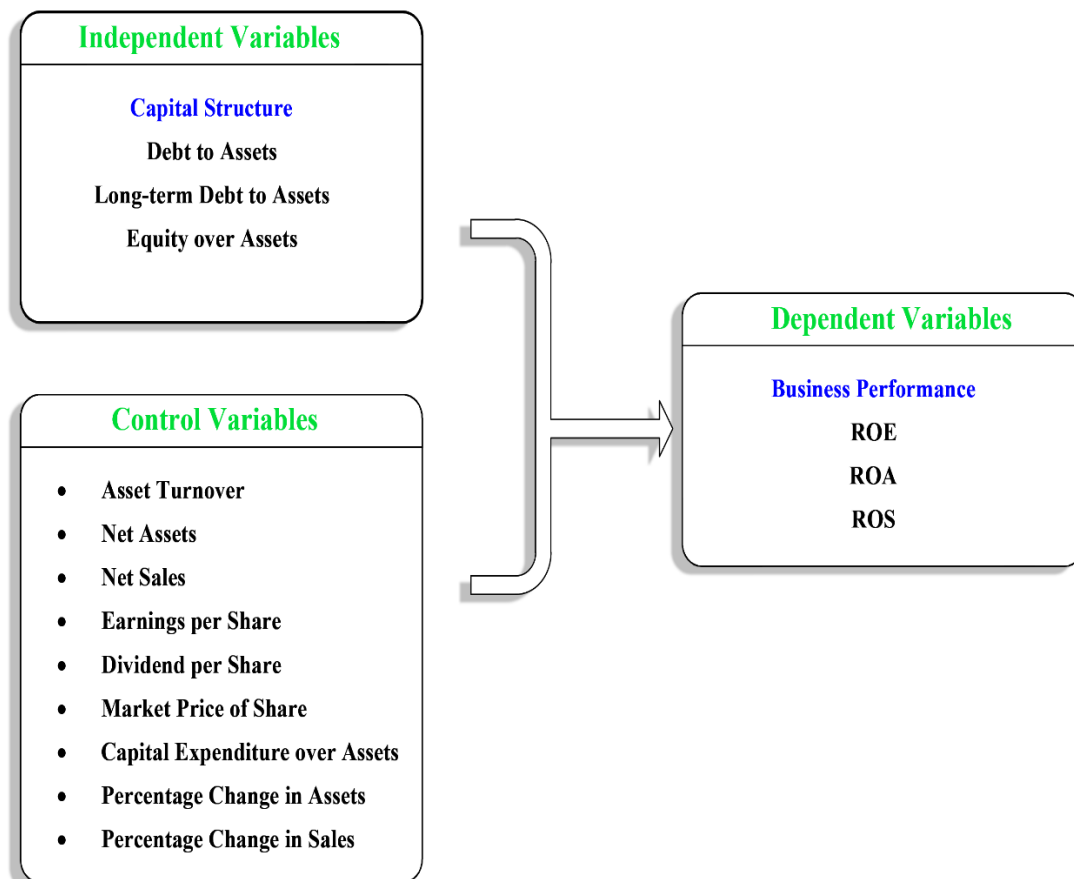


Figure 2.7: The effects on capital structure on profitability
(Gill et al., 2011)

However, in Abor (2005) study, the result showed a positive relationship between of short-term debt, long-term debt ratio and total debt ratio with profitability, which was missing from the later study of Gill et al. (2011). To address this contradiction, an empirical study conducted by Olokoyo (2013) based on 2003 to 2007 accounting and marketing data, generated from 101 listed Nigerian companies, used the Pecking Order and static trade-off theories to examine the capital structure of these businesses. To conduct the research, the study used a panel data analysis by using a fixed effect estimation to analyse the secondary data, then the random effect estimation and a pooled regression model was adopted. The findings of Olokoyo (2013) revealed that the leverage in a business had a significant but negative impact on a business performance and the ROA. This finding was consistent with Majumdar and Chhibber (1999) who studied the significant effects of debt on profitability in Nigeria. In conducting this study, Majumdar and Chhibber (1999) focused on the business leverage of capital structure using a Tobin Q strategy which exhibited a positive and highly significant relationship

with the market performance. Again, the outcomes of Majumdar and Chhibber (1999) study was like Abor (2005) but also identified that Nigerian companies were either heavily financed by equity capital or a mix of equity capital and short-term financing. Closely aligned with the findings of Majumdar and Chhibber (1999) and Abor (2005), the study by Javed et al. (2014), analysed the impact of capital structure on the business performance over a five-year period between 2007 to 2011, by focusing on 63 companies listed on the Karachi Stock Exchange. To undertake the research, the study used a fixed effects regression model to find the relationship between capital expenditure and the business performance based on the secondary data. The findings of Javed et al. (2014) revealed that capital structure showed a positive impact on the performance of a business in terms of the return on assets (ROA). The research format of Javed et al.'s (2014) study structure is presented below:

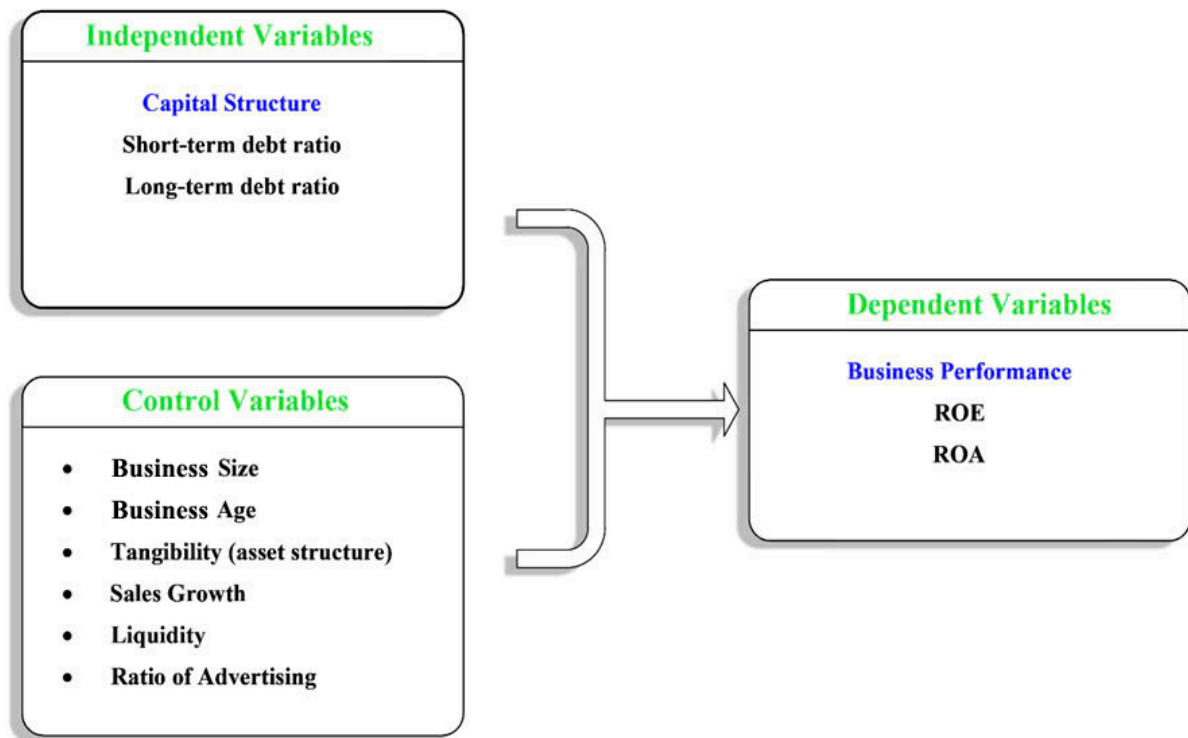


**Figure 2.8: The influence of capital structure on the business performance
(Javed et al., 2014)**

The outcome of Javed et al. (2014) study supported the earlier work of Berger and Patti (2006), Margaritis and Psillaki (2007), Jang et al. (2008), Morogio and Erah (2010) and Park and Jang (2013) who found a positive effect of debt on profitability. When return

on equity (ROE) was used as a dependent variable, there was a mixed relationship where debt over assets ratio (DTA) exhibited a positive impact, but the equity over assets ratio (EQA) and long-term debts over assets ratio (LDA) showed a negative effect on the ROE. When return on sales (ROS) was used as a dependent variable, DTA and EQA tended to exhibit a negative relationship to ROS, but the LDA was revealed to have a positive impact over ROS. This mixed effect of debts on the business profitability was previously found in the study of Li et al. (2008), then later supported by Tsangao et al. (2009) and Arbabiyan and Safari (2009). In their Iranian empirically study, Arbabiyan and Safari (2009) proved that short-term debts and total debts had a positive effect on profitability, whereas long-term debts were negative. The evidence of mixed effect of debt on profitability was also found by Cheng et al. (2010) who researched 650 Chinese companies and concluded that these businesses tended to operate at 53.97% to 70.48% of debt ratio within their capital structures, however if the debt ratio is above 70.48%, then the effect of debt on profitability was negative.

Using the Agency theory, Dawar (2014) conducted an empirical based study on investigating the impact of capital structure choices on the performance of Indian listed in Bombay Stock Exchange companies from 2003 to 2012. This study used short-term debt ratio (STD) and long-term debt ratio (LTD) as the independent variables, while the return on assets (ROA) and return on equity (ROE) were the profitability variables. Other variables and determinants used in the study included the size, age, tangibility, growth, liquidity and advertising where were the controlling factors. The outcome of Dawar (2014) which is represented in Figure 2.9, indicated that there was a relationship between capital leverage and the business performance, which was proven by conducting a fixed effect panel regression model to analyse ten years of data.



**Figure 2.9: The influence of capital structure on the business performance
(Dawar, 2014)**

The findings of Dawar (2014) secondary data analysis indicated that leverage has a negative influence on financial performance with Indian companies. In reaching this conclusion, the study of Dawar (2014) confirmed the earlier work of Goddard et al. (2005) who found that there was a negative effect on those businesses in the Belgium, France, Italy and the UK manufacturing and service sectors, along with confirming the findings of Serrasqueiro and Nunes (2011) who focused on the Portuguese service sector. In examining the influence of capital structure on the performance of Bangladeshi businesses between 2007 to 2012, Hasan et al. (2014) focused on 36 Bangladeshi businesses listed on the Dhaka Stock Exchange. To undertake this study, Hasan et al. (2014) used four performance measures: earnings per share (EPS), return on equity (ROE), return of asset (ROA) and Tobin's Q as the dependent variable. The capital structure ratios of short-term debt, long-term debt and total debt ratios were used as the independent variables, from which by using a pooling panel data regression method, the study found that short-term debt had a significant and positive relationship with EPS while long term debt had the opposite, a negative outcome, as shown in Figure 2.10. This mixed outcome effect, supported the earlier work of Arbabiyan and Safari (2009)

who found similar results, but also indicated a significant and negative relationship with ROA.

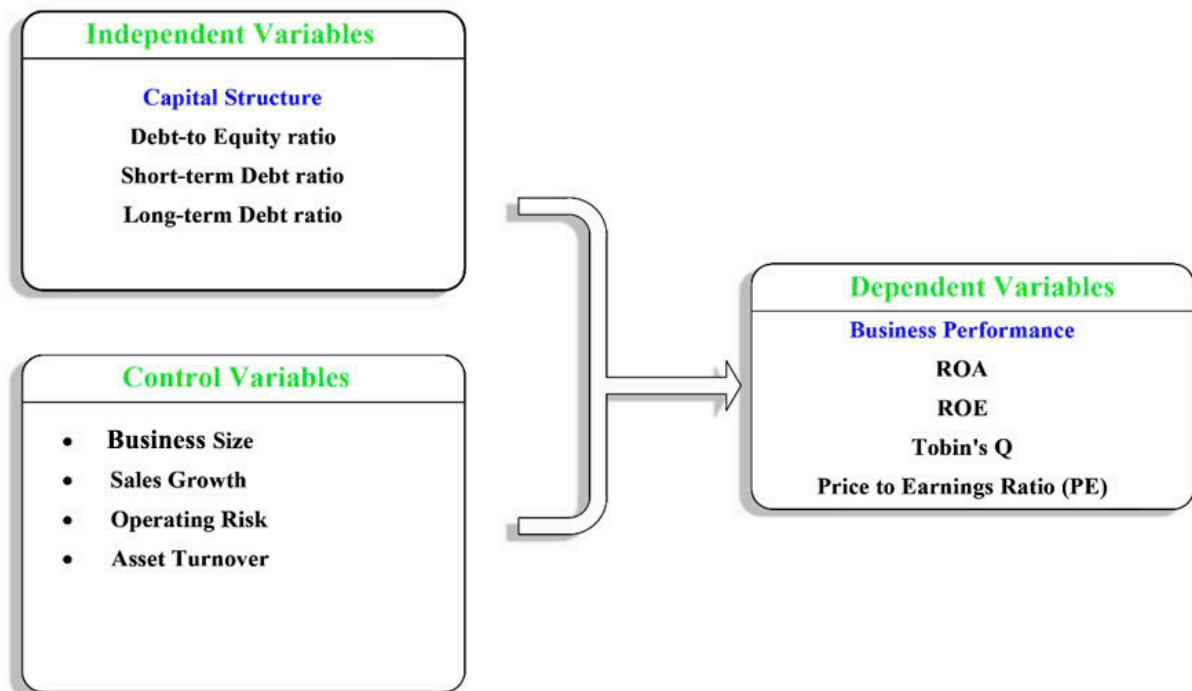


Figure 2.10: The influence of capital structure on business performance
(Kanwal et al., 2017)

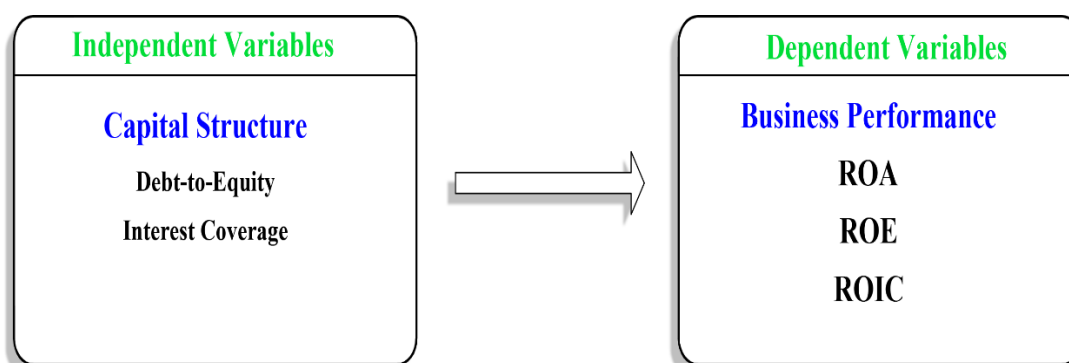
It should be noted, however, the outcome of Hasan et al. (2014) study was not conclusive, as some studies have shown a positive effect of debt on profitability (Berger & Patti, 2006; Margaritis & Psillaki, 2007; Jang et al., 2008; Morogie & Erah, 2010; Park & Jang, 2013), whereas Majumdar and Chhibber (1999), Chiang et al. (2002) and Zeitun and Tian (2007) have concluded that there could be a negative effect of debt to profitability. Interestingly, the debt ratio had no significant relationship or causation with the ROE or the Tobin' Q, therefore, the results of Hasan et al. (2014) validated the earlier claims of Baum et al. (2007) that there was no relationship between capital structure and profitability.

To further study the impact of capital structure on a business performance but from a UK and manufacturing perspective, Abeywardhana (2016) focused on the business performance from 1998 to 2008 using a deskbound approach. The study used a Pearson correlation and multiple regression analysis which revealed a significant and negative relationship between capital leverage and performance as to ROA and ROCE. Even through the work of Abeywardhana (2016) has contradicted Gill et al.'s (2011) study who found a positive impact of debt on profitability, the results do support the research

of Omondi and Muturi (2013), who revealed a negative effect of debt on financial performance of Kenyan businesses, along with Umer (2014) who found similar results amongst Ethiopian businesses.

All these secondary data studies (e.g., Omondi & Muturi, 2013; Umer, 2014; Abeywardhana, 2016), have shown that liquidity has a negative relationship with business performance whereas the size of an enterprise has a positive relationship with the overall performance. Therefore, it can be concluded that the business performance was less dependent on debt capital, which from a SME perspective brings into question whether this type of business may strategically decide to retain its earnings due to its limited access to external financial options.

In studying the relationship between capital structure and profitability from a dependence and duration or length of trading perspective, Nasimi (2016) explored the effects of capital structure on a business's profitability by studying three enterprises listed on the UK FTSE-100 index, between 2005 to 2014. By using a regression analysis, Nasimi (2016) indicated a positive and significant impact of interest coverage on the return on assets (ROA), the return on equity (ROE) and the return on invested capital (ROIC), as shown in Figure 2.11. Furthermore, the outcome of Nasimin's (2016) study revealed that debt to equity had a positive and significant relationship on the ROE, which indicated a negative and significant influence on the ROA and ROIC. This mixed effect of debt on profitability is consistent with the findings of Arbabiyan and Safari (2009) and Hasan et al. (2014), who revealed a positive effect on short-term debt, and a negative outcome on long-term debt in relation to profitability.



**Figure 2.11: Capital structure and the business performance
(Nasimi, 2016)**

In focusing on the capital structure on the performance of a business, Basit and Irwan (2017) used a convenience sampling technique with a regression analysis on 50

Malaysian industrial product companies. The strategy used the debt-to-equity ratio, total debt ratio and total equity ratio as independent variables. In measuring the performance, Basit and Irwan (2017) used the return on asset (ROA), return on equity (ROE) and earnings per share (EPS) ratios as dependent variables. The regression analysis results of Basit and Irwan (2017) study revealed that debt to equity ratio had a negative impact on ROA, ROE and EPS. This outcome matched the work of Foo et al. (2015) who used the Pecking Order theory to find a negative outcome to capital structure on business performance. The outcomes of Foo et al. (2015) and Basit and Irwan (2017) studies is in contrast with Abor (2015), who contended that total debt ratio showed a positive impact on ROE and EPS but does also interestingly support Abor's (2005) assertion that total debt does increase the business profitability, which also validates the findings of Baum et al. (2007).

The impact of debt ratios on the performance of a business was studied by Bui (2017), which drew on 18 British gas and oil companies between 2009 to 2014. In the study, Bui (2017) used two dependent variables, the return on assets (ROA) and the return on equity (ROE) along with three independent variables, short term debt (STD), long term debt (LTD) and total debt (TD). The study of Bui (2017) also used growth or the growth of assets as the controlling variable. By adopting a regression analysis, the findings revealed a negative impact of LTD and TD on ROA and ROE. This outcome supported the findings of Arbabiyani and Safari (2009) and Hasan et al. (2014), who showed a significant and negative effect of LTD on profitability, which was in contrast, to STD which had no influence on ROA and ROE, which is consistent with the findings of Ebaid (2009), who found an insignificant effect of STD on profitability. Therefore, from the results of these studies of Arbabiyani and Safari (2009), Hasan et al. (2014), Ebaid (2009), and Bui (2017) a business with a high level of long-term debt and total debt are likely to have a lower performance of return on assets and return on equity. However, what cannot be established is whether these deskbound studies which have drawn on stock market businesses are replicated in SMEs. Furthermore, whether these methods and models introduced in this sector, are used by financial experts to determine SME capital structure and the business performance, which is the focus of this study. To further contextualise this, the next section will present a summary of the capital structure methodologies which can potentially affect a business' profitability from a global, Asian and Vietnamese perspective, before setting out the project's hypotheses and associated variables.

2.8 Summary of Capital Structure Affecting Profitability

As noted above, these studies have indicated a direct connection between capital structure and profitability, but were conducted using a deskbound research approach, rather than drawing on empirical evidence, which this study intends to address.

2.8.1 Factors affecting Profitability

This section will now focus specifically on those factors which can affect the profitability of a business. In focusing on those factors, Bhutta and Hasan (2013) from a deskbound research project examined the impact of a business through studying the internal and macroeconomic factors on business profitability. The study focused on those businesses who were listed on the Karachi stock market in the food sector, between 2002 and 2006. In studying profitability, the main factors used were debt to equity, tangibility, growth and size, while the macroeconomic factors were related to food inflation. By employing a multivariate regression analysis, this study found that the business size had a negative relationship with profitability of the business, and in particular the net income ratio (Goddard et al., 2005). However, the result of Bhutta and Hasan (2013) study did contradict the findings of Smirlock (1985) and Akhavein et al. (1997), who found that the size of the business had a positive effect on profitability. In a similar study, Sivathaasan et al. (2013) investigated the factors to determine the profitability of selected manufacturing companies listed over a 5-year period on the Colombian stock exchange. The main factors used to determine the business's profitability were capital structure, working capital, business size, the non-debt tax shield and growth rate, then measured the impact to the enterprise, the study used a multiple regression analysis. The results of Sivathaasan et al. (2013) revealed that the capital structure and non-debt tax shield had statistically significant impact on profitability, along with the ROA and ROE. Later, Yazdanfar (2013) focused on the variables which affected the profitability of 12,530 Swedish non-financial micro businesses which operated in four industry sectors: healthcare, transport, manufacturing of metallic products and retail, trading between 2006 and 2007. Using a regression analysis, this study found that that the business size, lagged profitability growth and productivity had a positive influence on the micro business's profitability or ROA. However, the age of the company and industry affiliation negatively influenced the profitability of these micro enterprises, which supported the work of Bhutta and Hasan (2013). This focus was also researched by Phan (2013), who in using a multiple linear regression analysis, focused on those factors which could affect the profitability of 40 Thai listed companies that were consumer product manufacturers,

from 2008 to 2012. By focusing on the influence of liquidity using quick ratio (QR), cash conversion cycle (CCC), inventory conversion period (ICP), receivable conversion period (RCP) and payable deferral period (PDP), capital structure using debt to equity ratio (DTER), sales growth (SG) and tax rate (TR) on profitability in terms of return on equity (ROE), the study showed that only QR and DTER had a significant and negative impact on ROE while SG had a positive and significant influence on the ROE.

The study of Phan (2013) differed from that of Pratheepan (2014) who analysed 55 Sri Lankan listed manufacturing companies between 2003 and 2012, again was a deskbound study, without any primary data. This study used a regression analysis to measure the influence of the business size, the capital leverage, liquidity and tangibility on the return on assets (ROA). While Phan (2013) found that the size of the business had a significant and positive relationship with ROA, Al-Jafari and Samman (2015) extended this work to focus on the profit margin (PM) and return on assets (ROA) as being potential variables which can influence the profitability of a business, to determine the average tax rate, business size, growth, the value of the fixed assets, working capital and financial leverage as the determining factors of profitability. Al-Jafari and Samman (2015) used an ordinary least squares regression analysis, to indicate that the size of the business, growth, fixed assets and working capital had a positive and significant relationship on the enterprise's profitability. However, the average tax rate and the financial leverage indicated a negative relationship with profitability. In expanding on the theme of the size of the business and its implication to profitability, Margaretha and Supartika (2016) examined the business size, age, growth, lagged profitability, productivity, and industry affiliation as being determining factors of SMEs' profitability (ROA). To measure the impact of these variables, this study of Margaretha and Supartika (2016) employed a multiple regression analysis, which indicated that the size of the entity, the growth and lagged profitability was influential, but had a negative and significant effect on ROA while productivity and industry affiliation was significantly positive to ROA.

Finally, Alarussi and Alhaderito (2018) in their secondary data examined the factors affecting profitability of 120 Malaysian companies listed on Bursa Malaysia stock market, from 2012 to 2014. Using five independent variables including the business size, by measuring total sales, working capital, company efficiency as to assets turnover ratio, liquidity through using the current ratio, and the leverage as to the ratio of debt and equity, along with two dependent variables, which were return on equity (ROE), and earnings per share (EPS). To measure these variables, the study of Alarussi and Alhaderito (2018) used a pooled ordinary least squares and

fixed-effects regression analysis. The regression results show that the business size, working capital and the efficiency had a positive influence on profitability, whereas the capital leverage had a negative impact.

2.8.2 Research Hypotheses and Variable Selection

Based on this, the following model was created to the determinants of capital structure and the impact on a business's performance.

2.8.2.1 Research Hypotheses

Reflecting the outcome of this chapter it is possible to create a series of hypotheses to inform and represent the focus of what the researcher can determine or prove. These hypotheses are tentative statements which can be validated and are testable and can be used to predict a particular relationship between the variables. In this research, there are five hypotheses which have been proposed.

H1: Capital structure has an impact on business performance measured by ROA

H2: Capital structure has an impact on business performance measured by ROE

H3: Capital structure has an impact on business performance measured by ROS

H4: Capital structure has an impact on business performance measured by EBIT margin

H5: Capital structure has an impact on business performance measured by EPS

2.8.2.2 Independent Variables and Dependent Variables

To understand the context of these variables, the table below sets out the operationalisation of the variables, the concept, the operationalised components and the measurement scale.

Table 2.8.2 1: Summary of the Variables, Scales and Operational Components

Variables	Concept of Variables	Operational Components	Measurement Scale
Business Size	An asset is something that can potentially be changed into cash or one of the other asset categories (Abeyrathna & Proyardarshana, 2019).	Log of total asset (Tsai, 2005; Kyereboah-Coleman, 2007)	Ratio Scale
Business Growth	Asset growth rate is defined as year over year percentage change in total assets (Chen et al., 2011).	$(\text{Total Assets}_{t-1} - \text{Total Assets}_{t-2}) / \text{Total Assets}_{t-2}$ (Carvallo et al., 2013).	Ratio Scale

Liquidity (Current ratio)	Liquidity ratio indicates the company's solvency to repay its short-term debt (Saleem & Rehman, 2011), especially, current ratio measures the enterprise's ability to pay short-term liabilities such as payable accounts and short-term loans Ehiedu (2014).	Current Assets / Current Liabilities (Abeywardhana, 2016; Schulz, 2017).	Ratio Scale
Financial Crisis	A financial crisis resulted in a disorder in financial markets which was called "disruption" (Marak, 2021)	A dummy variable is used for financial crisis, where 1 stands for the crisis period, like for the 2020 to 2021 during COVID-19 pandemic. Then 0 represents the period outside of the crisis, for example, between 2016 and 2019 and 2022-2023 and 0	Ratio Scale
Inflation Rate (INF)	Haberler (1960) defined it as an expansion in the monetary circulation; more precisely, as an increase in the quantity of money times the velocity of circulation.	Annual average inflation rate of Vietnam.	Ratio Scale
Short-Term Debt	Short-term debt is defined as the debt with maturity of one year or less (Dadush et al., 2000).	Short-term debt / Total asset (Shahar & Shahar, 2015).	Ratio Scale
Long-Term Debt	Long-term debt is a source of funding with a maturity of over one year (Rixtel et al., 2015).	Long-term debt / Total asset (Gill et al., 2011).	Ratio Scale
Total Debt	It measures the percentage of total assets financed with debt (Mboi et al., 2018).	Total debt / Total asset (Shahar & Shahar, 2015).	Ratio Scale
Debt – to - Equity	The approach calculates debt and equity by dividing each (Kurniawan, 2021).	Total debt / Total equity (Muhammad, 2014).	Ratio Scale

Return on Asset (ROA)	The concept measures the effectiveness of the company in generating profits by exploiting its assets (Heikal et al., 2014).	Net Profit / Total Asset (Nawaz et al., 2011).	Ratio Scale
Return on Equity (ROE)	The measurement assesses the company's efficiency to generate profits by using shareholder's funds (Damodaran, 2007).	Net Profit / Total Equity (Youssef, 2022).	Ratio Scale
Earnings Per Share (EPS)	Earnings per share is a profit per share. The concept shows the money earned by shareholders per each stock (Kumar, 2017).	Net profit after tax / No. of ordinary shares (Salim & Yadav, 2012; Javed et al., 2014).	Ratio Scale
EBIT margin	EBIT margin is defined as operating income divided by net revenue (Iavorskyi, 2013).	Earnings Before Interest and income Tax / Net revenue (Iavorskyi, 2013).	Ratio Scale
ROS	Return on sale (Iavorskyi, 2013).	Net Profit / Net revenue (Iavorskyi, 2013).	Ratio Scale

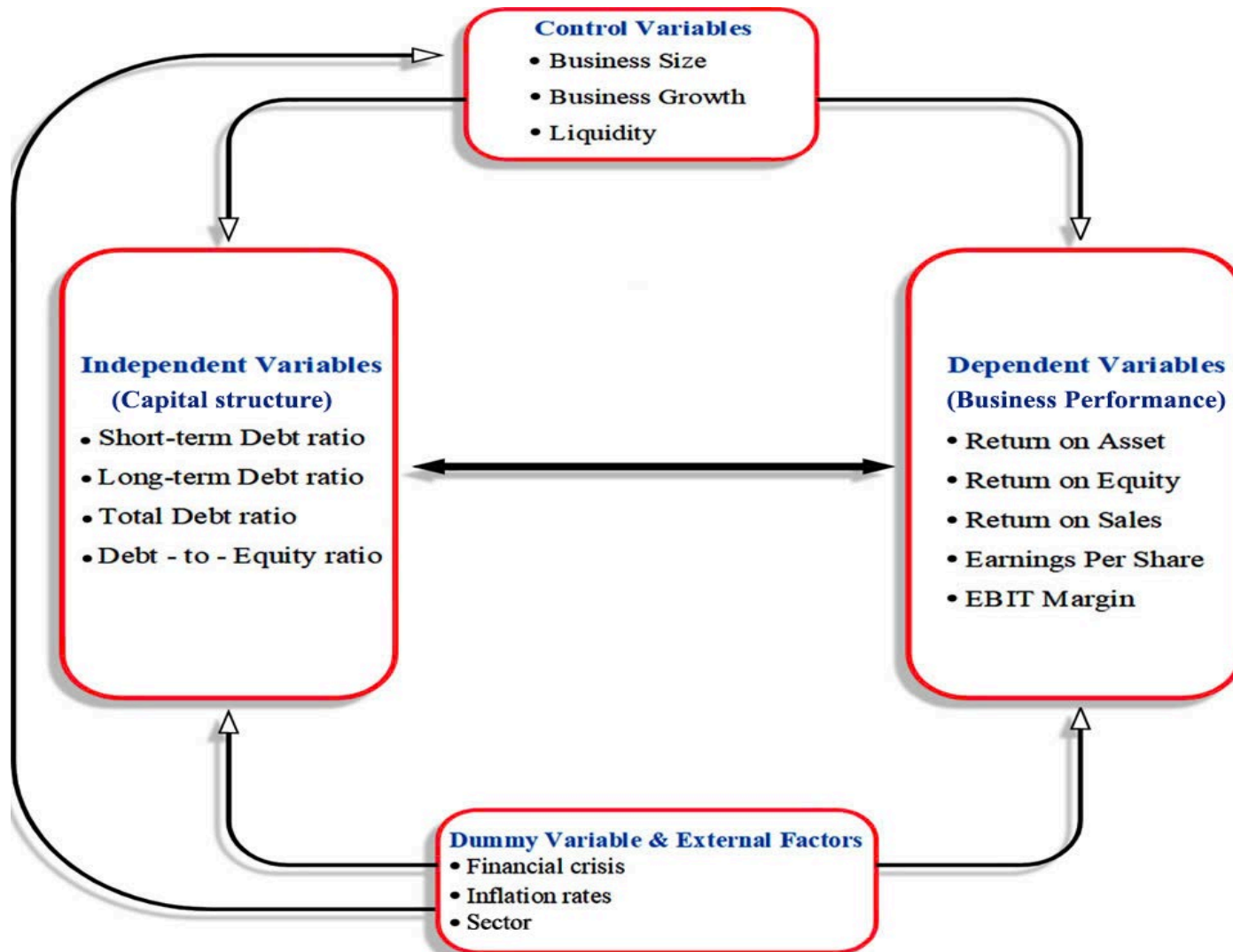


Figure 2.12: Conceptual Framework

The conceptual framework outlined above in Figure 2.12 illustrates the expected relationships between the different variables, as defined in the objectives of the research project while providing a roadmap for generating the outcomes of the study. Figure 2.12 shows the independent, dependent, controlling, and dummy variables, along with the external factors. With the main focus of this study based on the relationship between independent and dependent variables, the focus is on analysing the effects of capital structure strategies on the performance of SMEs in Vietnam. The dependent variables include five key performance indicators: return on assets, known as ROA, return on equity or ROE, return on sales or ROS, EBIT margin, and earnings per share, referred to as EPS. As to the capital structure of the SME, the assessment is based on the usage of leverage ratios, which include short-term, long-term, and total debt, along with debt-to-equity. There have been several empirical studies which have indicated a significant relationship between capital structure and business performance (as presented in section appendix 5) but have yet to be studied from a Vietnamese SME perspective.

Figure 2.12 also indicates that there are other independent variables that can affect profitability and business performance, including the size of the operation, growth, and the liquidity ratio. While these are considered control variables in the study, they are not the primary focus of the findings but do have a potential influence on the results. For instance, there might be a significant relationship between the business performance and size of the operation (Batool & Sahi, 2009; Dimitric et al., 2019; Youssef et al., 2022), performance and business growth (Kalash, 2023; Nguyen & Nguyen, 2020; Salim & Yadav, 2012), or the performance and the business liquidity (Ali et al., 2019; Adelopo et al., 2022; Hussanie & Joo, 2019). Finally, the dummy variable will be used to measure the outcome of any financial changes or crisis, while the external factor measured will be the inflation rate.

The usage of dummy variables or indicator variables will present the categorical data, allowing the testing of the regression analysis in terms of assessing the effects on the categorical variables on the dependent variables. This will include the financial crisis which occurred in 2020 and 2021 due to the COVID-19 pandemic on the performance of Vietnamese businesses and SMEs. The inflation rate which will act as an external factor, will potentially measure the effects on the business's performance (Bambe, 2024). Therefore, the inflation rate will be used in the regression modelling in this study. Finally, in this study, sectors are defined as groups of industries that share similar characteristics, acting as external factors that can potentially affect business performance. These sectors were incorporated into the regression modelling conducted in this project.

Table 2.8.2.2: Variables Selection

Variables		Studies using the variable
Dependent variable Ratio used to measure the profitability	ROA	Tsai (2005), Kalash (2023), Youssef et al. (2022), Mohammad and Bujang (2020), Dada and Ghazali (2016), Chadha and Sharma (2015), Mwangi et al. (2014), Muhammad et al. (2014), Hasan et al. (2014), Al-Taani (2013), Salim and Yadav (2012).
	ROE	Kotey (2024), Kalash (2023), Youssef et al. (2022), Mohammad and Bujang (2020), Chadha and Sharma (2015), Mwangi et al. (2014), Muhammad et al. (2014), Hasan et al. (2014), Al-Taani (2013), Salim & Yadav (2012).
	ROS	Rouf (2015), Ngoc et al. (2021), Javed et al. (2014).
	EPS	Hasan et al. (2014), Salim and Yadav (2012).
	EBIT margin	Iavorskyi (2013), Kanatani (2017).
Independent variables Ratio used to measure financial leverage	Short – term debt ratio	Kotey (2024), Mohammad and Bujang (2020), Hasan et al. (2014), Al-Taani (2013), Salim and Yadav (2012)
	Long – term debt ratio	Kotey (2024), Mohammad and Bujang (2020), Hasan et al. (2014), Al-Taani (2013), Salim and Yadav (2012).
	Total debt ratio	Mohammad and Bujang (2020), Mwangi et al. (2014), Muhammad et al. (2014), Hasan et al. (2014), Al-Taani (2013), Salim and Yadav (2012).
	Debt – to – equity ratio	Chadha and Sharma (2015), Muhammad et al. (2014), Al-Taani (2013).
Controlling variables	Business Size	Kalash (2023), Youssef et al. (2022), Dada and Ghazali (2016), Mwangi et al. (2014), Hasan et al. (2014), Salim and Yadav (2012).

	Business Growth	Kalash (2023), Salim and Yadav (2012).
	Liquidity ratio	Youssef et al. (2022), Nguyen and Nguyen (2020).
Dummy variables and external factors	Inflation	Marak (2021), (Bambe, 2024).
	Financial crisis	Marak (2021).
	Sectors	Gill et al. (2011), Nguyen (2023)

2.9 Chapter Summary

This chapter has presented the three key sections of a literature review, including choosing an appropriate methodology of adopting a systematic approach, before reviewing the relevant theories of capital structure, then presenting the current academic debate linked to SMEs. In adopting a systematic literature review methodology, this approach enabled a comprehensive, transparent and auditable insight to be provided when presenting the current academic debate and underlying research problems so that a critical review could be achieved. By applying a systematic strategy to the literature searches, the process ultimately obtained 231 suitable publications, which were then grouped into six categories after eliminating irrelevant or questionable sources.

The chapter then provided a critical review of the capital structure theories but focused specifically on the three main concepts: Trade-Off, Pecking-Order, and Agency Cost theories. To supplement these core approaches, the NI Approach, the Modigliani and Miller's (1958), the NOI, the Traditional, and the Market-Timing approaches along with the Free Cash Flow theories were also reviewed. The chapter has shown that the NI approach is able to be used to determine the amount of debt which can be used based on a business's capital structure, which can lower the total cost of capital, known as WACC. In contrast, the Modigliani-Miller (M-M) (1958) theory suggests that an increase in debt has no effect on a business's performance because the total cost of capital remains constant. This perspective is similar to the NOI approach, which is focused on the financial leverage, proposing that the total cost of capital or WACC, will remain constant. In contrast, the Traditional approach contends that there exists an optimal level or range of debt that minimises the cost of capital and maximises a business's value. However, in practice, these four theories may not be applicable to SMEs due to

unrealistic assumptions such as the absence of corporate taxes or costs for transactional activities.

As presented in the chapter, the Market Timing theory is a relatively new concept that focuses on the timing of issuing new shares for a business to raise new funds through the financial markets. However, this theory lacks support from several authors, including Hovakimian (2006) and Altı (2006), who found evidence suggesting that, in the long term, Market Timing does not significantly affect the performance of the business. Compounding this, SMEs often face the challenge of trying to utilise this form of financing, which may explain why the application of this theory is not widely used amongst small enterprises. The next concept investigated was the Free Cash-Flow theory designed for those mature businesses and tends not to be suitable for those enterprises who are new or still growing like an SME. This theory recommends that business use their free cash and liquidity more effectively to invest in feasible projects, but SMEs tends to have limited financial resources.

The three main theories which could be relevant for SMEs are the Trade-off, Pecking-Order, and Agency Cost theories. These theories have been tested by several empirical studies and can be applied to large and small and medium-sized enterprises but have yet to be researched from a Vietnamese perspective. The Trade-off theory focuses on determining an optimal capital structure that balances the tax benefits of interest payments against the costs associated with issuing debt. In contrast, the Agency Cost theory suggests that agency costs arise from conflicts between shareholders and managers. This theory posits that the business should employ debt financing strategies to help mitigate against excessive agency costs. Next, the Pecking-Order theory proposes that businesses, including SMEs should prioritise their financing sources in a specific order. Firstly, a SME should use internal funds, followed by seeking external debt, and finally, raising funds through new equity. In supporting this usage of the theories from a SME perspective, Mostafa et al. (2014) found that both the Trade-off and Peking-Order theories are the most widely accepted concepts regarding capital structure in small businesses. Lemmon and Zender (2002) agreed by stating that these two theories are best suited for representing small business capital structures. However, Brown (2018) argued that there are three core theories and suggested the inclusion of the Timing theory, which can effectively inform a company's capital structure decision-making process.

Contradicting the work of Brown (2018), Mostafa et al. (2014), and Lemmon and Zender (2002), led to Frank and Goyal (2002) to argued that none of the predictions generated from the Pecking Order theory can be effectively applied to a large business, but this leads to the

question as to whether this is applicable to a SME. Fama and French (2002) partly disagreed with Frank and Goyal (2002) stating that when raising funds for short-term investments, a business often tends to follow the Pecking Order theory to gain more debt rather than equity.

From the literature review, the chapter has revealed that there was no consensus amongst the academic literature (e.g., Tsai, 2005; Abor, 2005) as to testing the relationship between financial leverage and the performance of a business. Tsai (2005), Abor (2005), Coleman (2007), Nawaz et al. (2011), and Javed et al. (2014) provided evidence to support the usage of debt ratios can have a positive influence on a business's performance. However, Salim and Yadav (2012), Olokoyo (2013), and Dawar (2014) did indicate that debt ratios can have both a significant and negative effects on a company's performance. Finally, Ebaid (2009), Chadha and Sharma (2015), and Dada and Ghazali (2016) revealed that debt ratios can have a weak or no influence on a business. The next chapter will present the realist methodology adopted to validate and test the existing knowledge which has been critically reviewed in this Chapter.

Chapter Three

Methodology

3.1 Introduction

This Chapter sets out the debate and justification for the methodology used for this research project, which followed a Delphi strategy, then a regression technique, to research financing strategies in small and medium enterprises (SMEs) in Vietnam, assessing the effect of capital structure on business financial performance. However, one of the fundamental questions that needs to be asked and considered in any research management project is the nature of social reality, and how it can be investigated to gain the required knowledge. To achieve this, there is a need to fully understand the ontological and epistemological issues associated with the research project. A study's methodology is often considered to consist of a collection, then the analysis, and usage of data to address one or more research questions or problems to achieve the research objective(s) (Saunders et al., 2015). Therefore, the methodology involves how the researcher intends to find the reality or knowledge they want to know. Gill and Johnson (2010) state that the choice and adequacy of a method tend to involve a multitude of assumptions regarding the nature of knowledge and the methods through which this knowledge can be obtained, together with a set of assumptions about the nature of the phenomena to be examined. Reflecting this, this chapter will outline the strategy adopted from a philosophical perspective, the research approaches used to conduct the main study, and the rationale behind the choices made, before presenting the study's potential limitations. As Silverman (2021) and Blaikie (2007) noted, it is inevitable that many researchers face the dilemma of deciding on which is the most appropriate research methodology or methodologies to be adopted, which should be based on their reality or axiological beliefs. In facing this dilemma, it is necessary to recognise that there is often a tension between the nature of what is to be investigated and the researcher's own worldview. Blaikie (2007) captures this tension by stating that the world is made up of descriptions that are creations of individual minds, and these are not based on the existence of independent truths. Therefore, it is necessary to obtain knowledge about reality based on the worldview of the researcher, but also reflective of the reality of the study.

3.2 Research philosophy

Research philosophies are academic assumptions that describe an individual researcher's understanding of social reality and the position accepted in a particular academic field (Bryman & Bell, 2022). Saunders et al. (2003) contended that research philosophy is a broad term often

associated with the system of beliefs and assumptions as to the development and the nature of knowledge. The philosophy of research can be defined as a broad concept that indicates the way to knowledge and the nature of this knowledge can be gained.

Through conducting research, researchers can develop their experiences and competencies into knowledge by applying existing research theories, materials, and studies to inform the design of the research project (Easterby-Smith et al., 2002). Therefore, researchers need to determine their 'projects' research design and strategy, which is often referred to as a research paradigm. Guba and Lincoln (1994, 1998) contended that a research paradigm consists of three basic features and issues. Specifically, a research paradigm serves as a foundational framework of beliefs, assumptions, and worldviews that guide our understanding of knowledge. First, it influences how we understand certain types of knowledge. Second, it defines how knowledge can be gained. Finally, it determines how knowledge can be explained or interpreted (Saunders et al., 2020). Therefore, a research paradigm is the way in which a researcher approaches the research questions in terms of their ontological, epistemological, and methodological beliefs (Guba, 1990), which for this study strategy is objective.

3.3 Research strategy

The research strategy is the choice that finally leads to the adoption of a specific set of ontological and epistemological assumptions (Blaikie, 2007). Easterby-Smith et al. (2021) and earlier by Alvesson and Deetz (2020) noted that the distinction between the two paradigms of quantitative and qualitative, but one of the important considerations that all researchers need to reflect on, is to have a clear understanding of the research strategy that will be selected. This decision is crucial for the research approach, but not paramount compared to the failure of not considering or understanding the ontological, epistemological, and axiological implications of the chosen research strategy. If these research fundamentals are not considered, the result can lead to unintended research outcomes. The intended strategy adopted for this study was a quantitative, using a Delphi technique which uses a panel of experts to gather data and reach a consensus on a specific topic, and then validated the outcomes generated from the regression analysis. Part of this decision was informed by the researcher's intention to test existing knowledge but also realising that the sample size is limited due to the number of experts, therefore a more generalised outcome or consensus and regression results could be achieved by using a Delphi technique and regression technique. To assist in achieving this, the study was based on the idea that forecasts generated from existing data could be created and then tested to gain a consensus from a structured group of people or experts more accurately than those

from an unstructured subjective format. To achieve this outcome, the method adopted involved multiple rounds of questions, where experts are asked to revise their answers based on the results of previous rounds, with the purpose of narrowing the range of answers and converging on a ‘correct’ or definitive answer. The study validated the outcomes by conducting a series of quantitative statistical tests on published data from Vietnamese SMEs to examine how capital structure influences business performance in SMEs. In reaching this decision it is necessary to critically review the various research approaches and then justify why this deductive project is grounded in a positivist perspective.

3.4 Research approaches

While conducting a research project, it is possible to apply a variety of different approaches, methods, and techniques for data collection. Bryman (2016) noted that there are two forms of research approaches, deductive and inductive, together with two research methods, quantitative and qualitative. With the aim of this study to seek a consensus and regression results, an objective perspective is best suited, therefore following a deductive approach, rather than an inductive perspective. The justification and rationale are presented below.

3.4.1 Inductive approach

Both Locke (2007) and Woiceshyn and Daellenbach (2018) indicated that an inductive reasoning or approach tends to move from the specific to the general. The inductive approach tends to be focused on empirical observations of a phenomenon of interest and developing concepts and theories. For Crowther and Lancaster (2012) the inductive research approach tends to generate new outcomes and theories, as opposed to proving or disproving a hypothesis, with the purpose of explaining empirical observations of objective phenomena that exist in real life. However, the inductive reasoning is most suitable to develop new theories, but this study was based on trying to prove the existing theory as opposed to generating new outcomes.

3.4.2 Deductive approach

Unlike the inductive approach, deductive reasoning is the means to test a theoretical proposition through a research strategy that either proves or disproves a hypothesis or an assumption (Saunders et al., 2003). Bryman and Bell (2007) and Woiceshyn and Daellenbach (2018) claim that a deductive view can be characterised as the relationship between research and theory. Rubin and Babbie (2009) argued that a deductive approach can be defined as a research process that is grounded in deductive logic in which the researcher begins with a theory before deducing hypotheses and, finally, gathering observations to test them. The

deductive research approach tends to move from the general to the particular, as it begins with a theory, and this is followed by deducing hypotheses from the theory. The hypotheses are then tested, and the theory is reconsidered (Locke, 2007; Nola & Sankey, 2014; Trochim, 2006), which is reflective of this study. While a deductive approach often consists of quantitative features in which external numerical data, such as statistics and databases of already-existing figures are gathered to understand the relationship between theory and research, however, this study using a Delphi method which was designed to provide a consensus based on existing knowledge and theory through undertaking a series of phases to gather summarised perspectives, and then using the regression method to test the relationship between capital structure and business performance.

3.4.3 Qualitative approach

A qualitative approach is closely related to the social constructivist perspective of seeking experiences to generate new theories, as opposed to seeking only *factual* knowledge obtained through observation such as measurement, which is trustworthy (Moses & Knutsen, 2012). Burns and Grove (2020) argued that qualitative research can be seen by constructing meaning from social experiences which makes the design and the data subjective. Therefore, the qualitative research is concerned with collecting and analysing data in a variety of forms, primarily non-numerical, and is likely to focus on examining a small number of examples that are perceived to be interesting or informative, seeking to go into depth but unable to reach a definitive answer, but only an indication (Blaxter et al., 2010). Furthermore, the researcher tends to be part of the research process, which means that the data can be potentially tainted or subjected to researcher bias.

3.4.4 Quantitative approach

In contrast to qualitative research, Bryman (2016) stated that the quantitative method tends to be focused on generating topics for a critical demonstration of a determined research problem. For quantitative research, a questionnaire or survey is a common format used to seek a description of people's tendencies or opinions by studying a sample of the population (Creswell & Creswell, 2018). Bryman et al. (2012) contended that quantitative researchers seek explanations and predictions that can be generalised to other people, places, and things. Quantitative research includes comparatively large and representative data sets. Therefore, Blaxter et al. (2010) view quantitative research as an approach that often demonstrates or perceives the collection of facts.

Quantitative methods have disadvantages as well as advantages. One of the advantages of a quantitative method is that it is considered an objective method for illustrating facts that are largely constant (Silverman, 2021). One of the major disadvantages of a questionnaire or survey is the inability of the researcher to control the administration of it. Furthermore, a questionnaire or survey used in quantitative research can be prone to insufficient clarity inside the instrument, which can lead to confusion while processing the data. One of the reasons for this can be found in the anonymity of the data, because the quantitative approach does not allow checking back with participants. However, for this study, the main instrument was not using a questionnaire, but a series of questions which were informed by the results of the previous phase or existing literature.

3.5 Potential research methodologies

Before proceeding, the next part of this section lays out the basic principles of research methodology. As Blaikie (2007) notes, the choice of a methodology reflects the belief or value system that influences the researcher's viewpoint of the world. Choosing the appropriate method is the first problem that confronts every researcher. In general, the research process can be divided into two categories, quantitative and qualitative approaches of collecting the data needed. Bryman (2012) and Henn et al. (2009) stressed that both quantitative and qualitative research share several unique but contradictory features. These features reflect epistemological beliefs concerning what constitutes acceptable knowledge. In deciding which research strategy is appropriate, Bryman (2012), Silverman (2021) and Veal (2017) claim that there are two main research paradigms, namely positivism and social constructivism. This study focused on gaining a critical insight from Vietnamese financial experts by reaching a consensus on their perspectives. The research employed a regression method to examine the relationship between capital structure and business performance. To achieve its goals and answer the research questions, the study will adopt a positivist paradigm.

3.5.1 Positivism paradigm

Positivist perspective puts into practice several basic beliefs regarding the nature of knowledge that together form an objective or positivist epistemology, and this is the foundation of the quantitative paradigm (Hesse-Biber & Leavy, 2011).

Broadly speaking, positivism has an objectivist conception of social reality based on the collection of numerical data. The approach takes a deductive and predictive approach to understanding the relation between theory and research. Blumer (1956) asserts that the use of a positivist approach calls into question the reliability of this paradigm when examining the

influence of the subject under study, the role of the researcher, and the connection between individuals' perceptions, whereby an agreed consensus can be reached (Easterby-Smith et al., 2021).

Bryman (2012, 2016) outlined the characteristics of positivism by highlighting the objective and value-free nature of this paradigm, meaning that the researcher is not connected to the research. Therefore, adopting this paradigm means that the research is not tainted by the researcher or their influence (Bryman, 2012, 2016). For this study, the research intends to understand Vietnamese financial experts' perspectives through reaching a consensus and then using the regression method to test the relationship between capital structure and business performance. Therefore, the positivist paradigm assists the research to achieve aim and objective in answering the research questions but must be aligned to the ontology and epistemology of the researcher.

3.6 Ontology

Ontology is a branch of philosophy that is concerned with the nature of what exists (Crotty, 1998) and is centred on how the researcher chooses to define what is real (Easterby-Smith et al., 2021), therefore this concept is based on understanding and exploring what can be known about the reality of the researcher's world (Snape & Spencer, 2003). Richards (2003) contended that ontology includes the assumptions made about what kind and nature of reality actually exists for the researcher. Supporting this, Snape and Spencer (2003) defined ontology as being related to the nature of the world and what is comprehended or understood, which for this project is based on a positivist reality. Therefore, the ontological questions every researcher must ask are: what is the nature of reality, and what is the knowledge of reality? The knowledge of reality for this study is to seek expert opinions, perspectives and recommendations about financing strategies in Vietnamese SMEs and statistical regression tests to examine how capital structure strategies can influence business performance in Vietnamese SMEs.

The ontological stance of the researcher consists of how the nature of social reality regarding ontology and epistemology can be captured. Ontology is often classed into two opposing groupings: the social constructivist and positivist, otherwise referred to as objectivist and subjectivist. While subjectivism seeks to study an ontological position that takes the view that 'something exists only when you experience it and give it meaning' (Hatch & Cunliffe, 2006) through gaining subjective meaning. In contrast, positivists contend that knowledge can be obtained through objective measurement and classification of an independent external reality, where there is no bias or influence there can be seen as being true.

The ontology position of this study assumes that the financial experts in this study can be investigated to gather expert opinions, perspectives, and recommendations on financing strategies for Vietnamese SMEs, and to conduct statistical regression tests to analyse how capital structure strategies influence business performance in these enterprises. The ontology paradigm of a positivist perspective supports the research aim and objective to answer the research questions, which is reflected in the epistemology positionality of the researcher.

3.7 Epistemology

Epistemology is based on how the researcher forms knowledge and how the data will be gained (Hatch & Cunliffe, 2006). Epistemology deals with the theory of knowledge and helps researchers find the best ways to explore the nature of the world (Easterby-Smith et al., 2021). Epistemology refers to the assumptions made about the nature of knowledge (Richards, 2003) and how knowledge of the world is understood (Snape & Spencer, 2003). Crotty (1998) contended that epistemology is a framework for understanding the reality and then making sense of it. Bryman (2008) defined epistemology as an issue that addresses the question of what should be regarded as acceptable knowledge within a discipline, therefore for a positivist project, knowledge is predetermined, fixed and *a priori* or already known. The epistemological question is, therefore: what is the nature of the relationship between knowledge seekers and knowledge?

Due to the objective nature of the study, the epistemology position of the research needs to reflect the philosophical grounding for deciding and establishing what kinds of knowledge exist. For Crotty (1998, pp. 8-9) epistemology 'is the theory of knowledge embedded in the theoretical perspective and thereby in the knowledge.' Therefore, for this study, the worldview is objective and positive in nature. Through adopting an epistemological approach, this study proposes that knowledge can be gained through seeking the expert advice through their professional experience and the results of regression tests, without the need for any subjective view of social issues but based on the specifics of the facts of reality. The positivist perspective sees reality, or the truth based on seeking a single perception or truth rather than being multifaceted or disconnected (Easterby-Smith et al., 2021). Having established the ontology and epistemology positionality of the project, the next section is dedicated at presenting the research method and design adopted through providing a critical justification for using a positivist Delphi approach.

3.8 Research methods and design

3.8.1 Research methods and design

Research is an accurate and systematic way to solve problems and gain new knowledge (Thomas et al., 2021). Therefore, there is a need for a research strategy to be correct, as it is essential to ensure that the findings are valid and reliable. To achieve this, the research needs to select a method and then decide on a framework that can be used to conduct the research. Research design can therefore be defined as the *research plan* concerning the research aims, uses, purposes, intentions, and ideas.

This research design consists of two stages. The first stage employed a Delphi method to gather insights on financing strategies for Vietnamese SMEs. The second stage used a regression analysis to examine how capital structure impacts business performance among these SMEs. Informed by the literature review and the conceptual framework, the chosen research design aligns with the project's aim to investigate financing strategies in Vietnamese SMEs and assess the effect of capital structure on their financial performance.

Initially, to gain an overview of various financing strategies focusing on capital structure in Vietnamese SMEs, this study adopts a Delphi method which is a research technique that uses a panel of experts to gather data and reach a consensus on a specific topic. The concept is focused on forming a structured group of experts, which in this study are Vietnamese financial experts, who form an unstructured group. The method involves multiple rounds of questions, where experts are asked to revise their answers based on the results of previous rounds. The goal is to narrow the range of answers and converge on a definitive or agreed answer.

While the Delphi method is often used in health-related fields, such as clinical medicine and public health, to develop professional guidelines and answer research questions that other methods, this approach can also be used in business and financial management, where access to experts is limited but the study still seeks a positivist, objective and definitive answer.

To achieve this, the Delphi method follows a series of steps, which commences with selecting experts. The choose a panel of experts who are knowledgeable about the topic, related to financing strategies focusing on capital structure of Vietnamese SMEs.

The next stage involved designing the regression methods for this study, which utilised a balanced panel data set comprising 362 Vietnamese SMEs. Financial statements were collected from various sources, including SMEs listed on the Vietnamese Stock Exchange from 2015 to 2023. This stage will focus on examining how capital structure affects business performance

in Vietnamese SMEs. This study will specifically examine financing strategies using a mixed capital structure, incorporating various levels of debt, including short-term and long-term debt ratio, along with total debt ratio.

3.8.2 Justification for the Design of Combining the Delphi Method and Regression Method in this research

The Delphi technique is a structured approach used to reach a consensus amongst experts which is focused on a specific topic or theme (Ameyaw et al., 2016; Robson & McCartan, 2002). This method of gathering primary data is based on an iterative process where the consensus is often reached through a series of rounds of gathering feedback from experts' as to their opinions and judgment on a particular subject (Hallowell & Gambatese 2010). Although sometimes the reliability of the findings generated from a Delphi approach such as inappropriate design and execution due to the type of instrument being used, the poor choice of experts, or weak bias control, the strategy can however be particularly useful alternative to attain objective data where the sample size is relatively small (Hasson et al., 2000). For McKenna (1994, p. 1221) the Delphi to be effective needs to involve individuals who have knowledge of the topic being investigated, which are defined as 'a panel of informed individuals', therefore gaining the title of being 'experts.'

Although many researchers regard Delphi as a qualitative strategy (Hasson et al. 2000), a trend of conducting this approach for quantitative projects has emerged as a sufficiently robust method but requires careful research design and consequently a number of statistical data analysis approaches needs to be considered. Therefore, the Delphi approach is centred on creating a format which enables a group facilitation technique that seeks to obtain consensus on the opinions of *experts* through a series of structured questionnaires, which is referred to as rounds or phases. The questionnaires are completed anonymously by these experts. As a part of the process, the responses from each questionnaire are then collated then summarised by the researcher before the commencement of the next round.

The Delphi is therefore an iterative multistage process designed to combine opinions into a group consensus (McKenna, 1994; Lynn et al., 1998). The initial questionnaire may also collect qualitative comments, which are fed back to the participants in a quantitative form through a second questionnaire or summarisation of the outcome of the first round. Alternatively, qualitative data can be collected through focus groups or interviews and used to inform a quantitative next round of the Delphi. This process is ongoing until a consensus is reached or the law of diminishing returns has been reached. Therefore, to achieve this, the responses are

summarised between rounds and communicated back to the experts or participants through a process of controlled feedback and is repeated until a consensus is reached or until the number of returns for each round decreases. The researcher therefore needs to be aware of when to stop collecting data and what constitutes a consensus, is in relation to the study's findings (Williams & Webb 1994; Donohoe & Needham, 2009). This consensus can be when the opinions of the experts have received over 50% agreement in a particular round and continuing the gathering of data may bias the final outcome. This method can be significantly enhanced using a regression analysis by providing reliable input data and then validating the Delphi results from the experts (Brady, 2015). Reflecting this, this study used the Delphi method to gather expert opinions through conducting iterative structured interviews. This approach assisted in evaluating the validity of model assumptions, all of which are essential for robust regression analysis. To achieve this the study drew on Hasson et al. (2000) Delphi format, as presented below:

Process	Requirements
Research problem	Clearly defined.
Research rationale	Theme or topic and method justified.
Literature review	Theme of topic identified as being understudied or researched.
Methodology	<i>Data collection:</i> clear explanation of the Delphi method employ. <i>Rounds:</i> number employed and outline of reach round. <i>Sample:</i> expert selection process and characteristics. <i>Reliability and validity</i> issues identified. <i>Statistical interpretation:</i> guidelines. <i>Ethical responsibilities:</i> towards the expert sample.
Data analysis	Response rate for each round. <i>Round One:</i> presentation of the total number of issues generated. <i>Round Two:</i> presentation of results indicating the strengths of the theme or topic. <i>Further rounds,</i> if needed, presentation of the results.
Discussion	Issue of consensus.

Conclusion	Interpretation of the consensus gained / not gained. Direction of further research leading from the conclusions.
Appendix	Copy of each round provided.

Table: 3.1 Delphi format and sequence

Reflecting above, firstly, the Delphi technique was applied to confirm suitable theories and eliminate those unsuitable that could be used to inform and generate the intended outcome which was focused on the context of Vietnamese SMEs. The literature review identified several theories of capital structure strategy which were unsuitable, which included the NI approach, Modigliani and Miller's (1958) strategy, along with the NOI and traditional approaches, due to their unrealistic assumptions, such as the absence of income taxes and transaction costs. The literature review did identify the following relevant theories: Trade-Off, Pecking-Order, Agency Cost, Timing-Market and Free Cash-Flow theories which could inform and contextualise the application within Vietnamese SMEs.

The next stage involved the gathering the opinions of the Vietnamese experts, in Round One. Within the classical Delphi, Round One began with an open-ended set of questions that generates ideas and allows the experts the freedom to respond accordingly without the perspectives or opinions of others. This first round assisted in identifying issues, which can be addressed in subsequent rounds (Gibson, 1998). The experts are often encouraged to cover as many perspectives or opinions as possible, so maximising the chance of covering the most important opinions and issues. However, this can generate large amounts of data, so it was necessary to limit the number of opinions a participant can contribute, therefore the focus was specifically on the financing of Vietnamese SMEs. This study followed Schmidt (1997) recommendation that the experts should be asked for at least six opinions, as several of those involved are likely to raise the same issue using different terms. To achieve this, careful thought was given to the initial Round One question therefore ensuring that it is well phrased and defined. This study also followed Duffield (1993) and Jerkins and Smith (1994) who advocated that Round One should provide pre-existing information for ranking or for prompting response purposes. Therefore, in this phase of the research using the Delphi method, this study focused on gathering data to ultimately achieve a consensus amongst the expert group regarding the potential implementations of these theories in the practical context of Vietnamese SMEs. The Delphi technique also helped assess whether the assumptions underlying the existing theories are reasonable for this specific study. The experts were able to evaluate the plausibility of these

assumptions based on their knowledge and experience, potentially identifying areas where the existing assumptions and ultimately this study's model which will be later validated, may require adjustments. A critical objective at this stage was to identify and confirm the theories which could be applied to Vietnamese SMEs as to capital structure strategies.

Based on the outcome of the first round, the expert opinions were then consolidated into a summarised format and anonymised, before being presented to the experts on a one-to-one basis. This process continued until the consensus of over 50% agreement was reached as recommended by Ameyaw et al. (2016). The outcome of the findings of the Delphi, were then extended to provide a synergistic approach using a regression analysis to enhance and validate the study's theoretical understanding of capital structure strategies when applied in a Vietnamese SME context. To address the limitations of the recognised individual methods, through combining the Delphi method and regression analysis can be an effective strategy. While the Delphi method often struggles to capture the relationships between variables and does not typically yield quantitative results, in contrast, regression analysis quantifies the influence of variables effectively which is essential for a quantitative study. However, regression analysis often relies on historical data, which may not account for unforeseen circumstances or be able to capture potential scenarios / solutions. The Delphi method however does facilitate access to expert knowledge and helps to reach a consensus on potential future trends. Fink-Hafner et al. (2019) contended that the Delphi technique can be applied to predict future situations and then find practical solutions.

Reflecting this, in this study, regression analysis was conducted on a sample of 362 Vietnamese SMEs, from 2015 to 2023. Through adopting a Delphi method, the study enabled the ability to seek professional recommendations for capital structure strategies which could be adopted and used in Vietnamese SMEs dependent on specific scenarios, which was confirmed by the regression analysis.

In summary, incorporating of the Delphi technique from a quantitative perspective was effectively adopted (Robson & McCartan, 2002) then enhanced as to the reliability through the usage of conducting a regression analysis. When faced with limited data and sample size, the Delphi method provided a structured approach to integrating expert judgment into the analysis. The combination of a Delphi method and regression analysis assisted in mitigating or minimising their individual weaknesses, leading to more accurate and validated results. The

study used a series of expert rounds until a consensus was reached, then validated through the regression analysis which drew on the existing Vietnamese SMEs data. To ensure that the data was sufficiently robust, careful consideration was given to the adopted data sampling and collection strategy.

3.9. Data sampling and collection

3.9.1 Data sampling and collection used for Delphi technique analysis

As the sample was based on a section of the non-probability of Vietnamese financial experts, access was a problem. The issue of access to the intended participants was limited but the study still sought to prove or disprove the original hypothesis of the study, and seek to a definitive answer, therefore a referral or snowball method was adopted (Heckathorn, 2015; Polkinghorne, 2005). The reason for this was the lack of direct contact with the participants, even though the initial contact was through the researcher's professional network.

It is essential that the process of the snowball method to access potential experts. The reason for this approach was to ensure that the researcher had no direct influence on the experts. In using this technique, the snowball system, or the snowball effect, permitted the researcher to increase the number of experts and access to them. Therefore, snowball sampling is generally accepted as a research method that is valid (Noy, 2008). The usage of a referral or snowball strategy to access potential participants provided several advantages. The first advantage enabled the study to be less biased, as the participants were unknown to the researcher, which is important to this quantitative research project. The second advantage is that the referral technique can enable the study to reach potential participants who may otherwise be inaccessible (Parker et al., 2019). The profile of the panel as presented below:

Profile of the Experts		Quantity
Lecturers teaching subjects involving financial management, accounting and auditing from Universities in Vietnam	Associate Professors Doctor Doctors in Economics	01
Lecturers teaching subjects involving in financial management, accounting and auditing from Universities in Vietnam	Doctors in Finance	01

Lecturers teaching subjects involving financial management, accounting and auditing from Universities in Vietnam	Doctors in Business Management, Economic.	04
Lecturers teaching subjects involving financial management, accounting and auditing from Universities in Vietnam	Master's degree in Business Management, Economics.	02
Financial managers who directly make financial decisions in Companies	Bachelors and Master's Degree in Business Management, Accounting and Finance.	04
Total		12

Table 3.2: Profile of the Experts

The expert participants include: (1) university lecturers specialising in finance and accounting from four universities in Vietnam, namely the Banking Academy of Vietnam, Vietnam National University in Hanoi, Vietnam National University of Agriculture, and Vietnam National University of Forestry; and (2) managers of small and medium enterprises who are directly involved in managing and making decisions regarding capital structure for their companies. Based on a focused selection criterion, the study initially reached out to 25 Vietnamese experts, however, due to unexpected circumstances this original number was reduced to 12. This reduction was related to several experts who originally agreed to participate but then withdrew after reviewing the initial questionnaire, as they realised that they needed to commit to multiple rounds of interviews which would require significant time. Some of the experts were unable to participate due to conflict in scheduling their time when the data was being collected. Finally, a few experts could only attend one stage of the first round and were not available to take part in the subsequent data collection stages, therefore needed to be excluded.

3.9.2 Data sampling and collection used for Regression analysis

The sample was a portion of a statistical population used to gather information about the entire population (Webster, 1985). This study collects balance Panel Data from 362 Vietnamese SME companies. These financial statements will be collected from various sources, including those businesses listed on the HCM Stock Exchange, the Hanoi Stock Exchange, and the Unlisted Public Company Market, along with those unlisted. The sampling technique will use a strategy based on Cochran (1977) formula of $n = Z^2 \times p \times (1-p) / e^2$. The formula refers the n=sample

size, Z is the statistical value (z -value is 1.96 for 95% confidence), p is the estimated population proportion ($p = 0.5$), $e = 5\%$ which is the margin of error (Cochran, 1977). Therefore, the study intends to collect $n = 3258 > \text{minimum of } n = 384$, thereby providing a suitable level of confidence. The financial statements will be collected from 2015 to 2023 in these SME companies. These companies will come from six sectors: (1) Consumer Goods and Durable Goods Trading, (2) Construction, Real Estate and Related, (3) Service, (4) Agriculture, Forestry and Fishery, (5) Energy, (6) Manufacturing.

Sample size is 3258 observations; the equation is given below:

1 SME company for 9 years (1×9) = 9 data per company (9 observations)

362 SME company for 9 years (362×9) = 3258 data per company (3258 observations).

3.10 Data analysis: The Expert Delphi Panel analysis

At each stage, the questions posed to these experts are completed individually. Then, based on the outcome, the answers are shared which are then summarised as the experts' answers and reasoning from the previous round, along with the presentation of new questions if required. The outcome is then represented to the experts, is repeated multiple times, with each round based on the findings of the previous round. At each round, the data from the experts is analysed before the results are summarised and a new set of questions is prepared. Finally, the findings and new question are disseminated to the experts through a consensus report, until a consensus is reached.

3.10.1 Delphi Technique Process

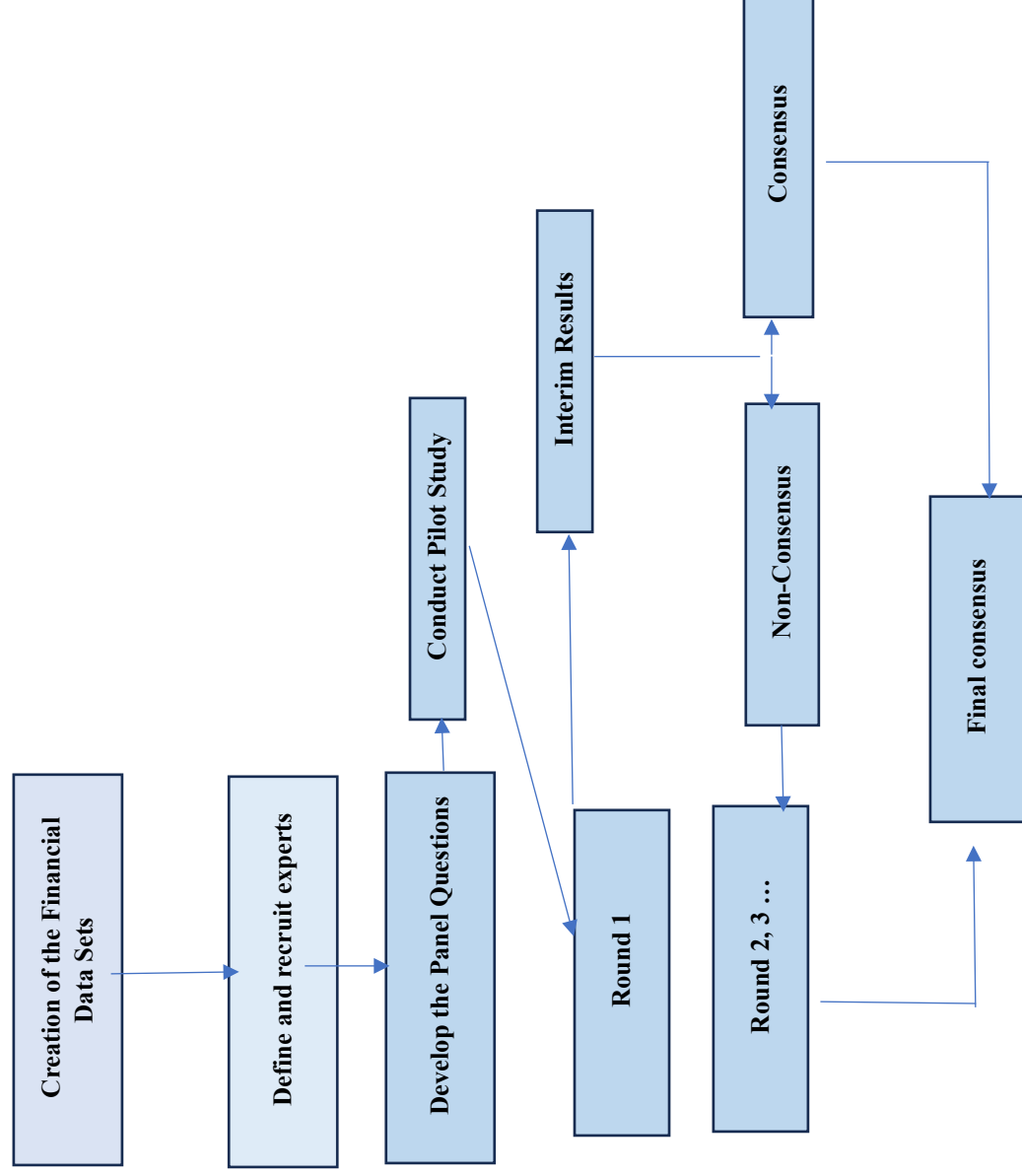


Figure 3.1: Delphi technique process

3.10.2 Analysis and coding of the Delphi data

The study used a thematic coding method was to code the responses from the experts. Thematic coding analysis encompasses identifying the themes by carefully reading the outcomes of the experts (Rosairo, 2023). The standard comparison method was an inductive strategy in which the coding of data was conducted by comparing data with data, and codes with codes, and finally compressing codes into categories, categories into themes, and themes into the study findings (Charmaz, 2014, as cited in Bingham, 2023).

As the data collection proceeded, the approach is subjected to revision. In this study, the revision process included analysing the outcome of the expert's and at the same time, consideration was given to the possibility of introducing new codes or altering or changing the level of existing codes in the framework, which will be presented in the next section 3.11, as to the data analysis and regression strategy adopted.

Although thematic analysis has several benefits, there are also associated weaknesses. A key limitation is that if the codes are predefined, some data may be overlooked. To address this, it was ensured that the coding process was frequently revisited until the key themes and relationships had been established. A manual data coding strategy was applied to code and analyse the pilot study data. During the coding and analysis of the data, researchers can choose between using NVivo's specialised software or opting for manual coding. While effectively utilising the software requires several months of dedicated practice, manual coding enabled the researcher to learn how to analyse, interpret, and code data without relying on specialised tools.

3.11 Data analysis: The Regression analysis

3.11.1 Research Hypothesis

H1: Capital structure has an impact on business performance measured by ROA

H2: Capital structure has an impact on business performance measured by ROE

H3: Capital structure has an impact on business performance measured by ROS

H4: Capital structure has an impact on business performance measured by EBIT margin

H5: Capital structure has an impact on business performance measured by EPS

3.11.2 Variables

This study uses the dependent variables, independent variables, control variables, Dummy variables as well as external factor variables as below:

Table 3.3: Variables

Variables		Studies using the variable
Dependent variable Ratio used to measure the profitability	Return on Asset (ROA) $ROA = \text{Net income} / \text{Total asset}$	Mohammad and Bujang (2020), Dada and Ghazali (2016), Salim and Yadav (2012).
	Return on Equity (ROE) $ROE = \text{Net income} / \text{Total equity}$	Chadha and Sharma (2015), Mwangi et al. (2014), Muhammad et al. (2014), Hasan et al. (2014)

	EBIT Margin $\text{EBIT Margin} = \frac{\text{Net income} + \text{Tax} + \text{Interest}}{\text{Total revenue}}$	Rouf (2015), Ngoc et al. (2021), Javed et al. (2014).
	Return on Sales (ROS) $\text{ROS} = \frac{\text{Net income}}{\text{Total revenue}}$	Hasan et al. (2014), Salim and Yadav (2012).
	Earnings per Share (EPS) $\text{EPS} = \frac{\text{Total earning}}{\text{outstanding share}}$	Iavorskyi (2013), Kanatani (2017).
Independent variables Ratio used to measure financial leverage	Short – term debt ratio (LEVs) $\text{LEVs} = \frac{\text{Short – term debt}}{\text{Total asset}}$	Kotey (2024), Mohammad and Bujang (2020), Hasan et al. (2014), Al-Taani (2013).
	Long – term debt ratio (LEVl) $\text{LEVl} = \frac{\text{Long – term debt}}{\text{Total asset}}$	Hasan et al. (2014), Al-Taani (2013), Salim and Yadav (2012).
	Total debt ratio (LEVt) $\text{LEVt} = \frac{\text{Total debt}}{\text{Total asset}}$	Muhammad et al. (2014), Hasan et al. (2014), Al-Taani (2013), Salim and Yadav (2012).
	Debt – to – equity ratio (LEVde) $\text{LEVde} = \frac{\text{Total debt}}{\text{Total equity}}$	Chadha and Sharma (2015), Muhammad et al. (2014), Al-Taani (2013).
Controlling variables	Business Size (Bsize) Bsize is measured by logarithm of Assets	Kalash (2023), Dada and Ghazali (2016), Mwangi et al. (2014), Salim and Yadav (2012).
	Business Growth (Bgrowth) Bgrowth is measured by changes in total assets	Kalash (2023), Salim and Yadav (2012).

	Liquidity ratio (Bliquid) $\text{Bliquid} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$	Youssef et al. (2022), Nguyen and Nguyen (2020).
Dummy variables and external factors	Inflation (INF) Annual average inflation rate of the Vietnam.	Marak (2021), (Bambe, 2024).
	Financial crisis (DUMfc) Dummy variable is used for financial crisis, where 1 stands for the crisis period, like for the 2020 to 2021 during COVID-19 pandemic. Then 0 represents the period outside of the crisis, for example, between 2016 to 2019 and 2022-2023.s	Marak (2021).
	Sectors (Sectorcode) Dummy variables are used for sector: 1 stands for consumer goods and durable goods trading sector. 2 stands for construction, real estate and related sector. 3 stands for service sector. 4 stands for agriculture, forestry and fishery sector. 5 stands for energy sector. 6 stands for manufacturing sector.	Gill et al. (2011), Nguyen (2023)

3.11.3 Potential models regression

Panel data estimation enabled the control of individual-specific effects that are often unobservable and may correlate with other explanatory variables in the relationship between dependent and explanatory variables (Hausman & Taylor, 1981). For panel data analysis, there were several models of regression which were considered, such as Pool Ordinary Least Square (Pooled-OLS), Fixed Effects Model (FEM) and Random Effects models (REM). Vijayakumar et al. (2010) contended that the panel data model tends to consist of three common methods: pooled ordinary least squares (OLS), fixed effects, and random effects. The pooled OLS method is also known as the common constant method.

The random effects model is employed when the individual-specific component is assumed to be random in relation to the explanatory variables. In contrast, the fixed effects model can be

applied when the individual-specific component is not independent of the explanatory variables. To choose between the pooled-OLS and random effects models, the study will utilise the Lagrangian Multiplier (LM) test. A significant result from this test indicated that the random effects model is preferred over the pooled model. If the LM test was significant, the study then conducted a Hausman specification test to determine whether the random effects model is also preferred over the fixed effects model. If the Hausman test result was not significant, the study would have selected the random effects model; otherwise, the study would have interpreted the fixed effects model (Dada & Ghazali, 2016).

In certain circumstances, if there is an endogeneity problem in the model, the estimates obtained from Pooled-OLS, FEM, and REM can be biased and inconsistent. Therefore, it was essential to address the endogeneity issue by applying Arellano-Bond's two-step Generalised Method of Moments (GMM) estimation (Arellano & Bond, 1991) with a set of suitable instrumental variable (Nguyen, 2023). Therefore, the research may also utilise GMM for data analysis, which is commonly employed to estimate parameters (Zeitun & Tian, 2007), and the data can be analysed using Stata software.

3.11.4 Model Specification

The model is specified in a functional form to capture this relationship. In the equations, *i* refers to company, and *t* refers to time. This is shown below:

Performance 1

$$ROA_{i,t} = \beta_0 + \beta_1 LEVs_{i,t} + \beta_2 LEVl_{i,t} + \beta_3 LEVt_{i,t} + \beta_4 LEVde_{i,t} + \beta_5 Bsize_{i,t} + \beta_6 Bgrowth_{i,t} + \beta_7 Bliquid_{i,t} + \beta_8 INF_{i,t} + \beta_9 DUMfc_{i,t} + \beta_{10} Sectorcode_{i,t} + \varepsilon_{i,t} \quad (1)$$

Performance 2

$$ROE_{i,t} = \beta_0 + \beta_1 LEVs_{i,t} + \beta_2 LEVl_{i,t} + \beta_3 LEVt_{i,t} + \beta_4 LEVde_{i,t} + \beta_5 Bsize_{i,t} + \beta_6 Bgrowth_{i,t} + \beta_7 Bliquid_{i,t} + \beta_8 INF_{i,t} + \beta_9 DUMfc_{i,t} + \beta_{10} Sectorcode_{i,t} + \varepsilon_{i,t} \quad (2)$$

Performance 3

$$EBIT\ margin_{i,t} = \beta_0 + \beta_1 LEVs_{i,t} + \beta_2 LEVl_{i,t} + \beta_3 LEVt_{i,t} + \beta_4 LEVde_{i,t} + \beta_5 Bsize_{i,t} + \beta_6 Bgrowth_{i,t} + \beta_7 Bliquid_{i,t} + \beta_8 INF_{i,t} + \beta_9 DUMfc_{i,t} + \beta_{10} Sectorcode_{i,t} + \varepsilon_{i,t} \quad (3)$$

Performance 4

$$ROS_{i,t} = \beta_0 + \beta_1 LEVs_{i,t} + \beta_2 LEVl_{i,t} + \beta_3 LEVt_{i,t} + \beta_4 LEVde_{i,t} + \beta_5 Bsize_{i,t} + \beta_6 Bgrowth_{i,t} + \beta_7 Bliquid_{i,t} + \beta_8 INF_{i,t} + \beta_9 DUMfc_{i,t} + \beta_{10} Sectorcode_{i,t} + \varepsilon_{i,t} \quad (4)$$

Performance 5

$$EPS_{i,t} = \beta_0 + \beta_1 LEVs_{i,t} + \beta_2 LEVl_{i,t} + \beta_3 LEVt_{i,t} + \beta_4 LEVde_{i,t} + \beta_5 Bsize_{i,t} + \beta_6 Bgrowth_{i,t} + \beta_7 Bliquid_{i,t} + \beta_8 INF_{i,t} + \beta_9 DUMfc_{i,t} + \beta_{10} Sectorcode_{i,t} + \varepsilon_{i,t} \quad (5)$$

This study estimates equations (1), (2), (3), (4), and (5) using three different approaches: Pooled-OLS, FEM, and REM. After these estimations, a series of tests will be conducted to determine the most appropriate model among the three. The comparison between the Pooled and Random Effects models used the Breusch-Pagan Lagrangian Multiplier (LM) to test the statistical analysis, while the comparison between Fixed and Random Effects relied on the Hausman test statistic (Dada & Ghazali, 2016).

Before interpreting the regression results, the study examined the potential issues with the models mentioned above: Pooled-OLS, FEM, and REM. These issues included multicollinearity, heteroscedasticity, autocorrelation, and endogeneity. If any problems were identified, the outcomes must be addressed effectively before obtaining the results, as these issues could lead to biased and inconsistent estimates in Pooled-OLS, FEM, and REM.

If there is an endogeneity problem, it should be addressed using Arellano-Bond's two-step GMM estimations (Arellano & Bond, 1991), along with appropriate instrumental variables (Nguyen, 2023). This study applies the Arellano-Bond two-step System Generalised Method of Moments (GMM) estimation with robust standard errors because this GMM approach is effective in identifying strong instrumental variables to resolve endogeneity issues. The Arellano-Bond estimation utilises lags of the dependent variables as instrumental variables (Nguyen, 2023).

3.12 The role of the researcher

Unluer (2012) points out that the role of the researcher in a quantitative study is essential to enhance the validity and reliability of the study. The role of the researcher in this study was determined by seeking a positivist outcome, where a consensus was reached, but with a relatively small sample. To achieve this a group of independent experts were initially approached through the professional contacts (Creswell & Poth, 2016; Frels & Onwuegbuzie, 2013; Saunders et al., 2012). However, as Creswell (2018) argued that the role of the researcher is important to retain ethical issues at all stages of the quantitative research process. To achieve this, these contacts were used as gatekeepers, so the final selection were independent of the researcher. After that, study conducts the regression method, with data was collected by creating a balanced Panel Data from 362 Vietnamese SME companies. These financial statements were collected from various sources, including from firms that are listed on the Vietnamese Stock Exchange, and those not listed from 2015 to 2023. To achieve this, the researcher compiled the data and analysed this through SPSS, MS Excel and Stata software.

3.13 Ethical issues

Even though the study was a positivism, through adopting a Delphi technique, undertaking research this project involved human actors, in this case, Vietnamese financial experts, who had varying degrees of experience. Reflecting this, there is a need to carefully consider the ethical issues surrounding this study. The research was conducted within the Principles and Procedures Framework of the University of Gloucestershire, which is informed by the British Educational Research Association (BERA, 2018) and the British Sociological Association (BSA, 2017).

It is recognised that it is the researcher's responsibility to ensure that the 'physical, social and psychological well-being of research participants must not be detrimentally affected by the research' (University of Gloucestershire, 2021) and the participant should give freely informed consent. To achieve this, the researcher sought to inform the participants of the nature and purpose of the study. This included the reasons for undertaking the research and how the results are presented and used. The participants' anonymity was guaranteed while being assured of the confidentiality of the data they provided.

Informed consent was obtained from all participants, ensuring that the individuals fully understood the nature and purpose of the research. This was achieved by providing them with a written summary of the research aims and structure and checking that they understood and agreed before their participation commenced.

With the information being provided by the participants as their views and experience were anonymous, which was collected, before being evaluated and then resent as a summary, the researcher ensured that each round anonymised the summary of the experts and the reasons they provided for their judgments. The experts can see the results of previous rounds, including their own responses, and can revise their answers considering the other panellists' replies, but anonymously. This strategy of participant anonymity and confidentiality according to the Data Protection and GDPR 2018 UK legislation was maintained throughout the study. Assurances concerning anonymity and confidentiality were given in writing and repeated verbally prior to the commencement of each interview. Anonymity was achieved through the use of numbered the research participants and the inclusion of minimal personal information ascribed to any individual. Permission to record and transcribe the interviews was sought on an individual basis.

From the outset, the participants were put at ease, so they felt they had control over the research process. This included sending the questions to an email account of their choice, whether that

was either work or personal one. The panellists were given the right not to answer certain questions, or to stop the process entirely should they wish. Each expert was reminded of this right at the outset. Confidentiality would have been enhanced by requesting that the experts not disclose their identity. In summary, anonymity was provided as to the individual's responses. Consideration was given for allowing participants to reflect on their opinions and reconsider them based on the anonymous opinions of others. The study sought a consensus and the regression results, which were achieved through a series of rounds until an agreement was reached. The panel members were selected but their identities remain confidential. The closing criteria were clearly set out and defined, which the panellists were fully informed. Finally, results were presented in a way that encouraged the participants to provide an insight and not to simply agree with the majority views.

3.14 The validity of the study

It is essential to address the topics of reliability and validity for the current study. Reliability refers to the study's ability to be replicated and deliver the same results under similar conditions (Bryman & Bell, 2011; Field, 2018). It is referred to as stability reliability when the study can repeat results if applied to the same setting at a different period (Neuman, 2014). Additionally, reliability is expected when applying the same method across different groups or samples, presenting a consistent outcome (McNeill & Chapman, 2005). Therefore, specific care has been taken in the current study to ensure a reliable design construct and coherent results across the analysed samples. Two measures have been applied to increase the reliability of the proposed study. First, the data presented, and the questions asked were the same for each of the panellists, therefore ensuring that there was reliability (Neuman, 2014). It means that, that summary of the panellist results could be collated that experts can see the results of previous rounds, including their own responses, and can revise their answers considering the other panellists' replies, whereby acting as a core validation method. Second, the instrument has been tested through consistent piloting in each cultural context, supporting the stability and reliability of this study (Neuman, 2014). Each stage of the Delphi technique was conducted in Vietnamese, the native language of the panellist, and then summarised also in the same language to avoid mistranslation.

The Delphi method often relies on expert opinion to generate findings, which can be a limitation if the expert opinion is not considered a good basis for making judgments. To address this, the experts were selected on their experience and knowledge therefore eliminating the potential of poor judgments being reported. As the technique is based on rounds, until a

consensus is reached, this approach can be quickly compromised if the panellists' response rates and enthusiasm begin to fail or falter. Therefore, three rounds, were ultimately conducted over a four-month period.

For the second part of the analysis, a quantitative method was used through the use of a balanced Panel Data of 362 Vietnamese SME businesses, which used the financial statements from 2015 to 2023 will be collected from various sources, including from firms that are listed on the Vietnamese stock exchange. The researcher intends to collect around financial statements, from around 362 companies in 9 years, using a strategy based on Cochran (1977) formula of $n = Z^2 \times p \times (1-p) / e^2$. Therefore, the study intends to collect $n=3258 > \text{minimum of } n=384$, whereby providing a suitable level of confidence. The research uses the potential regression models of panel data including Pooled-OLS Model, Fixed Effects Model, Random Effects Models, the Generalised Method of Moments (GMM) estimation for data analysis, with the data analysed using SPSS, Excel and Stata software using the statistical instruments of Descriptive Statistics, Pearson Correlation and Regression Analysis.

Besides reliability, the study has addressed potential validity issues accordingly. Validity deals with how the data collected truthfully represents the measured reality (2018; McNeill & Chapman, 2005; Neuman, 2014). This was achieved as the study that ensured that the content and criterion validity, but the construct was good. The researcher also did go back to the experts from time to time to clarify their answer, if the meaning or opinion was ambiguous. However, when seeking clarity, the expert panellist had the option to respond or not, and their identity and content were kept confidential.

3.15 Chapter summary

This chapter outlines the methodology of this study, detailing the rationale and justification for the chosen approach. The research followed a Delphi strategy combined with a regression technique to investigate financing strategies in small and medium enterprises (SMEs) in Vietnam and assess how capital structure impacts financial performance in these businesses.

This chapter provided the research strategy from a philosophical perspective. A research paradigm refers to how a researcher approaches their research questions based on their ontological, epistemological, and methodological beliefs, which in this study is objective. The research strategy involves the selection of a specific set of ontological and epistemological assumptions. To achieve this, the method employed includes multiple rounds of questioning, during which experts revise their answers based on the results from previous rounds. This

approach aims to narrow the range of responses and converge on a definitive answer. Subsequently, the study will validate the findings by conducting a series of quantitative statistical tests on published data from Vietnamese SMEs.

Next, the chapter presents research approaches, highlighting two forms: deductive and inductive, and two research methods: quantitative and qualitative. Given the study's aim of seeking consensus and agreement, an objective perspective aligns more closely with a deductive approach rather than an inductive one. In terms of research methods and design, this research is structured in two stages. The first stage will use the Delphi method to gather insights into financing strategies in Vietnam. The second stage will apply regression analysis to examine how capital structure affects business performance in Vietnamese SMEs.

Data sampling and collection were carried out in two stages. The first stage involved sampling and collecting data for analysis using the Delphi technique. This included panel interviews with experts in the Vietnamese corporate finance sector. The expert participants comprised: (1) university lecturers specialising in finance and accounting from four institutions in Vietnam: the Banking Academy of Vietnam, Vietnam National University in Hanoi, Vietnam National University of Agriculture, and Vietnam National University of Forestry; and (2) managers of small and medium-sized enterprises (SMEs) who are directly involved in managing and making decisions regarding their companies' capital structures. The second stage involved sampling and collecting balanced panel data from 362 Vietnamese SMEs between 2015 and 2023. Financial statements were gathered from various sources, including both firms listed on the Vietnamese Stock Exchange (VSE) and those that are not listed.

Finally, the data analysis consisted of two parts. First, by conducting a series of Delphi panel interviews with experts in the Vietnamese corporate finance sector, the study gathered opinions, perspectives, recommendations, and assessments related to forecasting and the financial activities involved in the adopted capital structure strategy for financing small and medium-sized enterprises in Vietnam. Next, regression analysis was employed to determine how capital structure impacts business performance in Vietnamese SMEs.

Chapter Four

Findings from the Expert Delphi Panel

4.1 Introduction

This Chapter will focus on presenting the insights generated from conducting a series of Delphi panel interviews with experts in the Vietnamese corporate finance sector. The study collected the opinions, perspectives, recommendations, and assessments related to forecasting and financial activities related to the adopted capital structure strategies when financing Vietnamese small and medium-sized enterprises (SMEs). Special attention was given to the critical factors which influence capital structure decisions when financing Vietnam's SMEs. The author formulated six research questions based on the literature review to address the central purpose of the study and provided the Delphi technique the framework to follow.

Question One: What Vietnamese SME's capital structure strategies respond to inflation and interest rate, including external determinants which can affect the decisions related to capital structure strategies?

Question Two: Based on the Trade-off theory, is it more beneficial for Vietnamese SMEs to adopt a flexible capital structure strategy (CSS) rather than aiming for the optimal point or range in their capital structure strategy (CSS)?

Question Three: Based on the Agency-Cost theory, do conflicts between shareholders and managers influence capital structure strategy (CSS) decisions in Vietnamese SMEs?

Question Four: Based on the Pecking-Order Theory, how should small and medium-sized enterprise managers in Vietnam use the principle of priority when financing new investment opportunities?

Question Five: For Vietnamese SMEs, can Timing-Market theory be applied to the capital structure?

Question Six: For Vietnamese SMEs, how important is Free Cash Flow (FCF) in a business to the decision-making process of capital structure strategy (CSS)?

The data generated through the Delphi technique was systematically captured and analysed at each stage once the data had been captured from the individual experts. The individual expert opinions were individually documented, then consolidated in a summarised form, before being represented until a consensus was reached. Consideration was given to using software to record any emerging themes and to contextualise the experts' perspectives. To achieve this, MS Excel was used as a database.

4.2 The main findings

4.2.1 Question One

What Vietnamese SME's capital structure strategies respond to inflation and interest rate, including external determinants which can affect the decisions related to capital structure strategies.

The next section will focus on presenting the first research question: what Vietnamese SME's capital structure strategies respond to inflation and interest rate, including external the determinants which can affect the decisions related to capital structure strategies. This question was based on Ali et al. (2023) contention that inflation and interest rates are crucial determinants to consider when making financial decisions. These two financial determinants can have a significant influence on the economic well-being of the economy, through the cost of borrowing funds, the value of savings accounts, and the overall accessibility of goods and services. Consequently, changes in inflation and interest rates can affect how financial and investment firms along with the borrowing businesses adjust their borrowing intentions, reflected in their adjustments in debt ratios. This first question was devised to gain opinions from the expert panel members as to how Vietnamese SMEs tended to respond to the different changes in inflation and interest rates, which is presented below in section 4.2.1.1.

4.2.1.1 – First Research Question, First Round - Summary of the expert's opinion

The first question posed to the expert panel focused on the relevance of inflation and interest rates as to the importance of these determinants in shaping capital structure decisions for Vietnamese SMEs. The outcome of the first phase is summarised below in Table 4.1.

Expert	Summary of the expert panel feedback and opinions		
	Indication of the Relevance of inflation	Indication of the Relevance of interest rate	Summary of the Expert's feedback and opinions
Expert 1	Important	Very important	Depending on the characteristics of each SME, these firms tend to be more vulnerable to external factors such as inflation and interest rates compared to larger companies. When interest rates and inflation are high, SMEs should aim to reduce their debt structure to lower the amount of interest they pay. Conversely, when interest rates and inflation are stable, these firms can increase their financial leverage to expand their asset base and maximise profits. In situations where inflation and interest rates are low, it typically indicates a recovery phase. During this time, SMEs should consider increasing their debt capacity, as strong cash flow allows them to invest in essential inputs such as materials, goods, and machinery to support production or trading activities.
Expert 2	Slightly Important	Important	Depending on business opportunities and economic cycles, an SME firm can reduce its debt level when inflation and interest rates are high. Conversely, when inflation and interest rates are low or stable, the firm may consider increasing its debt.
Expert 3	Important	Slightly Important	When inflation and interest rates are high, a firm with a high debt ratio should reduce its debt sales. When inflation and interest rates are stable and the firm has a low current debt ratio, it can consider increasing its financial leverage. Conversely, when inflation and interest rates are low, firms should increase their debt levels to grow their total capital.
Expert 4	Slightly Important	Slightly Important	In all cases of inflation and interest rates, a firm with a small size should not use much debt. They should rely mainly on equity In the case of high interest and inflation, small and medium-sized firms, especially small firms, should try to reduce the debt ratio as soon as possible.
Expert 5	Slightly Important	Very important	When inflation and interest rates are high, small-sized firms should reduce their debt ratios, while medium-sized firms may have more flexibility based on their capital needs. When inflation and interest rates are stable, a firm with a consistent rate of return might consider increasing its level of debt. However, capital structure strategies can vary between small and medium-sized firms, as well as among different industries. When inflation and interest rates are low, small and medium-sized enterprises (SMEs) can consider increasing their debt.
Expert 6	Very slightly important	Very important	The level of debt is directly related to a firm's total expenses because interest payments are a significant expense. When interest rates and inflation are high, firms should aim to reduce their debt ratio. Conversely, when both inflation and interest rates are stable, firms should either maintain or consider increasing their debt ratio. Additionally, when interest rates and inflation are low, firms should take the opportunity to increase their debt ratio.

Expert 7	Slightly Important	Important	In the context of high interest rates and inflation, a small size should reduce the debt ratio. When inflation and interest rates are stable, small and medium-sized can maintain the debt ratio or make strategies flexibly based on their requirements. When inflation and interest rates are low, SMEs can increase their debt rate or even maintain the debt level if they do not have significant changes in requirements for capital for the next cycle of business.
Expert 8	Important	Very important	In the case of high interest and inflation, Vietnamese SMEs need to maintain a safe capital structure with a low debt ratio. Prioritise short-term debt. When inflation and interest rate are stable. If a Vietnamese SMEs has a current high debt in capital structure in this case, it should prioritise long-term debt. SMEs in Vietnam have difficulty accessing bonds or issuing shares to raise capital, so the trend should be to use bank loans. When inflation and interest rate are low, SMEs should aim for a medium or high debt ratio depending on the stage of development and capital needs.
Expert 9	Slightly Important	Very important	In situations of high interest and inflation, firms should consider reducing their debt ratio. When inflation and interest rates are stable, firms should maintain or increase their debt ratio. When inflation and interest rates are low, firms should consider increasing their debt ratio.
Expert 10	Slightly Important	Slightly Important	When inflation and interest rates are high, SMEs may consider reducing their debt. When inflation and interest rates are stable, SMEs can contemplate increasing their debt. When inflation and interest rates are low, SMEs should consider increasing their debt further.
Expert 11	Slightly Important	Very important	In conditions of high inflation and interest rates, if a firm has a high debt ratio, it should reduce its debt sales. When interest and inflation rates are stable and the firm has a low debt ratio, it may increase its financial leverage. If its debt ratio is already high, it should consider either reducing or maintaining its current debt level. When inflation and interest rates are low, firms should increase their debt levels to boost overall capital.
Expert 12	Important	Very important	High inflation and interest: Reduce debt sales if the debt ratio is high. Stable inflation and interest: Consider increasing debt levels, especially if the debt ratio is low. Low inflation and interest: Increase debt levels to enhance total capital.

Table 4.1: Summary of the expert's opinions for Research Question One and Round One

4.2.1.1.1 Consolidation of the Expert Opinions for Research Question One Round One

From the individualised feedback from the experts, the next stage was to consolidate the opinions to provide a summary. This process included identifying the core shared themes, which included themes. In response to *when inflation and interest rates are high*, all Experts noted that Vietnamese SMEs need to maintain a safe capital structure with a low debt ratio. It should reduce total debt and prioritise short-term debt (Response from Expert 8). Feedback from Expert 3, indicated Vietnamese SMEs should reduce the debt ratio because they may not have enough capacity to withstand high-interest payments. However, for Expert 1, 2, 4, 5 and 6, SMEs can adjust debt flexibly according to capital needs, depending on business opportunities and business cycles.

The next emerging theme was *when inflation and interest rates are stable*. For Expert 4, if a Vietnamese SMEs has a current high debt in capital structure in this case, it should prioritise long-term debt. SMEs in Vietnam have difficulty accessing bonds or issuing shares to raise capital, so the trend should be to use bank loan (Response from Expert 8). All the experts and in particular Expert 5 indicated that for enterprises with stable returns, they can consider increasing or maintaining the scale of borrowing. For Expert 6, capital strategy may differ between medium-sized enterprises and small-sized enterprises, and for Expert 5, this may differ between industries.

Finally, generated from the first round of the Delphi method, to emerge was *what happened when inflation and interest rates are low*. From this process the following summarised feedback was sent back to the panel of experts in the second round. For Expert 7, SMEs should aim for a medium or high debt ratio depending on the stage of development and capital needs. Expert 8 indicated SMEs can increase the debt ratio if the business needs to expand its business scale, while Expert 9, advocated maintain the debt ratio. If the business does not have many significant changes in its capital needs of the next periods.

When inflation and interest rates are high	Vietnamese SMEs need to maintain a safe capital structure with a low debt ratio. It should reduce total debt and prioritise short-term debt. Vietnamese SMEs should reduce the debt ratio because they may not have enough capacity to withstand high-interest payments. However, SMEs can adjust debt flexibly according to capital needs, depending on business opportunities and business cycles.
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When inflation and interest rates are stable	If a Vietnamese SMEs has a current high debt in capital structure in this case, it should prioritise long-term debt. SMEs in Vietnam have difficulty accessing bonds or issuing shares to raise capital, so the trend should be to use bank loan. For enterprises with stable returns, they can consider increasing or remaining the scale of borrowing. The response to capital strategy may differ between medium-sized enterprises and small-sized enterprises and may differ between industries.
When inflation and interest rates are low	SMEs should aim for a medium or high debt ratio depending on the stage of development and capital needs. SMEs can increase the debt ratio if the business needs to expand its business scale. Maintain the debt ratio. If the business does not have many significant changes in its capital needs of the next periods.

Table 4.2 Consolidated responses from the expert's perspectives (Research Question One Round 1)

4.2.1.1.2 Reflection on Round One when addressing Research Question One

Based on the outcome of the first round of conducting the Delphi panel approach, the first phase revealed a consensus amongst the experts regarding the significance of inflation and interest rates as being key determinants in informing and influencing capital structure strategies. This outcome is aligned to Gursida (2018), who noted that an increase in interest rates can lead to investors to withdraw their investments. Interest rates are recognised as important macroeconomic variables that influence financial decisions. Berceanu et al. (2014) highlighted that neglecting the effects of inflation can lead to poor capital budgeting which was recognised by these experts. Malik et al. (2014) also emphasised the critical role of interest rates in shaping financial decisions, particularly within the banking sector, which then informed the second round of expert interviews.

4.2.1.2 First Research Question One, Second Round – Summary of the expert opinions

Round Two involved conducting the second round of sending out the summarised outcome of the first phase to the experts to gather their opinions. This feedback included recommendations on capital structure strategies for Vietnamese SMEs, particularly in response to changes in the macroenvironment.

Expert	Agreement level to the consolidated response from the first phase	Summary of the expert's opinion
Expert 1	In agreement	Vietnamese SMEs should adjust their capital structure based on their specific characteristics to reduce the negative effect on external factors.
Expert 2	In agreement	When using a high level of debt, it is important for SMEs to consider the risks associated with a high debt ratio. Specifically, SMEs should assess the potential risk of bankruptcy if the debt ratio becomes excessively high.
Expert 3	Strongly Agreed	In the case of using the high level of debt, Vietnamese SMEs should also consider the risk of bankruptcy of using too high debt ratio.
Expert 4	In agreement	There was agreement with the consolidated response from the first phase.
Expert 5	In agreement	SMEs should remain flexible in adjusting their capital structure to meet their capital requirements. SMEs also need to be adaptable with their debt ratios in response to changes in inflation and interest rates.
Expert 6	In agreement	The SMEs should be flexible in adjusting debt ratio to respond to the changes in inflation and interest rates.
Expert 7	In agreement	There was agreement with the consolidated response from the first phase.
Expert 8	In agreement	In the case of low interest rate, SMEs can use a high debt level, but risks of bankruptcy still needed to be considered.
Expert 9	In agreement	In scenarios of low interest rates, while it may be feasible for SMEs to utilise a high level of debt, the associated risks of bankruptcy must still be considered.
Expert 10	In agreement	SMEs should be considering the risk of bankruptcy when taking on high debts.
Expert 11	In agreement	There was an agreement with the consolidated response from the first phase.
Expert 12	In agreement	There was an agreement with the consolidated response from the first phase.

Table 4.3: Summary of the expert's opinions for Research Question One Round Two

4.2.1.2.1 Consolidation of the Expert Opinions for Research Question One Round Two

From the expert's feedback, this section presents the generated outcome from the consolidated opinions presented in a summarised format. The experts revealed a general agreement as to the outcomes from the first round. There were some experts who provided additional feedback to contextualise their perspective. The experts illustrated in their responses that when inflation

and interest rates are low, Vietnamese SMEs can borrow more and increase their level of debt, thereby utilising financial leverage to benefit the business. However, the SMEs needed to consider the risk of borrowing too much and then being unable to pay their debt, which was captured in the responses from Experts 2, 3, 8, 9 and 10. The experts saw the need for the Vietnamese SMEs to be sufficiently flexible to adjust their capital structure to meet their investment needs while being informed to reduce the negative implications of external influences, as indicated by Expert 1 and 5.

When inflation and interest rates are high	Vietnamese SMEs need to maintain a safe capital structure with a low debt ratio. SMEs should reduce total debt and prioritise short-term debt. Vietnamese SMEs should reduce the debt ratio because they may not have enough capacity to withstand high-interest payments. However, SMEs can adjust debt flexibly according to capital needs, depending on business opportunities and business cycles.
When inflation and interest rates are stable	If a Vietnamese SME has a current high debt in its capital structure in this case, it should prioritise long-term debt. SMEs in Vietnam have difficulty accessing bonds or issuing shares to raise capital, so the trend should be to use bank loans. For enterprises with stable returns, they can consider increasing or remaining the scale of borrowing. The response to capital strategy may differ between medium-sized enterprises and small-sized enterprises and may differ between industries.
When inflation and interest rates are low	SMEs should aim for a medium or high debt ratio depending on the stage of development and capital needs. SMEs can increase the debt ratio if the business needs to expand its business scale. Maintain the debt ratio. If the business does not have many significant changes in its capital needs of the next periods.
Vietnamese SMEs should have careful consideration of bankruptcy risks which is crucial when adopting high levels of debt. Moreover, SME should adjust their capital structure based on their specific characteristics to reduce the negative impacts of external factors. Furthermore, SMEs should be flexible in adjusting their capital structure to meet their capital requirements.	

Table 4.4: Consolidated responses from the expert's perspectives (Research Question One Round 2)

4.2.1.2.2 Reflection on the Round Two when addressing Research Question One

From the second round of the Delphi panel approach, the outcome of the study demonstrated a consensus amongst the experts, reflecting the consolidated responses from Round One. For Vietnamese SMEs, the experts saw the reduction of debt ratio with high interest rates and inflation as being potentially problematic for this form of business, as these economic

conditions could adversely affect the business, leading to higher overall expenses, including increased interest payments, and a greater risk of bankruptcy. Cochrane (2011) contended that lower interest rates can lead to increased demand for capital, but the debt still needs to be serviced in the future. Similarly, Barry et al. (2008) suggested that the amount of debt a business takes on, is likely to rise when interest rates are low. In contextualising this, Prezas (1991) argued that high inflation can negatively affect financial decisions, including investments. Graham (2001) stated that by utilising the maximum benefit of debt, the business can raise its value significantly but needs to be carefully managed.

These academic perspectives are aligned with the experts' view that Vietnamese SMEs can enhance their financial leverage in a low-interest-rate environment to expand their total capital and then improve their business's overall value. However, the SMEs should consider how much debt they should use to simultaneously increase their profitability while avoiding defaulting on their borrowing. Therefore, the SMEs should adjust the debt based on their capital needs and their specific requirements, including the ability to service the borrowing. Based on the outcome of the second round, a final third round was undertaken.

4.2.1.3 Research Question One, Round Three - Summary of the expert's opinion

The third round of the panel to address the first research question was focused on presenting each expert with the consolidated responses gathered from Round One and Two, with the intention to seek an agreement. The experts had the opportunity to decide whether they wanted to change their level of agreement or add additional comments. The final consolidated responses indicated there was an agreement with the consolidated outcomes and there was no added response.

Expert	Summary of the expert's opinion
Expert 1 to Expert 12	There was an agreement with the consolidated response from the second phase, with no additional feedback or context provided.

Table 4.5: Consolidated responses from the expert's perspectives (Research Question One Round 3)

4.2.1.4 Summary of the outcome of the first research question.

When the inflation and interest rates are high, the expert group indicated a *high consensus* or level of agreement, that Vietnamese SMEs should maintain a safe capital structure with a low debt ratio while prioritising short-term debt. In addition, there was a *high level of consensus* or agreement that Vietnamese SMEs should reduce their debt ratio and adjust accordingly to business opportunities and business cycles. When the inflation and interest rates are stable, the

expert's indicated that Vietnamese SMEs should look at the current debt ratio. If the debt ratio is high, then SMEs should prioritise long-term debt. The experts identified that SMEs in Vietnam did have difficulty in accessing bonds or issuing shares to raise capital, so tended to use bank loans. Next the experts noted that these SME enterprises needed to have a stable return when considering increasing their scale of borrowing. However, the expert's response to capital strategy did differ between medium-sized and small-sized enterprises and the sector. There was a *high consensus* amongst the experts, as to the SMEs borrowing strategy when faced with low inflation and interest rates, with the expert group indicating a *high consensus* or level of agreement as to these Vietnamese SMEs seeking a medium or high debt ratio dependent on the maturity level of the business and capital needs. In addition, there was a consensus amongst these experts that Vietnamese SMEs should carefully consider bankruptcy and default risks, which are critical considerations when taking on high levels of debt, but these businesses should ultimately adjust their capital structure based on their specific characteristics and needs.

4.2.2 Question Two

Research Question Two asked, *was it more beneficial for Vietnamese SMEs to adopt a flexible capital structure strategy (CSS) rather than aiming for the optimal point or range in their capital structure strategy (CSS)?*

The premise of the question was based on the Trade-Off theory, which is focused on the premise that debt is considered as a financing option when the cost of capital is low. Titman et al. (2007) stated that this concept can optimise debt which is a trade-off between the benefits of borrowing and the cost of financing this. However, the overleverage of debt or borrowing may lead to potential financial risks to their shareholders. Therefore, a SME may seek an optimised position of debt called the *optimal capital structure strategy*, where the benefit of debt is balanced against the potential financial risks. Therefore, the optimal capital structure refers to the mix between debt and equity, which is often measured through the average cost of capital (WACC), which was the focus of the first round, with the outcome presented below.

4.2.2.1 - Question Two, First Round - Summary of the expert's opinion

The second question sought the experts' opinion as to whether it was more beneficial for Vietnamese SMEs to adopt a flexible capital structure strategy (CSS) rather than focus on the optimal point or range in their capital structure strategy (CSS)? The outcome of the first phase is summarised below in Table 4.6.

Summary of the expert panel feedback and opinions			
Level of agreement from individual experts about CSS which Vietnamese SMEs can use:			Summary of the Expert's feedback and opinions
Expert	Flexible CSS	Optimal CSS	
Expert 1	In agreement	Slightly agreed	Vietnam's SMEs can utilise both strategies when designing their capital structures, but they should prioritise a flexible strategy over an optimal one.
Expert 2	A strongly agreement	In agreement	For Vietnam's SMEs, when an optimal capital structure is necessary, it must also be adaptable to changing market conditions.
Expert 3	In agreement	Slightly agreed	Applying an optimal capital structure strategy can be challenging for Vietnam's SMEs.
Expert 4	A strongly agreement	Slightly agreed	A flexible strategy of capital structure is more suitable for SMEs than Optimal strategy.
Expert 5	A strongly agreement	In agreement	Both flexible and optimal capital structure strategies can be applied to Vietnamese SMEs. However, when applying the optimal strategy, the market has changed to a new situation, requiring a new optimal structure frequently. It leads to difficulties for SMEs when implementing.
Expert 6	In agreement	Slightly agreed	For Vietnamese SMEs, implementing a flexible capital strategy is often easier than pursuing an optimal one, which helps reduce pressure on managers.
Expert 7	In agreement	Slightly agreed	A flexible capital strategy can also help reduce the loss of potential profit opportunities.
Expert 8	In agreement	Disagreement	SMEs will usually have difficulty pursuing the optimal capital strategy because SMEs will prefer to frequently change their capital structure to respond quickly to the market.
Expert 9	In agreement	Slightly agreed	Implementing a flexible capital strategy is more straightforward and convenient for SMEs.
Expert 10	In agreement	Slightly agreed	A flexible capital strategy is easier to adopt than an optimal one, reducing pressure on managers.
Expert 11	In agreement	Slightly agreed	For Vietnamese SMEs, a flexible strategy is likely to be easier to apply than an optimal strategy.
Expert 12	In agreement	Slightly agreed	When there are no significant fluctuations in the macro market, the market is considered easy to predict, with the situation SMEs can consider following the optimal capital strategy.

Table 4.6: Summary of the expert's opinions for Question Two Round One

4.2.2.1.1 Consolidation of the Expert Opinions for Research Question Two Round One

In response to whether *is it more beneficial for Vietnamese SMEs to adopt a flexible capital structure strategy (CSS) rather than aiming for the optimal point or range in their capital structure strategy (CSS)*, all the experts agreed that a flexible financial strategy was suitable for Vietnamese SMEs, with the exception of Expert 8, who indicated that an optimal strategy would be more beneficial. For Vietnamese SMEs, flexible and optimal strategies can be applied effectively, as seen with the responses from Experts 1, 2, 3, 4, 5, 6, 7, 9, 10, 11 and 12, and that these SMEs should prioritise a flexible strategy over an optimal approach as indicated by Experts 1, 4, 5, 6, 7, 9, 10 and 11.

Adopting a flexible strategy can help a business to reduce the loss of potential profit opportunities and reduce the pressure on the SME managers to raise the correct funds, as indicated by Experts 6 and 7. During stable macroeconomic conditions, SMEs may consider following an optimal capital strategy as the environment is easy to predict, as stated by Expert 12. For these experts, SMEs typically found the optimal capital strategy more challenging to adopt as there was a need to adjust their capital structures to respond quickly to market changes, noted by Expert 8.

A flexible capital strategy is suitable for SMEs. Optimal capital strategy can be ideal for SMEs which have stable operations.
When there are no significant fluctuations in the macro market, the market is considered easy to predict, with the situation SMEs can consider following the optimal capital strategy.
SMEs will usually have difficulty pursuing the optimal capital strategy because SMEs will prefer to frequently change their capital structure to respond quickly to the market.
A flexible capital strategy is easier to implement than an optimal one, reducing pressure on managers.
A flexible capital strategy can help limit the loss of potential profit opportunities.
The optimal capital strategy may have a lag compared to the market; when starting to apply this strategy, the market has changed to a new situation, requiring a new optimal structure one.

Table 4.7: Consolidated responses from the expert's perspectives (Question Two Round 1)

4.2.2.1.2 Reflection on the Round One in response to the Second Research Question

Based on the outcome of the first round in addressing Question Two, the first phase revealed a consensus amongst the experts as to how both flexible and optimal strategies can be applied to

the SMEs capital structure. These experts tended to support the flexible strategy as being beneficial for a SME compared to an optimal capital approach. This shared perspective was aligned with Graham and Harvey (2001), conducted a survey on 392 CFOs and found that companies are concerned about financial flexibility and ratings of credit when using debt. In concluding, Graham and Harvey (2001) found evidence to support the Trade-Off theory as being the CFOs preferences, with target debt as being used by 44% of the sample, and 37% of the population using flexible debt, which then informed the second round.

4.2.2.2 Question Two Second round – Summary of the expert opinions

Based on the second research question, a second round was conducted which involved sending out the summarised outcome of the first phase to the experts to gather their opinions. This feedback included recommendations on capital structure strategies for Vietnamese SMEs, particularly in response to flexible and optimal capital structure strategy.

Expert	Agreement level to the consolidated response from the first phase	Summary of the expert's opinion
Expert 1	In agreement	SME can use a flexible strategy and target optimal strategy in the long term when it becomes a big company.
Expert 2	In Agreement	The flexible capital strategy allows SMEs to adapt more quickly to changes in market conditions.
Expert 3	Strongly Agree	Flexible should be in the more priority than the optimal capital strategy for Vietnamese SMEs
Expert 4	In Agreement	There was an agreement with the consolidated response from the first phase and there was no additional feedback provided.
Expert 5	In Agreement	For small size firm it should apply flexible capital structure. Small and medium-sized firms have to make quick financial decisions to adapt to market changes. Optimal capital structures usually have a lag in implementation with the market.
Expert 6	In Agreement	There was an agreement with the consolidated response from the first phase and there was no additional feedback provided.
Expert 7	In Agreement	There was an agreement with the consolidated response from the first phase and there was no additional feedback provided.
Expert 8	In Agreement	SMEs may have difficulty determining the optimal point of capital structure and applying this strategy.
Expert 9	In Agreement	There was an agreement with the consolidated response from the first phase and there was no additional feedback provided.

Expert 10	In Agreement	There was an agreement with the consolidated response from the first phase and there was no additional feedback provided.
Expert 11	In Agreement	There was an agreement with the consolidated response from the first phase and there was no additional feedback provided.
Expert 12	In Agreement	There was an agreement with the consolidated response from the first phase and there was no additional feedback provided.

Table 4.8: Summary of the expert's opinions for Question Two Round Two

4.2.2.2.1 Consolidation of the Expert Opinions for Second Research Question Round Two

This stage consolidated the opinions from the expert's feedback indicating a general agreement with the consolidated response from Round One. For these experts the Vietnamese SMEs can use flexible strategies and then target a long-term optimal approach when the business begins to grow, as seen with Expert 1. This included the usage of a flexible capital strategy which can allow the SME to adapt more quickly to the changes in the market, as indicated by Expert 2. Flexibility should be a priority over the usage of the optimal capital strategy for Vietnamese SMEs, as noted by Expert 3, and that for small-size enterprises, these businesses should apply a flexible capital structure. For Expert 8, small and medium-sized enterprises must make quick financial decisions to adapt to market changes, therefore an optimal capital structure is therefore not suitable as to includes lags when responding to market changes.

A flexible capital strategy is suitable for SMEs. An optimal capital strategy can be ideal for SMEs which have stable operations. When there are no significant fluctuations in the macro market, the market is considered easy to predict, with the situation SMEs can consider following the optimal capital strategy.
SMEs will usually have difficulty pursuing the optimal capital strategy because SMEs will prefer to frequently change their capital structure to respond quickly to the market. A flexible capital strategy is easier to implement than an optimal one, reducing pressure on managers.
A flexible capital strategy can help limit the loss of potential profit opportunities. The optimal capital strategy may have a lag compared to the market; when starting to apply this strategy, the market has changed to a new situation, requiring a new optimal structure one.
For small firm size, it should apply flexible strategy. For small and medium size firms can use flexible strategy and target for an optimal strategy when it comes a big company.

Table 4.9: Consolidated responses from the expert's perspectives (Question Two Round 2)

4.2.2.2.2 Reflection on Round Two when addressing Research Question Two

There was an alignment between these experts' perspectives and academic writers such as Abel (2018) who compared the flexible strategy with the optimal approach. The optimal debt ratio can negatively influence the profitability of the business if only the Trade-Off theory is used. Hess (2014) indicated that these patterns of actively utilising and restoring unused debt capacities suggests that maintaining financial flexibility is critically important in corporate financing, including SMEs. However, there was some evidence from existing studies to support the usage of the optimal capital structure strategy, for example with Ponthon (2017) who indicated that those businesses who had a lower long-term debt ratio tended to prefer the trade-off theory of CSS. An additional third round was conducted to reach an expert consensus, with a summary of the outcomes presented below.

4.2.2.3 Question Two - Three Round - Summary of the expert's opinion

Round Three was designed to consolidate the responses gathered from Round Two, focusing on the general level of agreement regarding the opinions generated. The experts had the opportunity to decide whether they wish to change their level of agreement or add further comments, but the outcome were no changes.

Expert	Summary of the expert's opinion
Expert 1 to Expert 12	There was an agreement with the consolidated response from the second phase, and there no more feedback was provided.

Table 4.10: Consolidated responses from the expert's perspectives (Second Question - Round 3)

4.2.2.4 Summary of the outcome of the second question

Based on the results of the Delphi panel technique, there was a consensus amongst the experts in addressing the second research question. The experts agreed that both the flexible and optimal capital structures could be applied to Vietnamese small and medium-sized enterprises. However, following the experts' perspectives, the flexible strategy was generally seen as being more suitable for most Vietnamese SMEs for several reasons. Firstly, the flexible strategy allowed Vietnamese SMEs to adapt quickly to changes when the market and business changed. Secondly, the strategy can help Vietnamese SMEs to respond to changes quickly by investing in high-potential profit investment projects, this may also involve responding to profitable investment opportunities which might be missed if the SME only followed an optimal capital structure strategy. Thirdly, a flexible strategy can reduce pressure on SME managers because it seems to be easier to implement than the optimal capital structure approach.

The responses from the experts indicated that an optimal capital strategy may be ideal for those SMEs with stable or established matured operations. When there are no significant fluctuations in the macroeconomic environment, and the market is relatively easy to predict, SMEs can consider adopting the optimal capital strategy. However, as noted by the experts, when SMEs are faced with challenges in pursuing this optimal strategy, businesses often prefer to frequently adjust their capital structures to respond quickly to changes in the market, which cannot be achieved by using the optimal approach.

4.2.3 Question Three

The third research question focused on *whether conflicts between shareholders and managers influenced the capital structure strategy (CSS) decisions in Vietnamese SMEs?*

The basis of the question was based on the Agency Cost theory of capital structure, which occurs when the business owner does not manage all the work in the business and needs to hire additional personnel or expertise. This strategy can lead to disagreements about the interest and focus of the business, as the SME owner tends to maximise $\frac{\text{profits}}{\text{cost of capital}}$ which can lead to concerns about the possibility of capital loss that may occur if the SME uses capital resources inefficiently. In such events, the SME owner and managers may take the decision to pursue their own goals or agenda, leading to conflicts of interest. Based on this, it is argued that to increase the debt ratio to a reasonable level, this strategy will make managers more disciplined in spending because the pressure from paying additional interest on borrowing makes the manager more cautious when making financial decisions. Therefore, the debt scale can be a tool for resolving potential conflict of interest between managers and owners. The first round of the expert opinions is summarised below.

4.2.3.1 Research Question Three, First Round - Summary of the expert's opinion

The third question sought to seek for experts' opinion as to whether conflicts between shareholders and managers are influenced capital structure strategy (CSS) decisions in Vietnamese SMEs. The outcome of the first phase is summarised below in Table 4.11.

Summary of the expert panel feedback and opinions		
Level of agreement from individual experts that conflicts between shareholders and managers can influence CSS		Summary of the Expert's feedback and opinions
Expert 1	Slightly agreed	For SMEs, this model is not too big, and it is not an enterprise like a parent company - subsidiary - branch. As a result, this model is not very popular among SMEs, and the Board of Directors tends to be heavily involved in company management. In the past, this viewpoint was generally accepted. However, with the presence of AI, using capital structure to increase pressure on the management board is not appropriate. This theory should be adapted to current circumstances with greater flexibility. There is a risk of losing talented employees and market opportunities.
Expert 2	In agreement	Vietnamese SMEs can use debt as a tool to enhance management discipline and restrict managers' ability to make financial decisions. However, the cost of debt should be carefully considered when implementing this strategy.
Expert 3	In agreement	Vietnamese SMEs can use debt to restrict managers from making financial decisions.
Expert 4	In agreement	It is possible for SMEs to employ financial leverage as a tool to discipline managers in capital administration.
Expert 5	Strongly agree	Shareholders are primarily interested in dividends and their stability, which influences their trust and willingness to become strategic investors. While managers should have the ability to respond swiftly to market changes, pressure from shareholders may hinder their capacity to achieve the goals they have set. Therefore, SMEs should adopt a flexible approach to using debt for management discipline tailored to their specific situations.
Expert 6	In agreement	Vietnamese SMEs can utilise debt to enhance managerial discipline by limiting the financial decision-making authority of their managers.
Expert 7	Slightly agreed	Vietnamese SMEs can use debt as a means to increase management discipline and restrict managers from making financial decisions.
Expert 8	Strongly agreed	SMEs should consider the characteristics of their corporate governance to analyse the impact of Agency Cost theory on their performance before applying it.
Expert 9	IN agreement	Debt can be used as an instrument to discipline managers. However, the cost of debt should be considered when adopting the theory.
Expert 10	Strongly agreed	Vietnamese SMEs can use debt to restrict managers' management. However, the risk of debt needs to be analysed.
Expert 11	Strongly agreed	Debt can be one of the tools to discipline managers, but firms should consider the drawbacks of employing high debts.

Expert 12	In agreement	Vietnamese SMEs can use debt to increase management discipline and restrict managers.
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Table 4.11: Summary of the expert's opinions for Research Question Three Round One

4.2.3.1.1 Consolidation of the Expert Opinions for Question Three Round One

From the individualised feedback from the experts generated from research question three, the next stage was to consolidate the opinions to provide a summary. There was a consensus amongst the experts that conflicts between shareholders, owners and managers can influence capital structure strategies (CSS) decisions in Vietnamese SMEs, and that these businesses can use debt to increase management discipline to restrict managers from making uninformed financial decisions. However, the negative outcome of using debt should be carefully considered, as the decision puts more pressure on the SME managers which could lead to losing good employees, as indicated by Expert 1.

SMEs should also be cautious with the cost of borrowing before deciding how much debt to use as indicated by Experts 2, 9, 10, and 11. SMEs should be flexible in using debt to discipline managers depending on the market situation, as noted by Expert 5. Furthermore, SMEs should consider corporate governance when examining the outcome of using debt to increase their business performance as suggested by Expert 8.

Vietnamese SMEs can use debt to increase management discipline to restrict managers in making financial decisions.
Corporate governance characteristics and cost of debts should be considered when implementing this strategy.
SMEs should take cautions when putting pressure on managers when there is a conflict of interest can easily lead to the loss of good managers. This can lead to a negative outcome on the business.

Table 4.12: Consolidated responses from the expert's perspectives (Question Three Round One)

4.2.3.1.2 Reflection on Round One when addressing Research Question Three

The data generated from the Delphi technique based, on the outcomes from the first round when addressing the third research question, indicated a consensus, revealing that the expert group agreed with the suggestion that conflicts between shareholders, owners and managers can influence decisions of capital structure strategies in Vietnamese SMEs. There was also an agreement that the debt scale can be a tool for owners to achieve the goal of resolving the conflict of interest between managers and other interested parties as suggested from the Agency Cost theory of capital structure. This perspective was supported by Stoiljković et al. (2024), whose findings supported the usage of the Agency Cost theory. Harvey et al. (2004) also

indicated that using debt can bring incremental benefits to those businesses which have a higher expected managerial agency cost and higher levels of investments. However, Chechet and Olayiwola (2014) in examining listed Nigerian businesses, found that Agency Cost theory was not seen as being beneficial or being actively used. Part of the reason could be related to debt having a significant and negative effect on a business's performance. Reflecting above, the second round focused on whether the experts agreed as to whether conflicts between shareholders and managers influenced the capital structure strategy decisions in Vietnamese SMEs.

4.2.3.2 Research Question Three, Second Round - Summary of the expert opinions

Expert	Agreement level to the consolidated response from the first phase	Summary of the Expert's feedback and opinions
Expert 1	In agreement	Applying this theory to a high interest rate should be considered carefully. High-interest costs will have a significant influence on total expenses.
Expert 2	In agreement	If a SME applies the Agency Cost theory in its management, the risks of bankruptcy and default need to be considered.
Expert 3	In agreement	SMEs should apply Agency Cost theory to avoid the drawbacks of high debt levels.
Expert 4	In agreement	There was an agreement with the consolidated response from the first phase, and no further feedback or context was added.
Expert 5	In agreement	There are always conflicts between shareholders and managers. Shareholders hire a manager to administrate their money, and they care mostly about dividend, firm value and stability of development. While managers always have pressure from shareholders when they do flexible capital structure to adapt to rapid market changes. However, this kind of pressure is necessary to restrict them to manipulate capital more effective, but they should be accepted in some necessary cases of flexible financial decision.
Expert 6	In agreement	There was an agreement with the consolidated response from the first phase, and no further feedback or context was added.
Expert 7	In agreement	There was an agreement with the consolidated response from the first phase, and no further feedback or context was added.
Expert 8	In agreement	Different SMEs with different corporate governance characteristics should identify suitable debt ratios to apply Agency Cost theory and avoid the risk of a high debt ratio.
Expert 9	In agreement	There was an agreement with the consolidated response from the first phase, and no further feedback or context was added.
Expert 10	In agreement	There was an agreement with the consolidated response from the first phase, and no further feedback or context was added.
Expert 11	In agreement	There was an agreement with the consolidated response from the first phase, and no further feedback or context was added.
Expert 12	In agreement	There was an agreement with the consolidated response from the first phase, and no further feedback or context was added.

Table: 4.13: Summary of the expert's opinions for Research Question Three for Round Two

4.2.3.2.1 Consolidation of the Expert Opinions for Research Question Three Round Two

The second round generated and consolidated the opinions from the expert's feedback, with the outcome revealing an agreement with the consolidated response from the expert's perspective from Round One. There were some experts who gave more feedback and context to the research question during the second round as indicated above. However, overall, capital structure strategy theory should be considered carefully when applied in an environment with high interest rates. If applied incorrectly there was the possibility of leading to a significant negative influence on the total expenses due to high interest costs, as noted by Expert 1.

The risk of bankruptcy and risk of defaulting on the borrowing needed to be carefully considered if the SME was to apply the Agency Cost theory, as indicated by Expert 2. Therefore, SMEs should Apply Agency cost theory with careful consideration to avoid the potential implications of high levels of debt, as indicated by Expert 3, who also noted there was often conflict between owners, shareholders and managers.

While shareholders and the owners are seen to hire a manager to administrate their money, this group is also concerned about their dividends, the value of the business and stability of the concern. Therefore, managers tend to be under pressure from shareholders and owners to provide a return on their investment while also needing to adapt to rapid market changes including determining how to use the capital more effectively, which was noted by Expert 5. Different SMEs tended to use corporate governance strategies differently to identify suitable debt ratios when determining and applying Agency Cost theory to avoid the risk of a high debt ratio, as indicated by Expert 8.

Vietnamese SMEs can use debt to increase management discipline to restrict managers in making financial decisions.
Corporate governance characteristics and cost of debts should be considered when implementing this strategy.
SMEs should take cautions when putting pressure on managers when there is a conflict of interest can easily lead to the loss of good managers. This can lead to an impact on the business.
Risk of bankruptcy and risk of default need to be considered if a firm applies the Agency Cost theory in its management. SMEs should apply the Agency Cost theory with a consideration to avoid about the drawbacks of high level of debt.

Table 4.14: Consolidated responses from the expert's perspectives (Question Three - Round Two)

4.2.3.2.2 Reflection on Round Two when addressing Third Research Question

The second round of the Delphi panel approach based on the third research question demonstrated a consensus amongst the experts, reflecting the consolidated responses from Round One. From the expert perspectives, Agency Cost theory could be applied effectively to Vietnamese SMEs. However, for these experts, managers should be flexible when making their financial decisions and consider the stakeholders' and owners' requirements.

There were, however, several considerations which a SME should consider when applying the Agency Cost theory. These included reflecting on the SME's corporate governance characteristics, the high cost of debt, the risk of bankruptcy, and the risk of defaulting on the loan. A similar perspective was offered by Mohammed et al. (2023), who evaluated the outcome of agency conflict on corporate governance and business performance. The findings of Mohammed et al. (2023) indicated that the quality of corporate governance varies significantly. Mohammed et al. (2023) also found that enterprises operating at high levels of agency conflict perform better than those with low levels of conflict, but only when the former had a robust corporate governance protocol to follow. The results of Mohammed et al. (2023) indicated that business performance can increase by around 11% if companies improve their corporate governance quality amid rising agency conflict levels. Ponthon (2017) tested the Agency Cost theory and then provided supporting evidence for the relevance of the concept, revealing that unreliable reported business dividends can lead to conflicts of interest between owners, shareholders and managers. To address this, the business needs to adopt robust internal protocols and strategies to determine their capital structure whereby avoiding the burden of debt or high payment costs, which are presented below in a summarised format related to Round Three.

4.2.3.3 Research Question Three, Three Round - Summary of the expert's opinion

Round Three was intended to represent each of the expert opinions in a consolidated format gathered from Round Two, focusing on whether there was an agreement or consensus reached or if there was any additional perspective which needed to be added. The experts therefore had the opportunity to decide whether they wish to change their level of agreement or add further information. The third round indicated a consensus was reached as shown below in Table 4.15.

Expert	Summary of the expert's opinion
Expert 1 to Expert 12	There was an agreement with the consolidated response from the second phase, and no more feedback was provided.

Table 4.15: Consolidated responses from the expert's perspectives (Research Question Three Round Three)

4.2.3.4 Summary of the outcome of the third question

Following the results of the Delphi technique in addressing the third research question, there was a consensus reached amongst the experts that conflict between managers, the owners and shareholders can impede the development of a capital structure strategy in Vietnamese SMEs. The adoption of the Agency Cost theory of capital structure in these SMEs can lead to a conflict of interest between these interested parties, particularly if they have different motives or interests. While shareholders and owners tend to aim to maximise the value of the business, managers may focus on their own interest or agenda, which might result in capital being misused. Therefore, using debt financing to discipline managers can be a solution.

In this study, the Delphi technique was used to seek professional financial feedback from experts about their perspectives on this theory being applied in Vietnamese SME businesses. The results indicated a consensus, with the experts seeing that financial leverage can serve as a tool to manage conflicts of interest between shareholders, owners and managers in those SMEs in Vietnam. However, the experts did express concerns about the need to consider having robust corporate governance when applying this strategy. In addition, the cost of debt and the potential risk of bankruptcy should also be considered before making a capital structure decision.

When pressure is applied to managers due to conflicts of interest, this can result in the loss of valuable experienced managers. Therefore, Vietnamese SMEs can utilise debt techniques and strategies to limit the conflict when making important financial decisions. This does however require a careful consideration of the cost of debt and having robust corporate governance to understand the influence of the decision, which may include the usage of Agency Cost theory to inform the ultimate decision.

4.2.4 Question Four

The fourth question was focused on *how should small and medium-sized enterprise managers in Vietnam use the principle of priority when financing new investment opportunities?*

The premise of the question was centred on the Pecking-Order theory of capital structure:

Option 1 (O1): Source from retained earnings of the business

Option 2 (O2): Source from raising additional or new equity

Option 3 (O3): Source from external borrowing

Myers and Maiuf (1984) proposed that the Pecking-Order theory of capital structure, enables the business to follow a specific order of preferences in its decision-making process when it

comes to capital structure. Based on the Pecking-Order theory, a SME may prefer internal funding to external borrowing to minimise the cost of capital, therefore, initially deciding to use internal funding, such as through retained earnings, with the second priority based on seeking additional external debt, then if this is not enough, the business can then call for new equity to be raised through issuing new shares, which are summarised below in section 4.2.4.1.

4.2.4.1 Research Question Four, First Round - Summary of the expert's opinion

The fourth question was focused on identifying the expert's opinion as to the importance and necessity of considering the priority which funding sources can be used when implementing a capital structure strategy (CSS) in Vietnamese SMEs? The outcome of the first phase is summarised below in Table 4.16.

Summary of the expert panel feedback and opinions		
Level of agreement from individual experts: it is important and necessary to consider the priority of capital sources when implementing a CSS.		Summary of the Expert's feedback and opinions
Expert 1	Strongly agree	Depending on the detailed reasons for calling for more capital. For example, for new investment opportunities which are assessed potentially profitable projects, the firm can prioritise using equity. After that SMEs can use retained earnings and use debt as the last choice.
Expert 2	Strongly agree	It is necessary to consider priority in using sources of capital to have a good capital structure and generate a good cost of capital. Retained earnings should be consider as the main priority.
Expert 3	Strongly agree	SMEs should prioritise retained earnings first, then if it is still not enough, then use equity or debt later.
Expert 4	In agreement	Using retained earnings, then using equity or using debt.
Expert 5	Strongly agree	In general conditions, retained earnings should be employed first. However, if the situation of the rate of return and the interest rate is approximately the same (the rate of return does not have a significant difference compared to the lending rate), At this time, the funding from Option 1 and Option 2 will not be attractive. The business should prioritise Option 3 (debt). Then, go to option 1 (retained earnings) or Option 2 (new equity).
Expert 6	In agreement	It should be in orders Option 1 (retained earnings), then Option 3 (debt) and final Option 2 (equity). It helps firms to secure safe condition when raising capital, avoid risk of default due to not prioritising debt to use first.
Expert 7	Slightly agree	The order can be Option 1 (retained earnings), Option 3 (debt), then Option 2 (equity).
Expert 8	Strongly agree	Depending on the current capital structure and the ability to provide capital compared to the needs and socio-economic characteristics. The first priority should be retained earnings, then can consider debt or equity.
Expert 9	Strongly agree	The order should be Option 1 (retained earnings), Option 3 (debt), then Option 2 (equity).
Expert 10	Strongly agree	The retained earnings should be used first, then go to other sources
Expert 11	Strongly agree	The most convenient is to use retained earning first.
Expert 12	Strongly agree	The order should be Option 1 (retained earnings), then Option 3 (debt) or Option 2 (new equity).

Table 4.16: Summary of the expert's opinions for the Fourth Research Question - Round One

4.2.4.1.1 Consolidation of the Expert Opinions for Research Question Four Round One

From the individualised feedback from the experts, the next stage was to consolidate the opinions generated from the fourth research question to provide a summary. There was a consensus amongst experts as to the importance and necessity to consider the priority of raising capital when implementing a capital structure strategy, known as CSS, in Vietnamese SMEs. These experts supported the Pecking Order theory being applied to Vietnamese SMEs, by indicating that the approach can assess new investment opportunities by determining potential profitable projects whereby enabling these SME businesses to prioritise the use of equity. The concept can be used to utilise retained earnings and using external debt as the last option, as noted by Expert 1.

The need to consider priorities in sourcing capital to have a good capital structure was seen as essential through the use of retained earnings as the first priority, which was shared by Experts 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12. Therefore, SMEs should consider prioritising retained earnings first, and then using equity or debt later, as advocated by Experts 3, 4, 6, 7, 8, 9, and 12. This strategy can ensure that the business can secure a strong financial stance when raising capital, and avoiding risk of default on borrowing, as indicated by Expert 6.

Reflecting the options:

Option 1 (O1): Source from retained earnings of the enterprise

Option 2 (O2): Source from raising additional or new equity

Option 3 (O3): Source from external borrowing

If the rate of return and the interest rates are approximately the same, therefore the rate of return does not have a significant difference compared to the lending rate, then funding Option One and Option Two will not be attractive, then the business should prioritise Option Three.

Retained earnings should be used first, after which other sources of debt, and then new equity should be considered.
Considering the current rate of return, if the rate of return and the interest rate are approximately the same, the rate of return does not have a significant difference compared to the lending rate. At this time, the funding from Option 1 and Option 2 will not be attractive. The business can prioritise Option 3 (debt) first. Then, go to Option 1 or Option 2.
If the investment opportunity is assessed to have high profit potential, the order of priority should be Option 2, then Option 1, and finally Option 3

Table 4.17: Consolidated responses from the expert's perspectives (Research Question Four Round 1)

4.2.4.1.2 Reflection on Round One when addressing Research Question Four

The results from Round One in relation to research question four revealed that the expert group agreed with the original premise of the question. This outcome suggested that it is important and necessary to consider the priority of capital sources when implementing a capital structure strategy to ensure low costs of borrowing. The expert's perspective generally supported the Pecking Order theory, which suggested that the priority of the usage of internal funds then external capital was preferable. This was supported by Salehnejad (2014) who stated that the Pecking Order theory tends to be followed by those businesses which are growing, while mature enterprises and those declining did not follow the concept. Ponthon (2017) also agreed, stating that those businesses with higher debt ratio are more likely to prefer Pecking Order theory in determining capital structure, while lower debt ratio businesses will not use the concept. To attain a general consensus, a second round was conducted with the experts, which are summarised below.

4.2.4.2 Fourth Research Question - Second round – summary of the expert opinions

Round Two in addressing the fourth research question focused on sending out the summarised outcome of the first phase to the panel. The feedback generated included recommendations on capital structure strategies for Vietnamese SMEs as to whether the concept of Pecking-Order theory should be applied to capital structure in these businesses.

Expert	Agreed to the consolidated response from the first phase	Summary of the expert's opinion
Expert 1	In agreement	In common cases, the orders should be Option 1, Option 3, and Option 2. However, the Pecking Order theory should be used flexibly, and sometimes, the order can be changed depending on the context.
Expert 2	In Agreement	If the SME has a low debt ratio, it can prioritise debt over new equity. However, in the case a SME which has a high current debt ratio, it should be cautious about using debt as a priority to new equity, although using debt is cheaper than issuing new equity.
Expert 3	In Agreement	There was an agreement with the consolidated response from the first phase, and no further feedback was provided.
Expert 4	In Agreement	There was an agreement with the consolidated response from the first phase, and no further feedback provided

Expert 5	In Agreement	The Pecking Order theory can be applied in general, Option 1, then Option 3, and lastly, Option 2. However, in some cases, it may not be necessary to follow the theory; it needs to analyse the rates of returns of the rate of loan contracts before deciding.
Expert 6	In Agreement	There was an agreement with the consolidated response from the first phase, and no further feedback was provided
Expert 7	In Agreement	There was an agreement with the consolidated response from the first phase, and no further feedback was provided
Expert 8	In Agreement	For SMEs, the order is Option 1, then Option 3, and finally, Option 2 can be suitable for normal conditions.
Expert 9	In Agreement	There was an agreement with the consolidated response from the first phase, and no further feedback was provided
Expert 10	In Agreement	There was an agreement with the consolidated response from the first phase, and no further feedback provided
Expert 11	In Agreement	There was an agreement with the consolidated response from the first phase, and no further feedback was provided
Expert 12	In Agreement	There was an agreement with the consolidated response from the first phase, and no further feedback was provided

Table 4.18: Summary of the expert's opinions for the Fourth Research Question Round Two

4.2.4.2.1 Consolidation of the Expert Opinions for Research Question Four Round Two

This round consolidated the opinions from the expert's feedback with the outcome from the panel revealing a general agreement with the consolidated response from Round One. Some of the experts gave more feedback and additional context during the Second Round. In general, the experts preferred following firstly Option 1 using the retained earnings, followed by Option 3 usage of debt, and then Option 2 drawing on new equity. However, the Pecking Order theory should be applied flexibly, as the order may vary based on the specific context, as indicated by Expert 1. If a SME had a low debt ratio, the business may choose to prioritise debt over new equity. Conversely, if a business had a high current debt ratio, then the SME may exercise greater caution when prioritising debt over new equity, even though the debt may be cheaper than issuing new equity, as noted by Expert 2. While the Pecking Order theory generally suggests using Option One first, followed by Option Three, and ultimately Option Two, there were situations where strictly adhering to this theory may not be necessary. Therefore, the experts indicated that SMEs need to analyse the rates of return in relation to loan contracts before making the final financing decision, as noted by Expert 8.

In general situations, retained earnings should be used first; after that, other sources of debts, and finally, new equity should be considered.
Moreover, considering the current rate of return, if the rate of return and the interest rate are approximately the same, the rate of return does not have a significant difference compared to the lending rate. At this time, the funding from Option 1 and Option 2 will not be attractive. The business can prioritise Option 3 as to debt first. Then, go to Option 1 or Option 2.
Furthermore, if the investment opportunity is assessed to have high profit potential, the order of priority should be Option 2, then Option 1, and finally Option 3 .
The Pecking order theory should be applied flexibly depending on the specific business context.

Table 4.19: Consolidated responses from the expert's perspectives (Research Question Four Round 2)

4.2.4.2.2 Reflection on Round Two when addressing Research Question Four

There was a consensus amongst the experts that the Pecking Order theory can be applied effectively to Vietnamese SMEs but also needed a third round as presented in section 4.2.4.3. This perspective was supported by Sheikh et al. (2012) who tested the Pecking Order theory regarding capital structure in listed businesses but in Pakistan. The results showed a preference for using internal equity compared to external debt. This preference can be attributed to the businesses with low profitability that required paying dividends, resulting in no retained earnings. However, Jalal (2007) conducted research from 42 countries to test the Pecking Order theory and found that in an international and large business context, the concept is not suitable, which was supported by Frank and Goyal (2003).

4.2.4.3 Research Question Four - Three Round - Summary of the expert's opinion

Round Three focused on seeking a consensus gathered from Rounds One and Two, which focused on the general level of agreement as to the usage of the Pecking Order theory. The experts were given the opportunity to decide whether they wish to change their perspective or add to the existing consolidated findings. There were no added materials.

Expert	Summary of the expert's opinion
Expert 1 to Expert 12	There was an agreement with the consolidated response from the second phase, with no further added information.

Table 4.20: Consolidated responses from the expert's perspectives (Round 3)

4.2.4.4 Summary of the outcome of the fourth question

This part of using the Delphi technique was focused on the priority order of capital sources using the Pecking Order theory to finance new investment projects for Vietnamese SMEs. The experts supported the usage of the Pecking Order theory. Based on the results of collecting the expert perspectives, Vietnamese SME should retain their earnings first, then use debt, before finally opting for new equity. However, drawing on the experts, the approach should be sufficiently flexible to meet the specific business needs and contexts, and that the strategy should follow the SMEs ability to provide capital, which is reflective of the prevailing socio-economic environment. For example, when the rate of return and interest rates are approximately the same, Option One and Option two may not be attractive, therefore the business should prioritise Option 3, for borrowing.

4.2.5 Question Five

For Vietnamese SMEs, when a company wants to change its capital structure by participating in the capital or financial market, then the Timing-Market theory of capital structure can be used (Baker & Wurgler, 2002), but to what extent did these experts see this concept or option as viable? Baker and Wurgler (2002) defined the Timing-Market theory as how a business can sell new shares to generate new equity when the market price of shares increases and then purchase the shares back from the market, when the share price is low. From the experts, the first round of results is summarised below in section 4.2.5.1.

4.2.5.1 Research Question Five First Round - Summary of the expert's opinion

The fifth question was to identify the expert's opinion as to whether it is necessary to follow a Timing-Market theory of capital structure as proposed by Baker and Wurgler (2002) when implementing a capital structure strategy (CSS) in Vietnamese SMEs. The outcome of the first phase is summarised below in Table 4.20.

Summary of the expert panel feedback and opinions		
Level of agreement from experts: it is necessary to consider marketing-timing theory in shaping capital structure strategy.		Summary of the expert's opinion
Expert 1	Slightly agree	A SME can buy back stocks when their prices decrease and sell stocks when their prices increase. However, small and medium-sized enterprises do not need to strictly follow these rules, making it challenging for them to apply such strategies.
Expert 2	Slightly agree	SMEs should approach buying back stocks and issuing new shares with flexibility rather than adhering rigidly to established guidelines. While the theory can be applicable to SMEs, its reliability in practice may be limited.
Expert 3	In agreement	SMEs can apply the theory in flexibly.
Expert 4	Slightly agree	It can be applied for SMEs, but it may not be very reliable in reality.
Expert 5	Slightly agree	In some situations, applying this theory can be beneficial for SMEs, but there are also cases where it may not be suitable. For example, issuing new shares based solely on market share prices can benefit the company but may negatively impact existing strategic shareholders by diluting the value of their shares. This dilution can decrease shareholders' confidence in the company, potentially leading to a reduction in their stake.
Expert 6	Slightly agree	While SMEs may use this flexible approach, they should not adhere strictly to the theory, particularly because it can be difficult to implement within the context of Vietnamese SMEs.
Expert 7	Slightly agree	It should not be strict rule when raising more equity.
Expert 8	Slightly agree	Raising equity should not be governed by strict rules. In Vietnam, it proves challenging for SMEs to apply these theories and raise funds through such methods.
Expert 9	Slightly agree	The policy of selling and purchasing stocks from the Timing-Marketing theory should be used flexible
Expert 10	Slightly agree	Vietnamese SMEs can consider this theory. However, it seems be difficult to apply for them in reality.
Expert 11	Slightly agree	This theory that can be easily applied in SMEs
Expert 12	Slightly agree	Timing in stock buying and selling should be used flexibly. Vietnamese SMEs can consider these theories, but practical application often poses difficulties. Overall, while SMEs can utilise this theory, applying it effectively may be problematic for firms with smaller capital sizes.

Table 4.21: Summary of the expert's opinions for Research Question Five Round One.

4.2.5.1.1 Consolidation of the Expert Opinions for Research Question Five Round One

From the individualised feedback from the experts, the next stage was to consolidate the opinions to provide a summary ready for the next round. This process included identifying the core and shared themes. In response as to whether it was necessary for the Vietnamese SMEs to apply Timing-Marketing theory to their business to raise capital (Baker & Wurgler, 2002), there was a slight agreement to this perspective. A Vietnamese SME can buy back stocks when the prices decrease and sell stocks when their price increases, but overall, the experts did not see this as essential or achievable, for a SME to adopt. The experts instead identified that it was not easy for the SMEs to apply and follow, as indicated by Experts 1, 4, 7, 8, 10, 11, and 12. The activities of buying back stocks and issuing new shares needed to be flexible, as noted by Experts 2, 3, 6, and 9. Finally, when issuing new shares, it is often only reliant on the market share price, therefore is beneficial for the company to issue shares when the price is high, but this is not favourable for shareholders, which can lead to the diluting of the share value. This can lead to the reduction in shareholders, as indicated by Expert 5.

The theory can be considered to apply to strategy of capital structure strategy in Vietnamese SME. However, when raising additional equity capital through selling new shares, it is beneficial for the company, not beneficial for shareholders, and shares are diluted, strategic shareholders lose confidence in the company, leading to current shareholders tending to reduce their holdings. It is considered as a big negative impact on business's operation.

Buying and selling shares, if done as the Timing-Market theory can be a quick response to the market, but in the long term, the long-term strategy will be affected negatively.

Small and medium enterprises in Vietnam generally find it difficult to access capital through this form. Therefore, the theory is difficult to apply for Vietnamese SMEs.

Table 4.22: Consolidated responses from the expert's perspectives (Research Question Five Round 1)

4.2.5.1.2 Reflection on Round One when addressing Research Question Five

The experts indicated a consensus that they considered the Timing-Market theory of capital structure was initially not suitable for Vietnamese SMEs. Following the outcome of the Delphi panel results generated from the first round, the experts saw this theory as being a viable option for Vietnamese businesses when shaping their capital structure, however, to be effective this concept needed to be applied with a degree of flexibility. This outcome led to the study conducting a second round with the Vietnamese experts which is summarised in section 4.2.5.2 below. Kaushik et al. (2010) noted that managerial skills in market timing for capital financing were critical for both investors and the business. From an academic perspective, Chazi (2004) found that in the equity or financial markets, Timing-Market theory in North American SMEs was viable, but for Sinha and Ghosh (2020) this concept was more effective if applied in the short-term and the benefits were ineffective beyond a five-year period. Finally, Mabrouk et al. (2020) indicated that the Market Timing concept was not beneficial for all businesses.

4.2.5.2 Fifth research question -second round – summary of the expert opinions

The fifth question in Round Two involved the summarisation of the experts' opinions which were generated from the first phase of the Delphi panel technique, as to potential usage of the capital structure strategies using the Market-Timing theory.

Expert	Summary of the expert's opinion
Expert 1	If a SME applies this Market-Timing theory, it should be cautious about the drawbacks of implementing it.
Expert 2	An example of selling new shares is to result in diluted shares. At the same time, diluted shares may significantly impact the firm's operation. The SME should be analysed carefully before deciding whether to sell or buy them.
Expert 3	There was an agreement with the consolidated response from the first phase, and no additional comments or feedback provided.
Expert 4	There was an agreement with the consolidated response from the first phase, and no additional comments or feedback provided.
Expert 5	When issuing new equity, shares are diluted. Conversely, repurchasing stocks may require a certain amount of free cash flow, which decreases cash-flow employed for SMEs operations. This may disadvantage for the SME; therefore, the business needs to apply this strategy, it needs to be used flexibly.
Expert 6	There was an agreement with the consolidated response from the first phase, and no additional comments or feedback were provided
Expert 7	There was an agreement with the consolidated response from the first phase, and no additional comments or feedback were provided.

Expert 8	SMEs should examine the limitations and benefits before applying the Market-Timing theory.
Expert 9	There was an agreement with the consolidated response from the first phase, and no additional comments or feedback were provided.
Expert 10	There was an agreement with the consolidated response from the first phase, and no additional comments or feedback were provided.
Expert 11	There was an agreement with the consolidated response from the first phase, and no additional comments or feedback were provided.
Expert 12	Analysing the effects of selling and buying shares on the SMEs performance before making the decision.

Table 4.23: Summary of the expert's opinions for Fifth Research Question – Round Two

4.2.5.2.1 Consolidation of the Expert Opinions for Fifth Research Question Round Two

The outcome of the second round was then consolidated into a summary based on the experts' opinions, which included some of the experts providing additional information. The expert group did not see the potential benefit of using the Timing-Market theory in an SME. These additional comments included that if the SME applied the Market-Timing theory, the businesses should be cautious of the limitations of the concept (Expert 1). This included the dilution of shares which can have a significant and negative influence on the SMEs operation. To address this, Expert 3, indicated that this strategy should be analysed carefully before deciding to sell or buy shares, particularly if the share value is reduced.

If the re-purchased stocks occur, this can also lead to a negative effect on cashflow, which could result to a reduction in liquidity. Therefore, if a SME adopts a Timing-Market theory approach the business should apply a strategy with a degree of flexibility, as noted Expert 5, and therefore SMEs should examine the limitations and benefits before applying the concept (Expert 8).

The theory can be considered to apply to strategy of capital structure strategy in Vietnamese SME. However, when raising additional equity capital through selling new shares, it is beneficial for the company, not beneficial for shareholders, and shares are diluted, strategic shareholders lose confidence in the company, leading to current shareholders tending to reduce their holdings. It is considered as a big negative influence on SMEs operations.

Buying and selling shares, if done as the Timing-Market theory can be a quick response to the market, but in the long term, the long-term strategy will be affected negatively.

Small and medium enterprises in Vietnam generally find it difficult to access capital through this form. Therefore, the theory is difficult to apply for Vietnamese SMEs.

If a SME apply the theory, it should examine the possible disadvantages which may incur before making decision. Such as, diluting share when selling new share and cash flow reduction when re-purchase stocks.

Table 4.24: Consolidated responses from the expert's perspectives (Fifth Research Question Round 2)

4.2.5.2.2 Reflection on Round Two when addressing Research Question Five

There was a consensus amongst the experts that the Timing-Market theory was not an ideal solution for Vietnamese SMEs in shaping this type of business's capital structure strategy. There were several identified difficulties when using the Timing-Market theory, therefore needed to be applied flexibly. Jiang (2003) shared this perspective, noting that the Market Timing theory can be difficult to predict the outcome. Chazi (2004) provided supporting evidence that the theory required managers needing to have sufficient time to gather the necessary information as to the asymmetric trends, otherwise the SME may be over or underpriced. Çelik et al. (2013) noted that Market Timing theory could result in new shares being overpriced if not calculated accurately indicating the complexities of the theory. However, to understand the theme, a final third round was conducted, and is summarised below.

4.2.5.3 Fifth Research Question - Three Round - Summary of the expert's opinion

The experts were given the opportunity in the third round to change or amend their level of agreement and provide additional feedback, but there was a consensus reached.

Expert	Summary of the expert's opinion
Expert 1 to Expert 12	There is an agreement with the consolidated response from the second phase (no more feedback).

Table 4.25: Consolidated responses from the expert's perspectives (Fifth Research Question Round 3)

4.2.5.4 Summary of the outcome of the fifth question

In addressing the fifth research question, the focus was on the usages and relevance of the Market Timing theory on the capital structure in a SME, which was introduced by Baker and Wurgler (2002). This theory suggests that companies consider market timing when issuing new equity shares. For example, a company is likely to issue more new shares when its stock price is high, interpreting this as the market currently overvaluing the stock. Conversely, a SME is more inclined to repurchase its shares when the market price is low (Baker & Wurgler, 2002). The expert feedback on the application of this theory for Vietnamese SMEs showed that the experts did not rate this theory as applicable for SMEs. If the theory to be considered applicable

the concept should be approached with flexibility rather than adhering to the protocols and rules. The panel approach revealed that the experts agreed that Vietnamese SMEs generally faced significant challenges in accessing capital through issuing shares. Consequently, this strategy may be difficult for them to implement successfully. Furthermore, the expert group strongly indicated that raising additional equity capital by selling new shares may be beneficial for the company itself but not for the shareholders. This practice can lead to the dilution of the shares, resulting in strategic shareholders losing confidence in the company, which may prompt future and existing external bodies to reduce their holdings. Therefore, the experts expressed their caution when applying the Market Timing theory, as there are potential drawbacks to its implementation.

4.2.6 Question Six

The sixth research question was informed by the Free Cash Flow theory, which was focused on *how important Free Cash Flow (FCF) in a Vietnamese SME is during the decision-making process of implementing a capital structure strategy (CSS)*. This section was focused on presenting the experts' opinion as to whether the FCF influences CSS in Vietnamese SMEs? Free cash flow represents the amount of cash that a company generates or remains in the business after accounting for the cash outflows to serve the business's production and activities. Free cash-flow is equal to the profit before paying interest and taxes or EBIT + depreciation but removes or subtracts taxes and average cost of capital. Jensen (1986) suggested that a business value is aligned with the amount of cash which is created after covering all the necessary business operational expenses and investments, also called *free cash-flow*, or FCF. Those managers in high levels of free cash-flow businesses tend to be pressured by shareholders or owners to distribute the cash generated through dividend payments or share buybacks as an attempt to avoid overinvesting in unprofitable projects. Myers (2001) contended that the Free Cash Flow theory tends to be applied primarily to well-managed and mature businesses, and that are overinvested in by external bodies. The outcome of the experts is presented below commencing with Round One.

4.2.6.1 Sixth research question, first round - Summary of the expert's opinion

The sixth question sought the experts' opinion as to the extent to which FCF influence CSS in Vietnamese SMEs. The outcome of the first phase is summarised below in Table 4.26.

Summary of the expert panel feedback and opinions		
Level of agreement from individual experts that FCS can influence CSS		Summary of the expert's opinion
Expert 1	In agreement	A small or medium-sized enterprise (SME) should analyse Free Cash Flow (FCF) before making decisions about its capital structure. FCF provides a company with the ability to increase revenue, particularly by enabling it to seize opportunities quickly for profit. For instance, in the case of a goods shortage, a company with abundant FCF can acquire goods from the market to benefit from the situation, while others with poor FCF may struggle to take advantage of that opportunity.
Expert 2	Strongly agree	Free Cash Flow (FCF) growth is a crucial metric for evaluating a firm's performance and should be considered before making financial decisions.
Expert 3	In agreement	FCF influences financial choices and provides essential information for stakeholders, including managers, shareholders, investors, and creditors. Additionally, FCF serves as a measure of financial stability and potential returns for a firm, making it vital for informed financial decision-making.
Expert 4	In agreement	FCF can be considered as an assessment to see financial stability as well as potential returns in a SME. So, it is obviously important in term of financial decision making.
Expert 5	In agreement	Free Cash Flow (FCF) is crucial because it highlights a firm's operational advantages or disadvantages. When a company aims to adjust its capital structure, it is essential to consider FCF carefully. A stable increase in FCF allows a SME to expand its debt capacity. In such cases, shareholders are likely to support an increase in debt, as it typically leads to benefits for them.
Expert 6	In agreement	FCF also reveals a SMEs liquidity. Higher FCF enhances a SMEs ability to make payments and invest for future profits. Managers should take this into account when making financial decisions.
Expert 7	In agreement	FCF plays a significant role in shaping capital structure strategy, serving as a key indicator of a firm's financial health. Positive FCF makes it easier for companies to persuade lenders and investors to support them.
Expert 8	Strongly agree	FCF is vital because its availability aids firms in building their business and enhancing long-term value. A SME with strong FCF is better positioned to increase sales and, consequently, boost profits.
Expert 9	Strongly agree	FCF is important because a SME with good FCF can increase sales and then increase its profits.
Expert 10	Strongly agree	As an essential indicator, FCF provides valuable insights into a SMEs potential growth, attracting interest from both debtors and shareholders. This information significantly influences a company's capital structure strategy.

Expert 11	Strongly agree	FCF demonstrates one aspect of a SMEs performance and is important for effective operational planning.
Expert 12	Slightly agree	FCF is important because it presents free cash to use for short-term and long-term activities in a firm operation. It affects to plan of investment and capital in both short and long term in a company.

Table 4.26 Summary of the expert's opinions for Sixth Research Question Round One.

4.2.6.1.1 Consolidation of the Expert Opinions for Research Question Six, Round One

From the Delphi technique, the first round was based on the sixth research question, which generated a summary of expert feedback and opinions, which showed there was a consensus amongst the panel members. The experts agreed that Vietnamese SMEs should consider applying Free Cash Flow theory when formulating their capital structure strategies, as the concept has a significant influence on a SME's value and provides key insights for evaluating the financial health of the business. However, to be effective, these experts noted that the SME managers should carefully examine Free Cash Flow option before making their financial decisions. This outcome is supported by Abdul (2024) who indicated that the components of free cash flow and a SME's capital structure is influenced by the overall value of the business. Those SMEs which can efficiently manage their cash-flow tend to have a sound capital structure strategy. Reflecting this, Nadeem and Wang (2011) stated that the theory of Free Cash Flow is a crucial consideration for a SME to consider, then that if a business has an operating cash flow which exceeds profitable investment opportunities, this can lead to better business performance (Myers, 2001). A second round of the Delphi approach was then conducted with the experts related to how important Free Cash-Flow (FCF) in a Vietnamese SME is during the decision-making process of implementing a capital structure strategy.

FCF is an important factor affecting the capital structure of a Vietnamese SMEs. Because CF can be considered as a key insight to evaluate firm performance, financial health and potential growth of a SME. Therefore stakeholders, such as investor or lenders, tend to be interested with viewing this information before making financial decision.

When the Free Cash Flow is stable, and the return rate is greater than the loan interest rate, SMEs can consider increasing the debt ratio because this is an opportunity to increase shareholder benefits, so shareholders tend to support borrowing.
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When the Free Cash Flow is good and stable, it is a competitive advantage for the business. Especially in the case that SMEs encounter immediate investment opportunities with high profitability but require immediate liquidity. At this time, SMEs will take advantage of the strong Free Cash Flow to grasp this investment opportunity easily.

Table 4.27: Consolidated responses from the expert's perspectives (Sixth Research Question Round 1)

4.2.6.1.2 Sixth Research Question - Second round – summary of the expert opinions

Expert	Agreement level to the consolidated response from the first phase	Summary of the expert's opinion
Expert 1	In agreement	Free Cash Flow has both benefits and limitations. Therefore, there are both advantages and disadvantages associated with Free Cash Flow theory should be examined before applying.
Expert 2	In Agreement	Free Cash Flow should be used carefully in investment, because if it is invested in poor projects it will lead to decrease of firm value.
Expert 3	In Agreement	Agreed with the consolidated response from the first phase with no further added feedback or context.
Expert 4	In Agreement	Agreed with the consolidated response from the first phase with no further added feedback or context.
Expert 5	In Agreement	The large amount of free cash-flow can lead to managers using cash inefficiently, which can be harmful to shareholder interests.
Expert 6	In Agreement	Agreed with the consolidated response from the first phase with no further added feedback or context.
Expert 7	In Agreement	Agreed with the consolidated response from the first phase with no further added feedback or context.
Expert 8	In Agreement	Free cash-flow should be well-managed to avoid overinvesting in low-return projects.
Expert 9	In Agreement	Agreed with the consolidated response from the first phase with no further added feedback or context.
Expert 10	In Agreement	Agreed with the consolidated response from the first phase with no further added feedback or context.
Expert 11	In Agreement	Agreed with the consolidated response from the first phase with no further added feedback or context.
Expert 12	In Agreement	Agreed with the consolidated response from the first phase with no further added feedback or context.

Table 4.28: Summary of the expert's opinions for Sixth Research Question Round Two

4.2.6.2 Consolidation of the Expert Opinions for Research Question Six, Round Two

Based on the feedback from the experts, this section will provide a summary of the opinions generated from the first round of feedback. Some of the experts provided additional insights on this topic by adding additional context related to the usage of the Free Cash Flow theory. For some of the experts, they saw that the Free Cash-Flow has both advantages and disadvantages, but it was important for Expert 1 that SMEs should carefully examine the

options before making any financial or capital decision. Free Cash Flow should be used cautiously in investments, as investing in poor projects can lead to a decrease in the SME's value, as noted by Expert 2. Expert 3 indicated that a large amount of free cash flow can result in inefficient use of available funds by managers, which may be detrimental to the owners and shareholders. Finally, it is crucial for SMEs to manage free cash flow effectively to avoid over-investing in low-return projects, as indicated by Expert 8.

When the Free Cash Flow is stable, and the return rate is greater than the loan interest rate, SMEs can consider increasing the debt ratio because this is an opportunity to increase shareholder benefits, so shareholders tend to support borrowing.
SMEs should be cautious with abundant Free Cash Flow because it may be used inefficiently by managers to overinvest in low-return projects.

Table 4.29: Consolidated responses from the expert's perspectives (Sixth Research Question Round 2)

4.2.6.2.1 Reflection on Round Two when addressing Research Question Six

The second round of the Delphi panel approach demonstrated a consensus amongst the experts, reflecting the consolidated responses from Round One, but needed to be extended further in Round Three (section 4.2.6.3). From the expert perspectives, Free Cash-flow theory can be effectively applied to Vietnamese SMEs, as the concept is a key determinant for evaluating a business's performance. However, the approach must be analysed carefully before making financial decisions to avoid potential poor decisions being made, such as having excess free cash flow, which can lead to inefficient cash usage, whereby managers may overinvest in low-return projects. Le et al. (2018) found supportive evidence that the free Cash-Flow theory can be used effectively when the results is informed by the business's size, financial leverage, cash-flow and market volatility.

4.2.6.3 Sixth Research Question Three Round - Summary of the expert's opinion

Round Three was focus on consolidating the outcomes from Round One and Round Two. The experts were given the opportunity to provide additional information and were permitted to change their level of agreement. Like the other research questions, there was a consensus during the third round, as shown below in Table 4.30.

Experts	Summary of the expert's opinion
Expert 1 to Expert 12	There is an agreement with the consolidated response from the second phase, and no further feedback or context was added

Table 4.30: Consolidated responses from the expert's perspectives (Sixth Research Question Round 3)

4.2.6.4 Summary of the outcome of the sixth question

The Delphi technique was used to generate feedback from the financial experts as to financing Vietnamese SMEs focused on the potential usage of the Free Cash Flow theory in a Vietnamese SME. There was a consensus amongst the experts that free cash flow was crucial when deciding to adopt a capital structure strategy. Through using the theory, when the free cash flow of the business is stable and the return on investment exceeds the loan interest rate, the SME should consider increasing its debt ratio. This strategy presented an opportunity to enhance shareholder value and potentially inform investors to support future decisions to borrow additional funds. The usage of the Free Cash Flow can be used as a key determinant in evaluating a SME's performance. However, the strategy should be analysed carefully before making a financial decision to avoid potential problems such as holding too much cash, which may lead to inefficient use of cash flow by managers, for example, investing in low-return projects.

4.3 Chapter summary

This Chapter has presented the Vietnamese financial experts' perspectives on how SMEs may respond to the challenges in the external environment and the potential usage of the core capital structure theories. The first outcome of the study was the experts reached a consensus that Vietnamese SMEs should adjust their strategies in response to fluctuations in inflation and interest rates. When inflation and interest rates are high, the experts recommended that Vietnamese SMEs should maintain a conservative capital structure by keeping low levels of debt and prioritising short-term borrowing. Then when inflation and interest rates are stable, SMEs should make capital structure decisions based on their current debt ratios. If these ratios are high, the expert recommendations are to focus on long-term debt and consider utilising bank loans. Then in periods of low inflation and interest rates, SMEs may wish to seek moderate to high levels of debt. However, the experts also noted the importance of SMEs to carefully evaluate the risks associated with bankruptcy and defaulting on their loan repayments. The second outcome was related to the application and usage of the Trade-off theory of capital structure in Vietnamese SMEs. The experts reached a consensus that both a flexible strategy

which does not strictly follow the Trade-Off theory, and following an optimal strategy, which adheres more closely to the Trade-Off theory, can be effectively applied. However, the experts generally preferred the flexible strategy due to its suitability and adaptability for SMEs. For these experts, this strategy allows SMEs to adapt more quickly to market and operational changes and is easier to implement than a strictly optimal capital structure.

The third finding generated from the panel format revealed that when it comes to the application of Agency Cost theory, the experts agreed that conflict between managers, owners and shareholders can significantly influence the development of capital structure strategies in Vietnamese SMEs. The experts during the Delphi format suggested that the debt ratio can serve as a tool for managing these conflicts and enabling a solution to be provided. Nonetheless, experts express concern about the necessity of robust corporate governance and the risk of bankruptcy when making decisions regarding the financial structures adopted in the SME.

The next finding, the fourth, was focused on the Pecking Order theory, was revealed a consensus amongst the experts regarding its role in shaping capital structure strategies for Vietnamese SMEs. The outcome of the Delphi technique was that these SMEs should prioritise using retained earnings first, followed by debt, and then finally using new equity. However, this approach should be applied flexibly to accommodate specific needs and reflective of the business environment.

Fifthly, the findings generated from the experts indicated the necessity for Vietnamese SMEs not to consider using the Timing-Market theory of capital structure. Overall, the experts generally did not consider this theory as being applicable to the context of Vietnamese SMEs. If the theory was to be applied, then the concept should be adopted with a degree of flexibility rather than strictly adhering to its principles. As indicated by the experts, the Vietnamese SMEs often faced challenges in successfully implementing this theory fully.

Finally, the focus shifted to the potential usage of the Free Cash Flow (FCF) theory in the decision-making process for implementing a capital structure strategy in Vietnamese SMEs. There was a consensus amongst the experts that FCF was critical when determining the accurate capital structure. However, the experts emphasised the necessity for careful analysis before making decisions to avoid potential issues, such as holding excessive liquid assets that may lead to inefficient use of cash flows.

Chapter Five

Statistical Validation of the Delphi Expert Interviews

5.1 Introduction

Building on the findings from the expert interviews in the previous chapter, the study then focused on validating the outcomes by generating a series of quantitative statistical tests on published Vietnamese SME data. The outcome of the chapter will present the analysis of regression results.

5.2 Data descriptions

5.2.1 Descriptive statistics

Table 5.1: Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
roa	3258	0.027	0.127	-0.689	0.416
roe	3258	0.070	0.262	-1.331	1.476
ebitmargin	3258	-0.013	0.534	-3.985	1.517
ros	3258	0.011	0.229	-0.849	1.085
Eps (vnd)	3258	1081.505	2905.410	-35472.000	41537.000
levs	3258	0.516	0.966	0.003	8.407
levl	3258	0.054	0.137	0.000	1.194
levt	3258	0.602	1.250	0.000	11.613
levde	3258	0.857	2.005	-7.270	11.886
dumfc	3258	0.222	0.416	0.000	1.000
inf	3258	0.027	0.009	0.006	0.035
bsize	3258	10.995	0.324	9.277	11.477
bgrowth	3258	0.103	0.775	-0.970	7.403
bliquid	3258	3.055	4.111	0.001	29.747

Note: An observation refers to each year's financial statements for each SME company.

Table 5.1 above presents a summary of the descriptive statistics for dependent variables of the study namely: return on asset (ROA), return on equity (ROE), EBIT Margin, return on sale (ROS), and earning per share (EPS). For the independent variables, the study used short-term debt ratio (LEVs), long-term debt ratio (LEVl), debt-to-equity ratio (LEVde), and total debt ratio (LEVt). The control variables were financial crisis (DUMfc), inflation (INF), business size (Bsize), business growth (Bgrowth), business liquidity (Bliquid) and sectors (table 5.2). Table 5.1 also provides information on minimum, maximum, and mean values, together with the standard deviation.

Table 5.2: The profile of the sectors and the number of SMEs in Vietnam

Sectors	Number of observations	Number of SMEs
Consumer Goods and Durable Goods Trading Sector	225	25
Construction, Real Estate and Related Sector	405	45
Service Sector	963	107
Agriculture, Forestry and Fishery Sector	243	27
Energy Sector	315	35
Manufacturing Sector	1107	123
Total	3258	362

The control variable used for the study, which was also related to the sectors, denoted as Sectorcode, is presented in Table 5.2, which summarises the number of SMEs in Vietnam as to the different sectors within the dataset. This study finally grouped this data into six main sectors as presented above in Table 5.2.

The next stage of the validation process was to test the correlation and Variance Inflation Factors (VIF). The Variance Inflation Factors (VIF) is known as a metric used in regression analysis to detect issues of Multicollinearity which could influence the regression results. The results are presented in section 5.2.2, with the outcomes in Table 5.3 using the pairwise correlation, then Table 5.4.1 as to the Variance Inflation Factors with the variable of LEV_t in the model, and then Table 5.4.2 with Variance Inflation Factors without LEV_t in the model.

5.2.2 Correlation and Variance Inflation Factor (VIF)

Table 5.3 Pairwise correlations

Variables	(1) roa	(2) roe	(3)ebit margin	(4) levs	(5) levl	(6) levt	(7) levde	(8) dumfc	(9) inf	(10) bsize	(11) bgrowth	(12) bliquid
(1) roa	1.000											
(2) roe	0.343***	1.000										
(3) ebitmargin	0.572***	0.214***	1.000									
(4) levs	-0.440***	0.022	-0.230***	1.000								
(5) levl	-0.208***	0.014	-0.174***	0.194***	1.000							
(6) levt	-0.436***	0.020	-0.243***	0.975***	0.316***	1.000						
(7) levde	0.028	-0.396***	0.036**	-0.090***	-0.054***	-0.100***	1.00					
(8) dumfc	-0.016	-0.034**	-0.017	0.015	-0.017	0.012	-0.02	1.000				

(9) inf	-0.020	-0.020	-0.030*	0.028	-0.015	0.027	- 0.018	-0.126***	1.000		
(10) bsize	0.216***	0.065***	0.179** *	-0.276***	-0.061***	-0.291***	0.178 ***	-0.016	- 0.002	1.000	
(11) bgrowth	0.099***	0.063***	0.072** *	-0.024	-0.007	-0.028	0.054 ***	-0.062***	- 0.236 ***	0.147* **	1.000
(12) bliquid	0.105***	-0.021	0.065** *	-0.241***	-0.130***	-0.218***	- 0.147 ***	0.011	0.028	- 0.041**	-0.020 1.000
*** $p<0.01$, ** $p<0.05$, * $p<0.1$											

Table 5.4.1: Variance Inflation Factor (with variable LEVt in the model)		
	VIF	1/VIF
levs	31.422	0.032
levl	1.645	0.608
levt	33.001	0.030
levde	1.102	0.908
dumfc	1.027	0.974
inf	1.087	0.920
bsize	1.226	0.816
bgrowth	1.097	0.911
bliquid	1.143	0.875
2.sectorcode	2.548	0.393
3.sectorcode	4.039	0.248
4.sectorcode	1.973	0.507
5.sectorcode	2.301	0.435
6.sectorcode	4.142	0.241
Mean VIF	6.268	.

Table 5.4.2: Variance Inflation Factor (without variable LEVt in the model)		
	VIF	1/VIF
levs	1.301	0.769
levl	1.055	0.947
levde	1.101	0.908
dumfc	1.027	0.974
inf	1.087	0.920
bsize	1.213	0.824
bgrowth	1.097	0.911
bliquid	1.120	0.893
2.sectorcode	2.534	0.395
3.sectorcode	3.977	0.251
4.sectorcode	1.953	0.512
5.sectorcode	2.266	0.441
6.sectorcode	4.065	0.246
Mean VIF	1.830	.

The outcome of the correlation test indicated that there was a weak correlation amongst all independent and control variables, as seen in Table 5.3. The results of the correlation did have an acceptable result or outcome except for the correlation between LEVt and LEVs. There was a strong correlation between LEVt and LEVs in the model, which might be attributed to a potential multicollinearity problem in the test. If there was a multicollinearity problem, then this can result in unstable and unreliable regression coefficient estimates being generated which will then lead to a difficulty in interpreting the model's regression results. To test the multicollinearity of the model, the study used a Variance Inflation Factor (VIF) test. If the $VIF < 5$, then there would be no significant multicollinearity; if $5 < VIF < 10$, then there would be a moderate multicollinearity, and if $VIF > 10$, then this indicates a significant multicollinearity present in the test (Kim, 2019).

As can be seen from Table 5.4.1, which shows the test of VIF with the LEVt in the model, then with Table 5.4.2, which tested VIF without the LEVt, and finally the VIF in Table 5.4.1, which indicated that the variable LEVt caused multicollinearity when VIF reached 33.001. Therefore,

it was necessary to eliminate the LEV_t in the regression model to address potential multicollinearity problems. As can be seen in Table 5.4.2, all the VIFs were lower than 5, therefore, the study used the variables from this table (Table 5.4.2) for the next stage of analysis, by measuring three other variables: capital structure, including short-term and long-term debt, along with debt-to-equity ratio to eliminate the multicollinearity of LEV_t, as set out in section 5.3 below.

5.3 Pooled-OLS, FEM, and REM Regression Models

The next stage of the analysis used the Pooled-OLS Model, FEM (Fixed Effects Model) and REM (Random Effects Model) regression to test the secondary Vietnamese SME data. However, the question was which model was most suitable for this study, therefore this decision needed to be made, which is presented below as to the approach adopted.

5.3.1 Selecting the most suitable models among Pooled-OLS, FEM, and REM

Using the software Stata, this program allows the testing of the three models, using the following testing protocol:

Test 1: Is FEM more appropriate than Pooled-OLS, by using the F-test?

Test 2: Is REM more appropriate than Pooled-OLS, using the Breusch and Pagan Lagrangian test?

Test 3: Is FEM more appropriate than REM, using the Hausman Test?

5.3.1.1 Tests of Pooled-OLS, FEM and REM, with the dependent variable of ROA

Test One: The P-value = 0.000 < 0.01, which means that FEM is more appropriate than Pooled-OLS

F test that all $u_i=0$: $F(361, 2888) = 5.14$	Prob > F = 0.0000
---	-------------------

Test Two: The P-value = 0.000 < 0.01, it means REM is more suitable than Pooled-OLS

Breusch and Pagan Lagrangian multiplier test for random effects		
roa[firmcode,t] = Xb + u[firmcode] + e[firmcode,t]		
Estimated results:		
	Var	SD = sqrt(Var)
-----+-----		
roa	.0162312	.1274017
e	.008629	.0928925
u	.0036941	.0607792
Test: Var(u) = 0		
	chibar2(01) =	1130.16
	Prob > chibar2 =	0.0000

Test Three: The P-value = 0.000 < 0.01, therefore FEM is more reliable than REM

```
hausman roa_fe roa_re, sigmamore
Note: the rank of the differenced variance matrix (6) does not equal the number
of coefficients being
    tested (8); be sure this is what you expect, or there may be problems
computing the test.
    Examine the output of your estimators for anything unexpected and
possibly consider scaling your
    variables so that the coefficients are on a similar scale.
    ---- Coefficients ----
```

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	roa_fe	roa_re	Difference	Std. err.
-----+-----				
levs	-.0100572	-.0339594	.0239022	.0033011
levl	-.0986707	-.1260768	.0274061	.0139564
levde	-.0027423	-.0018662	-.0008761	.0004418
dumfc	-.0030264	-.0022929	-.0007335	.00017
inf	-.0154075	.0618736	-.0772811	.0162545
bsize	.0767223	.0534125	.0233098	.0117314
bgrowth	.0148583	.0148346	.0000237	.000417
bliquid	.0011566	.0007316	.000425	.0003178

```

    b = Consistent under H0 and Ha; obtained from xtreg.
    B = Inconsistent under Ha, efficient under H0; obtained from xtreg.
Test of H0: Difference in coefficients not systematic
    chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
              = 61.23
    Prob > chi2 = 0.0000
```

Standard errors in parentheses
* p < 0.1, ** p < 0.05, *** p < 0.01

Based on results of Test One as to ROA, the P-value = 0.000 < 0.01, which indicated that the FEM is more suitable than the Pooled-OLS model. In Test Two, the P-value = 0.000 < 0.01, which suggests that the REM is more appropriate than Pooled-OLS. Finally, in Test Three, the P-value = 0.000 < 0.01, indicating that FEM was more appropriate than REM. Based on the results of the three tests, where all the P-value = 0.000 < 0.01, it can be concluded that FEM was more reliable than REM and Pooled-OLS.

5.3.1.2 Tests of Pooled-OLS, FEM and REM, with the dependent variable of ROE

Test One: the P-value = 0.000 < 0.01, which meant that FEM was more appropriate than Pooled-OLS.

F test that all u_i=0: F(361, 2888) = 3.92	Prob > F = 0.0000
--	-------------------

Test Two: the P-value = 0.000 < 0.01, indicating that REM was more suitable than Pooled-OLS

Breusch and Pagan Lagrangian multiplier test for random effects		
roe[firmcode,t] = Xb + u[firmcode] + e[firmcode,t]		
Estimated results:		
	Var	SD = sqrt(Var)
-----+-----		
roe	.0686671	.2620441
e	.0421902	.2054025
u	.0083624	.0914462
Test: Var(u) = 0		
	chibar2(01) =	459.98
	Prob > chibar2 =	0.0000

Test Three: the P-value = 0.000 < 0.01, therefore FEM is more reliable than REM

Note: the rank of the differenced variance matrix (6) does not equal the number of coefficients being tested (8); be sure this is what you expect, or there may be problems computing the test.				
Examine the output of your estimators for anything unexpected and possibly consider scaling your variables so that the coefficients are on a similar scale.				
---- Coefficients ----				
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	roe_fe	roe_re	Difference	Std. err.
-----+-----				
levs	.0438513	.0089754	.0348759	.0083624
levl	.1895524	.0194392	.1701132	.0367432
levde	-.0906358	-.0722905	-.0183453	.0012358
dumfc	-.0279235	-.026373	-.0015505	.000456
inf	-.8104108	-.5889474	-.2214634	.0431012
bsize	.3027286	.1570083	.1457203	.0292952
bgrowth	.0186287	.0207901	-.0021614	.0011583
bliquid	-.0009881	-.0037166	.0027286	.0008745
-----+-----				
b = Consistent under H0 and Ha; obtained from xtreg.				
B = Inconsistent under Ha, efficient under H0; obtained from xtreg.				
Test of H0: Difference in coefficients not systematic				
chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)				
= 230.26				
Prob > chi2 = 0.0000				
(V_b-V_B is not positive definite)				

Standard errors in parentheses
 * p < 0.1, ** p < 0.05, *** p < 0.01

In summary, regarding dependent variable ROE, based on the results of Test One, the P-value = 0.000 < 0.01, which indicated that the FEM is more suitable than the Pooled-OLS model. In Test Two, the P-value = 0.000 < 0.01, suggesting that the REM is more reliable than Pooled-

OLS. Finally, in Test Three, the P-value = 0.000 < 0.01, which means that FEM is more appropriate than REM. Based on the results of the three tests, where all the P-value = 0.000 < 0.01, therefore it can be concluded that FEM was more reliable than REM and Pooled-OLS.

5.3.1.3 Tests of Pooled-OLS, FEM and REM, with dependent variable EBIT margin

Test One: the P-value = 0.000 < 0.01, which indicated that FEM is more reliable than Pooled-OLS.

F test that all $u_i=0$: $F(361, 2888) = 3.85$ Prob > F = 0.0000

Test Two: the P-value = 0.000 < 0.01, therefore REM is more appropriate than Pooled-OLS.

Breusch and Pagan Lagrangian multiplier test for random effects		
ebitmargin[firmcode,t] = $Xb + u[\text{firmcode}] + e[\text{firmcode},t]$		
Estimated results:		
	Var	SD = sqrt(Var)
-----+-----		
ebitmar~n	.2852718	.5341085
e	.1981496	.44514
u	.0571404	.2390406
Test: Var(u) = 0		
	chibar2(01) =	680.57
	Prob > chibar2 =	0.0000

Test Three: The P-value = 0.000 < 0.01, therefore FEM is more reliable than REM.

Note: the rank of the differenced variance matrix (6) does not equal the number of coefficients being tested (8); be sure this is what you expect, or there may be problems computing the test.

Examine the output of your estimators for anything unexpected and possibly consider scaling your variables so that the coefficients are on a similar scale.

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	ebitmargin~e	ebitmargin~e	Difference	Std. err.
-----+-----				
levs	.0282793	-.0524997	.080779	.0167538
levl	-.7088188	-.6427471	-.0660717	.0722208
levde	-.008138	-.0037114	-.0044265	.0023539
dumfc	-.01952	-.017811	-.0017091	.0008874
inf	-1.251355	-1.007792	-.2435632	.0842758
bsize	.4740561	.2742782	.1997779	.0591091
bgrowth	.0487727	.0464993	.0022735	.0022088
bliquid	.0046667	.003397	.0012697	.0016815
-----+-----				

b = Consistent under H_0 and H_a ; obtained from xtreg.
B = Inconsistent under H_a , efficient under H_0 ; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

```
chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
        = 49.73
Prob > chi2 = 0.0000
```

As to the EBIT Margin, the results of Test One indicated the P-value = 0.000 < 0.01, which means that the FEM is more suitable than the Pooled-OLS model. In Test Two, the P-value = 0.000 < 0.01, suggesting that the REM is more reliable than Pooled-OLS. Finally, in Test Three, the P-value = 0.000 < 0.01, indicating that the FEM is more suitable than REM. Based on the results of the three tests, where all the P-value = 0.000 < 0.01, it can be concluded that FEM was more reliable than REM and Pooled-OLS.

5.3.1.4 Tests of Pooled-OLS, FEM and REM, with dependent variable ROS

Test One: the P-value = 0.000 < 0.01, indicating that FEM is more reliable than Pooled-OLS.

F test that all $u_i=0$: F(361, 2888) = 5.25 Prob > F = 0.0000

Test Two: the P-value = 0.000 < 0.01, therefore REM is more appropriate than Pooled-OLS.

Breusch and Pagan Lagrangian multiplier test for random effects

$ros[firmcode,t] = Xb + u[firmcode] + e[firmcode,t]$

Estimated results:

	Var	SD = sqrt(Var)
ros	.0522264	.228531
e	.0316492	.1779021
u	.0135148	.1162534

Test: Var(u) = 0

chibar2(01) = 1109.69
Prob > chibar2 = 0.0000

Test Three: the P-value = 0.000 < 0.01, therefore FEM is more suitable than REM.

Note: the rank of the differenced variance matrix (6) does not equal the number of coefficients being

tested (8); be sure this is what you expect, or there may be problems computing the test.

Examine the output of your estimators for anything unexpected and possibly consider scaling your

variables so that the coefficients are on a similar scale.

---- Coefficients ----

	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	ros_fe	ros_re	Difference	Std. err.
levs	.014062	-.0238215	.0378836	.0062481
levl	-.2574267	-.2523335	-.0050932	.0263365
levde	-.0008287	-.0001939	-.0006347	.0008302
dumfc	-.0060645	-.0050729	-.0009916	.0003205
inf	.084199	.1960673	-.1118683	.0306718
bsize	.1433986	.0910455	.0523531	.0222295
bgrowth	.0179234	.0180002	-.0000768	.0007846

bliquid		.0021764	.0029743	-.0007978	.0005977

b = Consistent under H0 and Ha; obtained from xtreg.					
B = Inconsistent under Ha, efficient under H0; obtained from xtreg.					
Test of H0: Difference in coefficients not systematic					
chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)					
= 51.05					
Prob > chi2 = 0.0000					

Based on results related to ROS, Test One, which indicated the P-value = 0.000 < 0.01, as to the FEM which is more suitable than the Pooled-OLS model. In Test Two, the P-value = 0.000 < 0.01, which suggested that the REM is more appropriate than Pooled-OLS. Finally, in Test Three, the P-value = 0.000 < 0.01, which means that FEM is more relevant than REM. Based on the results of the three tests, where all the P-value = 0.000 < 0.01, it can be concluded that FEM was more reliable than REM and Pooled-OLS.

5.3.1.5 Tests of Pooled-OLS, FEM and REM, with dependent variable, EPS

Test One: the P-value = 0.000 < 0.01, indicating that FEM is more appropriate than Pooled-OLS.

F test that all u_i=0: F(361, 2888) = 6.20	Prob > F = 0.0000
--	-------------------

Test Two: the P-value = 0.000 < 0.01, therefore REM is more reliable than Pooled-OLS

Breusch and Pagan Lagrangian multiplier test for random effects		
eps[firmcode,t] = Xb + u[firmcode] + e[firmcode,t]		
Estimated results:		
	Var	SD = sqrt(Var)
-----+-----		
eps	8441405	2905.41
e	4796986	2190.202
u	2405602	1551
Test: Var(u) = 0		
chibar2(01) = 1298.88		
Prob > chibar2 = 0.0000		

Test Three: the P-value = 0.000 < 0.01, therefore FEM is more suitable than REM

Note: the rank of the differenced variance matrix (6) does not equal the number of coefficients being tested (8); be sure this is what you expect, or there may be problems computing the test.				
Examine the output of your estimators for anything unexpected and possibly consider scaling your variables so that the coefficients are on a similar scale.				
---- Coefficients ----				
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	eps_fe	eps_re	Difference	Std. err.
-----+-----				
-				

levs	697.3908	-82.15025	779.5411	75.30154
levl	-1416.177	-2587.921	1171.744	314.6342
levde	-71.65323	-30.11037	-41.54286	9.797864
dumfc	-150.1326	-120.6292	-29.50341	3.816061
inf	-2118.472	1013.354	-3131.825	366.5059
bsize	1860.669	1156.964	703.7046	268.8004
bgrowth	246.6948	271.9418	-25.24705	9.298586
bliquid	35.10193	17.41193	17.69	7.070278

-				
b = Consistent under H0 and Ha; obtained from xtreg.				
B = Inconsistent under Ha, efficient under H0; obtained from xtreg.				
Test of H0: Difference in coefficients not systematic				
chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)				
= 116.00				
Prob > chi2 = 0.0000				

Based on results related to EPS, the result of Test One: P-value = 0.000 < 0.01, which indicates that the FEM is more suitable than the Pooled-OLS model. In Test Two, P-value = 0.000 < 0.01, suggesting that the REM) is more reliable than Pooled-OLS. Finally, in Test Three, the P-value = 0.000 < 0.01, which means that FEM is more relevant than REM. Based on the results of the three tests, where all the P-value = 0.000 < 0.01, therefore, it can be concluded that FEM was more reliable than REM and Pooled-OLS.

5.3.1.6 FEM Regression: R- Square

In the section, the test results are presented to indicate the outcome of the FEM regression analysis as to determining the most appropriate model, using Pooled-OLS, FEM and REM. This section provides the outcome and results of R-square for FEM regression, with the dependent variables of ROA, ROE, EBIT Margin, ROS and EPS being used. Using the R-square, the regression model indicated the following:

In the model with the dependent variable ROA, the R-square (R^2) was = 0.528, which indicated that 52.8% of the variance in the dependent variable ROA is explained by independent variables in the model. For the dependent variable ROE, the R-square (R^2) is = 0.455, showing 45.5% variance in the dependent variable ROE which is explained by the independent variables used in this study's model. In relation to variable EBIT Margin, the R-square (R^2) is = 0.384, or 38.4%, which implied that 38.4 % variance in the dependent variable EBIT Margin is explained by the independent variables used in this model. For the dependent variable ROS, the R-square (R^2) is = 0.462, revealing a variance of 46.2%, revealing that 46.2% of variance in the dependent variable ROS can be explained by the independent variables used in the model. Finally, as to EPS, the R-square (R^2) is = 0.496 or 49.6% indicating 49.6% variance in the

dependent variable EPS is explained by the independent variables included in this study's model.

ROA	Source	SS	df	MS	Number of obs	=	3,258
	-----+-----				F(369, 2888)	=	8.78
	Model	27.9443994	369	.07573008	Prob > F	=	0.0000
	Residual	24.9205961	2,888	.008629015	R-squared	=	0.5286
	-----+-----				Adj R-squared	=	0.4684
	Total	52.8649955	3,257	.016231193	Root MSE	=	.09289
ROE	Source	SS	df	MS	Number of obs	=	3,258
	-----+-----				F(369, 2888)	=	6.54
	Model	101.803428	369	.275890048	Prob > F	=	0.0000
	Residual	121.845278	2,888	.042190193	R-squared	=	0.4552
	-----+-----				Adj R-squared	=	0.3856
	Total	223.648706	3,257	.068667088	Root MSE	=	.2054
Ebit Margin	Source	SS	df	MS	Number of obs	=	3,258
	-----+-----				F(369, 2888)	=	4.88
	Model	356.874424	369	.96713936	Prob > F	=	0.0000
	Residual	572.255983	2,888	.198149579	R-squared	=	0.3841
	-----+-----				Adj R-squared	=	0.3054
	Total	929.130407	3,257	.285271847	Root MSE	=	.44514
ROS	Source	SS	df	MS	Number of obs	=	3,258
	-----+-----				F(369, 2888)	=	6.74
	Model	78.6986629	369	.213275509	Prob > F	=	0.0000
	Residual	91.4027716	2,888	.031649159	R-squared	=	0.4627
	-----+-----				Adj R-squared	=	0.3940
	Total	170.101435	3,257	.052226415	Root MSE	=	.1779
EPS	Source	SS	df	MS	Number of obs	=	3,258
	-----+-----				F(369, 2888)	=	7.71
	Model	1.3640e+10	369	36964668.7	Prob > F	=	0.0000
	Residual	1.3854e+10	2,888	4796985.69	R-squared	=	0.4961
	-----+-----				Adj R-squared	=	0.4317
	Total	2.7494e+10	3,257	8441405.42	Root MSE	=	2190.2

5.3.2 Testing Model Problems

This section is dedicated at presenting in 5.3.1 which illustrates that the most appropriate model for this study is the FEM among the three models considered: Pooled-OLS, REM, and FEM. The study will subsequently address the limitations of the FEM model by investigating the following issues:

- (1) Is there is a problem of heteroscedasticity in the FEM regression model?
- (2) Is there an auto-correlation problem that occurs in the FEM regression model?
- (3) Is there an endogeneity problem in the FEM regression model?

5.3.2.1 Testing for heteroscedasticity in the FEM regression analysis

ROA	Modified Wald test for groupwise heteroskedasticity in fixed effect regression model H0: $\sigma(i)^2 = \sigma^2$ for all i chi2 (362) = 5285172.08 Prob > chi2 = 0.0000
ROE	Modified Wald test for groupwise heteroskedasticity in fixed effect regression model H0: $\sigma(i)^2 = \sigma^2$ for all i chi2 (362) = 7572047.79 Prob > chi2 = 0.0000
EBIT Margin	Modified Wald test for groupwise heteroskedasticity in fixed effect regression model H0: $\sigma(i)^2 = \sigma^2$ for all i chi2 (362) = 82602277.63 Prob > chi2 = 0.0000
ROS	Modified Wald test for groupwise heteroskedasticity in fixed effect regression model H0: $\sigma(i)^2 = \sigma^2$ for all i chi2 (362) = 81999290.47 Prob > chi2 = 0.0000
EPS	Modified Wald test for groupwise heteroskedasticity in fixed effect regression model H0: $\sigma(i)^2 = \sigma^2$ for all i chi2 (362) = 5366144.18 Prob > chi2 = 0.0000

By using the software Stata, the results of the heteroscedasticity tests are presented above. The model with dependent variables ROA, ROE, EBIT Margin, ROS and EPS, generated the results which showed that all variables had a P-value = $0.000 < 0.01$, which meant that there is evidence of heteroscedasticity in the FEM regression analysis results of the ROA, ROE, EBIT Margin, ROS and EPS.

5.3.2.2 Testing for autocorrelation in the FEM of regression analysis

ROA	Wooldridge test for autocorrelation in panel data H0: no first-order autocorrelation F(1, 361) = 16.669 Prob > F = 0.0001
ROE	Wooldridge test for autocorrelation in panel data H0: no first-order autocorrelation F(1, 361) = 7.681 Prob > F = 0.0059
EBIT Margin	Wooldridge test for autocorrelation in panel data H0: no first-order autocorrelation F(1, 361) = 1.528 Prob > F = 0.2172
ROS	Wooldridge test for autocorrelation in panel data H0: no first-order autocorrelation

	F(1, 361) = 3.778 Prob > F = 0.0527
EPS	Wooldridge test for autocorrelation in panel data H0: no first-order autocorrelation F(1, 361) = 2.831 Prob > F = 0.0933

The results of the tests generated from the Stata software based on the Vietnamese SME data indicated that the dependent variables ROA, ROE, ROS and EPS had the result of a P-value = $0.000 < 0.01$ (ROA), P-value = $0.000 < 0.01$ (ROE), P-value = $0.0052 < 0.1$ (ROS), P-value = $0.00 < 0.1$ (EPS), which indicated that there was an autocorrelation in these regression analyses. Only the test result with the dependent variable with EBIT Margin showed that the P-value = $0.2 > 0.1$, indicating that there was no autocorrelation in this regression analysis.

5.3.2.3 Testing of endogeneity in the FEM in the regression analysis

Using Stata to analyse the Vietnamese SME data, the results presented below show that the P-value of the test was $0.000 < 0.01$. This outcome indicated that there is an endogeneity problem in the regression analysis of ROA, ROE, EBIT Margin, ROS and EPS. When endogeneity occurs in a regression model, this can cause biased and inconsistencies in estimating the relationship between independent and dependent variables. As a result, this may lead to incorrect conclusions being reached about relationship between variables.

Davidson-MacKinnon test of exogeneity: 14.77169 F(3,2523) P-value = 1.6e-09						
Dependent variable ROA						
Fixed-effects (within) IV regression			Number of obs	=	2,896	
Group variable: firmcode			Number of groups	=	362	
R-squared:			Obs per group:			
Within = .			min	=	8	
Between = 0.0873			avg	=	8.0	
Overall = 0.0150			max	=	8	
			Wald chi2(8)	=	66.49	
corr(u_i, Xb) = -0.6837			Prob > chi2	=	0.0000	
(Std. err. adjusted for 362 clusters in firmcode)						

		Robust				
roa		Coefficient	std. err.	z	P> z	[95% conf. interval]

levs		.076894	.03468	2.22	0.027	.0089224 .1448657
levl		-.0142642	.1573787	-0.09	0.928	-.3227207 .2941923
levde		-.0117446	.0097844	-1.20	0.230	-.0309216 .0074324
dumfc		-.0055595	.0047965	-1.16	0.246	-.0149604 .0038415
inf		-.4026076	.2962956	-1.36	0.174	-.9833363 .178121
bsize		.2124988	.0653933	3.25	0.001	.0843303 .3406672
bgrowth		.0737844	.0150264	4.91	0.000	.0443332 .1032357
bliquid		.0035906	.0010554	3.40	0.001	.001522 .0056591
cons		-2.339564	.7222282	-3.24	0.001	-3.755105 -.9240228

-----+-----						
sigma_u		.13893761				
sigma_e		.09656218				
rho		.67429502	(fraction of variance due to u_i)			

Instrumented: levs lev1 levde						
Instruments: dumfc inf bsize bgrowth bliquid L.levs L.lev1 L.levde						

Dependent variable ROE						
Fixed-effects (within) IV regression			Number of obs	=	2,896	
Group variable: firmcode			Number of groups	=	362	
R-squared:			Obs per group:			
Within	=	.	min	=	8	
Between	=	0.0112	avg	=	8.0	
Overall	=	0.0569	max	=	8	
corr(u_i, Xb) = -0.5730			Wald chi2(8)	=	16.17	
			Prob > chi2	=	0.0400	
(Std. err. adjusted for 362 clusters in firmcode)						

roe		Coefficient	Robust std. err.	z	P> z	[95% conf. interval]

levs		-.0616476	.0495557	-1.24	0.213	-.158775 .0354798
lev1		-.2834796	.304966	-0.93	0.353	-.8812019 .3142428
levde		.0483244	.0359072	1.35	0.178	-.0220523 .1187012
dumfc		-.0117071	.0138351	-0.85	0.397	-.0388234 .0154091
inf		.1639517	.9420638	0.17	0.862	-1.68246 2.010363
bsize		-.0424703	.1390848	-0.31	0.760	-.3150714 .2301308
bgrowth		.1290182	.0406863	3.17	0.002	.0492745 .2087619
bliquid		.0023879	.0018638	1.28	0.200	-.0012651 .006041
_cons		.5285289	1.530865	0.35	0.730	-2.471911 3.528969

sigma_u		.17299786				
sigma_e		.29230732				
rho		.25940699	(fraction of variance due to u_i)			

Instrumented: levs lev1 levde						
Instruments: dumfc inf bsize bgrowth bliquid L.levs L.lev1 L.levde						

Dependent variable EBIT Margin						
Fixed-effects (within) IV regression			Number of obs	=	2,896	
Group variable: firmcode			Number of groups	=	362	
R-squared:			Obs per group:			
Within	=	.	min	=	8	
Between	=	0.0269	avg	=	8.0	
Overall	=	0.0012	max	=	8	
corr(u_i, Xb) = -0.7036			Wald chi2(8)	=	66.93	
			Prob > chi2	=	0.0000	
(Std. err. adjusted for 362 clusters in firmcode)						

ebitmargin		Coefficient	Robust std. err.	z	P> z	[95% conf. interval]

levs		.3313058	.10118	3.27	0.001	.1329966 .5296151

levl		.2477294	.8702753	0.28	0.776	-1.457979	1.953438
levde		-.0452389	.0518727	-0.87	0.383	-.1469075	.0564296
dumfc		-.0420885	.0247691	-1.70	0.089	-.090635	.006458
inf		-4.712016	1.733901	-2.72	0.007	-8.110399	-1.313633
bsize		.9101889	.2728915	3.34	0.001	.3753314	1.445046
bgrowth		.2360892	.0445735	5.30	0.000	.1487267	.3234517
bliquid		.0111307	.0047258	2.36	0.019	.0018682	.0203932
_cons		-10.06168	3.026305	-3.32	0.001	-15.99313	-4.130227

sigma_u		.52729869					
sigma_e		.47047767					
rho		.55676357	(fraction of variance due to u_i)				

Instrumented: levs levl levde							
Instruments: dumfc inf bsize bgrowth bliquid L.levs L.levl L.levde							

Dependent variable ROS							
Fixed-effects (within) IV regression				Number of obs	=	2,896	
Group variable: firmcode				Number of groups	=	362	
R-squared:				Obs per group:			
Within = 0.0007				min	=	8	
Between = 0.0206				avg	=	8.0	
Overall = 0.0003				max	=	8	
				Wald chi2(8)	=	66.73	
corr(u_i, Xb) = -0.5709				Prob > chi2	=	0.0000	
(Std. err. adjusted for 362 clusters in firmcode)							

ros		Coefficient	Robust std. err.	z	P> z	[95% conf. interval]	

levs		.0971044	.0423505	2.29	0.022	.0140989	.1801098
levl		-.0150974	.2298625	-0.07	0.948	-.4656196	.4354249
levde		-.0237638	.0169147	-1.40	0.160	-.0569161	.0093884
dumfc		-.0107242	.0094581	-1.13	0.257	-.0292617	.0078133
inf		-.6659867	.6087387	-1.09	0.274	-1.859093	.5271192
bsize		.3203722	.0918634	3.49	0.000	.1403232	.5004213
bgrowth		.1052722	.0237391	4.43	0.000	.0587445	.1517999
bliquid		.0041363	.0026983	1.53	0.125	-.0011523	.009425
_cons		-3.534781	1.016471	-3.48	0.001	-5.527028	-1.542534

sigma_u		.20597628					
sigma_e		.18348896					
rho		.55754709	(fraction of variance due to u_i)				

Instrumented: levs levl levde							
Instruments: dumfc inf bsize bgrowth bliquid L.levs L.levl L.levde							

Dependent variable EPS							
Fixed-effects (within) IV regression				Number of obs	=	2,896	
Group variable: firmcode				Number of groups	=	362	
R-squared:				Obs per group:			
Within = 0.0454				min	=	8	
Between = 0.0508				avg	=	8.0	
Overall = 0.0039				max	=	8	

corr(u_i, Xb) = -0.5882				Wald chi2(8)	=	37.29
				Prob > chi2	=	0.0000
(Std. err. adjusted for 362 clusters in firmcode)						

	eps	Coefficient	Robust std. err.	z	P> z	[95% conf. interval]

	levs	1277.436	653.9108	1.95	0.051	-4.20585 2559.078
	levl	1451.26	2741.701	0.53	0.597	-3922.376 6824.896
	levde	28.80509	197.2708	0.15	0.884	-357.8386 415.4488
	dumfc	-146.5879	105.8003	-1.39	0.166	-353.9527 60.77687
	inf	-7285.251	6014.379	-1.21	0.226	-19073.22 4502.715
	bsize	3226.3	1023.192	3.15	0.002	1220.881 5231.719
	bgrowth	1397.248	371.5714	3.76	0.000	668.9815 2125.515
	bliquid	68.87265	23.46583	2.94	0.003	22.88046 114.8648
	_cons	-35170.29	11327.87	-3.10	0.002	-57372.51 -12968.06

	sigma_u	2640.6779				
	sigma_e	2112.3669				
	rho	.60979561	(fraction of variance due to u_i)			

Instrumented: levs levl levde						
Instruments: dumfc inf bsize bgrowth bliquid L.levs L.levl L.levde						

5.4 Dynamic panel-data estimation using the two-step system of GMM

Drawing on section 5.3.2, the study conducted a series of tests to detect the problems of FEM used for conducting the regression analysis with the dependent variables of ROA, ROE, EBIT Margin, ROS and EPS. In the previous section, the results of 5.3.2.1 indicated that firstly, there was a heteroscedasticity problem that occurred in the FEM regression model related to ROA, ROE, EBIT Margin, ROS and EPS. Then there was a potential issue as to the autocorrelation for FEM regression model related to ROA, ROE, ROS and EPS.

Finally, there was an endogeneity issue associated with the FEM regression model for ROA, ROE, EBIT Margin, ROS and EPS. To resolve these problems of FEM above, the study used the Generalised Method of Moments (GMM) model.

5.4.1 Dynamic panel-data estimation, two-step system GMM, with the dependent variable of ROA

inf dropped due to collinearity
1b.sectorcode dropped due to collinearity
2015b.yearcode dropped due to collinearity
2021.yearcode dropped due to collinearity
2022.yearcode dropped due to collinearity
Warning: Two-step estimated covariance matrix of moments is singular.
Using a generalized inverse to calculate optimal weighting matrix for two-step estimation.

Difference-in-Sargan/Hansen statistics may be negative.
Dynamic panel-data estimation, two-step system GMM

Group variable: firmcode	Number of obs	=	2896
Time variable : yearcode	Number of groups	=	362
Number of instruments = 59	Obs per group: min	=	8
Wald chi2(19) = 182.69	avg	=	8.00
Prob > chi2 = 0.000	max	=	8

	roa	Coefficient	Corrected std. err.	z	P> z	[95% conf. interval]	
roa							
L1.		.3145805	.06599	4.77	0.000	.1852424	.4439186
levs		-.0486187	.0154956	-3.14	0.002	-.0789895	-.0182479
levl		-.2328301	.076785	-3.03	0.002	-.3833258	-.0823343
levde		.0002953	.005036	0.06	0.953	-.0095751	.0101656
dumfc		.0013104	.0064966	0.20	0.840	-.0114227	.0140435
bsize		-.0093241	.0438229	-0.21	0.832	-.0952155	.0765673
bgrowth		.1027975	.0158914	6.47	0.000	.071651	.1339441
bliquid		.0000687	.0012194	0.06	0.955	-.0023213	.0024586
sectorcode							
2		-.1467506	.3169439	-0.46	0.643	-.7679493	.4744481
3		-.3992172	.2972944	-1.34	0.179	-.9819035	.1834692
4		-.5719795	.2713044	-2.11	0.035	-1.103726	-.0402326
5		-.1406462	.2418248	-0.58	0.561	-.6146142	.3333218
6		-.1751796	.2523931	-0.69	0.488	-.669861	.3195018
yearcode							
2016		-.0078935	.013613	-0.58	0.562	-.0345745	.0187876
2017		-.0050697	.0135323	-0.37	0.708	-.0315926	.0214531
2018		.0022196	.0099361	0.22	0.823	-.0172548	.021694
2019		.0064177	.0066833	0.96	0.337	-.0066814	.0195168
2020		-.000894	.0084841	-0.11	0.916	-.0175226	.0157346
2023		-.0053279	.0060594	-0.88	0.379	-.0172041	.0065482
_cons		.4042322	.6607872	0.61	0.541	-.890887	1.699351

Instruments for first differences equation

Standard

D.(dumfc inf bsize bgrowth bliquid)

GMM-type (missing=0, separate instruments for each period unless collapsed)

L.(levs levl levde)

L(1/8).L.roa collapsed

Instruments for levels equation

Standard

dumfc inf bsize bgrowth bliquid

_cons

GMM-type (missing=0, separate instruments for each period unless collapsed)

D.(levs levl levde)

D.L.roa collapsed

Arellano-Bond test for AR(1) in first differences: z = -4.95 Pr > z = 0.000

Arellano-Bond test for AR(2) in first differences: z = 0.36 Pr > z = 0.715

Sargan test of overid. restrictions: chi2(39) = 407.64 Prob > chi2 = 0.000

```

(Not robust, but not weakened by many instruments.)
Hansen test of overid. restrictions: chi2(39)   =  41.96   Prob > chi2 =  0.344
(Robust, but weakened by many instruments.)

Difference-in-Hansen tests of exogeneity of instrument subsets:
gmm(L.roa, collapse lag(1 .))
  Hansen test excluding group:      chi2(31)   =  40.46   Prob > chi2 =  0.119
  Difference (null H = exogenous): chi2(8)    =   1.49   Prob > chi2 =  0.993
iv(dumfc inf bsize bgrowth bliquid)
  Hansen test excluding group:      chi2(34)   =  36.05   Prob > chi2 =  0.373
  Difference (null H = exogenous): chi2(5)    =   5.91   Prob > chi2 =  0.315

```

The results of the tests for the GMM model are presented above, which indicated that firstly that the results of the Arellano-Bond test for AR (1) had a P-value = 0.000 < 0.01, and AR (2), P-value = 0.7 > 0.1, which indicated that there was no autocorrelation in the GMM regression model. Next, the study used the Two-Step Estimation with a standard error adjustment of the Robust Option. This is a specific method used for adjustment of the *standard errors* to handle or control the consequences of heteroscedasticity. The focus was also on correcting the *standard errors*, which addresses the issue of biased standard errors by recalculating to address any heteroscedasticity. The outcome confirmed that the consequences of heteroscedasticity can be controlled effectively in the GMM regression model. Finally, the results of the Sargan test showed that the P-value = 0.000 < 0.01, the Hansen test had a P-value = 0.344 > 0.1, while the Difference-in-Hansen tested the exogeneity of the instrument subsets which all had a P-value > 0.1. Therefore, the findings indicated that the GMM model effectively addressed any endogeneity issues.

5.4.2 Dynamic panel-data estimation, two-step system GMM, with the dependent variable of ROE

```

inf dropped due to collinearity
1b.sectorcode dropped due to collinearity
2015b.yearcode dropped due to collinearity
2017.yearcode dropped due to collinearity
2021.yearcode dropped due to collinearity
Warning: Two-step estimated covariance matrix of moments is singular.
Using a generalized inverse to calculate optimal weighting matrix for two-
step estimation.
Difference-in-Sargan/Hansen statistics may be negative.

Dynamic panel-data estimation, two-step system GMM
-----
Group variable: firmcode                Number of obs   =    2896
Time variable : yearcode                Number of groups =    362
Number of instruments = 59              Obs per group:  min =     8
Wald chi2(19) =    279.73                avg =    8.00

```

Prob > chi2		=		0.000		max =		8	

ro		Corrected							
oe		Coefficient	std. err.	z	P> z	[95% conf. interval]			

ro									
L1.		-.0277437	.0602699	-0.46	0.645	-.1458705	.0903831		
levs		-.0096413	.0314956	-0.31	0.760	-.0713715	.0520889		
levl		.1417911	.2445719	0.58	0.562	-.337561	.6211433		
levde		-.1251714	.0137941	-9.07	0.000	-.1522074	-.0981354		
dumfc		-.0274112	.0347021	-0.79	0.430	-.0954261	.0406036		
bsize		.1253425	.1107414	1.13	0.258	-.0917066	.3423916		
bgrowth		.1337156	.0374084	3.57	0.000	.0603966	.2070347		
bliquid		-.0081764	.0025105	-3.26	0.001	-.0130968	-.0032559		
sectorcode									
2		.0026447	.5598827	0.00	0.996	-1.094705	1.099995		
3		-.1664883	.4866422	-0.34	0.732	-1.12029	.787313		
4		-.1308557	.5305177	-0.25	0.805	-1.170651	.9089398		
5		-.1332209	.6310496	-0.21	0.833	-1.370055	1.103614		
6		.1329002	.4077866	0.33	0.744	-.666347	.9321473		
yearcode									
2016		.0064752	.0206499	0.31	0.754	-.0339979	.0469482		
2018		-.0018267	.0338465	-0.05	0.957	-.0681648	.0645113		
2019		-.0079522	.0354728	-0.22	0.823	-.0774776	.0615731		
2020		.0033313	.0131019	0.25	0.799	-.022348	.0290105		
2022		-.0225882	.0393873	-0.57	0.566	-.0997858	.0546095		
2023		-.0557248	.0368956	-1.51	0.131	-.1280389	.0165892		
_cons		-1.133038	1.386154	-0.82	0.414	-3.849849	1.583774		

Instruments for first differences equation									
Standard									
D.(dumfc inf bsize bgrowth bliquid)									
GMM-type (missing=0, separate instruments for each period unless collapsed)									
L.(levs levl levde)									
L(1/8).L.roe collapsed									
Instruments for levels equation									
Standard									
dumfc inf bsize bgrowth bliquid									
_cons									
GMM-type (missing=0, separate instruments for each period unless collapsed)									
D.(levs levl levde)									
D.L.roe collapsed									

Arellano-Bond test for AR(1) in first differences: z = -3.28 Pr > z = 0.001									
Arellano-Bond test for AR(2) in first differences: z = 0.42 Pr > z = 0.674									

Sargan test of overid. restrictions: chi2(39) = 328.25 Prob > chi2 = 0.000									
(Not robust, but not weakened by many instruments.)									
Hansen test of overid. restrictions: chi2(39) = 41.70 Prob > chi2 = 0.354									

(Robust, but weakened by many instruments.)

Difference-in-Hansen tests of exogeneity of instrument subsets:

```
gmm(L.roe, collapse lag(1 .))
Hansen test excluding group:      chi2(31)    =   32.56   Prob > chi2 =   0.390
Difference (null H = exogenous): chi2(8)      =    9.14   Prob > chi2 =   0.330
iv(dumfc inf bsize bgrowth bliquid)
Hansen test excluding group:      chi2(34)    =   38.66   Prob > chi2 =   0.267
Difference (null H = exogenous): chi2(5)      =    3.04   Prob > chi2 =   0.694
```

By using the Stata software to analyse the Vietnamese SME data, the results of the Arellano-Bond test for AR (1) showed that $P\text{-value} = 0.000 < 0.01$, while the results of Arellano-Bond test for AR (2) was $P\text{-value} = 0.67 > 0.1$. The outcome overall indicated that there was no autocorrelation in the GMM regression model. Next, the study used a Two-Step Estimation with standard error adjustment adopting for the Robust Option. This choice focussed on correcting the *standard errors*, which can address the issue of biased standard errors by recalculating then to be more robust to heteroscedasticity. The outcome confirmed that the consequences of heteroscedasticity can be controlled effectively in the GMM regression model. Furthermore, the Hansen test showed $P\text{-value} = 0.354 > 0.1$, and the Difference-in-Hansen test of the exogeneity of instruments in the subsets, all of which had a $P\text{-value} > 0.1$. These findings indicated that the GMM model had effectively addressed any issues related to endogeneity.

5.4.3 Dynamic panel-data estimation, two-step system GMM, dependent variable of EBIT MARGIN

```
inf dropped due to collinearity
1b.sectorcode dropped due to collinearity
2015b.yearcode dropped due to collinearity
2021.yearcode dropped due to collinearity
2022.yearcode dropped due to collinearity
Warning: Two-step estimated covariance matrix of moments is singular.
Using a generalized inverse to calculate optimal weighting matrix for two-step
estimation.
Difference-in-Sargan/Hansen statistics may be negative.
```

Dynamic panel-data estimation, two-step system GMM

```
-----
Group variable: firmcode                Number of obs      =       2896
Time variable : yearcode                Number of groups    =        362
Number of instruments = 59              Obs per group: min =         8
Wald chi2(19) =      46.80                avg =       8.00
Prob > chi2   =      0.000                max =         8
-----
```

ebitmargin	Coefficient	Corrected std. err.	z	P> z	[95% conf. interval]	
ebitmargin						
L1.	.1126539	.0906903	1.24	0.214	-.0650959	.2904036
levs	-.0817934	.054755	-1.49	0.135	-.1891111	.0255244
levl	-1.412819	.6332106	-2.23	0.026	-2.653889	-.1717487
levde	.0062842	.0154606	0.41	0.684	-.024018	.0365864
dumfc	.0141381	.0260797	0.54	0.588	-.0369772	.0652533
bsize	.3227727	.2480941	1.30	0.193	-.1634827	.8090281
bgrowth	.292668	.0880444	3.32	0.001	.1201041	.465232
bliiquid	.0146364	.011651	1.26	0.209	-.0081992	.0374719
sectorcode						
2	-.6407444	1.0158	-0.63	0.528	-2.631676	1.350187
3	-.9952731	.9725825	-1.02	0.306	-2.9015	.9109536
4	-1.520286	1.130228	-1.35	0.179	-3.735492	.694921
5	-2.237501	1.446504	-1.55	0.122	-5.072597	.5975955
6	-.4996238	1.003959	-0.50	0.619	-2.467348	1.4681
yearcode						
2016	.0046772	.0698681	0.07	0.947	-.1322618	.1416162
2017	-.0216488	.054116	-0.40	0.689	-.1277143	.0844167
2018	-.0164168	.0565955	-0.29	0.772	-.1273419	.0945083
2019	.0181443	.0363727	0.50	0.618	-.0531449	.0894336
2020	-.0083126	.0295801	-0.28	0.779	-.0662886	.0496633
2023	.0624764	.0451498	1.38	0.166	-.0260156	.1509683
_cons	-2.636223	2.821889	-0.93	0.350	-8.167023	2.894577

Instruments for first differences equation						
Standard						
D.(dumfc inf bsize bgrowth bliiquid)						
GMM-type (missing=0, separate instruments for each period unless collapsed)						
L.(levs levl levde)						
L(1/8).L.ebitmargin collapsed						
Instruments for levels equation						
Standard						
dumfc inf bsize bgrowth bliiquid						
_cons						
GMM-type (missing=0, separate instruments for each period unless collapsed)						
D.(levs levl levde)						
D.L.ebitmargin collapsed						

Arellano-Bond test for AR(1) in first differences: z = -3.87 Pr > z = 0.000						
Arellano-Bond test for AR(2) in first differences: z = 0.81 Pr > z = 0.417						

Sargan test of overid. restrictions: chi2(39) = 258.47 Prob > chi2 = 0.000						
(Not robust, but not weakened by many instruments.)						

```
Hansen test of overid. restrictions: chi2(39) = 40.70 Prob > chi2 = 0.396
(Robust, but weakened by many instruments.)
```

```
Difference-in-Hansen tests of exogeneity of instrument subsets:
```

```
gmm(L.ebitmargin, collapse lag(1 .))
```

```
Hansen test excluding group: chi2(31) = 27.74 Prob > chi2 = 0.635
```

```
Difference (null H = exogenous): chi2(8) = 12.96 Prob > chi2 = 0.113
```

```
iv(dumfc inf bsize bgrowth bliquid)
```

```
Hansen test excluding group: chi2(34) = 33.79 Prob > chi2 = 0.478
```

```
Difference (null H = exogenous): chi2(5) = 6.91 Prob > chi2 = 0.228
```

The results on testing the GMM model, using the Arellano-Bond test for AR (1) found that the P-value = 0.000 < 0.01, while the results of Arellano-Bond test for AR (2) had a P-value = 0.417 > 0.1, which indicated and confirmed that there was no autocorrelation in the GMM regression model. Next, the study used the Two-Step Estimation with a robust standard error adjustment with the Robust Option, which addresses the issue of biased standard errors by recalculating to address any heteroscedasticity. The outcome confirmed that the consequences of heteroscedasticity can be controlled effectively in the GMM regression model. Finally, the results the Hansen test had a P-value = 0.396 > 0.1, while the Difference-in-Hansen tests indicated that overall P-value > 0.1, which meant that the GMM model had effectively addressed any issues related to endogeneity.

5.4.4 Dynamic panel-data estimation, two-step system GMM using the dependent variable of ROS

```
inf dropped due to collinearity
```

```
1b.sectorcode dropped due to collinearity
```

```
2015b.yearcode dropped due to collinearity
```

```
2021.yearcode dropped due to collinearity
```

```
2022.yearcode dropped due to collinearity
```

```
Warning: Two-step estimated covariance matrix of moments is singular.
```

```
Using a generalized inverse to calculate optimal weighting matrix for two-
step estimation.
```

```
Difference-in-Sargan/Hansen statistics may be negative.
```

```
Dynamic panel-data estimation, two-step system GMM
```

```
-----
Group variable: firmcode                Number of obs      =      2896
Time variable : yearcode                Number of groups   =      362
Number of instruments = 59              Obs per group: min =        8
Wald chi2(19) =      139.38              avg =      8.00
Prob > chi2   =      0.000              max =        8
```

	ros	Coefficient	Corrected std. err.	z	P> z	[95% conf. interval]	
	ros						
	L1.	.2415357	.0924456	2.61	0.009	.0603457	.4227257
	levs	-.0108987	.0319793	-0.34	0.733	-.073577	.0517795
	levl	-.3979798	.2422543	-1.64	0.100	-.8727895	.0768299
	levde	.013313	.0082021	1.62	0.105	-.0027628	.0293888
	dumfc	-.0027725	.014135	-0.20	0.844	-.0304765	.0249316
	bsize	.0642131	.0991642	0.65	0.517	-.1301452	.2585715
	bgrowth	.1163553	.0235602	4.94	0.000	.0701782	.1625325
	bliquid	.0094526	.0044055	2.15	0.032	.000818	.0180871
	sectorcode						
	2	.2302795	.3594151	0.64	0.522	-.4741612	.9347202
	3	.1354253	.4474732	0.30	0.762	-.741606	1.012457
	4	-.1518608	.3351817	-0.45	0.650	-.8088049	.5050833
	5	.2033838	.4681703	0.43	0.664	-.714213	1.120981
	6	.072306	.2941549	0.25	0.806	-.5042271	.648839
	yearcode						
	2016	.0018199	.026621	0.07	0.945	-.0503562	.0539961
	2017	-.0046018	.0255738	-0.18	0.857	-.0547255	.045522
	2018	.0197622	.0215204	0.92	0.358	-.0224169	.0619413
	2019	.0228609	.0214659	1.06	0.287	-.0192115	.0649333
	2020	.0245691	.0130705	1.88	0.060	-.0010486	.0501868
	2023	-.0031904	.0169105	-0.19	0.850	-.0363344	.0299535
	_cons	-.8142196	1.285397	-0.63	0.526	-3.333551	1.705111
Instruments for first differences equation							
Standard							
D.(dumfc inf bsize bgrowth bliquid)							
GMM-type (missing=0, separate instruments for each period unless collapsed)							
L.(levs levl levde)							
L(1/8).L.ros collapsed							
Instruments for levels equation							
Standard							
dumfc inf bsize bgrowth bliquid							
_cons							
GMM-type (missing=0, separate instruments for each period unless collapsed)							
D.(levs levl levde)							
D.L.ros collapsed							
Arellano-Bond test for AR(1) in first differences: z = -4.42 Pr > z = 0.000							
Arellano-Bond test for AR(2) in first differences: z = 1.33 Pr > z = 0.185							
Sargan test of overid. restrictions: chi2(39) = 244.53 Prob > chi2 = 0.000							

```
(Not robust, but not weakened by many instruments.)
Hansen test of overid. restrictions: chi2(39) = 55.66 Prob > chi2 = 0.041
(Robust, but weakened by many instruments.)
```

Difference-in-Hansen tests of exogeneity of instrument subsets:

```
gmm(L.ros, collapse lag(1 .))
Hansen test excluding group: chi2(31) = 21.17 Prob > chi2 = 0.907
Difference (null H = exogenous): chi2(8) = 34.49 Prob > chi2 = 0.000
iv(dumfc inf bsize bgrowth bliquid)
Hansen test excluding group: chi2(34) = 45.48 Prob > chi2 = 0.090
Difference (null H = exogenous): chi2(5) = 10.18 Prob > chi2 = 0.070
```

Testing the GMM model against the ROS variable using Arellano-Bond test for AR (1) had a P-value = 0.000 < 0.01, while the results of Arellano-Bond test for AR (2) indicated a P-value = 0.185 > 0.1. The outcome showed that there was no autocorrelation present in the GMM regression model. Next, the study used the Two-Step Estimation with a robust standard error adjustment of the Robust Option. The outcome confirmed that the consequences of heteroscedasticity can be controlled effectively in the GMM regression model. Finally, the Hansen test showed a P-value = 0.041 < 0.1 and the Difference-in-Hansen tests of exogeneity with the instrument subsets had a P-value < 0.1, except for only one P-value of 0.9. These outcomes indicated that the GMM model had not effectively addressed the issue of endogeneity being present.

5.4.5 Dynamic panel-data estimation, two-step system GMM, with the dependent variable of EPS

```
inf dropped due to collinearity
1b.sectorcode dropped due to collinearity
2015b.yearcode dropped due to collinearity
2021.yearcode dropped due to collinearity
2022.yearcode dropped due to collinearity
Warning: Two-step estimated covariance matrix of moments is singular.
Using a generalized inverse to calculate optimal weighting matrix for two-
step estimation.
Difference-in-Sargan/Hansen statistics may be negative.
Dynamic panel-data estimation, two-step system GMM
-----
Group variable: firmcode                Number of obs      =      2896
Time variable : yearcode                Number of groups   =      362
Number of instruments = 59              Obs per group: min =        8
Wald chi2(19) =      284.45                avg =      8.00
Prob > chi2 =      0.000                    max =        8
-----
```

eps	Coefficient	Corrected std. err.	z	P> z	[95% conf. interval]	
-----	-----	-----	-----	-----	-----	-----
eps						
L1.	.30322	.0658608	4.60	0.000	.1741353	.4323047
levs	-282.3353	281.5153	-1.00	0.316	-834.0951	269.4246
levl	-5183.129	2429.826	-2.13	0.033	-9945.5	-420.7583
levde	-17.72972	159.9097	-0.11	0.912	-331.1469	295.6875
dumfc	-116.1369	204.907	-0.57	0.571	-517.7473	285.4735
bsize	-106.7736	960.966	-0.11	0.912	-1990.232	1776.685
bgrowth	1650.428	490.5039	3.36	0.001	689.0578	2611.798
bliquid	-7.015809	28.63833	-0.24	0.806	-63.14591	49.1143
sectorcode						
2	-579.8082	3805.111	-0.15	0.879	-8037.688	6878.071
3	-4562.763	5390.838	-0.85	0.397	-15128.61	6003.086
4	-4710.744	5331.442	-0.88	0.377	-15160.18	5738.69
5	2109.515	3221.369	0.65	0.513	-4204.252	8423.282
6	-405.3611	3913.207	-0.10	0.917	-8075.106	7264.384
yearcode						
2016	200.4842	372.8205	0.54	0.591	-530.2306	931.199
2017	-87.67854	383.0607	-0.23	0.819	-838.4638	663.1067
2018	54.70899	348.9611	0.16	0.875	-629.2423	738.6603
2019	-160.7927	266.5228	-0.60	0.546	-683.1679	361.5825
2020	27.26249	147.1469	0.19	0.853	-261.1401	315.6651
2023	-249.3319	204.8596	-1.22	0.224	-650.8494	152.1855
_cons	4067.494	12955.35	0.31	0.754	-21324.52	29459.5
-----	-----	-----	-----	-----	-----	-----
Instruments for first differences equation						
Standard						
D.(dumfc inf bsize bgrowth bliquid)						
GMM-type (missing=0, separate instruments for each period unless collapsed)						
L.(levs levl levde)						
L(1/8).L.eps collapsed						
Instruments for levels equation						
Standard						
dumfc inf bsize bgrowth bliquid						
_cons						
GMM-type (missing=0, separate instruments for each period unless collapsed)						
D.(levs levl levde)						
D.L.eps collapsed						

Arellano-Bond test for AR(1) in first differences: z = -3.33 Pr > z = 0.001						
Arellano-Bond test for AR(2) in first differences: z = 1.66 Pr > z = 0.110						

Sargan test of overid. restrictions: chi2(39) = 260.32 Prob > chi2 = 0.000						
(Not robust, but not weakened by many instruments.)						

```
Hansen test of overid. restrictions: chi2(39) = 47.14 Prob > chi2 = 0.174
(Robust, but weakened by many instruments.)
```

```
Difference-in-Hansen tests of exogeneity of instrument subsets:
```

```
gmm(L.eps, collapse lag(1 .))
```

```
Hansen test excluding group: chi2(31) = 42.16 Prob > chi2 = 0.087
```

```
Difference (null H = exogenous): chi2(8) = 4.98 Prob > chi2 = 0.760
```

```
iv(dumfc inf bsize bgrowth bliquid)
```

```
Hansen test excluding group: chi2(34) = 34.25 Prob > chi2 = 0.456
```

```
Difference (null H = exogenous): chi2(5) = 12.89 Prob > chi2 = 0.024
```

The testing of the GMM model as to EPS from the Arellano-Bond test for AR (1) provided a P-value = 0.000 < 0.01, while the results of Arellano-Bond test for AR (2) had a P-value = 0.110 > 0.1. Both results indicated that there was no autocorrelation in the GMM regression model. Next, the study used the Two-Step Estimation with a robust standard error adjustment of the Robust Option. The outcome confirmed that the consequences of heteroscedasticity can be controlled effectively in the GMM regression model. Finally, the outcome of the Hansen test showed that the P-value = 0.174 > 0.1, and the Difference-in-Hansen for testing of the exogeneity of instrument showed that the subsets provided two results of P-value = 0.760 and 0.456 > 0.1. These findings therefore indicated that the GMM model had not effectively addressed issues of endogeneity. To contextualise the outcome of these tests, the next section 5.5, presents an analysis and review of the outcome of this chapter.

5.5 Analysis and Review of the Outcomes of the Chapter

Summary of the GMM regression results from the findings above is presented below in Table 5.5

Table 5.5: Summary of the GMM regression results

	(1)	(2)	(3)	(4)	(5)
	roa	roe	ebitmargin	ros	eps
levs	-0.049*** (0.015)	-0.010 (0.031)	-0.082 (0.055)	-0.011 (0.032)	-282.335 (281.515)
levl	-0.233*** (0.077)	0.142 (0.245)	-1.413** (0.633)	-0.398 (0.242)	-5183.129** (2429.826)
levde	0.000 (0.005)	-0.125*** (0.014)	0.006 (0.015)	0.013 (0.008)	-17.730 (159.910)
dumfc	0.001 (0.006)	-0.027 (0.035)	0.014 (0.026)	-0.003 (0.014)	-116.137 (204.907)
inf					
bsize	-0.009	0.125	0.323	0.064	-106.774

	(0.044)	(0.111)	(0.248)	(0.099)	(960.966)
bgrowth	0.103** *	0.134***	0.293***	0.116***	1650.428***
	(0.016)	(0.037)	(0.088)	(0.024)	(490.504)
bliquid	0.000	-0.008***	0.015	0.009**	-7.016
	(0.001)	(0.003)	(0.012)	(0.004)	(28.638)
L.roa	0.315***				
	(0.066)				
L.roe		-0.028			
		(0.060)			
L.ebitmargin			0.113		
			(0.091)		
L.ros				0.242***	
				(0.092)	
L.eps					0.303***
					(0.066)
sector effects	yes	yes	yes	yes	yes
year effects	yes	yes	yes	yes	yes
N	2896	2896	2896	2896	2896
number of IV	59	59	59	59	59
hansen	41.957	41.700	40.698	55.658	47.139
hansenp	0.344	0.354	0.396	0.041	0.174
ar1p	0.000	0.001	0.000	0.000	0.001
ar2p	0.715	0.674	0.417	0.185	0.097

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The study showed a summary of the results of the GMM regression as presented in Table 5.5. Based on the results in sections 5.4.1, 5.4.2, and 5.4.3 the outcomes indicated that the GMM regression for dependent variables ROA, ROE, and EBIT Margin had good estimators, which can be considered as close to the Best Linear Unbiased Estimator (BLUE) which is based on the Gauss-Markov theorem or GMM model. The GMM model successfully addressed the issues of heteroscedasticity, autocorrelation, and endogeneity. However, in the regression models 5.4.4 and 5.4.5 analysing the dependent variables of Return on Sales (ROS) and Earnings per Share (EPS), the potential problems related to heteroscedasticity and autocorrelation were managed effectively. However, the results indicated that ROS and EPS did not adequately resolve the issues related to endogeneity.

Therefore, with the purpose of choosing the most reliable method, the next section will focus more on interpreting the regression results of ROA, ROE and EBIT Margin, while the regression results of ROS and EPS can serve as additional and supportive information for the findings.

5.5.1 Business performance measured by return on asset (ROA)

Focusing on short-term debt referred to as and denoted as LEVs, the outcome of the results indicated there was a significant negative influence on the ROA with a coefficient B of -0.049. The outcome of the analysis revealed that when Vietnamese SMEs increased their short-term debt ratio by 1%, when the business performance was measured by ROA, the outcome decreased by 0.049% with a P-value = $0.002 < 0.01$. The significance level of the P-value confirmed that the results could be considered statistically significant at a 1% level.

In reference to the long-term debt (LEVl), this variable had a significant negative effect on ROA with coefficient B of -0.223. The outcome indicated that when a Vietnamese SME tended to expand their long-term debt ratio by 1%, while the business performance measured by ROA indicated a decline of 0.223%, together with a very strong confidence intervals of more than 99%, with a P-value of $0.002 < 0.01$, along with a P-value which suggests strong evidence of statistical significance at a 1% level.

The regression results as to the debt-to-equity ratio (LEVde) showed no evidence of statistically significant with a P-value = $0.953 > 0.1$, which indicated that there was an insignificant relationship between ROA and the debt-to-equity ratio. With the dummy variable as to the financial crisis (DUMfc), which measured the financial crisis between 2020 and 2021, the regression analysis results showed that there was no significant statistical difference between the ROA of the Vietnamese SMEs during the COVID-19 pandemic and how these businesses ROA performed before or after COVID-19, which had a P-value of $0.8 > 0.1$. The inflation (INF) variable was removed from the GMM model when focused on the dependent ROA, due to a collinearity problem. However, the influence of inflation from the POLS, REM and FEM regression tests produced an outcome which was consistent as to indicating no influence on the ROA. There was no significant association between business size and the performance measured by ROA, with a P-value = $0.8 > 0.1$. The growth of the business (business growth) had a strong positive relationship between the growth and the performance of the enterprise, which was measured by ROA which had a coefficient of $B = 0.1$. Therefore, if a Vietnamese SME improves the business growth by 1%, the company can achieve this through performance which is measured by ROA by 0.1%, with a P-value = $0.000 < 0.01$. As to the business liquidity (Bliquid), the outcome indicated no significant influence on the enterprise's performance of measured by the ROA, with a P-value = $0.9 > 0.1$. Finally, the sector (Sectorcode) had no significant influence on business performance which was measured by ROA, as the results indicated a P-value > 0.1 . The study also conducted additional regression analysis to

individually analysed the following independent variables: short-term debt ratio (levs), long-term debt ratio (levl), and debt-to-equity ratio (levde). Each independent variable was examined in relation to its dependent variable through conducting a separate regression test, with the results presented in Appendix 4. These additional findings indicated that when regression analysis were performed with the separate leverage variables, the outcomes were consistent with the main findings. These outcomes showed that all ratios of leverage variables negatively affected business performance when measured by ROA in Vietnamese SMEs. However, all coefficients had non-significant statistical results, with P-values > 0.1 .

5.5.2 Business performance measured by return on equity (ROE)

In relation to using the short-term debt ratio (LEVs) there was no significant influence on ROE with the P-value = 0.7, which confirmed that the results are considered statistically insignificant. As to the long-term debt ratio (LEVl), there was also no significance relationship of LEVl and ROE with the model showing a P-value = 0.5 > 0.01 . However, with the debt-to-equity ratio (LEVde) the results indicated that there was a strong effect on business performance measured by ROE with a B = -0.12, which means that when a Vietnamese SME increases the level of debt-to-equity to 1%, the outcome will affect the business performance by dropping by 0.12%, with a P-value = 0.000 < 0.01 . The dummy variable of financial crisis (DUMFc), representing the years 2020 and 2021, the period of the COVID-19 pandemic and afterwards, indicated no significant statistical difference on the ROE with a P-value = 0.4 > 0.1 . When the variable of inflation (INF) was removed from the GMM model, due to the collinearity problem, the influence of this variable from the POLS, REM and FEM regression model had no influence on the business performance measurement.

The business size (BSize) had also no significant association between business size and the performance with a P-value = 0.25 > 0.1). As to the business growth (Bgrowth) there was a strong positive relationship of the growth of the enterprise and the performance with a coefficient of B= 0.13, therefore indicating that a Vietnamese SME grows by 1%, the outcome can result in an increase of 0.13% of the enterprise's performance if measured by ROE, with a P-value = 0.000 < 0.01 . Next the business level (Bliquid), the results indicated that there was a significant negative influence on the performance of the enterprise if measured by ROE with a B = -0.008. The outcome indicated that if the SME can enhance the performance by 1% when measured by ROE, the outcome is a decrease of 0.008%, as the model has a P-value = 0.001 < 0.01 . Finally, the sector (Sectorcode) had no significant influence on performance of the business in any sector, with a P-value of > 0.1 . The study conducted a further regression

analysis to examine the independent variables of short-term debt ratio (levs), long-term debt ratio (levl), and debt-to-equity ratio (levde). Each independent variable was analysed in relation to its dependent variables through conducting separate regression tests, with the results presented in Appendix 4. These additional findings indicated that when regression analysis were performed with the separate leverage variables, the outcomes were almost consistent with the main findings. The results showed that both the short-term debt ratio and the debt-to-equity ratio negatively influenced ROE as a measure of business performance in these Vietnamese SME enterprises. However, all coefficients in the regressions were statistically insignificant, with P-values greater than 0.1.

5.5.3 Business performance measured by EBIT MARGIN (ebit margin)

Short-term debt (LEVs) when measured using the EBIT Margin had an insignificant influence, with a P-value of $= 0.13 > 0.1$, then with the long-term debt ratio (LEVl), this had a negative effect on EBIT margin with a coefficient $B = -1.41$. This outcome indicated that when a Vietnamese SME expands long-term debt ratio by 1%, the business performance measured by EBIT Margin is likely to decline by 1.41%, with moderate confidence intervals of more than 95%, with a P-value $= 0.02 < 0.05$. The level of the P-value suggests evidence of statistical significance at a 5% level.

The results of the regression analysis as to the debt-to-equity (LEVde) ratio showed no evidence of any statistical significance, with a P-value of $= 0.96 > 0.1$. The dummy variable (DUMfc) used to measure the influence of the financial crisis due to the COVID-19 pandemic, for the years 2020 and 2021, showed that there was no significant statistical difference between the EBIT Margin of Vietnamese SMEs business performance during the COVID-19 pandemic and afterwards, with a P-value of $= 0.5 > 0.1$. The inflation variable (INF) was removed from the GMM model again due to collinearity problems, however, inflation from the POLS, REM and FEM regression indicated there was no influence on business performance measured by the EBIT Margin.

The Business size (BSize) had no significant association between size and performance of the Vietnamese SMEs when measured by EBIT Margin, with a P-value of $= 0.19 > 0.1$. Business growth (Bgrowth) indicated a strong positive relationship between the growth of the enterprise and performance measured using the EBIT Margin with a coefficient of $B = 0.293$. The outcome indicated that when an SME grew by 1%, the result is an 0.293% increase in business performance, with a P-value of $= 0.001 < 0.01$, therefore having a very strong statistical significance at a 1% level. The results of the business liquidity (Bliquid) had no significant

influence on an SMEs performance when measured by the EBIT Margin, with a P-value of $= 0.2 > 0.1$. Finally, the sector (Sectorcode), had no significant influence on performance when measuring the ROA with all sectors having a P-values > 0.1 . Again, the study performed an additional regression analysis to analyse the independent variables, that of short-term debt ratio (levs), long-term debt ratio (levl), and debt-to-equity ratio (levde), with the results detailed in Appendix 4. These findings indicated that the results from the separate leverage variable were almost consistent with the main findings. The test showed that the debt-to-equity ratio negatively affected business performance, as measured by the EBIT margin in these Vietnamese SME enterprises. However, all coefficients in the regression tests were statistically insignificant, with P-values exceeding 0.1.

5.5.4 Business performance measured by return on sales (ROS)

All the measurements of capital structure which assessed the short-term and long-term debt together with the debt-to-equity ratio had no significant effects on SME business performance using ROS, as the P-value was $= 0.7 > 0.1$ for short-term debt, P-value $= 0.1 > 0.05$ long-term debt and P-value $= 0.105 > 0.1$ for debt-to-equity ratios. The SME business growth and liquidity had a significant positive influence on the ROS with $B = 0.11$, and a P-value $= 0.00 < 0.01$ and then $B = 0.009$ for the business growth, with business liquidity with a P-value of $= 0.03 < 0.01$. This outcome indicated that when a Vietnamese SMEs increased the growth of business by 1%, the business performance measured by ROS will increase by 0.11%. The level of P-value suggested that there was a statistical significance at a 1% level. However, if a Vietnamese SMEs increased its business liquidity by 1%, the business performance measured by ROS would increase by 0.009%, The level of P-value suggested evidence of statistical significance at a 5% level.

As to the dummy variable of financial crisis, business size, and the sector, there was no significant influence on ROS and with a P-value $= 0.8 > 0.1$ for financial crisis, and a P-value $= 0.5 > 0.1$ for business size, with all sectors as being with a P-value of > 0.1 . As with the other datasets, the study also performed additional regression analysis to analyze the independent variables of short-term debt ratio (levs), long-term debt ratio (levl), and debt-to-equity ratio (levde), which are presented in Appendix 4. These findings indicated that the results from the separate leverage variables were consistent with the main findings. The outcome of the test showed that all debt ratios negatively affected the business performance, as measured by return on sales (ROS) in these Vietnamese SMEs. However, all coefficients in the regression tests were statistically insignificant, with P-values exceeding 0.1.

5.5.5 Business performance measured by earning per share (EPS)

Using the EPS measurement indicated that the capital structure on long-term debt had a strong negative influence on the SMEs performance, with the $B = -5183$, and a P-value of $= 0.003 < 0.05$. This outcome indicated that when a Vietnamese SME increased their long-term debt ratio, this can lead to a reduction in the SMEs performance when measured by EPS. The level of the P-value suggested evidence of statistical significance at a 5% level.

Next, there was the positive and significant relationship between business growth with the EPS measurement indicating a $B=1650$ and a P-value of $=0.001$, which implied that when a SME grows, the EPS also increased. There was no significant difference as to short-term, debt-to-equity, financial crisis, business size, business liquidity or the sectors, as to business performance when measured by EPS, as all of these variables had a P-value of > 0.1 . The study also performed additional regression tests to analyse the independent variables of short-term debt ratio (levs), long-term debt ratio (levl), and debt-to-equity ratio (levde), with the outcomes detailed in Appendix 4. These findings indicated that the results from the separate leverage variable were almost consistent with the main findings which showed that both short-term debt and long-term debt ratio negatively affected the business performance, as measured by EPS in these Vietnamese small and medium-sized enterprises, with only relationship between long-term debt and EPS being statistically significant with P-value <0.05 .

5.6. Analysis the Regression Results

5.6.1 The influence of capital structure measurement using short-term debt ratio on business performance

The influence of the SMEs capital structure when measured by the short-term debt ratio on the enterprise's performance, as indicated in Table 5.5, showed a negative effect and relationship between this short-term debt and SMEs performance measurements, including ROA, ROE, EBIT Margin, ROS and EPS. The outcome of the results indicated a strong link to the negative influence of short-term debt and the SMEs overall performance. However, it should be noted that only the relationship between short-term debt and return on assets (ROA) was statistically significant, at 1% with the P-value $= 0.002$. Therefore, it can be concluded that short-term debt had no direct effect on ROE, EBIT Margin, ROS, or EPS, so when a Vietnamese SME raises short-term debt, the SMEs performance measured by ROA will decrease.

Based on the results of the regression test in this study, Vietnamese SMEs should reduce their short-term debt because using or leveraging this option could result in lower business performance. For SME business performance to be effective, it is advised that no optimal point ($\neq 0$) is used when opting for short-term debt option. This outcome is supported by other studies including Dawar (2013), Hasan et al. (2014), Mwangi et al. (2014) and Kanwal et al. (2017), who stated that short-term debt can negatively affect a SME's performance if measured by ROA. However, other writers including Salim and Yadav (2012) found numerous inconsistencies in this conclusion, including a negative influence on the SMEs performance if measured by ROE and EPS. This study indicated no evidence of a significant relationship between short-term debt and ROE and EPS. This finding was supported by Salim and Yadav (2012), Dawar (2013), Hasan et al. (2014), Mwangi et al. (2014), and Kanwal et al. (2017) who suggested that this short-term debt can have a negative influence on a SMEs performance if measured by ROE.

Finally, while Abor (2005), Coleman (2007), and Gill et al. (2011) indicated that there was a positive influence on short-term debt and ROE, Coleman (2007) contradicted this, arguing that there was a positive relationship between short-term debt and ROA, whilst Hasan et al. (2014) pointed out that short – term debt can positively affect EPS. Finally, Al-Taani (2013) and Sivalingam and Kengatharan (2018) stated that short-term debt and ROA had no direct effect, which implies that there remains no consensus or agreement.

5.6.2 The influence of capital structure measurement using long-term debt ratio on business performance

As can be seen in Table 5.5, long-term debt had a significant negative influence on the SME business performance when assessed using ROA, EBIT Margin and EPS, which had a P-value = of $0.002 < 0.01$, indicating a statistically significant at 1% for ROA, P-value = of $0.026 < 0.05$ a statistically significant at 5% for EBIT Margin, and for EPS a P-value of = $0.033 < 0.05$, with statistically significant at 5%. The data showed that there was a high consistency amongst the results of a negative influence on long-term debt in Vietnamese SME business performance. Like the effects of short-term debt, the business performance of using more long-term debt could lead to a downturn in the SME. Furthermore, the outcome of the findings also indicated that long-term debt had no direct influence on the SMEs performance, as measured using ROE and ROS, due to the P-value > 0.1 . Based on the regression results, Vietnamese SMEs therefore should reduce their long-term debt ratio to enhance their business performance. From the

business performance effectiveness perspective, it is advised that there is no optimal point ($\neq 0$) for Vietnamese SMEs to use long-term debt.

These findings are consistent with Ebai (2009), Iavorskyi (2013), Al-Taani (2013), Dawar (2013), Hasan et al. (2014), Mwangi et al. (2014), Kanwal et al. (2017), and El-Chaarani and El-Abiad (2019) which contended that long-term debt can have a negative effect on SMEs performance when measured by ROA. However, Abor (2005), Javed et al. (2014), Salim and Yadav (2012), Javed et al. (2014), Mwangi et al. (2014), Kanwal et al. (2017) and Kotey (2024) implied that long-term debt could negatively affect a SMEs performance when measured by ROE. Salim and Yadav (2012) and Hasan et al. (2014) also showed a negative relationship between long-term debt and EPS, whereas Iavorskyi (2013) identified a negative association between long-term debt and EBIT Margin. As to no direct effect of long-term debt and ROE, writers including Ebaid (2009), Gill et al. (2011), Sivalingam and Kengatharan (2018) and El-Chaarani and El-Abiad (2019) found no direct relationship. However, several studies including Javed et al. (2014) have revealed that there was a positive effect on long-term debt based on using ROA and ROS, whilst Mohammad and Bujang (2020) stated that long-term debt can influence ROA and ROE positively, whereas Sivalingam and Kengatharan (2018) showed that long-term debt had no effect on ROA.

5.6.3 The influence of capital structure when measured by debt-to-equity ratio on a SMEs performance

As can be seen in Table 5.5, the debt-to-equity ratio had a significant negative influence on SMEs performance when using ROE, which had a P-value of $= 0.000 < 0.01$, with a statistically significant ranking at 1%. This result was like the two above, as to the negative influence of short- and long-term ratios on SMEs performance. The findings show a strong consistency amongst the results, indicating that when a Vietnamese SME which increases their debt-to-equity ratio, the performance of the business will decrease. However, the findings of the desk-based research found no evidence of a relationship between the debt-to-equity ratio and the SME's performance when measured by ROA, EBIT Margin, ROS and EPS. Based on the regression results, Vietnamese SMEs should reduce the debt-to-equity ratio, with these businesses reducing their overall total debt when attempting to increase their business and performance. From the perspective of business performance effectiveness, this study found that there was no optimal point ($\neq 0$) for Vietnamese SMEs in using debt.

When analyzing the negative influence of debt-to-equity ratio on a SMEs performance, this study's outcomes are supported by Muhammad (2014), Chadha and Sharma (2015), Kanwal et

al. (2017), and Youssef et al. (2022) who argued that the outcomes of the negative effects of debt-to-equity ratio on a SMEs performance can be effectively measured by ROE. Al-Taani (2013), Chadha and Sharma (2015), and Kanwal et al. (2017) found however no evidence of a significant association between debt-to-equity ratio and SMEs performance when measured using ROA. This outcome of Al-Taani (2013), Chadha and Sharma (2015), and Kanwal et al. (2017), along with this study was contradicted by Nasimi (2016) who identified a positive relationship of debt – to – equity ratio and business performance when measured using ROE, whilst Memon et al. (2012), Muhammad (2014), Nasimi (2016), and Youssef et al. (2022) indicated a negative effect on debt – to equity ratio on ROA, which is in contrast with this study who found no relationship between these variables. The outcomes of this chapter will be critical discussed in the next chapter, Chapter Six, the Discussion.

Chapter Six

Discussion

6.1 Introduction

This chapter will critically discuss the results generated from the Delphi expert interviews and the findings of analysis regression along with the current academic debate as presented in Chapter Two, the literature review. Before proceeding, it needs to be noted that while there are other concepts which can be used to determine financial options for a business, including the Free Cash-Flow theory, which tends to be designed for well-managed and mature companies, from the outset of the study, the focus has been on three key theories of capital structure. These are the Trade-off, Pecking Order, and Agency Cost theories, all of which are considered suitable for small and medium-sized enterprises. The exclusion of other theories, such as the Market-Timing theory has also been confirmed by the outcome of the expert interviews which indicated a consensus that this theory was not generally suitable for Vietnamese SMEs, while the Net Income Approach, the MM 1958 concept, together with the Net Operating Income and the Traditional approaches, were also excluded due to their unrealistic reliance on the usage of corporate taxation and the omission of transaction costs.

The study involved conducting a Delphi technique, which involved a series of expert panel interviews of professionals working in the Vietnamese corporate financial sector, with the purpose of gathering their opinions, perspectives, recommendations and assessment related to reliability and suitability of financial concepts use to predict the capital structures of Vietnamese SMEs. To contextualise the outcome of the expert panel findings, the study then focused on validating the outcomes by generating a series of quantitative statistical tests on published Vietnamese SME data using the financial measures of Trade-off, Pecking-Order and Agency Cost theories, with the next section 6.2, commencing a general discussion, focus on themes including short-term debt, long-term debt, and debt – to equity ratio negatively affecting business performance in Vietnamese SMEs between 2015-2023.

6.2 Central Discussion

The next section will focus on the short-and long-term debt ratio's negative effect on business performance in Vietnamese SMEs during 2015-2023 which will include the drawing on the current academic debate. As indicated in the previous chapter, there is no consensus amongst the academic scholars (e.g., Sivalingam & Kengatharan, 2018; Coleman, 2007; Al-Tanni,

2013) as to the relationship between capital structure and business performance, which includes the effects on short-term debt.

6.2.1 Short-term debt ratio negatively affecting business performance in Vietnamese SMEs between 2015-2023

Drawing on the expert panel's professional experience and the subsequent quantitative regression data analysis, the short-term debt ratio was found to have a negative effect on a SMEs performance when measured using the Return on Assets (ROA) equation, with a Coefficient B of $= -0.049$. From this outcome, it can be seen that the data from these Vietnamese SMEs between 2015 to 2023, that when a business increases their level of debt by 1%, the performance of the business, when measured by return on assets, tended to decrease by 0.049%. Based on the results of this regression test, Vietnamese SMEs should reduce their short-term debt because using or leveraging this option could result in lower business performance. For these Vietnamese SME business performance to be effective, it would be advisable that no optimal point ($\neq 0$) is used when opting for a short-term debt solution. Writers including Dawar (2014) and Hasan et al. (2014) who although not focused on Vietnam but instead from an Indian and Bangladesh perspectives have supported this outcome by indicated that the performance measured by ROA, that an increased short-term debt ratio is associated with a decrease in profitability. However, this outcome is not conclusive, as Mwangi et al. (2014) who studied the relationship between capital structure and performance of non-financial companies listed in the Nairobi securities exchange, in Kenya between 2006 to 2012, found that short-term debt had some a statistically significant association with performance when measured by ROA, while Kanwal et al. (2017) looking at non-financial listed companies in Pakistan, found a negative effect on ROA in their regression analysis. This lack of consensus is also present in the work of Coleman (2007), Al-Tanni (2013), and Sivalingam and Kengatharan (2018). Coleman (2017) examined the influence of capital structure on the performance of Ghanaian microfinance institutions, which used panel data from 1995 to 2004 and showed that short-term debt can have a positive effect on ROA. Al-Tanni (2013) who focused on capital structure and business performance of manufacturing companies in Jordan between 2005-2009, indicated an insignificant relationship between short-term debt and ROA. This outcome of Al-Tanni (2013) was similar to Sivalingam and Kengatharan (2018) who looking at commercial banks in Sri Lanka saw short-term debt had no relationship with ROA and the listed institutions.

6.2.2 Long-term debt ratio negatively affecting business performance in Vietnamese SMEs between 2015-2023

This study then examined the long-term debt ratio and found that this form of debt can have a significant negative effect on a SME business' performance when assessed using return on assets (ROA), EBIT Margin, and Earnings Per Share (EPS). However, there was no significant relationship identified between long-term debt and Return on Equity (ROE) or Return on Sales (ROS). The data indicated a strong consistency in the results, showing a negative influence of long-term debt on the performance of Vietnamese SMEs. This was confirmed by the results of Coefficients B with $B = -0.233$ for ROA, $B = -1.413$ for EBIT Margin, and $B = -5183$ for EPS, which indicated that when these Vietnamese SMEs increase 1% of long-term debt, the outcome tends to reduce the ROA by 0.233%, lowering EBIT Margin by 1.413% and EPS is 5183VND reduced. The results from the regression analysis showed that Vietnamese SMEs should reduce their long-term debt ratio to improve their business performance. In terms of effectiveness, it is recommended that there is no optimal level ($\neq 0$) for the use of long-term debt by Vietnamese SMEs. This outcome of ROA reduction was supported by Ebaid (2009) who investigated capital structure in Egypt based 64 businesses between 1997 to 2005. The outcome of Ebaid (2009) study showed a negative effect on long-term debt based on ROA. This is consistent with Mwangi et al.'s (2014) Kenyan study, Al-Taani (2013) Jordanian project, Mohammad and Bujang (2020) who review Malaysian enterprises, Dawar (2013) Indian research, Kanwal et al. (2017) Pakistan analysis and El-Chaarani and El-Abiad (2019) who focused on Middle East countries.

From a ROA and EBIT Margin perspective, Iavorskyi (2013) research was based in Ukraine, and found that long-term debt can adversely affect this country's listed businesses, which was confirmed by Hasan et al. (2014) who focussed on Bangladeshi companies, while Gill et al. (2011) in a North American project found no significant relationship between long-term debt and ROE. This lack of consensus is also illustrated by Javed et al. (2014) who found that long-term debt had a positive effect on Return on Assets (ROA) and Return on Sales (ROS), while it negatively affected the Return on Equity (ROE). However, Mohammad and Bujang (2020) who focused on the capital structure and financial performance in Malaysia indicated a positive association between long-term debt and return on assets (ROA) but Sivalingam and Kengatharan (2018) found no effect on long-term debt on ROA in Sri Lanka. Overall, this outcome from a short and long-term debt perspective indicates that each SME and measurement adopted needs to be carefully analysed as there is no one prescribed solution.

6.2.3 Debt – to – equity ratio negatively affecting business performance in Vietnamese SMEs between 2015-2023

The study then moved on to examine the debt-to-equity ratio and its effect on the performance on Vietnamese SMEs. The regression findings revealed a significant negative influence of the debt-to-equity ratio on business performance when measured by Return on Equity (ROE). However, there was no significant relationships were found between the debt-to-equity ratio and other performance indicators, such as Return on Assets (ROA), EBIT Margin, Return on Sales (ROS), and Earnings Per Share (EPS). The data generated from the regression analysis indicated a consistent negative relationship between the debt-to-equity ratio and business performance amongst the Vietnamese SMEs, with the Coefficient B of = -0.125 which suggests that for every 1% increase in the debt-to-equity ratio, there is a corresponding decline of 0.125% in performance measured by the ROE.

Based on these regression results, it would be advisable for Vietnamese SMEs to reduce their debt-to-equity ratio or total debt, to enhance their business performance. From the perspective of business performance effectiveness, it would also be recommended that there is no optimal point ($\neq 0$) for Vietnamese SMEs to utilise their total debt. This outcome was supported by Muhammad (2014) who revealed a negative association between the debt-to-equity ratio and return on equity (ROE) amongst listed businesses in Pakistan. Chadha and Sharma (2015) examined the capital structure and business performance in India and concluded that the debt-to-equity ratio can negatively affect ROE. This outcome was supported by Kanwal et al. (2017) who found a similar negative effect of the debt-to-equity ratio on ROE in listed enterprises in Pakistan. Memon et al. (2012) who investigated the Pakistani textile sector also revealed a negative effect on the debt-to-equity ratio on return on assets (ROA) in Pakistan. These existing studies are therefore consistent with this study, which identified a negative association with debt-to-equity ratio on ROE in the listed Vietnamese SMEs from 2015 - 2023. However, again there is no consensus as to the negative effect on debt-to-equity ratio, as Nasimi (2016) who focused on the effects of capital structure on the profitability of UK companies found a positive effect of the debt-to-equity ratio on return on equity (ROE) amongst these listed companies. The next section, 6.3, will present a critical discussion as to the outcome of the regression analysis results related to capital structure generated from the Delphi method, commencing with the Trade-Off theory and Agency Cost approach and finally the Pecking Order.

6.3 Discussion of the regression results in relation to the Delphi Panel findings and capital structure theories

This section will present the three core theories and the connection to the literature together with the regression analysis results, commencing with the Trade-Off theory.

6.3.1 Trade-Off theory

The Trade-Off theory is the oldest model related to the original concept of capital structure as proposed by Miller and Modigliani (1958), which emphasised the optimisation of capital structures. Kraus and Litzenberger (1973) indicated that for a business to achieve an optimal capital structure, there must be a weighing of costs against the benefits of using debt and equity. This process involves considering other important attributes such as taxes, bankruptcy risk, and agency costs. By following this theory, a business can attain an optimal capital structure by adjusting its levels of debt and equity, effectively balancing the tax advantages against any potential costs therefore minimising any financial distress. Myers (1977) suggested that utilising debt up to a certain point can help balance the costs of financial outcomes while also providing an interest tax shield. From this study, the expert panel group did not fully support the application of the Trade-Off theory of capital structure for Vietnamese SMEs, as detailed in Chapter Four. The experts did, however, reach a consensus that both a flexible strategy, which does not strictly adhere to the Trade-Off theory as being an optimal solution. However, the experts generally preferred a flexible strategy because it is more suitable and adaptable for SMEs as this type of business often needs to respond more quickly to market and operational changes and is easier to implement than a strictly optimal capital structure. When comparing flexible and optimal capital structures, as with the Trade-Off theory, the expert group would advise Vietnamese SMEs to adopt a more flexible approach rather than seeking for an optimal capital structure as prescribed by the Trade-Off theory.

The regression analysis results supported the experts' perspectives. The analysis showed that all types of debt ratios, including short-term and long-term debt, along with debt-to-equity or total debt can have a negative effect on business performance, with statistical significance at the 1% level. Based on the statistical data used from 2023 to 2025, the findings indicated that there was no specific level of debt that can enhance business performance for Vietnamese SMEs. Therefore, the regression analysis and expert panel perspectives rejects the usage of the Trade-off theory for Vietnamese SMEs to use.

6.3.2 Agency Cost theory

The Agency Cost theory was initially proposed by Fama and Miller (1972) and later developed by Jensen and Meckling (1976). This theory focuses on how capital structure can be influenced by agency costs, which, according to Pratt (2012), can lead to conflicts among stakeholders, managers, and lenders. Jensen and Meckling (1976) noted that these conflicts may arise between shareholders and managers, or amongst debtholders and shareholders due to their different agendas and focus (Myers, 2001). Dawar (2014) explained that the conflict between managers and shareholders tends to be related from the separation of ownership and control. Managers often prioritise their own interests over the value of the business. As a result, issuing debt may reduce agency costs and improve business performance, and by incentivising managers, this will motivate them to act in the best interests of shareholders rather than engaging in discretionary behaviour.

The Agency Cost theory received support from the expert panel members in the findings, specifically regarding its application to Vietnamese SMEs. The findings revealed that experts agreed that conflicts amongst managers, owners, and shareholders can significantly influence the capital structure strategies in a Vietnamese SME. The panel suggested that managing the debt ratio could help address these conflicts. However, the experts also expressed concerns about the need to consider the corporate governance characteristics and the potential risk of bankruptcy when deciding on the financial structures needed to be adopted in Vietnamese SMEs. As to the regression results, the expert panel perspectives were not supported by the secondary data analysis. The results indicated that all types of debt ratios, including short-term and long-term debt, and the debt-to-equity ratio or total debt, negatively affected the business performance, with statistical significance between 1% and 5%. This finding suggests that the use of debt does not necessarily benefit these Vietnamese SMEs, rather the increase of debt is associated with poorer business performance. Consequently, the SMEs' value does not improve when debt is utilised in this context. Therefore, there is no evidence to support the use of debt, which contradicts the usage of the Agency Cost theory.

6.3.3 Pecking-Order theory

The Pecking Order theory, originally proposed by Myers and Majluf (1984) and Myers (1984), addresses the limitations of the Trade-Off theory by outlining how a company should prioritise its sources of seeking finance. Using this model, a company can typically use internal financial options first, followed by debt, and then finally consider equity as the last resort. The Pecking Order theory was supported by the panel of experts, specifically regarding its application to

Vietnamese SMEs. The results from the panel indicated a consensus amongst the experts about the theory's role in shaping capital structure strategies for these Vietnamese SMEs. The panel concluded that these SMEs should prioritise retained earnings first, followed by debt, and finally new equity. However, this approach should be applied flexibly to meet specific needs and reflect the business environment.

As to the regression results, this study's findings do not fully support or entirely reject the Pecking Order theory, rather, indicate that there is a need to carefully consider the circumstances. Firstly, when a SME has sufficient retained earnings to finance new investment in a project, the company will not often require external funding, such as raising debt or needing to issue new shares. In this scenario, the regression findings support the Pecking Order theory, along with the expert Delphi panel outcomes, which emphasise that internal funding should take priority over external financing. Secondly, when an SME lacks sufficient internal funds for new investment, the business may need to seek external financing, indicating the flexibility needed when deciding the best option. According to the Pecking Order theory, issuing debt is preferred over issuing new shares. However, this study's empirical findings suggest that, in the context of Vietnamese SMEs, debt should not be prioritised over equity due to its negative effect on business performance.

6.4 Chapter summary

This chapter has presented a critical discussion which has compared the empirical findings of this study with existing literature. The focus has been to address the insights gathered from the expert Delphi panel interviews, which focused on the three capital structure theories: the Trade-off, the Agency Cost, and the Pecking Order theories. There was no consensus amongst existing literature regarding the relationship between financial leverage and business performance, as the empirical findings varied across different contexts. Consequently, the findings of this study both support and contradict existing literature, but from a Vietnamese SME perspective.

As to the discussion related to the empirical findings and the insights generated from the expert Delphi panel interviews as to the three key theories, for the Trade-off theory, Vietnamese SMEs should aim for an optimal level of debt. However, this option and strategy was not strongly supported by the expert, which indicated a consensus recommending that Vietnamese SMEs should adopt a more flexible approach rather than striving for an optimal capital structure as suggested by the Trade-off theory. The experts' perspectives were further supported by the

outcome of the regression analysis, which indicated that increased debt can negatively affect business performance in Vietnamese SMEs.

The Agency Cost theory suggested that SMEs should use debt to better discipline managers, as the pressure from repaying borrowed funds encourages more cautious financial decision-making to be made. In this context, debt can serve as a mechanism to resolve potential conflicts of interest between managers and owners. This theory was supported by the findings generated from the expert panel, which advises that Vietnamese SMEs should consider corporate governance characteristics, the cost of debt, the risk of bankruptcy and defaulting on the debt, and the potential loss of key managers before implementing this approach. However, there are inconsistencies in the empirical evidence, as this study finding found that debt can negatively affect business performance and, consequently, the value of the Vietnamese SME.

Finally, the Pecking Order theory suggests that a SME should prioritise its financing sources in the following order, to firstly use internal funds, secondly, draw on debt, and lastly opt for raising new equity. This theory was generally supported by the expert panel, however, the experts advised that this approach should be applied flexibly to suit specific needs and reflect the business environment. The Pecking Order theory was not entirely supported or rejected by the regression results, which should be examined based on two criteria. Firstly, if a SME has sufficient internal funds to finance its new project, the theory recommends prioritising these internal funds for funding the initiative, a strategy supported by the regression findings. Secondly, if a SME lacks internal funds and needs to seek external financing, the regression findings do not support the Pecking Order theory of using debt then equity. In such cases, the results indicate that debt should not be issued before equity, as there is evidence of a negative effect of debt on the SME's value.

The next and final chapter, the Conclusion will consolidate the outcomes of the study by addressing how the aim and research objectives were achieved through presenting the academic and business contributions, along with the limitations of the project and an indication of potential areas for future research.

Chapter Seven

Conclusion

7.1 Introduction

This chapter intends to provide an in-depth conclusion of the study, including offering business and academic recommendations based on the key findings and implications related to financing and funding Vietnamese small and medium-sized enterprises (SMEs), and the potential effects on the business performance. The chapter will summarise the main outcomes of the study by critically reviewing and then discussing how the study's aim, objectives and research questions were achieved. This will include a comprehensive review of the outcomes generated and how this study contributes to both academic knowledge and the practical application of capital structure strategies for SMEs in Vietnam. The recommendations provided will be made specifically for Vietnamese SMEs on how to potentially enhance their strategic planning options through selecting the most viable financing approach. Furthermore, this chapter, recognising the potential limitations of the research, will include an acknowledgement of them, and how these issues were addressed, along with providing recommendations for future research.

7.2 Overview of the Study

The aim of this study was *to research financing strategies in small and medium enterprises (SMEs) in Vietnam, assessing the effect of capital structure on business financial performance*. In achieving this aim, this study has demonstrated a comprehensive understanding of this phenomenon and provided a thorough critical insight into the various financing options available to a Vietnamese SME from an expert financial perspective and then has provided a series of quantitative statistical tests on published Vietnamese SME data . This was achieved by addressing the following four research objectives:

Research Objective One: To critically identify and evaluate existing theories on capital structure and financing strategies to understand how they influence SMEs.

Research Objective Two: To evaluate, based on empirical findings from a Delphi panel of experts, the critical factors that affect capital structure strategies when financing SMEs in Vietnam.

Research Objective Three: To analyse and determine the effects of capital structures and financing strategies on Vietnamese SMEs performance by conducting a series of quantitative statistical tests using published data on Vietnamese SMEs.

Research Objective Four: To discuss the results to illustrate how capital structures and financing strategies can affect Vietnamese SMEs performance, then make informed recommendations for optimising capital and funding structures in the future for this type of business.

Based on the research objectives, and informed by the current academic debate, the study devised three research questions:

Research Question One: to what extent is the implementation of capital structure in SMEs in Vietnam aligned with the main capital structure theories?

Research Question Two: to what extent is there a significant relationship between capital structure and business performance in these SMEs in Vietnam?

Finally, **Research Question Three:** was there an optimal level or optimal range of debt that can help SMEs maximise their business performance?

To answer these research questions, the study was informed by the relevant theoretical and empirical literature which enabled the project to identify potential gaps in existing knowledge, from which the study conducted a Delphi method to gather the expert opinions from Vietnamese financial managers and a regression analysis to determine relationships between variables. Before this process commenced, the first chapter, the *introduction*, set out the context and background of the study as to capital structure and its relationship with business performance from the context of small and medium-sized enterprises (SMEs) and the connection to the Vietnamese economy. The introduction chapter also outlined the research rationale, the significance of the study, scope of the project, and finally the structure of the entire research.

The second chapter, the *literature review*, provided a critical review of both theoretical and empirical literature through following a systematic approach. By employing a systematic strategy for searching for relevant literature, 231 relevant publications were initially identified and then categorised into six groups, which form the structure of the final review of the current academic debate. This chapter then presented the academic debate along with the theoretical model which informed the research questions used in the Delphi method.

The third chapter, the *methodology* presented the research approach adopted along with a justification for the methodology used in this project which followed a Delphi strategy and then

the utilisation of a regression analysis, to statistically quantify the findings. Using the Delphi method, this approach enabled the study to investigate how Vietnamese financial experts saw the various capital structure strategies being used in a Vietnamese SME. In selecting this expert approach of using a Delphi technique to generate a consensus, the chapter outlined the ontological and epistemological decisions associated with the research project. The chapter included the profile of the experts, along with the data collection and analysis approaches adopted, along with the ethical implications of the project. The fourth chapter presented the *findings* from the Delphi technique, which focused on presenting the insights gained from a series of interviews with Vietnamese corporate finance experts. This chapter gathered the opinions, perspectives, recommendations, and assessments related to forecasting and financial activities connected to capital structure strategies used in financing Vietnamese SMEs. Special attention was given to the critical factors that influence capital structure decisions made when financing these Vietnamese SMEs.

Chapter five then built on the findings from the expert interviews by *validating the outcomes* through a series of quantitative statistical tests applied to the published data on Vietnamese SMEs, using a regression analysis.

7.3 Outcome of the study

The primary focus of this study was twofold. Firstly, the approach involved multiple rounds of expert consultations until a consensus was reached. This consensus was then validated through regression analysis using existing data from Vietnamese small and medium-sized enterprises (SMEs). The study provided critical insights from expert interviews conducted via the Delphi panel method. This technique was employed to confirm suitable theories while eliminating those deemed unsuitable, ultimately guiding the research toward generating outcomes specifically relevant to Vietnamese SMEs. During this phase of the research, the Delphi method concentrated on gathering data to achieve a consensus among experts regarding the potential applications of these theories in the practical context of Vietnamese SMEs. By adopting the Delphi method, the study successfully sought professional recommendations for capital structure strategies that could be implemented by Vietnamese SMEs. Secondly, the study validated these insights by conducting a series of quantitative statistical tests on published data from Vietnamese SMEs. Specifically, regression analysis was performed on a sample of 362 Vietnamese SMEs, covering the period from 2015 to 2023.

These expert Delphi panel outcomes led to the conclusion that three theories of capital structure, that of Trade-off, Agency Cost, and Pecking Order theories can be adopted and used,

however Agency Cost and to some extent the Pecking Order theories were more relevant and beneficial. This study has provided a critical insight as to the usage and application of the Trade-Off, Pecking-Order, and Agency Cost theoretical models when applied to a Vietnamese SME business to finance or fund the enterprise. However, unlike other studies, including Gill et al. (2011), Iavorskyi (2013), Abeywardhana (2016), Nasimi (2016), Vuong et al. (2017), Bui (2017), Yourssef et al. (2022), Carvalho et al. (2013) and Yazdanfar (2013), these have been based in developed economies like the US or Europe, but in Vietnam, there is a significant difference or contrast to the usage of these financial techniques, which still remains relatively underexplored and has yet to be used from a Vietnamese context. There were also the recognition and confirmation that other financial techniques and methods would be more suitable for larger established businesses compared to a SME. The documented differences are presented below.

This study concluded that capital structure for Vietnamese SMEs can have a significant influence on the performance of these businesses. In reaching this conclusion, this study contends that there was a reverse causality between existing business performance and capital structure. Informed by the outcome of the Delphi panel interviews, this was validated based on the regression results generated from the desk-based study, indicating that it would be advisable for Vietnamese SMEs to reduce their debt ratios including all short-term, long-term debt along with debt-to-equity ratio or total debt, to enhance the SME's performance. From the perspective of business performance effectiveness, the outcome of the study indicated that it would also be recommended that there is no optimal point ($\neq 0$) for Vietnamese SMEs to utilise their debt. Finally, the study drawing on the published Vietnamese SME secondary data from 2015-2023, did not find any evidence to indicate that the business or country were important determinants of capital choice for these Vietnamese SMEs. There was also an insignificant association between business performance and inflation, the consequences of a financial crisis, business size and business liquidity ratios.

While existing literature (e.g., Abor, 2005; Salim & Yadav, 2012; Memon et al., 2012; Chadha & Sharma, 2015; Nasimi, 2016) has revealed a lack of consensus regarding the relationship between financial leverage and business performance, mainly due to differences across various countries, economies and contexts, the findings of this study did generate a consensus. The outcome of the study indicated that the Trade-Off theory for Vietnamese SMEs should be used to optimise the enterprise's level of debt, but not all the experts supported this strategy. There was a consensus amongst these experts as to the necessity for a more flexible approach to be adopted, instead of seeking an optimal capital structure as suggested by the Trade-Off theory.

This viewpoint was further supported by the regression analysis results, which indicated that increased debt could negatively affect the business performance of Vietnamese SMEs.

Next the Agency Cost theory, which was seen as enabling the SMEs to use debt to discipline or control their managers. The pressure of repaying borrowed funds to encourage a more cautious approach in the financial decision-making process for managers, also helped to resolve potential conflicts of interest between managers and owners/ shareholders. The expert panel supported this theory, advising that Vietnamese SMEs should consider corporate governance characteristics, which included the cost of debt, the risk of bankruptcy and default, while attempting to reduce the possible loss of key managers if this approach was adopted. However, the empirical evidence was inconsistent, as the study found that debt can negatively affect business performance and, consequently, the value of the Vietnamese SME.

With the final approach, the usage of the Pecking Order theory, this strategy can enable or meet the requirements of SMEs to prioritise their financing sources in the following order, firstly, the use of internal funds, secondly, drawing on existing debt options, and finally, raising new equity by seeking more shareholder investment. While the expert panel generally supported this theory, they recommended a flexible application that considers specific business needs and the business environment. The results of the regression analysis did not fully support or reject the Pecking Order theory being used but it is recommended is to examine the concept based on two criteria. Firstly, if an SME has sufficient internal funds to finance a new project, the theory advises prioritising these funds, a strategy that aligns with the findings of the regression analysis. Secondly, if an SME lacks internal funds and needs to seek external financing, the regression results do not support the Pecking Order theory of sequence of using debt before equity. In such cases, evidence suggests that issuing debt prior to equity may be detrimental to the SME's value.

7.3 The Academic Contribution

The first academic contribution relates to the methodology adopted in this positivist study. This research utilised a Delphi technique to provide a generalised consensus amongst the Vietnamese financial experts, as the access to these participants was limited. Reflecting previous research (e.g., Kotey, 2024; Kalash, 2021; El-Chaarani & El-Abiad, 2018; Dada & Ghazali, 2016) which has been predominantly quantitative, this study used this strategy to build on the existing knowledge to test existing knowledge. Initially, the Delphi technique was employed to gather professional insights from these experts, which followed the original

quantitative perspectives or methods used to generate a consensus and then quantify the outcomes and insights. This approach revealed that the experts agreed to the six key themes associated with Vietnamese SMEs when considering which financial option is most suitable. By employing the predominantly quantitative approach, in which the experts were asked the same standard questions, the strategy enabled access to an often reluctant but small number of financial Vietnamese experts as to their capital recommendations for SMEs, by conducting a series of panel sessions. Secondly, the Delphi technique outcomes were then tested and validated by drawing on secondary quantitative data to test these insights, offering empirical evidence to confirm their perspectives. To achieve this, published Vietnamese SME data was analysed using a regression analysis, which have been conducted before in other studies (e.g., Gill et al., 2011; Abeywardhana, 2016; Nasimi, 2016; Vuong et al., 2017; Bui, 2017; Youssef et al., 2022) but not from a Vietnamese perspective. To achieve this, this study employed a variety of measurements of financial performance and financial leverage. This included the usage of five metrics to measure financial performance, namely Return on Assets (ROA), Return on Equity (ROE), EBIT Margin, Return on Sales (ROS), and Earnings Per Share (EPS). In addition to these five metrics, three other measurements were utilised to estimate financial leverage: short-term and long-term debt, and debt-to-equity ratios. By incorporating these diverse measurements, this study has offered a comprehensive analysis of the relationships between predictors and explanatory variables. In comparison to other studies (e.g., Kotey, 2024; Kalash, 2021), the outcomes generated from this approach have contributed and expanded significantly to the existing academic debate. For instance, Kotey (2024), Kalash (2021), Youssef et al. (2022), Sivalingam and Kengatharan (2018), and Mwangi et al. (2014) focused solely on two determinants ROA and ROE to measure business performance. While Youssef et al. (2022) and Kalash (2021) only relied on one measure of financial leverage, which was the total debt ratio, Chadha and Sharma (2015) and Nasimi (2016) used the debt-to-equity ratio as their sole measurement of financial leverage, whereas Memon et al. (2012) based their analysis only on ROA to evaluate business performance. Reflecting this, this study has provided arguably a richer and robust insight by using these additional metrics.

7.3.1 Identified Knowledge Gaps

This research has included a comparison and then a critical discussion of the empirical findings alongside those of other studies, including Nawar et al. (2011), Coleman (2007), Gill et al. (2011), Salim and Yadav (2012), Al-Taani (2013), Mwangi et al. (2014), Kanwal et al. (2017), Mohammad and Bujang (2020), and Kotey (2024). These studies have focused on either

examining large companies, or specific sectors and industries in various countries, but not from a Vietnamese or SME perspective, which this study has achieved.

This study not only investigated how debt levels can affect business performance in a Vietnamese SME but has also provided a critical analysis and professional insights from financial experts using the Delphi technique along with secondary data published to conduct a regression analysis. The outcome of the study both supports existing theory but also contradicts accepted approaches. This included a rich insight gathered from the expert Delphi panel interviews, which focused on the three main capital structure concepts: the Trade-Off, the Agency Cost, and the Pecking Order theories, and then validated the outcomes through a series of quantitative statistical tests applied to the published data on Vietnamese SMEs, using a regression analysis. As to the usage of the Trade-Off theory, the consensus from the experts suggested that Vietnamese SMEs should adopt a more flexible approach rather than striving for an optimal capital structure as recommended by the concept. This perspective was further supported by the regression analysis results, which indicated that increased debt can negatively affect the financial and business performance of the Vietnamese SME. Next, if the Agency Cost theory is applied, then SMEs should use debt to ensure that the managers are adhering to the shareholders or owners' best interest. This theory's application and usage was supported by the findings and consensus from the expert panel. However, there were inconsistencies in the empirical evidence, as this study found that debt can negatively affect business and financial performance, therefore change the value of the Vietnamese SME. Finally, as to the Pecking Order theory, the outcome of this study advocates that Vietnamese SMEs should prioritise their financing sources in the following order: firstly, using internal funds, secondly, utilising debt, and lastly, raising new equity. While the expert panel generally supported this theory, they advised that it should be applied flexibly to accommodate specific needs and to reflect the business environment.

Informed by the consensus data, the regression results neither fully supported nor rejected the usage of the Pecking Order concept but indicated that the theory should be analysed based on two criteria. Firstly, if an SME has sufficient internal funds to finance a new project, this study recommends the prioritisation of these internal funds, a strategy which is validated with the outcome from the regression analysis. Secondly, if an SME lacks internal funds and needs to seek external financing, the regression results did not support the usage of the Pecking Order approach of using debt before equity. In such cases, the evidence indicated that issuing debt before raising equity can negatively affect the SME's overall value.

7.4 The Contribution to Business Practice

Being a professional doctorate, this study was focused on the contribution to business knowledge and practice. The findings of this study can therefore be used in the future to inform the Government, Vietnamese regulators, and financial managers in SMEs. This study has firstly offered a professional contribution for the Vietnamese Government to create and then promote an environment that will enable SMEs to be successfully financed through understanding the implications of raising funds and capital. The findings can inform policymakers and the banking sector to develop more tailored policies for these SMEs to gain the required funds that will then enhance their profitability and performance. This strategy can include how interest rates, taxation, and access to loan contracts, can ultimately benefit the Vietnamese economy. Regulators should also consider establishing equitable rules and regulations designed specifically for these SMEs, so that they are empowered, while protecting shareholders, particularly those with minority holdings. By implementing regulations that protect and enhance the rights of minority shareholders, their interests can be better safeguarded but also encourage them to invest in this type of business, giving these smaller enterprises more funds to grow and develop.

From a banking perspective, this sector should consider setting up and encourage the private sector to provide more financial support to Vietnamese SMEs, thereby helping to reduce their cost of capital. The results of this study indicate that all types of debt, including short-term, long-term, and total debt can have a negative effect on a Vietnamese SME if the interest rates and loan repayment agreement are too high. This study has indicated that often transaction costs for SMEs are higher than those for larger companies, therefore restricting their access to funds or making their ability to raise capital as being unviable.

From the SME perspective, this study has found that these types of enterprises in Vietnam tend to rely on one of the following three theories: the Trade-Off, Pecking-Order or the Agency Cost, but no one technique will guarantee a more effective financial performance. This research suggests that these theories dependent on the SME's financial circumstances will determine the most suitable financial option. When considering which option is most preferable, the SME should reflect and consider the prevailing external environment, that may be less controllable compared to a larger business. Overall, this study would recommend that a SME should carefully consider the use of both short-term and long-term debt due to its potential negative effects on business performance.

7.5 Limitations of the Study

This study does not claim to have addressed all aspects of capital structure and financing of Vietnamese SMEs. As with many empirical studies (e.g., Olokoyo, 2013; Javed et al., 2014; Dawar, 2014; Hasan et al., 2014; Dada & Ghazali, 2016; Bui, 2017; Kalash, 2023 and Kotey, 2024). There are several limitations which need to be acknowledged. Firstly, the sample size of this study may be regarded as small for a quantitative study. However, in adopting a Delphi method and involving twelve Vietnamese financial experts, who tend to be inaccessible and reluctant to speak about their strategies, a series of standard questions and summarised outcomes were presented which generated a significant quantity of data. Then to ensure that the study was sufficiently robust, and reflective of the positivist stance of the researcher, the Delphi technique also fulfilled the purpose of gaining a consensus of agreement amongst these experts, as opposed to gathering a varied range of different perspectives and experiences.

The desk-based stage of the project included the financial reports from 362 Vietnamese SMEs listed mainly on the Vietnam stock exchange between 2015 to 2023. However, the data generated 3258 different financial datapoints, from which the business performance of these SMEs was analysed financial five ratios: return on assets (ROA), return on equity (ROE), return on sales (ROS), EBIT margin, and earnings per share (EPS). These ratios were used to validate the Delphi panel outcomes, rather than being the focus of the study. While this study has relied on data from SMEs listed on the Vietnamese Stock Exchange, which may be a limitation as to accurately representing all SMEs in Vietnam, again this part of the study was used to validate the outcome of the Delphi technique panel results.

7.6 Future Research

This study has examined the effects of financial leverage on business performance in small and medium-sized enterprises (SMEs) in Vietnam. To assess business performance, the study utilised five financial ratios: return on assets (ROA), return on equity (ROE), return on sales (ROS), EBIT margin, and earnings per share (EPS). In addition, the analysis included three key measurements of capital structure: short-term and long-term debt, along with the debt-to-equity ratio. Reflecting this, future research should explore other financial perspectives, including working capital, and liquidity ratios to measure these SMEs business performance.

Reflecting the limitations of the study above, future studies should consider conducting a more qualitative approach to the study, including focus groups or in-depth interviews, then expand the participants to include board members, financial managers, and minority shareholders. This strategy could provide a deeper and different insight into the SMEs capital structure decisions,

and the potential effects on the performance of these Vietnamese enterprises. It would also be beneficial to investigate whether significant differences exist between debt and business performance between SMEs and large enterprises in Vietnam. Finally, this study has relied on data from SMEs listed on the Vietnamese Stock Exchange, which may limit its representativeness of all SMEs in Vietnam. Therefore, future research should expand its scope by including data from both listed and unlisted SMEs on the Vietnamese Stock Exchange, as well as considering SMEs from other countries.

7.7 Chapter Conclusion

The primary purpose of this study was to identify a potential correlation or link between the application of capital structure, raising of finance and business performance in Vietnamese small and medium-sized enterprises (SMEs). The uniqueness of this study was that firstly, the methodology used of adopting a Delphi method to evaluate the expert's opinions to reach an agreed consensus as to raising capital in the SMEs is a unique contribution. The outcome of the study indicates a significant relationship between capital structure and the performance of Vietnamese SMEs. This finding therefore highlights the inconsistencies between empirical evidence in Vietnamese SMEs and existing capital structure theory. The findings indicated that SME enterprises should carefully evaluate the usage of both short-term and long-term debt, as these may adversely affect their business performance. Based on the regression results, it is advisable for Vietnamese SMEs to reduce their debt ratios, including both short-term and long-term debts, along with debt-to-equity ratio or total debt, to improve their business performance. It is also recommended that there is no optimal level ($\neq 0$) for Vietnamese SMEs to utilise debt. Future studies should extend this study by considering different research perspectives or approaches such as focusing on working capital and liquidity ratios. Furthermore, future research should investigate whether significant differences exist as to the effects on debt on business performance in SMEs compared to larger enterprises in Vietnam. Future research could also broaden its scope by exploring various sectors and examining SMEs in other countries.

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Appendix

Appendix One: Lists of Companies selected for the Study

No.	Companies
1	CTCP Bê tông Ly tâm An Giang
2	CTCP Mỹ thuật và Truyền thông
3	CTCP Xây dựng ALVICO
4	CTCP Khoáng sản Á Châu
5	CTCP Cơ khí và Thiết bị áp lực - VVMI
6	CTCP Phát triển Phụ gia và Sản phẩm Dầu Mỏ
7	CTCP Kinh doanh Thủy Hải Sản Sài Gòn
8	CTCP Xuất nhập khẩu Hàng không
9	CTCP Ntaco
10	CTCP An Thịnh
11	CTCP An Trường An
12	CTCP Tập Đoàn Dược Phẩm Atesco
13	CTCP Bao bì Bia - Rượu - Nước giải khát
14	CTCP Bia Hà Nội - Nam Định
15	CTCP Dược ENLIE
16	CTCP Sách và Thiết bị Bình Định
17	CTCP Sách và Thiết bị Trường học Đà Nẵng
18	CTCP Điện tử Biên Hòa
19	CTCP Nước sạch Bắc Giang
20	CTCP Bê tông Biên Hòa
21	CTCP Chè Biển Hồ
22	CTCP Bia Hà Nội - Hải Phòng
23	CTCP Vận tải và Dịch vụ Liên Ninh
24	CTCP Lương thực Bình Định
25	CTCP Khoáng sản Bình Định
26	CTCP 715
27	CTCP VICEM Bao bì Bim Sơn
28	CTCP Bia Hà Nội - Quảng Bình
29	CTCP Dịch vụ Đô thị Bà Rịa
30	CTCP Dịch vụ Bến Thành
31	CTCP Bia, Rượu Sài Gòn - Đồng Xuân
32	CTCP Sách và Thiết bị Bình Thuận
33	CTCP Bảo vệ Thực vật 1 Trung Ương
34	CTCP Bao bì Tiền Giang
35	CTCP Đầu tư Bitco Bình Định
36	CTCP Công trình Đô thị Bến Tre
37	CTCP Bông Việt Nam
38	CTCP Cấp thoát nước và Xây dựng Bảo Lộc
39	CTCP VICEM Bao bì Hải Phòng
40	CTCP Cảng An Giang
41	CTCP Mía Đường Cao Bằng
42	CTCP Cảng Cửa Cấm Hải Phòng

43	CTCP Tư vấn Xây dựng Công nghiệp và Đô thị Việt Nam
44	CTCP Cầu Đuống
45	CTCP Công trình Công cộng và Dịch vụ Du lịch Hải Phòng
46	CTCP Xây dựng Cao su Đồng Nai
47	CTCP Xây dựng và Thiết bị Công nghiệp CIEI
48	CTCP HTC Holding
49	CTCP Cà phê Thắng Lợi
50	CTCP Vinaceglass
51	CTCP Xây dựng Số 5 Hà Nội
52	CTCP Cẩm Hà
53	CTCP Đầu Tư Xây dựng Số 5
54	CTCP Xây dựng và Phát triển Cơ sở Hạ tầng
55	CTCP Cơ điện Miền Trung
56	CTCP COKYVINA
57	CTCP Đầu tư CMC
58	CTCP Cơ khí Mạo Khê - Vinacomin
59	CTCP Lương thực Thực phẩm Colusa - Miliket
60	CTCP Thuốc sát trùng Cần Thơ
61	CTCP Đầu tư Cảng Cái Lân
62	CTCP Công trình 6
63	CTCP Hòa Bình Takara
64	CTCP Đầu tư và Xây lắp Constrexim Số 8
65	CTCP 382 Đông Anh
66	CTCP Đầu tư và Phát triển Giáo dục Đà Nẵng
67	CTCP Sách Giáo dục tại Thành phố Đà Nẵng
68	CTCP Máy - Thiết bị Dầu khí Đà Nẵng
69	CTCP Dược - Vật tư Y Tế Đắk Lắk
70	CTCP Đầu tư Phát triển Xây dựng Số 1
71	CTCP Địa chính Hà Nội
72	CTCP Gạch men Cosevco
73	CTCP Đảm bảo Giao thông Đường thủy Hải Phòng
74	CTCP Dược phẩm Hà Nội
75	CTCP Điện cơ Hải Phòng
76	CTCP Du lịch Đắk Lắk
77	CTCP Địa ốc Đà Lạt
78	CTCP Hóa phẩm Dầu khí DMC - Miền Nam
79	CTCP Điện Nước Lắp máy Hải Phòng
80	CTCP Đầu tư Xây dựng và Vật liệu Đồng Nai
81	CTCP Môi trường Đô thị Đà Nẵng
82	CTCP Logistics Cảng Đà Nẵng
83	CTCP Du lịch Đồng Nai
84	CTCP Vật tư Nông Nghiệp Đồng Nai
85	CTCP Vận tải Xăng dầu Đồng Tháp
86	CTCP Nhựa Đà Nẵng
87	CTCP Dược phẩm Hải Phòng
88	CTCP Dược Đồng Nai

89	CTCP Thủy điện - Điện Lực 3
90	CTCP Quản lý Đường sông Số 3
91	CTCP Kính Đáp Cầu
92	CTCP Kỹ nghệ Đô Thành
93	CTCP Dịch vụ Đô thị Đà Lạt
94	CTCP Dịch vụ và Xây dựng Cấp nước Đồng Nai
95	CTCP Du Lịch và Xuất nhập khẩu Lạng Sơn
96	CTCP VICEM Vật liệu Xây dựng Đà Nẵng
97	CTCP Cơ điện Dĩ An
98	CTCP Sách Giáo dục tại Thành phố Hà Nội
99	CTCP Tập Đoàn ECI
100	CTCP Đầu tư Tài chính Giáo dục
101	CTCP Điện cơ
102	CTCP Thiết bị Phụ Tùng Cơ Điện
103	CTCP Cà phê Ea Pôk
104	CTCP Dịch vụ Xuất bản Giáo dục Hà Nội
105	CTCP Liên hợp Thực phẩm
106	CTCP Cà phê Gia Lai
107	CTCP Xuất nhập khẩu Lương thực Thực phẩm Hà Nội
108	CTCP Lâm Nghiệp Sài Gòn
109	CTCP Cơ khí đóng tàu Thủy sản Việt Nam
110	CTCP Công nghiệp - Thương mại Hữu Nghị
111	CTCP Thể thao Ngôi sao Geru
112	CTCP Ô tô Giải Phóng
113	CTCP Kỹ thuật Điện Toàn cầu
114	CTCP Cấp thoát nước Gia Lai
115	CTCP Gạch ngói Gốm Xây dựng Mỹ Xuân
116	CTCP Giấy Thượng Đình
117	CTCP Bia Hà Nội - Hải Dương
118	CTCP Thực phẩm Hà Nội
119	CTCP Thương mại Bia Hà Nội
120	CTCP Rượu Hapro
121	CTCP Bao Bì PP Bình Dương
122	CTCP Bê tông Hòa Cầm - Intimex
123	CTCP Đầu tư Xây dựng Hà Nội
124	CTCP Thương mại Dịch vụ Vận tải Xi măng Hải Phòng
125	CTCP Dược Hà Tĩnh
126	Tổng Công ty Tư vấn Xây dựng Thủy lợi Việt Nam - CTCP
127	CTCP Dịch vụ Giải trí Hà Nội
128	CTCP Sách Đại học - Dạy nghề
129	CTCP Sản xuất - Xuất nhập khẩu Thanh Hà
130	CTCP Cơ khí và Khoáng sản Hà Giang
131	CTCP Vận tải và Dịch vụ Hàng hóa Hà Nội
132	CTCP Đầu tư Ego Việt Nam
133	CTCP Sứ Kỹ thuật Hoàng Liên Sơn
134	CTCP Gốm Xây Dựng Yên Hưng

135	CTCP Hải Minh
136	CTCP Bến xe Hà Nội
137	CTCP Hanel Xốp nhựa
138	CTCP Du lịch Dịch vụ Hội An
139	CTCP Bao bì PP
140	CTCP Thủy điện ĐăK Đoa
141	CTCP Hóa Chất Hưng Phát Hà Bắc
142	CTCP Xây dựng Thương mại và Khoáng Sản Hoàng Phúc
143	CTCP Harec Đầu tư và Thương mại
144	CTCP Hestia
145	CTCP Sơn Tổng hợp Hà Nội
146	CTCP Đầu tư Phát triển Nhà và Đô thị HUD6
147	CTCP Đầu tư HVA
148	CTCP In Tổng hợp Bình Dương
149	CTCP In Hàng Không
150	CTCP Hợp tác Lao động với nước ngoài
151	CTCP Cơ khí và Xây lắp Công nghiệp
152	CTCP In Số 4
153	CTCP Tư vấn Đầu tư IDICO
154	CTCP Cao su Công nghiệp
155	CTCP Chế biến Thủy sản xuất khẩu Minh Hải
156	CTCP khoáng Sản và Luyện Kim Cao Bằng
157	CTCP Bê tông Ly tâm Điện Lực Khánh Hòa
158	CTCP Tập Đoàn GCL
159	CTCP Khai thác Chế biến Khoáng sản Hải Dương
160	CTCP Tập Đoàn Thành Thái
161	CTCP Đầu tư DNA
162	CTCP KASATI
163	CTCP Cơ khí Lắp máy Lilama
164	CTCP Đầu Tư và Xây dựng 40
165	CTCP Thương mại và Dịch vụ LVA
166	CTCP Lắp máy - Thí nghiệm Cơ điện
167	CTCP Khai thác và Chế biến khoáng sản Lào Cai
168	CTCP Dược Lâm Đồng (Ladophar)
169	CTCP Giày da và May mặc Xuất khẩu
170	CTCP Cấp nước Long Khánh
171	CTCP Lilama 7
172	CTCP Long Beach LMC
173	CTCP Lệ Ninh
174	CTCP Licogi Quảng Ngãi
175	CTCP Cung ứng và Dịch vụ Kỹ thuật Hàng Hải
176	CTCP Dịch vụ Hàng không Sân bay Đà Nẵng
177	CTCP Gạch ngói Cao cấp
178	CTCP Xây lắp Cơ khí và Lương thực Thực phẩm
179	CTCP Đầu tư và Xây dựng BDC Việt Nam
180	CTCP Môi trường Đô thị Đông Anh

181	CTCP MEINFA
182	CTCP Cơ điện Công trình
183	CTCP Minh Hữu Liên
184	CTCP Kỹ nghệ Khoáng sản Quảng Nam
185	CTCP Khoáng sản và Cơ khí
186	CTCP Dược thú Y Cai Lậy
187	CTCP Môi trường Đô thị Tỉnh Lào Cai
188	CTCP Chăn nuôi - Mitraco
189	CTCP Môi trường Đô thị Phú Yên
190	CTCP Merufa
191	CTCP Dịch vụ Du lịch Mỹ Trà
192	CTCP MT Gas
193	CTCP Môi trường Đô thị Hà Đông
194	CTCP Dịch vụ Môi trường Đô thị Từ Liêm
195	CTCP Dịch vụ Môi trường và Công trình Đô thị Vũng Tàu
196	CTCP Tư vấn Xây dựng Tổng hợp
197	CTCP Nam Việt
198	CTCP Sách và Thiết bị Giáo dục Miền Bắc
199	CTCP Dược phẩm 2/9
200	CTCP Xây lắp Phát triển Nhà Đà Nẵng
201	CTCP Gạch ngói Nhị Hiệp
202	CTCP Cấp nước Quảng Bình
203	CTCP Nước sạch Quảng Trị
204	CTCP Nhựa Sài Gòn
205	CTCP Cấp nước Sơn La
206	CTCP Dược - Vật tư Y tế Nghệ An
207	CTCP Cấp nước Nhơn Trạch
208	CTCP Môi trường Đô thị Nha Trang
209	CTCP Nước sạch Vĩnh Phúc
210	CTCP Vận tải Newway
211	CTCP Dịch vụ Một Thế Giới
212	CTCP Công nghệ thông tin Viễn thông và Tự động hóa Dầu Khí
213	CTCP Bao bì Dầu khí Việt Nam
214	CTCP Cà phê PETEC
215	CTCP Vật liệu Xây dựng Bưu điện
216	CTCP Hóa phẩm Dầu khí DMC - Miền Bắc
217	CTCP Tập đoàn Đầu tư Din Capital
218	CTCP Thiết bị Xăng dầu Petrolimex
219	CTCP PGT Holdings
220	CTCP Pin Hà Nội
221	CTCP Tin học Viễn thông Petrolimex
222	CTCP Thương mại và Vận tải Petrolimex Hà Nội
223	CTCP Cấp nước Phú Hòa Tân
224	CTCP Đầu tư và Dịch vụ Hạ tầng Xăng dầu
225	CTCP Kho Vận Petec
226	CTCP Phân bón và Hóa chất Dầu khí Miền Bắc

227	CTCP Vật tư Bưu Điện
228	CTCP Bao bì đạm Phú Mỹ
229	CTCP Viễn thông TELVINA Việt Nam
230	CTCP Xăng dầu Dầu khí Nam Định
231	CTCP Kỹ thuật Xây dựng Phú Nhuận
232	CTCP Xăng dầu Dầu khí Thái Bình
233	CTCP Tư vấn đầu tư PP Enterprise
234	CTCP Dược phẩm Phong Phú
235	CTCP Logistics Portserco
236	CTCP Procimex Việt Nam
237	CTCP Vận tải và Dịch vụ Petrolimex Sài Gòn
238	CTCP Chăn nuôi Phú Sơn
239	CTCP Vận tải và Dịch vụ Petrolimex Hà Tây
240	CTCP Dịch vụ - Xây dựng Công trình Bưu Điện
241	CTCP Vận tải Dầu khí Đông Dương
242	CTCP Vận tải và Dịch vụ Petrolimex Nghệ Tĩnh
243	CTCP Dầu nhờn PV Oil
244	CTCP Đầu tư và Thương mại Dầu khí Nghệ An
245	CTCP Xây lắp Dầu khí Miền Trung
246	CTCP Đầu tư Xây dựng và Phát triển Hạ tầng Viễn thông
247	CTCP Que hàn điện Việt Đức
248	CTCP Nước khoáng Quảng Ninh
249	CTCP Tân Cảng Quy Nhơn
250	CTCP Sách và Thiết bị Trường học Quảng Ninh
251	CTCP Công trình Giao thông Vận tải Quảng Nam
252	CTCP Công nghiệp và Xuất nhập khẩu Cao su
253	CTCP Sông Đà 12
254	CTCP Xếp dỡ và Dịch vụ Cảng Sài Gòn
255	CTCP Lương thực Thực phẩm Safoco
256	CTCP Trục vớt Cứu hộ Việt Nam
257	CTCP In Sách giáo khoa Thành phố Hồ Chí Minh
258	CTCP Bia Sài Gòn - Nghệ Tĩnh
259	CTCP Thương mại Đầu tư SHB
260	CTCP Công nghiệp Thủy sản
261	CTCP Tư vấn Sông Đà
262	CTCP Sông Đà 25
263	CTCP Cơ khí Luyện kim
264	CTCP Sơn Đồng Nai
265	CTCP Xi măng Sông Đà Yaly
266	CTCP Dệt lưới Sài Gòn
267	CTCP Xuất nhập khẩu Sa Giang
268	CTCP Sách Giáo dục tại Thành phố Hồ Chí Minh
269	CTCP Khách sạn Sài Gòn
270	CTCP Hàng hải Sài Gòn
271	CTCP Sông Đà 19
272	CTCP Sách và Thiết bị Giáo dục Miền Nam

273	CTCP Sametel
274	CTCP Xuất nhập khẩu Thủy sản Năm Căn
275	CTCP Xuất nhập khẩu Thủy sản Hà Nội
276	CTCP Tập đoàn Sara
277	CTCP Giáo dục G Sài Gòn
278	CTCP Vận tải biển Hải Âu
279	CTCP Chế tạo kết cấu Thép Vneco.SSM
280	CTCP Sách và Thiết bị Trường học Thành phố Hồ Chí Minh
281	CTCP Công nghiệp Thương mại Sông Đà
282	CTCP Dịch vụ Vận tải Sài Gòn
283	CTCP Vận chuyển Sài Gòn Tourist
284	CTCP Tập đoàn Vexilla Việt Nam
285	CTCP Công nghệ Sài Gòn Viễn Đông
286	CTCP Cấp nước Trung An
287	CTCP Sản xuất và Kinh doanh Vật tư Thiết bị - VVMI
288	CTCP Xi măng Thái Bình
289	CTCP Tô Châu
290	CTCP Thủy điện Định Bình
291	CTCP Phát triển Công trình Viễn thông
292	CTCP Vải sợi May mặc Miền Bắc
293	CTCP Thanh Hoa - Sông Đà
294	CTCP Môi trường và Công trình Đô thị Thanh Hóa
295	CTCP Cấp nước Tân Hòa
296	CTCP Dịch vụ Vận tải và Thương mại
297	CTCP May Quốc tế Thắng Lợi
298	CTCP Tổng hợp Gỗ Tân Mai
299	CTCP VICEM Thương mại Xi măng
300	CTCP Cảng Thị Nại
301	CTCP Transimex Logistics
302	CTCP In sách giáo khoa tại Thành phố Hà Nội
303	CTCP Bến Bãi Vận tải Sài Gòn
304	CTCP Ấc quy Tia Sáng
305	CTCP Thông tin Tín hiệu Đường sắt Sài Gòn
306	CTCP Gạch men Thanh Thanh
307	CTCP May Thanh Trì
308	CTCP Đầu tư Xây dựng và Công nghệ Tiến Trung
309	CTCP Lai Dất và Vận tải Cảng Hải Phòng
310	CTCP Sứ Viglacera Thanh Trì
311	CTCP Tư vấn Đầu tư và Xây dựng Giao thông Vận tải
312	CTCP Dược Trung ương 3
313	CTCP VICEM Thạch cao Xi măng
314	CTCP Đô thị Cần Thơ
315	CTCP Cơ điện Uông Bí - Vinacomin
316	CTCP Phát triển Công viên Cây xanh và Đô thị Vũng Tàu
317	CTCP Khảo sát và Xây dựng -USCO
318	CTCP Địa chất Việt Bắc - TKV

319	CTCP Điện tử Bình Hòa
320	CTCP Xây lắp Môi trường
321	CTCP BV Life
322	CTCP Tư vấn Xây dựng Vinaconex
323	CTCP Thực phẩm Lâm Đồng
324	CTCP Lưới thép Bình Tây
325	CTCP Xây dựng Điện VNECO 1
326	CTCP Xây dựng Điện VNECO 2
327	CTCP Xây dựng Điện VNECO 3
328	CTCP Xây dựng Điện VNECO4
329	CTCP Xây dựng Điện VNECO 8
330	CTCP Đầu tư và Xây dựng VNECO 9
331	CTCP Đầu tư và Xây dựng Điện Meca Vneco
332	CTCP Mạ Kẽm Công Nghiệp Vingal - Vnsteel
333	CTCP Đầu tư Kinh doanh Nhà Thành Đạt
334	CTCP Công nghệ Viễn thông VITECO
335	CTCP Khoáng sản Viglacera
336	CTCP Du lịch Quốc tế Vũng Tàu
337	CTCP Đầu tư và Phát triển Công nghệ Văn Lang
338	CTCP VIMC Logistics
339	CTCP Công trình Công cộng Vĩnh Long
340	CTCP Công nghiệp Ô tô - Vinacomin
341	CTCP Thương mại và Dịch vụ Dầu khí Vũng Tàu
342	CTCP Phát triển Hàng Hải
343	CTCP Đầu tư Việt Việt Nhật
344	CTCP Quảng cáo và Hội chợ Thương mại
345	CTCP Đầu tư và Phát triển Năng lượng Việt Nam
346	CTCP Giám định - Vinacomin
347	CTCP Container Miền Trung
348	CTCP Vitaly
349	CTCP Du lịch Tỉnh Bà Rịa - Vũng Tàu
350	CTCP Sản xuất - Xuất nhập khẩu Dệt may
351	CTCP Thương mại và Đầu tư VI NA TA BA
352	CTCP Tư Vấn Và Dịch Vụ Viettel
353	CTCP Vang Thăng Long
354	CTCP Vận tải và Đưa đón thợ mỏ - VINACOMIN
355	CTCP Gạch ngói Từ Sơn
356	CTCP Nước và Môi Trường Việt Nam
357	CTCP Thuốc Thú y Trung ương VETVACO
358	CTCP Kho vận và Dịch vụ Thương mại
359	CTCP Thành An 77
360	CTCP Xây Lắp và Dịch vụ Sông Đà
361	CTCP Xuân Mai - Đạo Tú
362	CTCP Xà phòng Hà Nội

Appendix Two: Delphi Expert Transcript

Tên đề tài: Nghiên cứu về chiến lược cấu trúc vốn trong doanh nghiệp vừa và nhỏ tại Việt Nam. Đánh giá tác động của cấu trúc vốn tới kết quả kinh doanh.

Người thực hiện: Bùi Thị Hồng Nhung

Nội dung chính: Bảng hỏi dưới đây hướng tới việc tiếp cận với các quan điểm của chuyên gia trong lĩnh vực tài chính doanh nghiệp. Trong đó, người điều phối sẽ thu thập được những thông tin về kinh nghiệm, ý kiến, đánh giá của chuyên gia về dự báo và các hoạt động được đề xuất liên quan đến cơ cấu vốn cũng như các yếu tố quyết định ảnh hưởng đến quyết định về cơ cấu vốn.

Các chuyên gia bao gồm cả những người thực hiện các nghiên cứu học thuật, giảng dạy liên quan tới lĩnh vực tài chính, và những nhà quản lý tài chính trực tiếp thực hiện các quyết định tài chính trong doanh nghiệp.

Phương pháp nghiên cứu: Kỹ thuật Delphi

Vấn đề 1: Chiến lược cấu trúc vốn của các doanh nghiệp vừa và nhỏ Việt Nam phản ứng như thế nào với lạm phát và lãi suất, bao gồm các yếu tố bên ngoài có thể ảnh hưởng đến các quyết định liên quan đến chiến lược cấu trúc vốn.

Phản hồi tổng hợp từ góc nhìn của chuyên gia

Khi lạm phát và lãi suất cao	Các doanh nghiệp vừa và nhỏ Việt Nam cần duy trì cơ cấu vốn an toàn với tỷ lệ nợ thấp. Cần giảm tổng nợ và ưu tiên nợ ngắn hạn. Các doanh nghiệp vừa và nhỏ Việt Nam cần giảm tỷ lệ nợ vì họ có thể không đủ năng lực để chịu được các khoản thanh toán lãi suất cao. Tuy nhiên, các doanh nghiệp vừa và nhỏ có thể điều chỉnh nợ linh hoạt theo nhu cầu vốn, tùy thuộc vào cơ hội kinh doanh và chu kỳ kinh doanh.
Khi lạm phát và lãi suất ổn định	Nếu một doanh nghiệp vừa và nhỏ của Việt Nam hiện đang có nợ cao trong cơ cấu vốn trong trường hợp này, thì nên ưu tiên nợ dài hạn. Các doanh nghiệp vừa và nhỏ tại Việt Nam gặp khó khăn trong việc tiếp cận trái phiếu hoặc phát hành cổ phiếu để huy động vốn, do đó xu hướng nên là sử dụng vốn vay ngân hàng. Đối với các doanh nghiệp có lợi nhuận ổn định, họ có thể cân nhắc tăng hoặc giữ nguyên quy mô vay. Phản ứng đối với chiến lược vốn có thể khác nhau giữa các doanh nghiệp vừa và doanh nghiệp nhỏ, và có thể khác nhau giữa các ngành.
Khi lạm phát và lãi suất thấp	Các doanh nghiệp vừa và nhỏ nên hướng đến tỷ lệ nợ trung bình hoặc cao tùy thuộc vào giai đoạn phát triển và nhu cầu vốn. Các doanh nghiệp vừa và nhỏ có thể tăng tỷ lệ nợ nếu doanh nghiệp cần mở rộng quy mô kinh doanh. Duy trì tỷ lệ nợ. Nếu doanh nghiệp không có nhiều thay đổi đáng kể về nhu cầu vốn của các kỳ tiếp theo.

Vấn đề 2: Dựa trên lý thuyết đánh đổi, liệu các doanh nghiệp vừa và nhỏ Việt Nam có lợi hơn khi áp dụng chiến lược cấu trúc vốn linh hoạt (CSS) thay vì hướng đến điểm hoặc phạm vi tối ưu trong chiến lược cấu trúc vốn (CSS) của mình không? Dựa theo lý thuyết Trade-off Theory)

Phản hồi tổng hợp từ góc nhìn của chuyên gia (Câu hỏi nghiên cứu vòng 1)

Chiến lược vốn linh hoạt phù hợp với các doanh nghiệp vừa và nhỏ. Chiến lược vốn tối ưu có thể lý tưởng cho các doanh nghiệp vừa và nhỏ có hoạt động ổn định. Khi không có biến động đáng kể nào trên thị trường vĩ mô, thị trường được coi là dễ dự đoán, với tình hình này, các doanh nghiệp vừa và nhỏ có thể cân nhắc áp dụng chiến lược vốn tối ưu.
Các doanh nghiệp vừa và nhỏ thường gặp khó khăn trong việc theo đuổi chiến lược vốn tối ưu vì các doanh nghiệp vừa và nhỏ sẽ thích thay đổi cơ cấu vốn thường xuyên để phản ứng nhanh với thị trường. Một chiến lược vốn linh hoạt dễ triển khai hơn một chiến lược vốn tối ưu, giúp giảm bớt áp lực cho các nhà quản lý. Một chiến lược vốn linh hoạt có thể giúp hạn chế việc mất đi các cơ hội lợi nhuận tiềm năng.

Chiến lược vốn tối ưu có thể có độ trễ so với thị trường; khi bắt đầu áp dụng chiến lược này, thị trường đã thay đổi sang một tình huống mới, đòi hỏi một cấu trúc tối ưu mới.
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Vấn đề 3: dựa trên lý thuyết chi phí đại lý, xung đột giữa cổ đông và nhà quản lý có ảnh hưởng đến các quyết định về chiến lược cấu trúc vốn (CSS) trong các doanh nghiệp vừa và nhỏ Việt Nam không?

Các doanh nghiệp vừa và nhỏ Việt Nam có thể sử dụng nợ để tăng tính kỷ luật quản lý nhằm hạn chế các nhà quản lý trong việc đưa ra quyết định tài chính thiếu thận trọng.

Các đặc điểm quản trị doanh nghiệp và chi phí nợ cần được cân nhắc khi triển khai chiến lược này.

Các doanh nghiệp vừa và nhỏ cần thận trọng khi gây áp lực lên các nhà quản lý khi có xung đột lợi ích có thể dễ dẫn đến mất đi những nhà quản lý giỏi. Điều này có thể dẫn đến hậu quả tiêu cực cho doanh nghiệp.

Vấn đề 4: Dựa trên lý thuyết trật tự phân hạng, các nhà quản lý doanh nghiệp vừa và nhỏ tại Việt Nam nên sử dụng nguyên tắc ưu tiên như thế nào khi tài trợ cho các cơ hội đầu tư mới? (Dựa theo lý thuyết Pecking – Order Theory)

Lựa chọn 1: Nguồn từ lợi nhuận giữ lại.

Lựa chọn 2: Nguồn từ vốn chủ sở hữu.

Lựa chọn 3: Nguồn từ vay nợ

Lợi nhuận giữ lại nên được sử dụng trước, sau đó là các nguồn nợ khác, sau đó mới xem xét vốn chủ sở hữu mới.

Nên xem xét tỷ lệ hoàn vốn hiện tại, nếu tỷ lệ hoàn vốn và lãi suất gần bằng nhau, tức tỷ lệ hoàn vốn không có sự khác biệt đáng kể so với lãi suất cho vay. Lúc này, nguồn tài trợ từ Phương án 1 và Phương án 2 sẽ không hấp dẫn. Doanh nghiệp có thể ưu tiên Phương án 3 (nợ) trước. Sau đó, chuyển sang Phương án 1 hoặc Phương án 2.

Nếu cơ hội đầu tư được đánh giá là có tiềm năng lợi nhuận cao, thứ tự ưu tiên nên là Phương án 2, sau đó là Phương án 1 và cuối cùng là Phương án 3.
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Vấn đề 5 Đối với các doanh nghiệp vừa và nhỏ Việt Nam, có thể áp dụng lý thuyết thị trường thời điểm vào cấu trúc vốn không? (Dựa theo lý thuyết Market – Timing Theory).

Lý thuyết này có thể được xem xét để áp dụng cho chiến lược cấu trúc vốn trong SME Việt Nam. Tuy nhiên, khi huy động thêm vốn chủ sở hữu thông qua việc bán cổ phiếu mới, thì có lợi cho công ty, không có lợi cho cổ đông, và cổ phiếu bị pha loãng, cổ đông chiến lược mất niềm tin vào công ty, dẫn đến cổ đông hiện tại có xu hướng giảm tỷ lệ nắm giữ. Đây được coi là tác động tiêu cực lớn đến hoạt động của doanh nghiệp.

Việc mua bán cổ phiếu, nếu được thực hiện theo lý thuyết thị trường thời điểm có thể là phản ứng nhanh với thị trường, nhưng về lâu dài, chiến lược dài hạn sẽ bị ảnh hưởng tiêu cực.

Các doanh nghiệp vừa và nhỏ tại Việt Nam nhìn chung gặp khó khăn trong việc tiếp cận vốn thông qua hình thức này. Do đó, lý thuyết này khó áp dụng cho các SME Việt Nam.
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Vấn đề 6: Đối với các doanh nghiệp vừa và nhỏ Việt Nam, dòng tiền tự do (FCF) trong một doanh nghiệp quan trọng như thế nào đối với quá trình ra quyết định về chiến lược cấu trúc vốn (CSS)? (Dựa theo lý thuyết Free Cash Flow Theory).

FCF là yếu tố quan trọng ảnh hưởng đến cơ cấu vốn của các doanh nghiệp vừa và nhỏ Việt Nam. Bởi vì FCF có thể được coi là một thông tin quan trọng để đánh giá hiệu quả hoạt động của doanh nghiệp, sức khỏe tài chính và tiềm năng tăng trưởng của một doanh nghiệp vừa và nhỏ. Do đó, các bên liên quan như nhà đầu tư hoặc bên cho vay có xu hướng quan tâm đến việc xem thông tin này trước khi đưa ra quyết định tài chính.

Khi dòng tiền tự do ổn định và tỷ lệ hoàn vốn lớn hơn lãi suất vay, các doanh nghiệp vừa và nhỏ có thể cân nhắc tăng tỷ lệ nợ vì đây là cơ hội tăng lợi ích cho cổ đông, do đó cổ đông có xu hướng ủng hộ việc vay vốn.

Khi dòng tiền tự do tốt và ổn định, đó là lợi thế cạnh tranh cho doanh nghiệp. Đặc biệt trong trường hợp các doanh nghiệp vừa và nhỏ gặp phải các cơ hội đầu tư trước mắt với lợi nhuận cao nhưng cần thanh khoản ngay lập tức. Lúc này, các doanh nghiệp vừa và nhỏ sẽ tận dụng dòng tiền tự do mạnh để nắm bắt cơ hội đầu tư này một cách dễ dàng.

Appendix Three:
Interview Form for Experts

Research Title:

**The Influence of Capital Structure Strategies on Vietnamese
SMEs' Business Performance**

Implementer: Bui Thi Hong Nhung

Main content: The following Interview Form for Experts aims to access the views of experts in the field of corporate finance. In it, the coordinator will collect information about the experience, opinions, and assessments of experts on forecasting and proposed activities related to capital structure as well as the decisive factors affecting capital structure decisions.

Experts include those who conduct academic research, teach related to the field of finance, and financial managers who directly implement financial decisions in enterprises.

Research method: Delphi technique

Research round: Round 1

Expert Name:

Description of Academic Degree/Position, Occupation:

Question 1: Please give your opinion and perspectives on suitable strategies that SMEs can consider when making decisions on capital structure, in the following cases:

- a. When market interest rates and inflation are high
- b. When interest rates and inflation rates are relatively stable
- c. When interest rates and inflation rates are low, for example

(For example, the capital strategies that businesses can put forward to respond to changes in the market in the above situations such as increasing debt size, reducing debt size, maintaining debt size or other opinions. And the sources of capital funding that the company can easily access...etc.)

Expert opinion

Question 2: According to experts, is it better for small and medium enterprises in Vietnam to pursue a flexible capital structure strategy than to pursue a strategy of maintaining the optimal point (or range) in the capital structure?

(Based on the Trade-off theory, is it more beneficial for Vietnamese SMEs to adopt a flexible capital structure strategy (CSS) rather than aiming for the optimal point or range in their capital structure strategy (CSS)?

The level of agreement is scored from 1-5, with 1 corresponding to completely disagree, 5 is completely agree

	Strongly Disagree 1	Disagree 2	Slightly agree 3	Agree 4	Strongly Agree 5
Flexible Capital Strategy					
Strategy of pursuing an optimal capital structure					

Expert opinion

Question 3: According to experts, do the differences in interests between shareholders and the management of the enterprise have a major impact on decisions on the formation of the enterprise's capital structure?

(Based the on Agency-Cost theory, do conflicts between shareholders and managers influence capital structure strategy (CSS) decisions in Vietnamese SMEs?)

The level of agreement is scored from 1-5, with 1 corresponding to completely disagree and 5 being completely agree.

	Strongly Disagree 1	Disagree 2	Slightly agree 3	Agree 4	Strongly Agree 5

Conflicts of interest between shareholders and management have a major impact on decisions about the formation of a company's capital structure.					
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Expert opinion

Question 4: According to experts, how should managers of small and medium enterprises in Vietnam use the principle of priority when financing investment opportunities?

Option 1 (LC1): Source from retained earnings of the enterprise

Option 2 (LC2): Source from raising additional equity

Option 3 (LC3): Source from borrowing

(Based on the Pecking-Order Theory, how should small and medium-sized enterprise managers in Vietnam use the principle of priority when financing new investment opportunities?)

Expert opinion

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Question 5: Please indicate your level of agreement with the following opinion when a joint stock company wants to adjust its capital structure through participation in the capital market (financial market).

(For Vietnamese SMEs, can Timing-Market theory be applied to the capital structure strategy?)

The level of agreement is scored from 1-5, with 1 corresponding to completely disagree, 5 is completely agree.

	Strongly Disagree 1	Disagree 2	Slightly agree 3	Agree 4	Strongly Agree 5
a. Selling new shares to raise capital when the stock price on the market increases					
b. Buy stocks from the market when the stock price is low					
c. Issuing of new shares/ or repurchase of old shares can be done flexibly. It is not necessary to follow a given principle.					
d. Ý kiến khác					

Expert opinion (Please explain your answer choices in the table above)

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Question 6: According to experts, how important is free cash flow in a business in the process of deciding on a business's capital structure?

Importance is scored from 1-5, with 1 corresponding to not at all important and 5 being very important.

	Unimportant	Very slightly important	Slightly Important	Important	Very important
	1	2	3	4	5

Expert opinion

Appendix 4: Summary of Additional Regressions

This section summarizes the results of additional regressions that individually examine the independent variables: levs (short-term debt ratio), levl (long-term debt ratio), and levde (debt-to-equity ratio). Each independent variable is analyzed in relation to its dependent variables through separate regressions.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	roa	roa	roa	roe	roe	roe	ros	ros	ros	ebitmarg in	ebitmarg in	ebitmarg in	eps	eps	eps
levs	- 0.126 (0.1 00)			- 3.575 (8.1 13)			- 0.059 (0.0 78)			13.526 (15.237)			- 1357.464 (1172.79 5)		
levl		- 0.080 (0.1 33)			0.05 5 (10. 433)			- 0.186 (0.5 99)			43.804 (40.437)			- 6094.527** (2695.18 9)	
levde			- 0.002 (0.0 05)			- 0.737 (1.1 40)			- 0.004 (0.0 10)			-2.085 (2.606)			9.687 (134.263)
L.roa	0.2 15 (0.1 63)	0.36 7*** (0.0 76)	0.24 2*** (0.0 89)												
L.roe				- 0.108 (0.1 93)	- 0.013 (0.0 53)	- 0.164 (0.1 97)									
L.ros							0.2 18* (0.1 29)	0.2 14** (0.1 08)	0.1 31 (0.0 93)						
L.ebitmar gin										-0.002 (0.001)	-0.000 (0.001)	-0.001 (0.001)			
L.eps													0.228*	0.201*	0.140

													(0.137)	(0.107)	(0.122)
control	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
sector effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
year effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
N	289	289	289	289	2895	289	289	289	289	2896	2895	2896	2896	2895	2896
	6	5	6	6		6	6	5	6						
number of IV	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
hansen	9.7	14.1	13.1	3.3	1.69	3.8	18.	21.	12.	3.301	8.055	3.433	7.750	8.993	14.826
	28	30	07	34	1	69	344	190	769						
hansenp	0.5	0.22	0.28	0.9	0.99	0.9	0.0	0.0	0.3	0.986	0.708	0.984	0.735	0.623	0.191
	55	6	6	86	9	74	74	31	09						
ar1p	0.0	0.00	0.00	0.2	0.31	0.2	0.0	0.0	0.0	0.310	0.314	0.314	0.005	0.004	0.007
	22	0	0	84	6	92	00	00	00						
ar2p	0.7	0.90	0.81	0.3	0.34	0.2	0.3	0.2	0.3	0.525	0.637	0.403	0.131	0.179	0.267
	46	9	6	93	0	74	64	37	07						

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Appendix 5: Summary of empirical literature

Author(s)	Title	Methodology (Model and Data)	Findings
Tsai (2005)	The impact of institutional ownership on firm performance in the hospitality industry	Regression analysis on 65 listed restaurants, 24 listed casino companies and 19 listed hotel businesses from the North American Industry Classification System (NAICS), during 1999-2003 (5 years)	The results indicated that there was a significant and positive influence of debt ratios on restaurant business performance. Similarly, a significant and positive effect of debt on casino companies' performance was found. In contrast, a significant and negative relationship of debt and the hotel businesses performance was shown.
Abor (2005)	The effect of capital structure on profitability: An empirical analysis of listed firms in Ghana.	Regression analysis on 22 listed companies on the Ghana Stock Exchange (GSE), Ghana during period from 1998 to 2002 (5 years).	The results showed a strong and positive relationship between the short-term debt ratio and firm performance measured by ROE (return on equity). However, long-term debt has a negative influence on ROE
Abor (2007)	Debt policy and performance of SMEs Evidence from Ghanaian and South African firms	Regression analysis on 160 Ghanaian SMEs and 200 South African SMEs from 1998 to 2003 (6 years). The data sample was collected from both Ghanaian and South African SMEs based in databases of the National Board of Small-Scale Industries, the Association of Ghana Industries, and the Small Business Advisory Bureau database.	The results implied that debt policy or capital structure choice has a significant relationship with business performance. In general, short-term debt had a significant and negative influence on gross profits, while long-term debt has significant and positive relationship with gross profit margin. In addition, total debt ratio has a significant and negative impact on gross profit margin.

Kyereboah-Coleman (2007)	The impact of capital structure on the performance of microfinance institutions.	Multiple regression analysis was used in this study to investigate effects of capital structure on the performance of 52 microfinance institutions from 1995-2004 (10 years)	The results implied that in general terms debts had a positive influence on business performance.
Ebaid (2009)	The impact of capital-structure choice on firm performance: empirical evidence from Egypt.	Multiple regression analysis on 64 nonfinancial listed firms on the Egyptian stock exchange during period from 1997 to 2005 (9 years).	The results showed that capital structure had a weak or no influence on business performance.
Nimalathasan (2010)	Capital Structure and its impact on Profitability: A Study of Listed Manufacturing Companies in Sri Lanka.	Multiple regression analysis on listed manufacturing companies on Colombo Stock Exchange, Sri Lanka from 2003 to 2007 (5 years).	The results indicated that capital structure had a significant influence on all ratios of profitability except return on capital employed and return on investment.
Nawaz et al. (2011)	Relationship between Capital Structure and Firms Performance: A Case of Textile Sector in Pakistan	Multiple regression analysis on 173 listed businesses on textile sector for 10 years from 2000 to 2009. Data was collected from KSE (Karachi Stock Exchange).	There was a significant and positive influence on debt level on the business performance.
Gill et al. (2011)	The Effect of Capital Structure on Profitability: Evidence from the United States	Multiple regression analyses on 272 American firm listed on New York Stock Exchange from 2005 to 2007 (3 years).	The results revealed a positive relation between the short-term debt ratio and profitability in the service industry. Moreover, a positive relationship between short-term debt, long-term debt and total debt ratios and profitability was found in the manufacturing industry.

Salim and Yadav (2012)	Capital Structure and Firm Performance: Evidence from Malaysian Listed Companies	Multiple regression analysis on 237 Malaysian listed firms from Bursa Malaysia Stock Exchange during 1995 to 2011 (17 years).	The results indicated that the debt ratios have significant and negative influence on business performance which is measured by ROA, ROE and EPS (return on asset, return on equity and earning per share). In contrast, short-term debt and long-term debt have significant and positive influence on business performance which is measured by Tobin's Q.
Olokoyo (2013)	Capital Structure and Corporate Performance of Nigerian Quoted Firms: A Panel Data Approach.	Regression analysis on 101 Nigerian businesses listed in Nigerian stock exchange from 2003 to 2007 (5 years).	The results showed that debt ratio has a significant negative influence on the enterprise's performance (ROA). All the leverage measures have been found to have a positive and highly significant relationship with the market performance (Tobin's Q).
Al-Taani (2013)	The relationship between capital structure and firm performance: evidence from Jordan.	Regression analysis on 45 manufacturing businesses listed on the Amman Stock Exchange during 2005 to 2009 (5 years).	The results indicated that short-term debt and long-term debt have insignificant relationship with business performance which is measured by ROA and PM (return on asset and profit margin). Whereas total debt has a strong positive relationship with business performance measured by ROA, and negative relationship with company performance measured by PM.
Javed et al. (2014)	Impact of Capital Structure on Firm Performance: Evidence from Pakistani Firms	Regression analysis on 63 companies listed on Karachi stock exchange from 2007 to 2011 (5 years).	Capital structure shows positive impact ROA. DTA shows positive influence, but EQA and LDA reveal negative effect on ROE. LDA reveal positive influence, but DTA and EQA show a negative effect to ROS.

Muhammad et al. (2014)	The Impact of Capital Structure on Firm Performance: Evidence from Pakistan	Regression analysis on 25 listed companies in Pakistan. The data was collected from Karachi Stock Exchange for the period 2009-2013	The results indicated a strong and negative relationship between the debt-to-asset ratio and business performance measured by GPM (Gross Profit Margin), NPM (Net Profit Margin), ROA, and ROE. In contrast, the debt-to-equity ratio had a positive influence on ROA and ROE.
Dawar (2014)	Agency theory, capital structure and firm performance: some Indian evidence.	Regression analysis on 100 companies listed on S&P BSE index, India from 2003 to 2012 (10 years).	The results implied that the debt ratio has a negative influence on the financial performance of Indian businesses.
Mwangi et al. (2014)	Relationship between Capital Structure and Performance of Non-Financial Companies Listed in the Nairobi Securities Exchange, Kenya	The Feasible Generalised Least Square (FGLS) regression was applied to examine data of 42 listed businesses in the Nairobi Securities Exchange, in Kenya from 2006 – 2012 (7 years)	The results revealed that the debt ratios have a significant and negative influence on a business performance measured by ROA and ROE.
Hasan et al. (2014)	Influence of Capital Structure on Firm Performance: Evidence from Bangladesh.	Regression analysis on 36 companies listed in Dhaka stock exchange, Bangladesh from 2007 to 2012 (6 years).	The results illustrated that short-term debt has a significantly positive relation with EPS (earning per share), but long-term debt shows negative relation. Capital structure shows negative relation with ROA. However, there is no statistically significant relation exists between capital structure and ROE and Tobin's Q.

Chadha and Sharma (2015)	Capital Structure and Firm Performance: Empirical Evidence from India	Multiple regression analysis on 422 listed Indian manufacturing companies on Bombay Stock Exchange (BSE) during 10-year period from 2003-2004 to 2012-2013.	The results showed that there is no relationship between capital structure and business performance measured by ROA and Tobin's Q. Whereas, there is a significant and negative effect of capital structure on business performance measured by ROE.
Abeywardhana (2016)	Impact of Capital Structure on Firm Performance: Evidence from Manufacturing Sector SMEs in UK.	Multiple regression analysis on 224,231 observations of SMEs manufacturing sector from 1998 to 2008 (11 years).	The results demonstrated that financial leverage has a significant and negative relationship with business performance (ROA, ROCE). Businesses which perform well do not rely on debt capital and finance their operations from retained earnings. In addition, SMEs have less access to external finance and face difficulties in borrowing funds.
Nasimi (2016)	Effect of Capital Structure on Firm Profitability: An Empirical Evidence from London, UK.	Multiple regression analysis on 30 companies listed in FTSE-100 of London stock exchange from 2005 to 2014 (10 years).	The results indicated that interest coverage had a positively significant influence on ROA, ROE and ROIC. Debt to equity has a positively significant effect on ROE but negatively significant influence on ROA and ROIC.
Dada and Ghazali (2016)	The Impact of Capital Structure on Firm Performance: Empirical Evidence from Nigeria	Multiple regression analysis on 100 listed Nigerian companies in Nigerian Stock Exchange (NSE) during a period of 2010 to 2014 (5 years).	There is no relationship between capital structure and business performance measured by Tobin's Q and ROA.

Basit and Irwan (2017)	The Impact of Capital Structure on Firms Performance: Evidence from Malaysian Industrial Sector - A Case Based Approach.	Multiple regression analysis on 50 Malaysian industrial product companies from 2011 to 2015 (5 years).	The results implied that industrial product companies are heavily rely on equity finance. D/E showed a negative effect on ROA and ROE. TD had an insignificant effect on ROA but has a negative influence on ROE. TE has insignificant effect on ROA and ROE.
Vuong et al. (2017)	Impact of Capital Structure on Firm's Financial Performance: Evidence from United Kingdom.	Regression analysis on 739 very large and large UK companies listed in the London stock exchange from 2006 to 2015 (10 years).	The results illustrated that there is no relation between the leverage and profitability of the business.
Bui (2017)	The Impact of Financial Leverage on Firm Performance: A Case Study of Listed Oil and Gas Companies in England.	Regression analysis on 18 British oil and gas companies from 2009 to 2014 (6 years).	The result indicated that long-term debt and total debt have a strongly negative effect on ROA and ROE. Short-term debt has insignificant effect on ROA and ROE. Besides, the businesses having high level of long-term debt and long-term debt tend to show poorer performance of ROA and ROE.
Sivalingam and Kengatharan (2018)	Capital Structure and Financial Performance: A Study on Commercial Banks in Sri Lanka.	Regression analysis on 10 commercial banks with data was gathered from annual reports from 2007 to 2016 (10 years).	The results showed that total debt ratio had a significant and negative effect on ROE. In contrast there was no significant relationship between short-term and long-term debt and ROE was found.
El-Chaarani and El-Abiad (2019)	Analysis of Capital Structure and Performance of Banking Sector in Middle East Countries.	Regression analysis on 143 commercial banks from banking sectors in the Middle East region. The data was collected from annual reports, bank scope and central bank database from 2011 to 2016 (6 years).	The findings implied that short-term debt and total debt have positive effect on ROE of the banking sector in Middle East region. However, a negative relationship between debt ratios (total debt and short-term debt) and ROA. In addition, long-term debt has a positive effect on ROA.

Mohammad and Bujang (2020)	Capital Structure and Financial Performance Evidence from Three Malaysian Industries	Regression analysis on 41 constructions, 30 finance and 37 plantation businesses during 2011 to 2015.	For construction and finance industry, debt ratios and ROA has a negative association. However, debt ratios have, and ROE has a positive association. In the plantation industry, debt ratios had a positive effect on ROA and ROE.
Nguyen and Nguyen (2020)	The Impact of Capital Structure on Firm Performance: Evidence from Vietnam	Regression analysis on 488 listed companies from Vietnam Stock Market during period of 2013 to 2018 (6 years)	The results showed that capital structure (debt ratios) has significant and negative effects on business performance measured by ROA, ROE and EPS (earning per share).
Kalash (2023)	The financial leverage–financial performance relationship in the emerging market of Turkey: the role of financial distress risk and currency crisis	Regression analysis on 200 listed firm on Istanbul Stock Exchange in the period of time from 2009 to 2019 (11 years).	The results indicated that financial leverage (debt ratios) has significant and negative effect on financial performance. This influence had a stronger for the businesses with greater distress risk.
Kotey (2024)	Does Capital Structure Affect Profitability of Listed Ghanaian Firms	Regression analysis on 23 listed Ghanaian manufacturing and service companies between 2003 and 2013 (11 years)	The results showed that short-term debt has a positive influence on ROE, while long-term debt has a negative effect on ROE.

Appendix 6: Attributes which can affect Profitability

Author(s)	Title	Methodology (Model and Data)	Findings
Carvalho et al. (2013)	Profitability Determinants of Fitness SMEs: Empirical Evidence from Portugal Using Panel Data	Regression analysis on 182 Portuguese fitness SME businesses listed in Analysis System of Iberian (SABI) balance sheets for the period from 2004- 2009	The results indicated that the determinants including business size, age, liquidity, long-term debt and government subsidies have positive relationships with profitability in Portuguese of fitness SMEs. In contrast growth opportunities are neither or respective determinant of profitability in Portuguese of fitness SMEs.
Bhutta and Hasan (2013)	Impact of Firm Specific Factors on Profitability of Firms in Food Sector.	Regression analysis on 12 Pakistani food businesses listed in Karachi stock exchange from 2002 to 2006 (5 years).	The results revealed that size has a negative relation with profitability. Tangibility, growth of the business and food inflation were found insignificantly positive relation with profitability. Debt to equity ratio showed insignificantly negative relation with profitability.
Sivathaasan et al. (2013)	Factors Determining Profitability: A Study of Selected Manufacturing Companies listed on Colombo Stock Exchange in Sri Lanka	Multiple regression analysis on 11 manufacturing companies listed in Colombo stock exchange, Sri Lanka from 2008 to 2012 (5 years).	The results demonstrated that capital structure and non-debt tax shield had a positively and statistically significant influence on the profitability.
Yazdanfar (2013)	Profitability Determinants among Micro Firms: Evidence from Swedish Data.	Regression: analysis on 12,530 non-financial micro businesses in the healthcare, transport, manufacturing of	The result showed that business size, lagged profitability, growth, and productivity positively influence profitability.

		metallic products and retail sectors from 2006 to 2007 (2 years).	Business age and industry affiliation negatively influence profitability. Productivity shows the most significant determinant of profitability.
Phan (2013)	Factors Affecting Profitability: Case of Consumer Products Companies of Thailand.	Multiple regression analysis on 40 consumer products companies listed in stock exchange of Thailand from 2008 to 2012 (5 years).	The result indicated that quick ratio and debt to equity ratio have a negative effect while sales growth had a positive influence on return on equity.
Pratheepan (2014)	A Panel Data Analysis of Profitability Determinants: Empirical Results from Sri Lankan Manufacturing Companies.	Static panel models analysis on 55 manufacturing companies listed in Colombo stock exchange from 2003 to 2012 (10 years).	The result implied that size had statistically and positively significant relation with profitability. Tangibility shows statistically and negatively relation with profitability. Leverage and liquidity have an insignificant effect on profitability.
Vatavu (2014)	The Determinants of Profitability in Companies Listed on the Bucharest Stock Exchange.	Cross sectional regression analysis on 126 Romanian companies listed on the Bucharest stock exchange from 2003 to 2012 (10 years).	The result demonstrated that profitable companies operate with limited borrowings. Tangibility, business risk and the level of taxation have a negative effect on ROA. Performance is affected by high levels of liquidity. Inflation rates and financial crisis had a strong and negative influence on corporate performance.
Al-Jafari and Samman (2015)	Determinants of Profitability: Evidence from Industrial Companies Listed on Muscat Securities Market.	Regression analysis on 17 industrial companies listed on Muscat securities market,	The result illustrated that business size, growth, fixed assets and working capital have a positive and statistically significant relationship with profitability. In contrast, average tax rate and

		Oman from 2006 to 2013 (8 years).	the financial leverage variables show a negative relationship with profitability.
Fareed et al. (2016)	Determinants of Profitability Evidence from Power and Energy Sector.	Regression analysis on 16 firms of power and energy sector in Pakistan during 2001 to 2012	The results indicated that business size, company growth and electricity crisis have positive relationships with profitability. The age of the business, financial leverage and productivity have negative effect on profitability.
Margaretha and Supartika (2016)	Factors Affecting Profitability of Small Medium Enterprises (SMEs) Firm Listed in Indonesia Stock Exchange.	Multiple regression analysis on 22 Indonesian SMEs listed in PEFINDO 25 Index of Indonesia stock exchange from 2007 to 2012 (6 years).	The results illustrated that business size, growth, lagged profitability have negatively and significantly effect on profitability. Productivity and industry affiliation have positively and significantly effect on profitability. Business age does not significantly influence profitability.
Sarwar et al. (2018)	Internal and External Determinants of Profitability: A Case of Commercial Banks of Pakistan	Regression analysis on 21 commercial banks listed on Pakistan Stock Exchange (PSE) from 2006 to 2015	The results showed that bank size is a significant positive factor for profitability. Moreover, GDP and interest rate have an important effect for profitability
Alarussi and Alhaderito (2018)	Factors affecting profitability in Malaysia.	Regression analysis on 120 companies listed on Bursa Malaysia from 2012 to 2014 (3 years).	The result demonstrated that total sales, working capital, assets turnover ratio had a strong and positive relation with profitability. Debt equity ratio and leverage ratio have a negative relationship with profitability. Current ratio has no significant relationship with profitability.
Camino-Mogro (2019)	Determinants of profitability of life and non-life insurance companies: evidence from Ecuador	Regression analysis on 29 life and 38 non-life insurance businesses in Ecuadorian	The result implied that Net premium and the efficiency score have a positive effect on ROA. The equity ratio negatively affects the ROA. Inflation and negatively affects investment income

		insurance sector from 2001 to 2017	The interest rate negatively affects ROA and profit-after-taxes.
Youssef et al. (2022)	The determinants of profitability in non-financial UK SMEs	Regression analysis on 93 non-financial SME companies listed in Thomson Reuters data stream in the UK from 2012 to 2020	The results indicated that business size has a negative effect on ROA and ROE. Business age has a significant positive influence on ROA and ROE. WC, volatility and GDP have a strong positive influence on ROA as opposed to a strong negative impact on ROE. Inflation has a negative significant effect on ROE. Efficiency, liquidity and debt ratios have a significant positive effect on both ROA and ROE. Debt ratio has a negative effect on ROA and ROE.
Ali et al. (2021)	Determinants of profitability in Chinese companies	Regression analysis on 100 companies during the period of 2017–2019 on the Shanghai stock exchange.	The results showed that business size, working capital and intangible assets have positive and significant relationships with profitability. A negative and strong relationship between liquidity and profitability. Debt ratio had a significant and positive association with ROA but not with EPS.
Hassan et al. (2023)	Determinants Of Firm Profitability: Empirical Evidence from Jordan's Service Sector	Regression analysis on 46 public service businesses from 2015 to 2020.	The results implied that business size and liquidity have positively and significantly effect on profitability. Company efficiency and market power have no significant influence on profitability.

			Sales growth have a significant influence on profitability.
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