EFFECT OF ENVIRONMENT, SOCIAL, AND GOVERNANCE (ESG) ON THE COST OF DEBT: THE CASE OF EXPORT ORIENTED FIRMS IN THE STOCK EXCHANGE OF THAILAND

BY

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ABSTRACT

This independent study examined the impact of ESG performance disclosure on the cost of debt. I analyzed data from 87 firms listed on Thailand's Stock Exchange to show how exports impact sustainability, which could influence firms' cost of debt. The analysis was based on an unbalanced dataset of 87 firms collected from the Thomson Reuters Eikon database, covering the period from 2015 to 2022.

The findings revealed that, aligned with some previous research, firms with higher ESG performance tend to face lower debt costs from lenders, but not all pillars are significant. Additionally, when moderated by export, the governance score is particularly valued by debt holders, as firms with more robust governance practices benefit from lower debt costs.

This study aimed to provide valuable insights for managers, investors, debt holders, and stakeholders regarding sustainable investments. The results also suggested several policy implications regarding ESG performance and its influence on the cost of borrowing.

Keywords: Environmental, Social, and Governance (ESG), Export, Cost of debt

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This independent study, consisting of six credits, has been completed as part of the requirements for the master's degree in accounting at Thammasat University. It marks the culmination of my degree program. The objective of this study was to enhance my understanding of how the disclosure of ESG performance influences the cost of debt, with a particular focus on how internationalization may affect this relationship.

I want to express my sincere gratitude to my supervisor, Asst. Prof. Dr. Kulaya Jantadej, and special thanks to Assoc. Prof. Dr. Suntichai Kotcharin for his guidance. Their invaluable insights, ideas, and discussions have significantly enriched the quality of this study. I am deeply thankful for their enthusiasm and engagement with my work. Additionally, I am grateful for the opportunity to collaborate on this Independent Study, as my partnership has been highly motivating and complementary throughout the process. Lastly, I am thankful to be a part of MAP19.

Mr. Chawanwit Roykornkaew

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Symbols/Abbreviations	Terms
E	Environmental
S	Social
G	Governance
COD	Cost of Debt
SET	Stock Exchange of Thailand

CHAPTER 1
INTRODUCTION

1.1 Problem and Significance of the study

The COVID-19 pandemic has precipitated a seismic shift in the global business landscape (Ding et al., 2023). As the world grappled with the multifaceted challenges presented by the pandemic, a discernible transformation occurred in corporate priorities and investor expectations. Environmental, Social, and Governance (ESG) factors have ascended to the forefront of corporate decision-making. In this era of heightened ESG awareness, firms worldwide are reevaluating their strategies to align with these principles, recognizing that ESG considerations are not only ethically imperative but also pivotal for financial success. A burgeoning body of academic research has examined the relationship between ESG performance and various economic indicators. One of the well-documented facets of this relationship is the connection between ESG and a firm's debt cost. Studies have indicated that firms from Chinese A-share companies in 2010-2020 and US S&P 500 in 2013-2016 with robust ESG profiles often benefit from a lower cost of debt, reflecting investors' willingness to assign a premium to the stocks of firms deemed responsible and sustainable (Chen Y., et al., 2023; Maaloul A. et al., 2022). pillar

This study seeks to contribute to this evolving field of inquiry by introducing a novel perspective: the introduction of an interaction term between ESG performance and a dichotomous variable representing a firm's export orientation. This interaction term will serve as a proxy for the context of globalization in which a firm operates. By incorporating this interaction term, I aim to uncover the multiplier effects when ESG performance intersects with a firm's export status. Globalization significantly influences the business environment, introducing unique regulatory, market, and stakeholder dynamics. The relationship between ESG performance and the cost of debt may differ for export-oriented firms. Prior research found that firms in the U.S.

with international activity, on average, had a lower cost of debt (Mansi A. S. et al., 2022).

1.2 Objectives of the study

The main objectives of this study were to analyze how ESG Scores negatively affect the cost of debt, investigate how each ESG pillar (Environment pillar, Social pillar, and Governance pillar) negatively affects the cost of debt, examine how export moderates the relationship between ESG scores and the cost of debt, and analyze how export moderates the relationship between each ESG pillar and the cost of debt.

1.3 Scope of the study.

This study examined the relationship between ESG score (environmental, social, and governance) and the firms listed on the Stock Exchange of Thailand (SET). The scope of this study was limited to analyzing companies listed on the SET. The data used in the research covers eight years, from 2015 to 2022.

1.4 Contributions of the study

This research aims to explore the relationship between ESG and the cost of debt, as well as to study the impact of this relationship through the moderate variable of exporting. This study is expected to be significant for investors and firms, with the anticipated benefits as follows:

First, the study contributes to the ongoing debate about the strategic effects of ESG on financial performance, suggesting that the benefits of ESG practices may be realized through strong export activities rather than direct financial metrics. Second, The study adds to the existing literature by clarifying the mixed results regarding the relationship between ESG performance and the cost of debt. It highlights

that an export-oriented firm could play a moderating role in this relationship. Third, The study emphasizes the importance of firms' exports in financial performance, showing how firms with strong exports can influence debt financing costs. This insight is valuable for managers and financial stakeholders, as it underscores the strategic importance of managing ESG issues. Finally, The study applies agency theory to explain the relationship between exporting and the cost of debt, highlighting how increased complexity in operations affects agency costs and debt ratios. This theoretical framework enriches the literature on capital structure decisions.

1.5 Framework of the study

This research presents the following structure:

Chapter 1: Discusses the problem and significance of the study, objectives of the study, and scope of the study.

Chapter 2: Explains the relevant theoretical concepts and literature used to develop the conceptual framework for this research.

Chapter 3: Covers the research methodology and presents the population sample, the research model, variables and measurements, the data collection process, and methods of analysis.

Chapter 4: Analysis of the collected data using statistical methods: 1. Descriptive Statistics, 2. Pearson Correlation Coefficient, 3. Variance Inflation Factor (VIF), and 4. Panel Data Regression. These analyses lead to the conclusions and discussions of the results.

Chapter 5 Summarizes and discusses the research findings from statistical analysis, the limitations of the study, and recommendations for future research.

CHAPTER 2
REVIEW OF LITERATURE

Theoretical framework

In this section, I will introduce the framework for my hypotheses, discuss financial theories, ESG, and prior studies on the cost of capital, and outline my hypotheses.

2.1 Financial Theory

This subsection introduces important concepts and principles derived from corporate finance. These concepts and principles will serve as the fundamental basis upon which I will construct my hypotheses. Furthermore, comprehending these theories will enable us to grasp the dynamic relationship between financial and non-financial information. Additionally, it will allow us to explore how these two types of information can impact each other and ultimately influence the overall cost of debt.

2.1.1 Diversification

Diversification suggests that spreading investments across different markets or sectors can reduce overall risk, potentially lowering the cost of debt. When firms diversify, they may become less susceptible to market fluctuations and economic downturns, enhancing their stability and reducing perceived credit risk from lenders.

Incorporating CSR practices into this framework can further influence the cost of debt. Companies prioritizing CSR criteria may improve their risk profile by demonstrating sustainability and corporate responsibility, which can attract investors and lower borrowing costs. For instance, research by Albuquerque R. (2015) indicates that firms with strong CSR performance tend to have lower debt costs due to improved investor perceptions and reduced risks associated with regulatory compliance and reputational damage.

Export- oriented firms, which possess a more extensive range of product diversification, frequently exhibit higher proportions of short-term debt due to the extended periods required for cash conversion in international transactions. Furthermore, these firms commonly exhibit elevated overall leverage levels as they can employ short-term assets as collateral. Consequently, export-oriented firms enjoy enhanced access to financial resources, which may reduce debt costs relative to non-exporting firms (Maes E. et al., 2019).

2.1.2 Stakeholder Theory

Stakeholder theory expands the focus of managers beyond just making profits for shareholders. It includes the well- being of employees, customers, and the local community. The theory recognizes that anyone interested in or affected by the Firm's actions is a stakeholder. It is essential to create value for stakeholders, even if it means that monetary profits for shareholders may be reduced. Stakeholders expect firms to consider their concerns and interests, and managers are responsible not only to shareholders but to all parties involved in creating wealth, whether voluntary or involuntary.

Sharing information with stakeholders is an essential aspect of stakeholder theory. Involving them in decision- making processes can result in greater acceptance of the firm's actions. Information sharing can make stakeholders feel valued and more likely to support the firm's strategies for generating value (Parmar et al., 2010). When firms include stakeholders in decision-making, they take care of these stakeholders and positively impact the " 3Ps" people, planet, and profit, including stakeholders who align the firms with the principles of sustainable finance.

The relationship between stakeholder theory and the cost of debt is rooted in how firms manage their responsibilities to stakeholders, including employees, customers, and the community. Firms prioritizing stakeholder interests often enhance their reputation, potentially lowering their perceived risk and, consequently, their cost of debt. Research suggests that corporate social responsibility (CSR) can be associated

with borrowing costs, as lenders may view socially responsible firms as more stable and less likely to encounter reputational risks (Hasan I. et al., 2016).

However, the findings are mixed. Some studies indicate that high CSR correlates with reduced debt costs. At the same time, other research highlights scenarios where increased CSR activities may lead to higher debt costs due to perceived operational complexities or additional risks (Magnanelli B. S. et al., 2017). This indicates that while effective stakeholder management can benefit firms, the impact on debt costs may vary based on how these practices influence a firm's overall risk profile.

2.1.3 Agency Theory

An agency relationship refers to a contractual agreement in which one or more individuals, the principals, employ another person, called the agent, to carry out specific services on their behalf. This arrangement often involves granting decision-making authority to the agent. For instance, when investors entrust the management of a firm with making investment decisions, an agency relationship is established. In agency relationships, conflicts can arise, known as agency conflicts. These conflicts may occur when the management of a firm chooses to allocate shareholders' funds to activities like ESG initiatives that may yield little profit for the firm. Investors may have differing views on these investments due to information asymmetry or differing opinions on spending priorities (van BINSBERGEN et al., 2010). The long-term consequences of such conflicts within a firm can include higher agency costs, such as an increased cost of debt, as investors lose confidence in the management's decision-making. Moreover, agency costs can arise from the resources investors must allocate to control and monitor management behavior. These controls may involve implementing budget restrictions, designing compensation policies, and establishing operational rules, which can be costly for the principals.

The findings from Chen (2002) align with agency theory, demonstrating that exporting firms with high debt ratios exhibit behavior consistent with the theory's predictions, highlighting the significance of agency costs. The results

showed a negative relationship between export intensity and debt ratio, suggesting that firms with higher export activities rely less on debt financing. Additionally, the interaction between foreign direct investment (FDI) and export intensity negatively affects the capital structure. This implies that as firms' international operations grow more complex, the associated monitoring and agency costs for creditors increase substantially.

2.2 Environmental, Social, and Governance

Environmental, Social, and Governance was created in 2004 by financial institutions in response to a call for responsible investment. ESG encompasses a broader range of factors than CSR, focusing on the environment and explicitly reporting social and governance aspects. Unlike CSR, ESG emphasizes governance and a more modern and comprehensive metric than CSR, which is suited for contemporary financial analysis. As millennials have higher expectations for the firms they work for and invest in, ESG issues have gained prominence. These concerns include human rights, equality, fair wages, and equal opportunities in the workplace. ESG aligns with the demands of the next generation (Gillan et al., 2021).

2.2.1 Environment pillar

The environmental pillar of ESG is a crucial aspect that focuses on thoroughly evaluating and assessing a firm's impact on the environment, explicitly emphasizing the ever-growing concern of climate change. Within this pillar is a comprehensive examination of various factors that contribute to a firm's environmental impact, including but not limited to the amount of greenhouse gas emissions a firm generates, the practices implemented in managing waste, and the active steps to enhance energy efficiency. It is expected that firms align themselves with the global efforts to combat climate change, invest considerable resources, and substantially reduce their contribution to global warming. In doing so, they should adhere to internationally recognized agreements such as the Paris Agreement, which serves as a guiding framework for countries and businesses to address the pressing

challenges associated with climate change collectively. By committing to the process of decarbonization and actively taking measures to decrease emissions, firms play a pivotal role in tackling the multifaceted issues that arise from climate change, which not only impact the environment but also have far-reaching consequences on various aspects of society and the economy (Robeco, 2022).

2.2.2 Social pillar

The social pillar of ESG encompasses the comprehensive assessment of a firm's performance concerning the fundamental principles of human rights and labor standards within the intricate web of its supply chain. This critical assessment examines a wide range of complex issues related to the overall well-being and welfare of the workforce, including matters related to maintaining health and safety in the workplace, while also providing a comprehensive analysis of the potential vulnerability to the risks associated with illegal labor practices, such as the reprehensible exploitation of child labor. Suppose a firm is discovered non-compliant with the universally recognized human rights standards; it is imperative to note that significant penalties are imposed upon them, thereby leading to a substantial diminution in their social ESG score. Conversely, it is noteworthy to indicate that a firm's social score has the potential to experience a positive surge if it actively espouses and seamlessly integrates itself into the local community, thereby manifesting a profound commitment to the cardinal principles of social responsibility and engagement (Robeco, 2022).

2.2.3 Governance pillar

The governance pillar of ESG evaluates the management and governance of a firm at its highest levels. The comprehensive assessment covers various factors and considerations, including the quality of management, the composition, and effectiveness of the board of directors, and elements related to shareholder rights, anti-corruption measures, and the transparency of the firm's operations and reporting (Robeco, 2022). It is essential to highlight that substantial data

utilized to evaluate governance scores within the ESG framework overlaps with Corporate Social Responsibility (CSR) considerations. This emphasizes the significance of firms adopting a long-term perspective that not only serves their shareholders' interests but also considers the needs and concerns of their stakeholders. By doing so, firms can strive to strike a delicate balance between maximizing shareholder value and showcasing responsible governance practices and social responsibility (Smith, 2003).

2.3 Literature review

A study investigated the impact of ESG scores on the cost of debt and profitability within the oil and gas industry. The researchers utilized data from 182 firms and employed the Easton Model to determine the implied cost of debt. The study found that higher ESG scores were associated with more affordable debt financing, with a 10% increase in the overall ESG score resulting in 134 basis points lower cost of debt) (Pellegrini et al., 2019). In addition, a study that examined individual pillars of ESG found that all ESG scores are significantly negative to the bond yield (Apergis N. et al., 2022). These studies are aligned with the idea of the Stakeholder Theory that lenders perceive socially responsible firms as stable and less prone to reputational risks (Hasan I. et al., 2016).

The 2008 global financial crisis profoundly impacted the global economy, resulting in growing trade deficits and the emergence of trade protectionism. Subsequently, the US-China trade war, initiated in July 2018, escalated into a significant international trade dispute, marked by the imposition of tariffs by the US on Chinese goods and China's retaliatory tariffs affecting US industries. China, being the world's largest exporter, became a primary target in international trade disputes, encountering measures such as anti-dumping actions and various trade frictions. Previous research has explored the consequences of global trade friction on corporate behavior, including reductions in export transactions and enhanced productivity among domestic competitors (Feng X. et al., 2021). This finding aligns with the agency theory from Chen (2002) as exporting goods grows more complex, which comes with agency costs.

However, another study focused on diversification from Mansi (2002) found that firms with moderate international activity see a reduction of around 52 basis points in their cost of debt. This indicates that international firms generally benefit from lower borrowing costs, as the advantages of global expansion can outweigh the associated risks at moderate diversification levels. This idea is aligned with Albuquerque R. (2015) that firms with strong CSR performance tend to have lower debt costs due to improved investor perceptions and reduced risks associated with regulatory compliance and reputational damage.

2.4 Hypotheses and framework

My first hypothesis is to examine the potential inverse correlation between higher ESG scores and the cost of capital, with a particular focus on the cost of debt in the Stock Exchange of Thailand. Expanding on the discoveries made by Wong et al. (2021), which propose that an elevated ESG score could decrease the overall cost of debt, my hypothesis aims to develop a deeper comprehension of how financial and non-financial activities within a firm interact. I seek to investigate how ESG reporting influences explicitly the cost of debt. By centering my attention on the cost of debt, my study strives to provide insights into how capital providers perceive and assign value to ESG reporting practices. As a result, firms with higher ESG scores may experience lower financial risk due to their more favorable relationships with the financial community. Conversely, less socially responsible firms may be viewed as riskier investments, potentially due to the likelihood of government intervention (Hammond and Slocum, 1996). To interpret the results of my hypothesis, I will draw upon both financial and sustainable theories to present a comprehensive understanding of the findings.

***H1**: A higher ESG score has a negative relationship with the cost of debt.*

***H2a**: A higher Environmental pillar has a negative relationship with the cost of debt.*

***H2b**: A higher Social pillar has a negative relationship with the cost of debt.*

***H2c**: A higher Governance pillar has a negative relationship with the cost of debt.*

As for H2a-H2c, they explore the separate components that make up the ESG score, which are the environmental, social, and governance aspects. The environmental element has the most significant impact on debt costs, as there has been an increasing focus on environmental considerations in recent discussions. Research conducted in 2007 has shown that firms with solid environmental performance can improve their overall value and reduce unique risk (Ziegler et al., 2007). Furthermore, research from Sassen et al. in 2016 regarding the social aspect can also reduce general risks. These findings highlight the importance of environmental and social factors aligning with its strong connection to Corporate Social Responsibility (CSR), which has traditionally played a crucial role in investment decisions. However, there has been a noticeable shift towards environmental concerns and climate change in recent years. Experts and global leaders have identified environmental risk as one of the most urgent challenges in the future. Many firms are setting ambitious goals to reduce emissions in response to this concern from the Fiscal Policy Office in 2021. There is a collective effort from various parties, including firms themselves and the younger generation, to improve environmental scores. With the heightened awareness of climate change risks, all stakeholders within a firm may assign additional value to the ecological aspect.

The second hypothesis aims to investigate the potential moderating effect of Environmental, Social, and Governance (ESG) scores on the cost of debt, particularly in firms with a strong orientation towards exporting their products. Previous empirical studies have provided evidence suggesting that export activities may positively impact the cost of debt (Maes et al. 2019; Feng et al. 2021). Building upon this prior research, the present hypothesis seeks to understand how export-oriented firms may moderate the relationship between ESG reporting and the cost of debt. In other words, this hypothesis aims to explore whether there are variations in the relationship between ESG reporting and the cost of debt for firms that strongly emphasize exporting their products.

***H3**: Export moderates the relationship between ESG score and the cost of debt.*

***H4a**: Export moderates the relationship between the Environmental pillar and the cost of debt.*

***H4b**: Export moderates the relationship between Social pillars and the cost of debt.*

***H4c**: Export moderates the relationship between Governance pillars and the cost of debt.*

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Data and sample selection

My dataset consists of an unbalanced panel, initially including 1,264 firms (7,368 observations) with data start from 2015 to 2022, sourced from the Stock Exchange of Thailand. I excluded 890 firms (6,629 observations) that lacked ESG data. Additionally, I excluded 161 firms (109 observations) from the financial sector, as their unique business models and balance sheet structures are not compatible with the study's focus. Furthermore, 124 firms (302 observations) without exports were excluded, as export data is critical for the model's analysis. Finally, I excluded 2 firms (7 observations) with missing data, resulting in a final sample of 87 firms (321 observations).

Table 3.1 Data and sample

Year	Total	No ESG	Financial Sectors	No Foreign Sale	Missing data	Summary
2015	921	-878	-7	-16	-1	13
2016	921	-876	-7	-17	-1	14
2017	921	-873	-7	-19	-1	15
2018	921	-870	-7	-20	-1	18
2019	921	-871	-17	-39	-1	42
2020	921	-755	-24	-51	-2	61
2021	921	-765	-26	-69	0	81
2022	921	-741	-14	-71	0	77
Total	7368	-6,629	-109	-302	-7	321

3.2 Variables

3.2.1 Independent Variable

The ESG (Environmental, Social, and Governance) data employed in this inquiry were exclusively obtained from Eikon, an application within the Thomson Reuters database (Refinitiv, 2022). These ESG scores are founded upon self-reported information furnished by firms, which elucidate their adherence to environmental, social, and governance standards rated from 0 to 100, worst score to best score, respectively.

Environmental pillar

The environmental pillar evaluates a firm's influence on ecological operations, encompassing living and non-living ecosystems, air, land, and water. Furthermore, it appraises whether a firm conforms to optimal methods to avert environmental calamities and whether it capitalizes on ecological opportunities to the advantage of stakeholders. The Environmental pillar consists of three aspects: 1. Resource use 2. Emissions 3. Innovation (Refinitiv, 2022).

Social pillar

The social pillar assesses a firm's capacity to foster trust and loyalty among its customers, workforce, and society by implementing exemplary practices in various social domains. The Social pillar has four aspects: 1. Human rights use 2. Workforce 3. Community 4. Product Responsibility (Refinitiv, 2022).

Governance pillar

The governance pillar scrutinizes the firm's comprehensive governance system, guaranteeing that its board and executives act in the best interests of long-term shareholders. It also signifies a firm's competence in employing optimal measures to administer and supervise its rights and obligations. The Governance pillar consists of three aspects: 1. Shareholders 2. Management 3. CSR strategy (Refinitiv, 2022).

Table 3.2 Summary Table

Variables	**Variable Name**	**Variable Notation**	**Measurement**	**Source**
Dependent Variables	Cost of Debt	COD	Interest expense / Total debt	Maaloul A., et al., (2023)
Independent Variables	ESG Score	ESG	Refinitiv	Amenya C. T., et al., (2022)
	Environmental Score	E	Refinitiv	Amenya C. T., et al., (2022)
	Social Score	S	Refinitiv	Amenya C. T., et al., (2022)
	Governance Score	G	Refinitiv	Amenya C. T., et al., (2022)
	Ln (Foreign Sale)	Export	Refinitiv	Mansi S. A., et al., (2002)
Control	Firm size	Size	Natural logarithm of total asset	Maaloul A., et al., (2023)
	Growth	Growth	Percentage change of sales revenue	Maaloul A., et al., (2023)
	Leverage	Lev	Total debt / Total assets	Feng, X. et al., (2021)
	Performance	ROA	Net income /Total assets	Maaloul A., et al., (2023)
	Age	Age	Ln (Age)	Feng, X. et al., (2021)

3.2.2 Dependent Variable

Previous researchers have employed different methodologies to determine the cost of debt. Some studies, including those by Eliwa et al. (2021), Francis et al. (2005), and Gray et al. (2009), adopted an accounting-based approach, calculating the cost of debt as the ratio of interest expense to the firm's average debt. I followed the accounting-based method for my study, sourcing data from Thomson Reuters. This choice is supported by Orlitzky et al. (2003), who found that Environmental, Social, and Governance performance is less correlated with market-based measures than accounting-based measures. Refinitiv defines total debt as all interest-bearing and capitalized lease obligations, including The current portion of long-term debt, bonds, debentures, notes, and short-term debt. Interest expense on debt reflects the service charge for using capital, including expenses from short-term debt, long-term debt, and capitalized lease obligations.

$$X_d = \frac{Interest\ expense}{Total\ debt}$$

Where:

Total debt = the sum of long-term debt and short-term debt

3.2.3 Moderating Variables

Export (Export) is calculated as the natural logarithm of foreign sales defined by Refinitiv as sales generated from operations in foreign countries (Mansi S. A. et al., (2002).

3.2.4 Control Variables

This study has five control variables contributing to firms' profitability (e.g., Maaloul A. et al., 2023; Feng, X. et al., 2021.)

Firm size (Size) is calculated as the natural logarithm of total assets, and larger firms are less likely to default; thus, larger sizes tend to have lower costs of debt (Mansi et al., 2011; Gao and Zhu, 2015; Gao et al., 2020).

Firm growth (Growth) is the percentage change in sales revenue for a firm by comparing the current year with the same period in the previous year; a higher growth rate is associated with a lower cost of debt (Black and Carnes, 2000; Lorca et al., 2011).

Firm leverage (LEV) is the ratio of Total debt to Total assets, approximating the firm's capital structure. Thus, higher leverage is positively associated with the cost of debt due to higher default risk (Solomon, 1963; Zou and Adams, 2008).

Return on Assets (ROA) is a firm's performance, which proves how profitable firms are calculated by net income to total assets; thus, higher ROA has a lower probability of default and, therefore, is negatively associated with the cost of debt (Plummer and Tse, 1999; van Binsbergen et al., 2010).

Firm age (AGE) equals the natural logarithm of years listed on the Stock Exchange of Thailand, and more extended public information disclosure can reduce information asymmetry (Mansi et al., 2011). This is negatively associated with the cost of debt.

3.3 Research Model

I evaluated my hypotheses using unbalanced panel data and derived the estimates through the following equations.

To estimate H1 and H2a – H2c, I used Equations (1-4):

$$COD = \beta_0 + \beta_1 ESG + \beta_2 SIZE + \beta_3 Growth + \beta_4 LEV + \beta_5 ROA + \beta_6 AGE + \mu \quad (1)$$

$$COD = \beta_0 + \beta_1 E + \beta_2 SIZE + \beta_3 Growth + \beta_4 LEV + \beta_5 ROA + \beta_6 AGE + \mu \quad (2)$$

$$COD = \beta_0 + \beta_1 S + \beta_2 SIZE + \beta_3 Growth + \beta_4 LEV + \beta_5 ROA + \beta_6 AGE + \mu \quad (3)$$

$$COD = \beta_0 + \beta_1 G + \beta_2 SIZE + \beta_3 Growth + \beta_4 LEV + \beta_5 ROA + \beta_6 AGE + \mu \quad (4)$$

To estimate H3, H4a – H4c, I used Equations (5-8):

$$COD = \beta_0 + \beta_1 ESG + \beta_2 ESG \times Export + \beta_3 Size + \beta_4 Growth + \beta_5 LEV + \beta_6 ROA + \beta_7 AGE + \mu \quad (5)$$

$$COD = \beta_0 + \beta_1 E + \beta_2 E \times Export + \beta_3 Size + \beta_4 Growth + \beta_5 LEV + \beta_6 ROA + \beta_7 AGE + \mu \quad (6)$$

$$COD = \beta_0 + \beta_1 S + \beta_2 S \times Export + \beta_3 Size + \beta_4 Growth + \beta_5 LEV + \beta_6 ROA + \beta_7 AGE + \mu \quad (7)$$

$$COD = \beta_0 + \beta_1 G + \beta_2 G \times Export + \beta_3 Size + \beta_4 Growth + \beta_5 LEV + \beta_6 ROA + \beta_7 AGE + \mu \quad (8)$$

Where dependent variable is the cost of debt (COD); β_0 is the constant; The independent variables are the Combined score of ESG (ESG), environmental (E), social (S), and governance score (G); firm size (Size), financial leverage (Lev), firm's performance (ROA), sales growth (Growth), and logarithm of age (AGE);, the logarithm of foreign sales (Export);, and μ is an error term.

CHAPTER 4
RESULTS AND DISCUSSION

This research examined the relationship between environmental, social, and governance (ESG) performance and a firm's debt cost, focusing on the importance of an exporting firm listed on the Stock Exchange of Thailand. The study encompasses data collected over eight years, from 2015 to 2022, selecting only complete data for each respective year. The sample consisted of 321 firm-year observations in total. The analysis results can be divided as follows:

4.1 Descriptive Analysis

4.2 Pearson correlation coefficient

4.3 Variance Inflation Factor (VIF)

4.4 Panel Data Regression

4.1 Descriptive Analysis

The Descriptive Analysis provided a foundational understanding of the dataset, highlighting areas of high and low variability and giving insights into the corporate practices and financial health of the 321 firm-year observations in the Stock Exchange of Thailand.

Table 4.1 Descriptive Statistic

Variable	Mean	Std. Dev.	Min.	Max
COD	0.0411	0.0496	0.0018	0.6905
ESG	55.1204	18.5862	4.09	91.85
E	51.5964	25.2792	0	97.2
S	61.8901	20.6621	1.84	97.84
G	51.8568	21.3242	6.3	95.72
Export	15.7006	2.6865	4.1271	21.7937

Table 4.1 Descriptive Statistic (cont.)

Variable	Mean	Std. Dev.	Min.	Max
Variable	Mean	Std. Dev.	Min.	Max
Size	17.9565	1.5919	13.7726	21.9367
Growth	0.1253	0.3212	-0.6385	2.6113
LEV	0.3372	0.1878	.00002	0.7783
ROA	0.0594	0.0719	-0.1701	0.5071
Age	2.5924	0.9486	0	3.5553

The descriptive statistics of the variables show that the cost of debt (COD) has a mean of 0.0411, a minimum of 0.0018, and a maximum of 0.6905. ESG has a mean of 55.1204, with a minimum of 4.09 and a maximum of 91.85, while the environmental (E) pillar has a mean of 51.5964, a minimum of 0, and a maximum of 97.2. The social (S) pillar has a mean of 61.8901, with a minimum of 1.84 and a maximum of 97.84, and the governance (G) pillar has a mean of 51.8568, with a minimum of 6.3 and a maximum of 95.72. The natural logarithmic of export (Export) has a mean of 15.7006, with a minimum of 4.1271 and a maximum of 21.7937, and the natural logarithmic firm size (Size) has a mean of 17.9565, with a minimum of 13.7726 and a maximum of 21.9367. Growth has a mean of 0.1253, with a minimum of -0.6385 and a maximum of 2.6113. Leverage (LEV) has a mean of 0.3372, with a minimum of 0.00002 and a maximum of 0.7783, while return on assets (ROA) has a mean of 0.0594, with a minimum of -0.1701 and a maximum of 0.5071. Lastly, the natural logarithmic of firm age (AGE) has a mean of 2.5924, with a minimum of 0 and a maximum of 3.5553.

ESG scores exhibit considerable variability, as indicated by the 18.58 standard deviation exceeding two digits across all scores, which aligns with prior studies (Lopez-de-Silanes et al., 2020; Eliwa et al., 2021). This suggests that firms demonstrate diverse practices and performance levels in these areas. In contrast, firm size is

relatively consistent with a standard deviation of 1.59, suggesting that firms listed on the Stock Exchange of Thailand (SET) are of similar size.

The growth rate has a mean Standard Deviation of 0.32 and a maximum of 261.13% from Banpu Power in 2022 from purchasing another power plant. The mean social score, 61.89, is significantly higher than the environmental and governance scores, 51.59 and 51.85, respectively. This phenomenon does not align with prior studies that state that the Environment or Governance pillar should have the highest mean. (Maes et al. 2019; Feng et al. 2021; Ziegler et al., 2007).

4.2 Pearson correlation coefficient

Cost of debt has a negative correlation with ESG (-0.0881), E (-0.0831), S (-0.0556), and G (-0.1147**), indicating that an increase in these variables slightly lowers the cost of debt (Maaloul, A., Zéghal, D., Ben Amar, W. et al 2023). The negative correlation is with LEV (-0.2456***), suggesting that the cost of debt significantly decreases as leverage increases. The cost of debt shows almost no correlation with Export, Size, Growth, and ROA.

ESG has positive correlations with Export (0.3633***), Size (0.5475***), and LEV (0.1838***), indicating that companies with higher ESG scores tend to have higher export levels, size, and leverage (Boehe, D. M., & Cruz, L. B. 2010). ESG negatively correlates with ROA (-0.1593***), implying that higher ESG scores can be costly and reduce the firm's overall profit.

Exports positively correlate with Size (0.6310***), indicating that larger companies tend to have higher export levels. Exports also positively correlate with E, S, G, and Age (0.1788***). There is no correlation between exports and the cost of debt. This outcome could be influenced by other variables, including Size, Leverage, and Performance, and does not align with prior studies (Feng, X., Li, W., Peng, Y., Tan, Y., 2021).

Size is positively correlated with Growth (0.11884**), LEV (0.0992*), and ROA (0.2892***). Larger firms have a moderate positive relationship with their return

on assets. Growth shows weak correlations with most variables, having a slightly positive correlation with Export (0.11884**) and weak relationships with others. LEV has positive correlations with most ESG pillars and a negative correlation with ROA (-0.1937***), indicating that as leverage increases, return on assets tends to decrease. ROA has a negative correlation with E, S, G, and LEV but a positive correlation with Age (0.1523***). Age is positively correlated with Size (0.2386***), S (0.2844***), and LEV (0.1523***), suggesting that older companies are larger and have higher social scores and leverage.

Table 4.2 Pearson correlations

Variable	COD	ESG	E	S	G	Export	Size	Growth	LEV	ROA	Age
COD	1										
ESG	-0.0881	1									
E	-0.0831	0.9034***	1								
S	-0.0556	0.8823***	0.8043***	1							
G	-0.1147**	0.6563***	0.4008***	0.3678***	1						
Export	0.0338	0.3633***	0.3999***	0.3040***	0.2315***	1					
Size	-0.0753	0.5475***	0.5676***	0.5497***	0.2673***	0.6310***	1				
Growth	-0.0252	-0.0131	0.0131	0.0075	-0.0112	0.11884**	0.0860	1			
LEV	-0.2456***	0.1838***	0.2176***	0.1590***	0.1293***	0.0992*	0.5194***	0.0992	1		
ROA	0.0356	-0.1593***	-0.1384**	-0.1654***	-0.0824	0.0793	-0.1937***	0.2892***	-0.3973***	1	
Age	0.0104	0.2132***	0.1407**	0.2844***	0.1064*	0.17884***	0.2386***	-0.0766	0.1523***	-0.1232***	1

Note: ***, ** and * significant at 1%, 5% and 10% levels of confident, respectively

4.3 Variance Inflation Factor (VIF)

Variance Inflation Factor (VIF) is a measure used to detect the presence of multicollinearity in regression analysis. It quantifies how much the variance of a regression coefficient is inflated due to collinearity with other predictors. Generally, if VIF values are greater than ten, it indicates significant multicollinearity that may warrant corrective measures. Here' s the interpretation of the VIF values provided in Table 4.3 for different models:

Model 1: VIF values are below 10, indicating no severe multicollinearity issues. The mean VIF of 1.71 suggests an overall low level of collinearity.

Model 2: Similar to Model 1, VIF values are below 10. The mean VIF of 1.70 indicates low multicollinearity.

Model 3: There are no VIF values above 10, with the highest being 3.45 for FS. The mean VIF of 1.78 suggests low multicollinearity.

Model 4: VIF values remain below 10, with the highest at 2.65 for FS. The mean VIF of 1.57 indicates low multicollinearity.

Model 5: Although all VIF values are below 10, they are higher than the other models, with E and S showing VIF values of 3.36 and 3.51, respectively. The

mean VIF of 2.13 is slightly higher, indicating moderate multicollinearity but still not at a concerning level.

Overall, the VIF values across all models indicate there is no multicollinearity in any of the models. Therefore, models 5, 6, 7, and 8 should follow the prior test and do not have multicollinearity.

Table 4.3 VIF Test

Variable	Model 1 (H1)	Model 2 (H2a)	Model 3 (H2b)	Model 4 (H2c)
ESG	1.50			
E		1.51		
S			1.60	
G				1.09
Export	1.95	1.95	1.98	1.96
Size	3.18	3.14	3.45	2.65
Growth	1.13	1.13	1.13	1.13
LEV	1.76	1.73	1.82	1.71
ROA	1.37	1.36	1.37	1.36
Age	1.09	1.08	1.12	1.08
MEAN VIF	1.71	1.70	1.78	1.57

4.4 Panel Data Regression

In testing the hypotheses, I used the Random Effect Model to estimate the regression equations and determine the relationship between the cost of debt and the ESG score listed on the Stock Exchange of Thailand. The study also examined the impact of debt structure on the relationship between internationalized sales.

From the Hausman Test, the p-value of all models was higher than 0.05. Thus, the Fix effect models are insignificant at any level, leading to rejecting the null hypothesis.

To ensure the robustness of my model selection, I conducted the Breusch and Pagan Lagrange Multiplier test for random effects. The results showed that the p-values for all models were less than 0.05. Therefore, I accept the null hypothesis. This provides significant evidence that the random effects model is more appropriate than the Fixed effect for my data.

4.4.1 H1: A higher ESG score has a negative relationship with the cost of debt, and H2(a)-H2(c): The ESG pillars have different impacts on the cost of debt.

From Table 4.4, I observe that while the coefficients for ESG scores are not statistically significant across all levels, except for the Governance Score in Models 4 and 5, the direction of the coefficients suggests a negative relationship between ESG scores and the cost of debt. This implies that higher ESG scores, whether viewed individually or in combination, are associated with a reduction in the cost of debt. Contrary to the prior studies (Ziegler et al., 2007; Sassen et al., 2016), which emphasized the Environment and Social scores as having the most substantial impact on the cost of debt, my analysis highlights the preeminence of Governance in the Thai corporate context. Specifically, the Governance Score is significant at the 1% level in Models 4 and 5, with coefficients of -0.0004***, indicating that better corporate governance practices significantly reduce the cost of debt. This suggests that robust

governance frameworks are crucial in enhancing a firm's creditworthiness and reducing financing costs.

Furthermore, the Leverage variable consistently exhibits a significant negative relationship with the cost of debt in random effects models, with coefficients around -0.08 and significant at the 1% level, thus aligned with Amenya C. et al. (2022). This persistent negative impact reinforces the importance of capital structure management in mitigating debt costs. Notably, the variable representing International Sales does not have a statistically significant effect on the cost of debt in Table 4.4. This contrasts with the findings from Table 4.5, where International Sales has a notable impact supported by Boehe et al. (2010), who suggested that claiming that CSR positively influences export performance. The mixed results indicate that the effects of international sales on the cost of debt might be context-specific or influenced by additional factors not captured in the current models.

An interesting observation has been seen in this research in every model (1)-(4): the size of the firm has a positive coefficient to the cost of debt, which is contrary to the belief that larger firms are generally perceived as lower risk, which did not align with the findings in these models (Myers, 1977). The reason could be excess debt or elevated leverage: Larger corporations may already bear considerable debt burdens. When they near critical leverage thresholds, the perceived likelihood of default may escalate, leading to increased borrowing expenses. Lenders could insist on a steeper interest rate to offset the dangers of financial turmoil. Agency theory states bigger firms often encounter intricate agency dilemmas between management and shareholders. With a wider spread of ownership and the potential for managerial freedom, creditors might view a heightened risk of inefficient fund allocation or stakeholder disputes, resulting in elevated interest rates (van BINSBERGEN et al., 2010).

Overall, my findings underscore the critical role of corporate governance in reducing the cost of debt for firms in Thailand. Despite the Social Score having the highest means among the ESG components, the Governance Score emerges as the most influential factor in the cost of debt.

Table 4.4 Regression model (1)-(4)

Variable	Model 1 (H1)	Model 2 (H2a)	Model 3 (H2b)	Model 4 (H2c)
ESG (H1)	-0.004			
E (H2a)		-0.00001		
S (H2b)			-0.0001	
G (H2c)				- 0.0004***
Export	0.007	0.00008	0.00007	0.0010
SIZE	0.004	0.0020	0.0024	0.0019
Growth	-0.0001	0.0004	0.00007	-0.0002
LEV	-0.0875***	-0.0836***	-0.0863***	-0.0766***
ROA	-0.4867	-0.0432	-0.0458	-0.0387
Age	0.0013	0.00005	0.0012	0.00008
Constant	0.0137	0. 0247	0.0241	0.0413
R-Square	0.0808	0.075	0.0750	0.0755
Adj. R^2	0.0542	0.0482	0.0482	0.0487
Hausman test	0.8223	0.3022	0.6179	0.2915
Lagrange Multiplier test	0***	0***	0***	0***

Note: ***, ** and * significant at 1%, 5% and 10% levels of confident, respectively

4.4.2 H3: Export moderates the effect of ESG disclosure on the cost of debt and H4(a)-H4(c): Export has a different moderate impact on the relationship between the Cost of debt and ESG pillars.

The analysis of independent variables on the cost of debt reveals several key insights from Table 4.5. While most variables in each model are insignificant, Model 8 provides some noteworthy findings aligned with the literature suggested by Maes et al. (2019) and Feng et al. (2021). Specifically, the variable representing International Sales shows a potential influence on the cost of debt.

Model 8 indicates that, at a 90% confidence level, an increase in international sales is associated with a 0.6% increase in the cost of debt (X = 0.0006*). This suggests that firms with higher international sales may face higher borrowing costs due to the increased risks and complexities associated with international operations. Moreover, the interaction term between governance score and international sales reveals a mitigating effect on the cost of debt. The coefficient for this interaction term is -0.0001, indicating that better governance can partially offset the increased cost of debt associated with international sales. This combined effect underscores the importance of strong governance practices in managing the financial implications of international expansion.

Additionally, the Leverage consistently shows a significant negative impact on the cost of debt across all models, with coefficients around -0.08, which is significant at the 1% level. This negative relationship suggests that higher leverage decreases the cost of debt, indicating the firm's efficient capital structure management or the favorable conditions under which they obtain debt financing. While other variables such as ESG score, Environment score, Social score, Governance score, Firm size, Growth rate, Performance, and Age do not show significant effects on the cost of debt, the R-square values across models range from 0.0758 to 0.0813, indicating less than 10% of the explanatory power of the models aligned with Maes et al. (2019) and Feng et al. (2021) findings.

In conclusion, there are conflicting theories regarding the relationship between exports and the cost of debt. Diversification theory may lower a firm's cost of debt by reducing firm-specific risks and exposure to domestic downturns (Maes E. et al., 2019). However, this is offset by factors such as increased currency risk, legal complexities, and political uncertainties in foreign markets, potentially leading to higher borrowing costs. Mansi and Reeb (2002) found a non-linear relationship where international operations could increase leverage but only sometimes reduce the cost of debt. Similarly, Chen et al. (2011) noted that international diversification could exacerbate agency problems, raising borrowing costs.

Table 4.5 Regression model (6)-(10)

Variable	Model 5 (H3)	Model 6 (H4a)	Model 7 (H4b)	Model 8 (H4c)
ESG (H3)	0.00002			
E (H4a)		0.00006		
S (H4b)			-0.0002	
G (H4c)				0.0012
Export	0.0028	0.0013	0.00004	0.0006*
Size	0.0034	0.0021	0.0023	0.0015
Growth	-0.00008	0.0005	0.00008	0.00007
LEV	-0.0871***	-.0838***	-0.0865***	-0.0806***
ROA	-0.0486	-0.0437	-0.0458	-0.0405
Age	0.0012	0.00005	0.0011	0.00007
ESG x Export (H3)	-0.0003			
E x Export (H4a)		-0.00001		
S x Export (H4b)			0.000006	
G x Export (H4c)				-0.0001*
Constant	-0.0183	0.0159	0.0294	-0.0416
R-Square	0.0813	0.0758	0.0749	0.0788
Adj. R^2	0.0577	0.0521	0.0512	0.0552

Note: ***, ** and * significant at 1%, 5% and 10% levels of confident, respectively

Table 4.6 Summary of hypotheses

H1	A higher ESG score has a negative relationship to the cost of debt.	Reject
H2a	A higher Environmental score has a negative relationship to the cost of debt.	Reject
H2b	A higher Social score has a negative relationship to the cost of debt.	Reject
H2c	A higher Governance score has a negative relationship to the cost of debt.	Accept
H3	Export moderates the relationship between ESG score and the cost of debt.	Reject
H4a	Export moderates the relationship between Environment pillars and the cost of debt.	Reject
H4b	Export moderates the relationship between Social pillars and cost of the debt.	Reject
H4c	Export moderates the relationship between Governance pillars and the cost of debt.	Accept

Table 4.7 Relationship variables on dependent summary

Variable Name	**Expected**	**Observed**
ESG Score	Negative	Not significant
Environmental Score	Negative	Not significant
Social Score	Negative	Not significant
Governance Score	Negative	Negative
Export	Negative	Positive (Model 9)
ESG x Foreign Sale	Negative	Not significant
E x Foreign Sale	Negative	Not significant
S x Foreign Sale	Negative	Not significant
G x Foreign Sale	Negative	Negative
Size	Negative	Not significant
Growth	Negative	Not significant
Leverage	Negative	Negative
ROA	Negative	Not significant
Age	Negative	Not significant

CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

The effect of environment, social, and governance on the cost of debt: the case of export-oriented firms in the Stock Exchange of Thailand can be summarized as follows:

5.1 The research findings

5.2 Limitations of the study

5.3 Recommendations for future research

5.1 The research findings

Based on the study of the relationship between ESG scores and the scores in each aspect of ESG with the cost of debt where firms participate in international sales of firms listed on the Stock Exchange of Thailand over eight years from 2015 to 2022, excluding businesses in financial sectors due to their differing accounting policies and financial structures. Variables with data limitations were excluded from this analysis. The study utilized a sample of 321 observations (147 firms). It was analyzed using panel regression equations with the Random Effect Model as determined by the Hausman Test and Breusch and Pagan Lagrange Multiplier test.

The analysis reveals that ESG scores and each pillar negatively correlate with the cost of debt in the Thai corporate context, but only the Governance pillar is significant in Model 4. Contrary to previous studies by Ziegler et al. (2007), Sassen et al. (2016), Maes et al. (2019), and Feng et al. (2021), Governance is highlighted as crucial for lowering debt costs. Leverage consistently exhibits a significant negative relationship with debt costs across models, reinforcing its role in managing capital structure. The interaction term model 5-8 reveals a different story: ESG scores and pillar, except for the social pillar, have a positive correlation to the cost of debt, though insignificant. Furthermore, the interaction term has an expected coefficient, except for the Social pillar, but only the Governance pillar is significant. This could suggest that

robust governance can partially mitigate the elevated debt costs associated with international expansion.

5.2 Limitation

A fundamental limitation of this study is the limited availability of ESG and export data from 2015-2022, especially before 2019. The sum of 2015-2019 is fewer than 100 firm observations.

5.3 Recommendation

Future research should consider incorporating data from other ASEAN countries with similar cultural and economic contexts to enhance the generalizability of the findings. Comparative studies across ASEAN nations could provide valuable insights into regional ESG practices and their impact on financial performance, facilitating a broader understanding of how cultural factors influence ESG outcomes. Such cross-country analyses would allow for the examination of commonalities and differences within the region, offering a more comprehensive perspective on ESG integration and its effects on corporate governance and debt costs. This approach could also contribute to developing region-specific ESG guidelines and practices.

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APPENDIX

FIRM DATA SAMPLE TABLE

NO.	NAME	Refinitiv Code
1	DELTA ELECTRONICS	Q:DELT
2	PTT	Q:PTTB
3	PTT EXPLORATION & PRDN.	Q:PTTE
4	CP ALL	Q:CPSE
5	GULF ENERGY DEVELOPMENT	Q:GULF
6	SRI TRANG GLOVES (THAILAND)	Q:SRTG
7	AAPICO HITECH	Q:AAPI
8	APPLIED DB	Q:ADB
9	ASIA HOTEL NVDR	Q:ASEA
10	B GRIMM POWER	Q:BGRR
11	BANGCHAK CORPORATION ORS	Q:BCPL
12	BANPU	Q:BPCT
13	BANPU POWER	Q:BAP
14	BCPG	Q:BCPG
15	BERLI JUCKER	Q:BJCT
16	BG CONTAINER GLASS PUBLIC	Q:BCGP
17	CARABAO GROUP	Q:CAG
18	CENTRAL PLAZA HOTEL	Q:CENT
19	CENTRAL RETAIL CORPORATION	Q:CRCP
20	CH KARNCHANG	Q:KAR
21	CHAROEN POKPHAND FOODS	Q:CPFT
22	CP AXTRA	Q:MAKR
23	CROWN SEAL	Q:CSCT
24	DIAMOND BLDG.PRODUCTS	Q:DRT
25	EASTERN POLYMER GROUP	Q:EPGP
26	ELECTRICITY GENERATING	Q:ELG
27	GFPT	Q:GFPT

NO.	NAME	Refinitiv Code
28	GUNKUL ENGINEERING	Q:GUEX
29	HAAD THIP	Q:HATT
30	HOME PRODUCT CENTER	Q:HPC
31	INDORAMA VENTURES	Q:INVX
32	INOUE RUBBER	Q:INRB
33	INTOUCH HOLDINGS	Q:SHNW
34	IRPC	Q:TPI
35	MEGA LIFESCIENCES	Q:MLFP
36	MINOR INTERNATIONAL	Q:RGRT
37	NR INSTANT PRODUCE	Q:NRIP
38	OSOTSPA	Q:OSOT
39	PEER FOR YOU	Q:OTOP
40	PREMIER MARKETING	Q:PMRK
41	PRIMA MARINE	Q:PMRN
42	PTT GLOBAL CHEMICAL	Q:PTTG
43	PTT OIL AND RETAIL BUSINESS	Q:POAR
44	R & B FOOD SUPPLY	Q:RBFS
45	RATCH GROUP PCL	Q:RATE
46	REGIONAL CONTAINERS LIN.	Q:RCCT
47	S & J INTL.ENTERPRISES	Q:SAJT
48	SABINA	Q:SABI
49	SCG PACKAGING	Q:SCGP
50	SCGJWD LOGISTICS	Q:JWDP
51	SEAFRESH INDUSTRY	Q:CFRE
52	SIAM CEMENT	Q:SCQT
53	SIAM CITY CEMENT	Q:SCCT
54	SIAM GLOBAL HOUSE	Q:SGHX
55	SNC FORMER	Q:SNCP
56	SRI TRANG AGRO-INDUSTRY	Q:STAI

NO.	NAME	Refinitiv Code
57	STAR PTL.REFN.	Q:SPRP
58	SUPER ENERGY CORPORATION	Q:SPRM
59	TAOKAENOI FOOD & MKTG.	Q:TAOK
60	THAI OIL	Q:THOI
61	THAI OPTICAL GROUP	Q:TOGR
62	THAI PRESIDENT FOODS	Q:TFM
63	THAI UNION GROUP	Q:TUFP
64	THAI WAH	Q:TWPP
65	THAICOM	Q:SHS
66	THANTAWAN INDUSTRY	Q:THIP
67	THORESEN THAI AG.	Q:THTA
68	TIPCO ASPHALT	Q:TIPC
69	TOA PAINT THAILAND	Q:TOAH
70	TTCL	Q:TTH
71	UAC GLOBAL PUBLIC COMPANY LIMITED	Q:UACX
72	VGI	Q:VGIP
73	WHA UTILITIES AND POWER	Q:WHAU
74	AMATA	Q:PAKO
75	LAND AND HOUSES	Q:LAHT
76	SANSIRI	Q:SANS
77	SINGHA ESTATE	Q:S
78	SUPALAI	Q:SPLA
79	WHA	Q:WHAP
80	ERAWAN GROUP	Q:AMPT
81	HANA MICROELECTRONICS	Q:HANA
82	PCS MACHINE GPHD.	Q:PCMG
83	SIAMGAS AND PETROCHEM.	Q:SGPC
84	TIPCO FOODS	Q:TPAT
85	JAYMART GROUP HOLDINGS	Q:JAM

NO.	NAME	Refinitiv Code
86	THAI AIRWAYS INTL.	Q:TAI
87	GLOW ENERGY	Q:GLOW

BIOGRAPHY

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