Environmental Social Governance (ESG) and Firm Value: A Case of Southeast Asian Countries

Disertasi
Program Doktor Ilmu Ekonomi

Oleh:
Fiki Kartika
20931006

PROGRAM PASCA SARJANA
FAKULTAS BISNIS DAN EKONOMIKA
UNIVERSITAS ISLAM INDONESIA
YOGYAKARTA

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Prepared by:
Fiki Kartika
20931006

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Oleh:
Fiki Kartika
20931006

PROGRAM PASCASARJANA FAKUTAS EKONOMI
UNIVERSITAS ISLAM INDONESIA
YOGYAKARTA
December 2025

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Saya yang bertanda tangan dibawah ini:

Nama: Fiki Kartika

NIM: 20931006

Fakultas/Jurusan: Program Doktor Ilmu Ekonomi

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Nama Mahasiswa : **Fiki Kartika**

Nomor Mahasiswa: 20931006

Konsentrasi : Manajemen Keuangan

Dengan Judul:

Environmental Social and Governance and Firm Value: A Case of Southeast Asian Countries

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maka disertasi tersebut dinyatakan **LULUS**

Promotor,

(Prof. Dr. Hadri Kusuma, M. B. A.)

Penguji I,

(Prof. Dr. Zaenal Arifin, M.Si.)

Ko Promotor,

(Dra. Yuni Nustini, MAFIS., Ak., Ph.D.)

Penguji II,

(Prof. Dr. Sri Hermuningsih, M.M.)

Penguji III,

(Abdul Moin, S.E., M.B.A., Ph.D.)

Mengetahui

Ketua Program Studi Ilmu Ekonomi Program Doktor

(Prof. Jaka Sriyana, SE., M.Si., Ph.D.)

HALAMAN PENGESAHAN

Yogyakarta, 5 Januari 2026

Telah diterima dan disetujui dengan baik oleh :

Promotor

(Prof. Dr. Hadri Kusuma, M. B. A.)

Ko Promotor

(Dra. Yuni Nustini, MAFIS., Ak., Ph.D.)

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Abstract

This dissertation investigates the relationship between Environmental, Social, and Governance (ESG) performance and firm value across six Southeast Asian countries—Indonesia, Malaysia, Singapore, Thailand, the Philippines, and Vietnam—over the period 2008–2024. ESG performance is disentangled into short-term ESG, long-term ESG (permanency), and ESG controversies to capture different time horizons and dimensional aspects of sustainability practices.

Using Ordinary Least Squares (OLS) with robust standard errors, the results show that both short-term and long-term ESG performance are positively and significantly associated with firm value, while ESG controversies are insignificant. The results remain robust under Two-Stage Least Squares (2SLS) estimation and alternative firm value measures. Further analyses reveal that ESG performance and permanency enhance firm value only among non–state-owned enterprises (non-SOEs), while the relationship is insignificant for SOEs, suggesting that investors perceive ESG engagement in SOEs as compliance-driven rather than strategic driven. The positive ESG–value link is also stronger for large firms, where visibility and stakeholder pressure are higher.

This study contributes to the literature by showing that different time horizons and dimensions of ESG performance yield heterogeneous impacts on firm value, and by revealing how ownership structure influences market responses to ESG activities. Limitations include potential biases in third-party ESG ratings, omitted variables such as governance quality and media exposure, and the possibility of nonlinear ESG–value relationships. Future research could examine how media coverage and market competition moderate the effects of ESG controversies on firm value in emerging markets.

Keywords: ESG performance, ESG permanency, ESG controversies, firm value, Southeast Asia, SOE

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CHAPTER 1. INTRODUCTION

1.1 Background

Firm value is important for a company because it reflects the company's overall worth, growth potential and attractiveness to investors and stakeholders. According to Fama (1978) firm value is reflected in its share price, hence firm value is often referred to market capitalization. Firm value is a key indicator of a company's worth in the financial markets. From investors' perspective, firm value is paramount as it directly impacts shareholder wealth. The greater the value of a firm, the more wealth its shareholders possess. This value represents the aggregated expectations and perceptions of investors regarding a company's current and future performance. Ultimately, investors are interested in strategies and actions that enhance firm value, to ensure favourable returns on their investments.

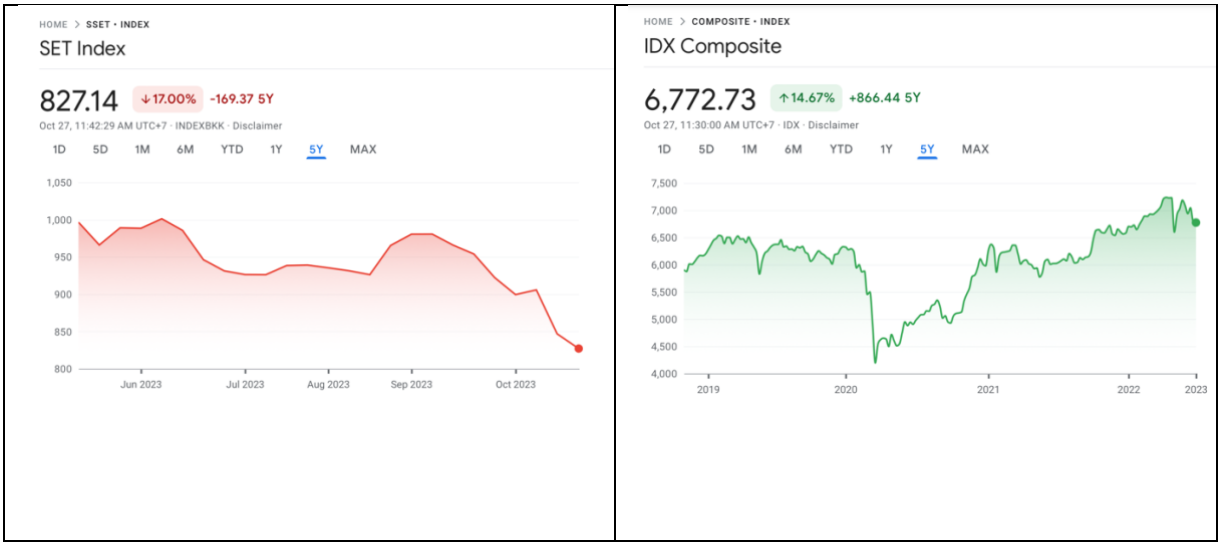


Figure 1. Share price movement

Figure 1 shows share price movement in Thai composite stock market index (SET) and Indonesian composite index (IDX) in five years. As we can see from Figure 1, firms' value as reflected in the share price changes over time due to a variety of internal and external factors.

Firm value can increase as a result of strong financial performance (Ohlson, 1995), innovation (Hall, 1993), positive investor sentiment (Seok et al., 2019), or strategic marketing investment (Mousa et al., 2021). Conversely, it may decline due to poor earnings, governance failures (Intara et al., 2024), rising operational risks, or exposure to controversies that damage public trust.(De Franco, 2020).

In today's competitive and fast-changing business environment, enhancing corporate value has become more complex and requires strategies that go beyond traditional financial indicators. Market participants are increasingly considering non-financial factors, such as environmental impact, social responsibility, and governance quality. One approach that has gained interest among managers is the integration of ESG into business strategy (Cabaleiro-Cerviño and Mendi, 2024).

The rising importance of ESG is largely driven by shifting stakeholder expectations. For instance, investors increasingly rely on ESG disclosures to identify sustainable companies before deciding to invest (Khamisu et al., 2024) and this aligns with the growing trend of ethical investment (Amalia et al., 2024). Similarly, customers are becoming more selective on product decision and favoring product with environmentally friendly business practices (Dedunu and Sedara, 2022). Supporting this trend, a recent study from European Corporate Governance Institute (ECGI) reveals that firms with strong ESG rating positively relate to sales (Meier et al., 2023). ESG is no longer viewed as only philanthropic initiative but is now considered a critical factor in determining a firm's long-term sustainability and competitiveness.

Following the global trend of ethical investing, in Southeast Asia, the momentum toward ESG adoption is also growing. Government and capital market in this regions has encouraged for ESG adoption. For example, the Stock Exchange of Thailand (SET) has launched the Thailand sustainability investment in 2015 that comprises of listed companies that create long-term returns by valuing their responsibility to society, environment and by manging their business with transparency (SET, 2023). Further, in 2024 Bursa Malaysia mandated the adoption of the IFRS Sustainability Disclosure Standards for large cap firms. Similarly in Indonesia, the Indonesia's Financial Services Authority (OJK) requires publicly listed companies and financial institutions to integrate sustainable finance and publish annual Sustainability Reports within their annual reports or as separate documents in 2017.

The Southeast Asian market provides an interesting research context due to its distinct characteristics compared to developed markets, including variations in maturity, size, liquidity, regulatory frameworks and investor composition. As Southeast Asian economy has developed rapidly in recent years, the focus on ESG in Southeast Asian countries remain at an early-stage relative to the global developed market. According to HSBC Report in 2018 (HSBC, 2018) only 24% of Asian companies have an ESG strategy compared to 48% of corporates globally and 87% of European and UK companies. The progression of ESG practices is lagging behind the region's GDP growth, projected to surpass USD 13 trillion by 2040, positioning the region as the fourth-largest GDP globally. Hence, it is necessary to conduct ESG research in the Southeast Asian market.

1.2 Problem Statement and Research Objectives

Given the growing trend of ESG adoption to business practice, scholars have studied whether ESG leads to better financial performance or they increase cost that may overweigh the potential benefit. There are two arguments to explain how ESG influence firms' value, the value creation argument and the overinvestment argument.

The value creation argument is based on the formation and evolution of stakeholder theory introduced by Freeman (1983). Proponents of value creation argue that firms with robust corporate social responsibility (CSR) or ESG activities create positive reputation or public image (Grougiou et al., 2016), increase employee trust (Hansen et al., 2011) and labor productivity (Cabaleiro-Cerviño and Mendi, 2024), enhance customer loyalty (Brown and Dacin, 1997), reduce potential lawsuit and environmental cost (Dhaliwal et al., 2011), has lower financial risk (Chang et al., 2025) and lesser cost of equity (Ng and Rezaee, 2015). These advantages equip firms to better navigate regulatory shifts, climate challenges, and dynamic business environments (Rahat and Nguyen, 2024). Strong ESG performance is also linked to ethical practices and effective risk management, improving long-term stakeholder relationships and ultimately increasing firm value. Investors, in turn, respond by lowering risk premiums, leading to higher firm valuation (Rojo-Suárez and Alonso-Conde, 2023). Numerous studies support this view, reporting a positive relationship between ESG and firm value (Buchanan et al., 2018; Noor et al., 2020; Qureshi et al., 2020; Rahat and Nguyen, 2024; Seok et al., 2024).

On the other hand, the overinvestment argue that CSR and ESG activities is a manifestation of agency problem inside the firm (Benabou and Tirole, 2010; Cheng et al., 2013; Krüger, 2015).

They consider that CSR primarily benefits managers who, at the expense of shareholders, earn a good reputation among key stakeholders (e.g., local politicians, non-governmental organizations, or labour unions). Further, Hemingway and Maclagan (2004) propose that the motivation of management to engage in social responsibility activities is to mask the unethical behaviour. This includes promoting the image of vigorous contributions to public goods, thus creating the illusion of a high capacity for sustainable development (Feng et al., 2022). Further environment initiatives is considered costly and do not seem to be considered as sound investments by the market (Makni et al., 2009). The over-investment perspective is evidenced in Di Giuli and Kostovetsky (2014), Liu et al. (2025), Rojo-Suárez and Alonso-Conde (2023) and Duque-Grisales and Aguilera-Caracuel (2021). Correspondingly, Wang et al. (2021) documented that CSR activities raise firms' cost of equity in East Asia.

In addition to the mixed findings on the relationship between ESG activities and firm value, some studies have also reported no significant impact. For example, Landi and Sciarelli (2019) and Garcia-Castro et al. (2010) found that ESG performance does not necessarily translate into higher firm valuation. Further, Mikołajek-Gocejna (2024) found negative but non-statistically significant influence of ESG and a company’s value for Polandian companies. Their study evidence that the Polish market does not seem to recognize the potential of ESG factors in increasing the companies’ value and believes that the costs of ESG factors outweigh the benefits.

Although the existing evidence tends to support a positive association between ESG performance and firm valuation, the presence of contradictory findings, such as negative impacts and non-significant effects, suggests that the relationship remains inconclusive and

need for further analysis. Several factor may explain for this lack of consensus. First, regional variation in economic conditions, regulatory environments, investor preferences, cultural expectations, and market maturity may shape ESG's impact differently across countries (Wang et al., 2021; Wedajo et al., 2024).

Second, the lack of consensus in prior research may also be explained by endogeneity problem in ESG-financial performance studies (Garcia-Castro et al., 2010; Lahouel et al., 2019). A firm's decision to improve its social performance is not random but influenced by internal factors that is difficult to measure, such as organizational culture, leadership skills, decision-making style, and the personal values or ethics of managers (Garcia-Castro et al., 2010). Because these factors are hard to account but affecting firm performance, endogeneity problem may arise and bias the results if not properly addressed.

Third, previous literatures often treated ESG as a single construct (Cek and Eyupoglu, 2020). For example prior studies used only ESG performance or ESG permanency to measure firms good ESG practices. Such an approach risks overlooking the multidimensional nature of ESG practices. For example, a one-year ESG score may capture a firm's temporary efforts but ignore whether these practices are consistent over time permanency or whether the firm has been involved in ESG-related controversies. Taking these nature into a single metric, earlier research may produce inconsistent findings, thereby contributing to the lack of consensus.

With regards to time-span, Jeong et al. (2018) argue that if companies engage in CSR temporarily or if managers use CSR to pursue personal interests, it may not enhance firm value. This is because CSR can consume valuable economic resources on activities unrelated to profitable projects for the firm. Further, it has been argued that investment in ESG has delayed

effect on firm value (Chau et al., 2025). The market response to ESG or CSR engagement may be delayed due to investors taking time to grasp CSR policy change (Di Giuli and Kostovetsky, 2014). Or in another word, CSR's positive impact on corporate image often takes time to reflect in financial performance (Noor et al., 2020). Firms need to consistently allocate resources to long-term CSR initiatives to build and sustain a positive reputation and demonstrate commitment to social issues, signalling their values to external stakeholders. In essence, ESG permanency is crucial to enhance companies' value.

Beyond the time frame, recent literature also highlights negative dimension of ESG performance, called ESG controversies (Anita et al., 2023; Aouadi and Marsat 2018; DasGupta, 2022; Melinda and Wardhani, 2020). ESG Controversies are corporate environmental, social and governance news stories that place a firm under the media spotlight (Aouadi and Marsat, 2018). This kind of news raises doubt about a firm future prospect as it may constitutes a risk that have potential detriment to firm value. Since responsibility and irresponsibility are not mere opposites (Arora and Dharwadkar, 2011), controversies may have distinct effects. However, evidence remains mixed. Aouadi and Marsat (2018) as well as Melinda and Wardhani (2020) find that controversies can correlate positively with firm value, as markets do not necessarily punish such firms—especially when strong CSR performance buffers the impact. Conversely, De Franco (2020) shows that in Europe and the US, controversial stocks underperform, while in Asia-Pacific, they often outperform, suggesting regional differences in how markets perceive and react to controversies.

Taken together, the literature highlights unresolved questions regarding how ESG—across its positive, long-term, and negative dimensions—affects firm value, particularly in emerging

markets. There are three research gaps which can be identified. First, most prior studies focus on developed market. This raises concern if the result will be consistent for other regions like Southeast Asia, where ESG adoption and enforcement are still evolving (Buchanan et al., 2018; Landi and Sciarelli, 2019; Rojo-Suárez and Alonso-Conde, 2023). Second, many studies rely on only one-dimension of ESG measures which may fail to consider the complex characteristics between ESG performance, ESG permanency and ESG controversies (Servaes and Tamayo, 2013; Noor et al., 2020; Aouadi and Marsat, 2018). This one dimension of ESG measure often ignores the distinction between short-term and long-term ESG engagement, as well as between positive and negative ESG practices. Third, many prior studies do not fully address the endogeneity problem, which naturally arises in research on ESG and financial performance.

This study addresses these gaps by examining the relationship between ESG and firm value in Southeast Asia using three complementary measures: (1) ESG Score, capturing one-year ESG performance as a short-term indicator; (2) ESG Permanency, reflecting long-term commitment and consistency of ESG practices; and (3) ESG Controversies, representing reputational risks arising from negative ESG-related incidents. By integrating these dimensions, the study provides a deeper understanding of how ESG influences firm value across different dimension and time horizons.

Moreover, recognizing potential endogeneity between ESG and financial performance (Garcia-Castro et al., 2010), the study employs Two-Stage Least Squares (2SLS) regression as a robustness check to address reverse causality and omitted variable bias. This study is closely related to Jeong et al. (2018), who examine the time-span of ESG and its implications for firm

value, but extends their work by incorporating ESG controversies. To the best of the researcher's knowledge, only a limited number of studies have simultaneously examined these three ESG dimensions, making this study an important contribution to the literature.

Accordingly, the study states the following research questions:

- Does ESG Score impact firm value?
- Does ESG Permanency impact firm value?
- Do ESG Controversies impact firm value?

1.3 Contribution.

This research will provide a contribution in the form of empirical evidence that ESG score, ESG permanency and ESG controversies impact on firm value across Southeast Asia countries. This research is different from previous research in term of examining the impact of ESG activities and firm value using three different ESG measures, ESG score to capture initial or short-term ESG activities, ESG permanency to capture for long-term commitment of ESG activities and ESG controversies to capture misconduct of ESG activities. Employing these three different measures of ESG activities is expected to give better understanding on how different time span and different dimension of ESG activities shape firm value.

This research is important because it highlights the role of different time-span of ESG performance on firm value. This study distinguishes short-term and long-term ESG activities while many of previous studies have assessed ESG activities using a single measure of yearly ESG performance. This single measurement of yearly ESG performance may not fully capture firms' long-term commitment to ESG practices. By analysing long term ESG activities called

ESG permanency, this study aims to provide more comprehensive understanding of whether firms that pursue continuous ESG practices are rewarded by the market. This long-term perspective is relevant in today's investment environment, where investors are more emphasizing on responsible business conduct.

Furthermore, this study investigates the impact of ESG controversies to explore whether negative events related to ESG issues lead to a declined-firm value. Understanding the market reaction to such controversies is essential as it can reveal if stakeholders hold firms accountable for failing to meet ESG expectations. This part of the analysis provides important insights on reputation risk associated with poor ESG behaviour and how these risks are priced in the market.

The empirical findings from this research will contribute for a deeper understanding of ESG practices in the Southeast Asian context. Given the diverse regulatory environments, economic structures, and cultural factors within the region, this study aims to provide a generalisation of how ESG activities are reflected in their market valuation. The results may provide useful reference for policymakers and regulators across Southeast Asian countries.

From an investor's perspective, this research is expected to offer valuable insights on how markets in Southeast Asia respond to various ESG practices. By understanding the connection between ESG performance and firm value, investors can make better capital allocation decision, particularly when integrating ESG factors into their investment analysis and portfolio management strategies.

Finally, this study contributes to the academic literature by providing evidence on how different dimension and different time horizon of ESG activities have impact on firm value. The findings may beneficial for future researchers to explore relationships between sustainability practices and financial outcomes and to expand such research to other emerging markets with similar characteristics.

1.4 Outline of the dissertation

This dissertation is organized as follows. Chapter 2 provides a review of the relevant literature. Chapter 3 develops the hypotheses to answer the research questions. Chapter 4 describes the research method to test the hypotheses. Chapter 5 explains data and the sample selection process. Chapter 6 discuss the result and robustness tests. Finally, Chapter 7 concludes the dissertation and provides implications for future research.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

This chapter provides theoretical framework of the link between ESG and firm value. Section 2.1 outlines topics covered in this chapter. Section 2.2 and section 2.3 introduces two important theoretical constructs used in this dissertation; firm value and ESG respectively. Section 2.4 outline stakeholder theory. Section 2.5 outlines signaling theory. Section 2.6 provides discussion of the current debate of ESG in the accounting and finance literature. Lastly, section 2.5 summarizes the related studies on the relation ESG and firm value.

2.2 Firm Value

The value of a firm is very important. Higher firm value is in line with better prosperity of its shareholders (Brigham & Houston, 2018). A public company is owned primarily by shareholders who purchased its share because they were looking for a financial return that would benefited for them. The managers are working on behalf of the shareholders, and they were hired to pursue policies that enhance shareholder value. Therefore in publicly owned companies, there is assumption that management's primary goal is shareholder wealth maximization, which translates into maximizing the share's price (Brigham & Houston, 2018).

Investors primarily concentrate on the firm's value, which serves as a key focal point. The financial well-being of shareholders and investors is evident in the firm's value, making it a crucial performance metric for finance managers in a company. From the investors' standpoint, the firm's value is often associated with the share price, suggesting that a higher share price reflects a greater firm value. In general term, there are three approach to valuation, Discounted

Cash Flow (DCF) Valuation, Relative Valuation and Contingent Claim Valuation (Damodaran, 1996). The DCF valuation relates the value of an asset to the present value (PV) of expected future cash flows of an asset. The relative valuation values an asset by looking at the price of comparable assets relative to common variables such as earnings, cash flows, book value or sales. The contingent claim valuation uses option pricing models to measure the value of an assets that share option characteristics.

Discounted Cash Flow (DCF) Model.

The fundamental principle behind DCF is that the present value of a business or investment is determined by discounting its projected future cash flows to their present value. The idea is that a dollar received in the future is worth less than a dollar today, as there is an opportunity cost associated with waiting for the money. According to Damodaran (1996) firm valuation using a DCF method is obtained by discounting expected cash flows to the firm (i.e., the residual cash flows after meeting all operating expenses, reinvestment needs, and taxes, but prior to any payments to either debt or equity holders) at the weighted average cost of capital (WACC), which is the cost of the different components of financing used by the firm, weighted by their market value proportions.

$$\text{Value of a firm} = \sum_{t=1}^{t=n} \frac{CFto\ the\ Firm_t}{(1+WACC)^t}$$

CF : Expected cash flow to the firm in period t
n : Life of an asset
WACC: Weighted average cost of capital

Discounted cash flow valuation is based on expected future cash flows and discount rates. Given these estimation requirements, this approach is only applicable to use for firms whose cash flows are currently positive and can be estimated with some reliability for future periods, and where a proxy for risk that can be used to obtain discount rates is available. Hence the DCF method is not appropriate to use for a financially distressed firms and private firms.

The relative model.

The relative model values an asset using a similar assets priced in marketplace. In relative valuation, the value of an asset is derived from the pricing of comparable assets, standardized using a common variable such as earnings, cash flows, book value, or revenues (Damodaran, 1996). One example of applying this approach is the use of an industry-average price-earnings ratio to value a firm, the assumption being that the other firms in the industry are comparable to the firm being valued and that the market, on average, prices these firms correctly. Common example of this relative valuation are price to book value ratio, average price to sales ratio, and market value to replacement value (Tobins Q).

Contingent claim valuation.

A contingent claim or option is a claim that pays off only under certain condition – if the value of the underlying assets exceed a prespecified for a call option or is less than a prespecified for a put option. Because the value of such claims depends on the performance of another asset, their valuation requires models that explicitly account for uncertainty and risk. The common method of contingent claim valuation is option pricing method (OPM) (Kiepura, 2020). The OPM is a popular and commonly used model to allocate equity value to securities in the

complex capital structures of privately held companies. This is relevant given the absence of active market for privately held issue securities (Damodaran, 1996). The OPM is a method for allocating equity value to multiple classes of securities in a company's capital structure. Unlike traditional valuation methods that estimate enterprise value for the entire firm, the OPM does not attempt to do so. Instead it starts from an already-determined-equity value and then allocates this value to companies various securities. In this sense, the OPM treats each security as a contingent claim on the firm's equity value, distributing value according to the contractual rights and payoff structure of each class of security (Damodaran, 1996).

2.3 ESG (Environmental Social and Governance)

ESG refers to how corporations and investors integrate environmental, social and governance concerns into their business models (Gillan et al., 2021). A 2004 report from the United Nations – titled "Who cares wins" - carried what is widely considered the first mainstream mention of ESG in the modern context. This report encouraging all business stakeholders to embrace ESG concept in their business activities. Companies that perform better with regard to these issues can increase shareholder value by, for example, properly managing risks, anticipating regulatory action or accessing new markets, while at the same time contributing to the sustainable development of the societies in which they operate (The Global Impact, 2004).

Environmental Social Governance (ESG) and Corporate Social Responsibility (CSR)

Historically, ESG is not a new concept. It's a development of CSR concept. Abagail and Siegel (2001) describe the concept of CSR as "actions that appear to further some social good beyond the interest of the firm and law". CSR can be seen as a management philosophy for commercial firms which are making profits by utilising the resources of the society to give back to the

society through philanthropy and charitable efforts (Gupta, 2021). The end goal of CSR activities is conducting the activities voluntarily (Nugroho et al., 2024). On the other hand, ESG takes on CSR by transforming it from a focus on pure philanthropy into a tangible set of metrics that investors and consumers can use to evaluate a company's charitable, social, and internal governance practices (Nugroho et al., 2024). ESG offers measurable indicators to assess accountability, covering sustainable, ethical, and governance issues. It quantifies how companies treat their employees, handle supply chains, address climate change, promote diversity and inclusion, and foster community connections. By providing quantifiable metrics, ESG allows for a more informed understanding of a company's performance in areas of sustainability, ethics, and corporate governance. Figure 2 below illustrates the idea behind ESG and CSR and Table 1 show example of ESG framework

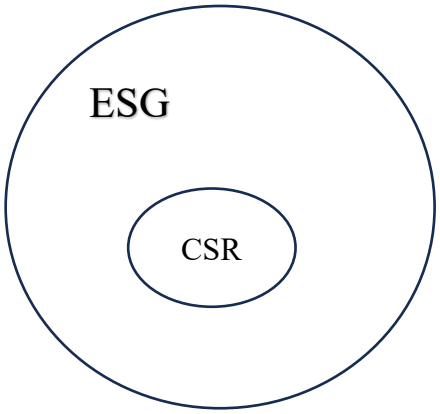


Figure 2. Link between ESG and CSR

Table 1 ESG framework based on European Banking Authority (EBA, 2021)

Environment factor Environmental matters that may have a positive or negative impact on the financial performance or solvency of an entity, sovereign or individual.	**Social factor** Social matters that may have a positive or negative impact on the financial performance or solvency of an entity, sovereign or individual	**Governance factor** Governance matters that may have a positive or negative impact on the financial performance or solvency of an entity, sovereign or individual.
• GHG Emissions	• Workforce freedom of association	• Codes of conduct and business principles
• Energy consumption and efficiency	• Child labour	• Accountability
• Air pollutants	• Forced and compulsory labour	• Transparency and disclosure
• Water usage and recycling	• Workplace health and safety	• Executive pay
• Waste production and management	• Discrimination, diversity, and equal opportunity	• Board diversity structure
• Impact and dependence on biodiversity	• Poverty and community impact	• Bribery and corruption
• Impact and dependence on ecosystems	• Supply chain management	• Stakeholder engagement
• Innovation in environmentally friendly products and services	• Training and education	• Shareholder rights
	• Customer privacy	
	• Community impacts	

2.4 Stakeholder Theory

History of stakeholder approach to strategic management.

The stakeholder approach emerged as a response to the challenges faced by managers dealing with unprecedented environmental turbulence and change (Laplume et al., 2008). Although the 1980s highlighted the effectiveness of this approach, the concept itself was not entirely novel. The term "stakeholder" originated from the pioneering work conducted at Stanford Research Institute (now SRI International) in the 1960s (Parmar et al., 2010). The SRI asserted that managers should comprehend the concerns of shareholders, employees, customers, suppliers,

lenders, and society to formulate objectives garnering stakeholder support (Laplume et al., 2008).

Freeman (1984) defines stakeholders as "any group or individual who can affect or is affected by achievement of a corporation's objectives" (Freeman, 1984, p.46). These include customers, suppliers, competitors, media, employees, financiers and communities (Freeman, 1984, p. 25). For instance, employees have their jobs and career at stake. Customers exchange resources through buying and selling activities receive the benefit of the products. The local community grants the firms a permission to operate and in turn is benefited from the tax base and economy and social contribution of the firms. Further, Awa et al. (2024) categorised stakeholders into three groups; market-based stakeholders, resourced-based stakeholders and social & political stakeholders. The market-based stakeholder comprised of customers, trade-partners and competitors. The resourced-based stakeholders composed of suppliers, employers, directors, banks and owners/investors. The social & political stakeholders are governments and their agencies, environmentalists, trade and labour unions, political parties, Non-Government-Organisations (NGOs), social groups, and the media. (see Figure 3)

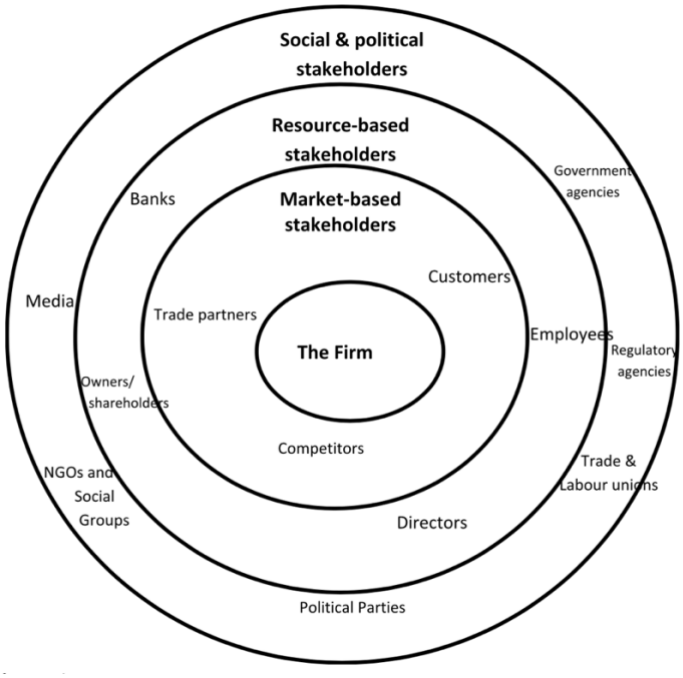


Figure 3. Stakeholder Framework

Stakeholders approach

According to Donaldson & Preston (1995), there are three theoretical approach to consider stakeholders claim. A descriptive approach, an instrumental approach and a normative approach.

The descriptive approach views the company as comprised of distinct stakeholder groups, each possessing individual interests that impact the company to varying extents (Donaldson and Preston, 1995). For example a study conducted by Raymond Braumhart in 1968 found that 80% of managers considered as unethical to prioritize the interests of shareholders exclusively, neglecting the well-being of employees and customers (Donaldson and Preston, 1995). The primary goal of the descriptive approach is to acknowledge stakeholders claim and concerns beyond the shareholders.

The instrumental approach connects stakeholder management and financial outcomes. It sees that company that adopts stakeholder practise will perform better financially than a company that do not adopt stakeholder practise (Donaldson and Preston, 1995).

The normative approach recognise that the interests of all stakeholders are inherently valuable. In other words, each stakeholder group deserves consideration for its own intrinsic worth (Donaldson and Preston, 1995). This approach places an objective consideration of all stakeholders' interests over solely focusing on financial considerations.

The descriptive approach, positioned at the basic approach, serves as an initial step for acknowledging stakeholder claims and concerns. The instrumental approach integrates profit considerations with other stakeholder concerns, aiming to balance among these interests, with a specific focus on positive financial impacts on the company. In contrast, the normative approach adopts the most comprehensive perspective on the organization and its stakeholders, directing attention squarely towards prioritizing the needs and perspectives of stakeholders

Stakeholders theory & Environmental Social and Governance (ESG)

Freeman (1984) proposes stakeholder theory as a strategic management approach aiming firms to survive in turbulent times by becoming more responsive to many constituents that could play role in the firms' success. The theory has a "managerial" focus, emphasizing the role of managers in fulfilling their responsibilities (Parmar et al., 2010) and closely tied to the practical aspects of business, including value creation and trade (Laplume et al., 2008). The theory views

the corporation as having responsibilities to its key stakeholders, including customers, employees, financiers, suppliers, and the broader community where the firms operates (Awa et al., 2024). On the other hand, corporate social responsibility (CSR) views corporations from a broader societal perspective, prioritizing certain responsibilities over others (Awa et al., 2024). For example, firm's responsibilities to the society (mainly communities and partially employees and customers) over responsibilities to other stakeholders (financiers, suppliers, shareholders, etc).

While ESG focuses primarily on a firm's responsibilities to extensive society, stakeholder theory seeks to comprehensively address corporate responsibilities toward all stakeholders, including their obligations to the company and each other (Awa et al., 2024). Stakeholder theory helps shape the ESG framework by identifying stakeholders as groups affected by the company's activities. Nevertheless, both concepts share common ground, as ESG and stakeholder theory emphasize the importance of integrating environmental and societal interests into business operations. It is crucial to recognize that in today's globalized and knowledge-driven economy, the relationship between corporations and stakeholders has evolved from merely resource-exchanges to a focus on value creation, as engaging in effective ESG is now equivalent to generating value for stakeholders (Awa et al., 2024).

2.5 Signalling theory

Originally signalling theory was introduced by Spence (1973) in the idea of labour market. In job market, employer is not sure about the productive capabilities of applicant at the time he/she hires individual. Given the situation, Spence (1973) argued it is useful for individual (applicants or job seeker) to introduce distinction for example education to signal of their productivity to potential employers, even if education itself did not increase productivity. Spence (1973) pointed out that signals must be costly and only high quality individuals that can afford to produce them, making the signals reliable. Over time, signalling theory expanded across disciplines, including finance.

In organizational and financial contexts, signalling theory explains how companies communicate their private information to external stakeholders, particularly investors. In a condition where information asymmetry exists high quality firms have incentives to distinguished themselves from their lower quality counterparts by doing observable and costly action that credibly signal their underlying value (Connelly et al., 2011; Spence, 2002). For example, companies could use dividend payout as a signal for strong financial health. In addition, Managers may voluntarily disclose information (such as forward-looking statements, ESG initiatives, or R&D spending) in financial reports or in any public announcement to signal for transparency, innovation, or long-term growth potential. These actions help to build trust with investors and stakeholders, showing that the firm is strong and reliable.

Signalling Theory & Environmental Social and Governance (ESG)

Recent empirical studies have reinforced the signalling role of ESG activities. For example Friske et al. (2022) argue that even though sustainability reporting is initially a costly signal, but it eventually enhances firm value as companies learn how to better communicate sustainability initiatives to stakeholders and investors learn how to properly evaluate reports. Firms with strong sustainability reporting signal transparency and forward-looking management, which reduce perceived risk and enhance investor confidence.

In addition, Flammer (2021) argue that the date of the issuance of corporate green bonds is positively collated to higher daily returns. It indicates that by issuing green bonds, companies credibly signal their commitment toward the environment. These findings are consistent with the signalling argument that as green bonds provide a credible signal of the commitment toward the environment, companies are better able to attract an investor base that is mindful of the long term and the natural environment.

In short, signalling theory provides a useful framework for understanding how firms use observable and costly actions to reduce information asymmetry and convey their true value to stakeholders. As the demand for transparency and long-term accountability grows, ESG practices have emerged as effective signalling tools that reflect a firm's strategic intent, operational integrity, and future-oriented outlook. Empirical evidence, such as from Friske et al. (2022) and Flammer (2021), supports the idea that ESG disclosures and instruments like green bonds not only strengthen investor confidence but also enhance firm value by signalling commitment, transparency, and sustainability.

2.6 Previous literatures on Environmental Social Governance (ESG) and Firm Value

The increasing importance of ESG factors represents a significant shift of how stakeholders (primarily investors) assess corporate value. While traditional valuation has primarily focused on financial indicators such as market share, revenue, profit margins. There is now a growing awareness of how corporate conduct and social impact influence long-term financial outcomes, leading to greater attention on ESG aspects. Some corporates have responded to these concerns by devoting more resources toward ESG activities while others have resisted, arguing that ESG activities increases extra cost. The resulting controversy is thus giving rise to examine the relation between ESG and firm value.

Positive link between ESG and financial performance

The basic rationale behind the positive relationship between ESG and financial performance is the idea that ESG contributes to value creation. It has been proposed that ESG/CSR create value for companies through different of channels. e.g., cost reduction through lower energy consumptions and reduce water intake as opposed to less-green production that generate unnecessary waste and higher waste-disposal cost (McKinssey&Company, 2019), reducing risk (Albuquerque et al., 2019; Benabou & Tirole, 2010), lower default risk (H. Li et al., 2022), reducing cost of capital (Dmytriyev et al., 2021; Hong & Kacperczyk, 2009), increasing customer satisfaction (Galbreath & Shum, 2012; Luo & Bhattacharya, 2006) and employee satisfaction (Turban & Greening, 1997). These channels enable companies to be better prepared to navigate a dynamic business environment, which can lead investors to assign a lower risk premium, ultimately increasing the firm's valuation.

Benabou and Tirole (2010) observe that firms with stronger ESG/CSR profiles could have different systematic risk exposures because of their resilience during crisis periods. Lins et al. (2017) find that during the 2008–2009 financial crisis, firms with high CSR intensity had higher stock returns than firms with low CSR intensity. Consistent with argument that CSR is a resilient mechanism, Albuquerque et al. (2019) argue that consumer plays a crucial role influencing firm CSR policies. Consequently, the creation of high-quality CSR products as a means of product differentiation leads to firms encountering a demand that is relatively less responsive to price changes. This, in turn, contributes to a reduced systematic risk and an increased overall value for the firm.

Hong and Kacperczyk (2009)discovered supporting evidence for the notion that companies with weak ESG/CSR practices attract limited range of investors' base. This is attributed to institutional investors being less willing than other investor types to retain stocks associated with socially controversial activities, given the public scrutiny such stocks typically face. Consequently, sin stocks are neglected by institutional investors, leading to a more limited investor base for these stocks, resulting in a higher cost of capital. Firms with better sustainability performance are more likely to disclose their ESG sustainability initiatives and activities to the financial market to signal their long-term commitment to sustainability and differentiate themselves from less sustainable firms thus these firms are subject to less information asymmetry that affect cost of capital (Dmytriyev et al., 2021).

Luo & Bhattacharya (2006) have argued that strong ESG/CSR firms increase customer loyalty. CSR initiatives constitute a key element of corporate identity that can induce customers to

identify, for example develop a sense of connection with the company. Consequently, higher satisfaction from a product that is made by a socially responsible company, added value through good social causes (Luo & Bhattacharya, 2006). Direct evidence for this is the ability of product with CSR features to be sold more or at higher prices than product without CSR features (Ailawadi et al., 2014). Further, the value creation through customer loyalty also evidence in the case of Unilever when they developed Sunlight, a brand of dishwashing liquid that used much less water than its other brands. The sales of Sunlight proceeded to outpace category growth by more than 20 percent in a number of water-scarce markets (Koller et al., 2019). Hence CSR firms with higher level of customer satisfaction will enjoy greater sales growth and lead to superior firms' value.

A strong ESG proposition can help companies attract and retain quality employees, enhance employee motivation by instilling a sense of purpose, and increase productivity overall (Turban and Greening, 1997). ESG/CRS firms are being perceived as attractive places of employment because of their performance in regard to quality products and services, treatment of the environment, and issues of diversity. Consequently it increase employee trust and reduce potential employee turnover (Hansen et al., 2011). Employee satisfaction is positively correlated with shareholder returns. For example, the companies that made *Fortune*'s "100 Best Companies to Work For" list generate 2.3 percent to 3.8 percent higher stock returns per year than their peers over 25-year horizon (Koller et al., 2019).

Proponent of ESG as a value creation has shown that strong ESG/CSR firms enjoy greater firms value for example, Cho, (2022); Ding et al. (2016); Fatemi et al. (2018); Hannah et al. (2020);

Lins et al. (2017); Makhdalena et al. (2023); Melinda and Wardhani (2020); Yoon et al. 2018). ESG strategies is closely linked to building up ethical business practise and effective risk management which help companies achieve a competitive edge and enhance corporate value.

Negative link between ESG and financial performance

In contrast to ESG as a value creation, proponents of ESG as an over-investment argue that ESG activities is a manifestation of agency problem inside the firm (Benabou and Tirole, 2010; Cheng et al., 2013; Krüger, 2015). They consider that CSR primarily benefits managers who, at the expense of shareholders, earn a good reputation among key stakeholders (e.g., local politicians, non-governmental organizations, or labour unions). Corporate manager engages in these sustainable activities in order to enhance their own utility rather than on the best interest of the corporation or shareholders (Benabou and Tirole, 2010).

Higher investment in environmental and social practices may not always welcome the shareholders as the investment in ESG incurs an additional cost that shareholders have to bear. As a consequences, the overinvestment perspective imply that positive news about ESG activities is a bad news for shareholder (Krüger, 2015). Further, Hemingway and Maclagan (2004) propose that the motivation of management to engage in social responsibility activities is to mask the unethical behaviour. This includes promoting the image of vigorous contributions to public goods, thus creating the illusion of a high capacity for sustainable development (Feng et al., 2022). This argument is supported in Di Giuli and Kostovetsky (2014) that shows negative relationship between changes in the firms' CSR scores and changes in both ROA or stock returns on 3000 publicly traded US companies during 2003 to 2009. Further, Makni et al.,

(2009) find a robust significant negative impact of the environmental dimension of CSP and three measures of FP, namely return on assets, return on equity, and market returns. Similarly, this negative relationship between ESG performance and firm value also reported in (Duque-Grisales & Aguilera-Caracuel, 2021) that stronger ESG performance leads to worse financial performance in multinational companies in Latin America.

No links between ESG and financial performance

Several studies documented for no significant relationship between ESG and financial performance. For example, Landi and Sciarelli (2019) evidence that the Italian stock exchange market does not seem to be rewarding in regard to socially responsible companies, given that the abnormal return values are not related to ESG rating. Similarly, (Mikołajek-Gocejna, 2024) found negative but non-statistically significant influence of ESG and a company's value for Polandian companies. Their study concluded that the Polish market does not seem to recognize the potential of ESG factors in building the long-term value of companies and believes that the costs of ESG factors outweigh the benefits.

The relationship between ESG performance and firm value remains a topic of significant debate. While some studies demonstrate a positive link, arguing that strong ESG practices enhance firm value through improved risk management, stakeholder trust, and long-term competitiveness, others present contrasting evidence, suggesting that ESG investments may impose short-term costs without immediate financial returns. Additionally, a third strand of research finds no significant relationship, implying that the impact of ESG may be context-dependent. These divergent findings highlight the complexity of the ESG-value relationship, which may be

influenced by factors such as measurement methodologies for examples time span of ESG activities and ESG dimension.

2.7 Time span and ESG dimension.

The concept of time span is a relatively new in ESG/CSR research (Wang and Bansal, 2012). Many earlier studies did not account for ESG time span, instead relying on a single year of CSR/ESG performance. See (Buchanan et al., 2018; El Ghoul et al., 2011; Matsumura et al., 2014; Servaes & Tamayo, 2013) that use a single year of CSR/ESG Performance. Yet, Noor et al. (2020) points out that mixed finding in the previous studies could be potentially caused by time span considered to observe the value outcome of CSR engagement. The positive effect of CSR on corporate image, as shows in several works more likely to take time to translate into financial performance (Noor et al. 2020)

Consequently, firms need to maintain such activity for certain period of time to achieve positive value as an outcome of ESG investment (Jeong et al., 2018). This permanency aspect enables us to capture the value outcome of CSR activities that build over a longer period. Advocating the usage of permanency CSR, Jeong et al. (2018) documented that firms that permanently do CSR activities show the stronger relation between unexpected earnings and stock returns than firms that temporarily (opportunistically) do CSR activities. This suggests that permanent CSR activities are likely to increase earnings persistently, while temporary CSR activities are likely to hurt firm's earnings and thereby firm value. Building up on Noor (2020) and Jeong et al (2018) this research use both single year and long-term (permanent) CSR/ESG performance to better understand the relationship between ESG performance and Firm value.

While both ESG Performance and ESG Permanency reflect a positive dimension of ESG activities, ESG controversies present a negative dimension of ESG activities. It pictures firms suspicious or wrong doing in their ESG activities. Aouadi and Marsat (2018) argue that suspicious behaviour raise doubts about the firm's future prospects, constitutes a risk for firm reputation and may negatively impact on firm value. Surprisingly, however their study evidenced that ESG controversies are correlated with greater firm value, a counterintuitive result that warrants further investigation. On the other hand, Anita et al. (2023) evidenced that ESG controversies decreases firm value only when the media reach is high.

Given that different ESG time horizons and dimensions may influence firm value in distinct ways, this study employs three key measurements: (1) single-year ESG performance, capturing short-term sustainability efforts; (2) ESG permanency, reflecting long-term commitment to ESG practices; and (3) ESG controversies, representing reputational risks stemming from ESG-related misconduct.

2.8 Factors moderate the relationship between ESG and Firm value.

Firm size: Small vs Big Firm

Whether ESG is value-increasing or value-decreasing, its practices have been recognize as important determinant of firm value. Yet the relationship between ESG and firm value may vary depending on firm size. Larger firms often experience greater scrutiny from stakeholders, regulators, and investors, which pressures them to adopt and disclose more on their ESG activities (Menassa and Dagher, 2020). As a result, ESG performance on large firm tends to be

more visible (Abdul Rahman and Alsayegh, 2021) and can be translated more into good reputation, risk mitigation and ultimately enhance firm value. As ESG initiatives require more resources to be invested in, hence larger firms have bigger capabilities to integrate ESG strategies effectively into their business models. In contrast, smaller forms may struggle with their ESG implementation due to resource constraints or lack of investors pressure, potentially moderates the positive link between ESG and Firm value. Therefore, firms size plays a moderating role in the ESG-Firm value link.

Ownership: State Owned Enterprises (SOEs) vs non SOEs

The relationship between ESG performance and firm value can differ between SOEs and non SOEs due to its variations in ownership structure, strategic objectives and stakeholder expectations. SOEs, often influenced by public policy objectives and political considerations, may prioritize ESG initiatives more as a tool for social responsibility than as a value-maximising strategy. In many cases, SOEs are under greater regulatory pressure to comply with national sustainability agenda or to align with global environments commitments. While this initiatives can enhance their ESG scores it does not always translate into immediate financial gains, especially if ESG investments are driven more by compliance than by market incentives. Additionally, the presence of less competitive pressure in SOEs can dilute the efficiency and impact of ESG efforts in firm value.

In contrast, non SOEs are typically more pronounced to market driven incentives and shareholders expectations, which can lead to a more strategic and performance-oriented approach to ESG adoption. Non SOEs engage in ESG initiatives to reduce risk and attract more

capital. Furthermore, these firms face stronger corporate governance mechanism and are held more accountable by investors, which may enhance the credibility and effectiveness of their ESG disclosures. As such, while both SOEs and non SOEs engage in ESG activities, the underlying motivations and the impact on firm value tend to diverge, highlighting the importance of ownership structure in moderating the ESG-firm value relationship.

2.9 Chapter summary

This chapter has explored the theoretical and empirical foundations of the relationship between ESG practices and firm value. Stakeholder theory posits that firms committed to ESG principles can enhance long-term value by aligning with the interests of diverse stakeholders, while signalling theory suggests that strong ESG performance serves as a credible indicator of superior management and reduced risk. However, empirical evidence remains mixed, with studies reporting positive, negative, or neutral effects of ESG on firm value. These discrepancies may stem from differences in measurement approaches.

Additionally ,this chapter demonstrates that ESG is complex and can affect firms in different ways. Its impact on firm value depends on both the dimension (e.g., positive ESG performance vs. negative ESG controversies) and the time span (e.g., single-year performance vs. long-term permanency) under examination. For instance, while ESG controversies are often assumed to harm firm value, their actual effects may vary. Similarly, short-term ESG actions might have different results than long-term ESG efforts.

By integrating these insights, this dissertation provides deeper analysis of ESG's role in value creation. The following chapters will presents hypothesis development, explain the research methods and present the findings. .

CHAPTER 3 HYPOTHESIS DEVELOPMENT

3.1 Introduction

This chapter develops hypotheses addressing the research question identified in chapter 1. Section. Section 3.2 presents the hypothesis development. Section 3.2 presents conceptual framework and section 3.4 provides summary of the chapter.

3.2 Hypothesis Development

ESG Performance and firm value

ESG performance reflects how well a company's activities align with environmental, social, and governance standards, and it is commonly measured through an ESG Score. These scores provide a transparent and objective assessment of a company's relative ESG performance, commitment, and effectiveness, based on data reported by the company (Refinitiv, 2022). A higher ESG Score indicates better performance. The scores are calculated annually and cover ten categories: three environmental (resource use, emissions, and innovation), four social (workforce, human rights, community, and product responsibility), and three governance (management, shareholders, and CSR strategy) (Refinitiv, 2022).

Many researchers suggest that companies with better ESG performance tend to have higher firm value. There are several reasons for this relationship. First, strong ESG practices help companies avoid risks like regulatory fines, lawsuits and reputational damage. For example, companies with good environmental practices face fewer pollution-related penalties. Second, good ESG performance builds trust with customers, investors and employees, leading to benefits like higher sales, easier access to funding and better talent retention. Third, sustainable business

practices often improve efficiency and reduce costs over time, such as through energy savings or waste reduction.

Multiple studies support this positive link between ESG and firm value. Research by Cho (2022), Ding et al. (2016), Fatemi et al. (2018) and others found that companies with higher ESG scores typically have greater market value. Investors appear willing to pay more for companies with strong ESG performance because they see them as lower-risk and better positioned for long-term success. Drawing upon the arguments that ESG constitutes value creation this study presents the following hypotheses.

Hypothesis 1: ESG Score has positive impact on firm value

ESG Permanency and firm value

ESG permanency is a companies' ESG activities that is performed consistently over a long time (Jeong et al., 2018; Noor et al., 2020). While some studies have shown that ESG activities can enhance firms' reputation and customer satisfaction (Galbreath & Shum, 2012; Wood, 2010), it typically takes time for these benefits to translate into financial performance (Jeong et al., 2018). Maintaining a positive image or reputation over an extended period is crucial. Further, in their study, Jeong et al. (2018) emphasize that when ESG activities are temporary, they are more likely to signal to stakeholders that these activities benefit the managers rather than the firm itself. Consequently, such temporally ESG activities are less likely to boost firm value and may have little to no positive impact, or even a negative impact, on stock returns (Jeong et al., 2018). Therefore, the permanence of ESG practices is important because it demonstrates a company's

consistent commitment to ESG values which leads to increasing firm value. Drawing upon the arguments that ESG constitutes value creation this study presents the following hypotheses.

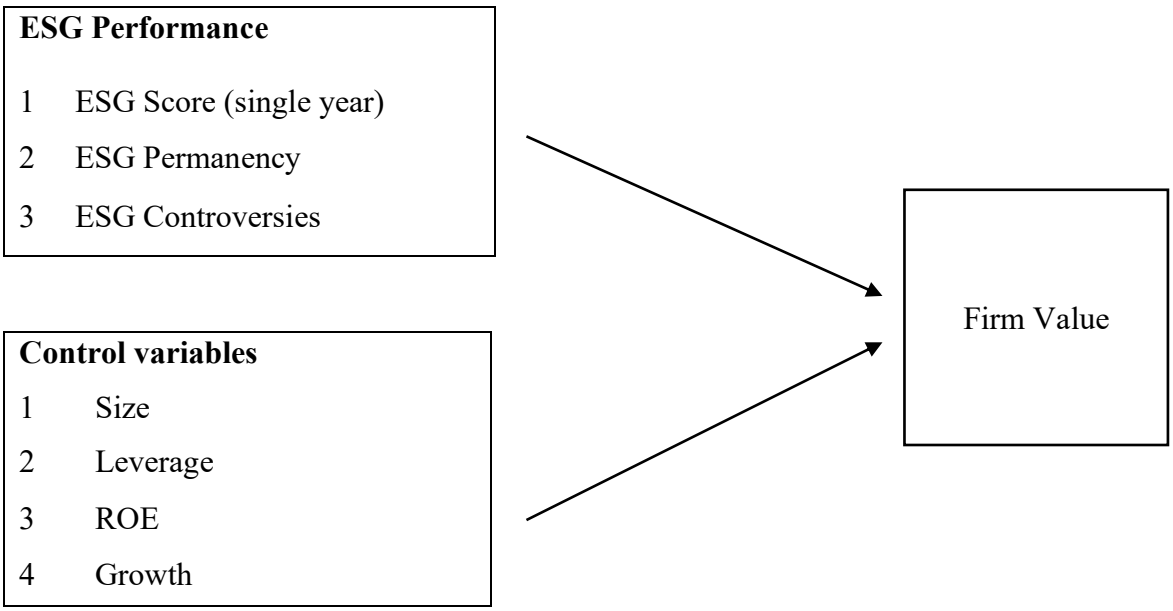
Hypothesis 2: ESG Permanency has positive impact on firm value

ESG Controversies and firm value

Different to ESG Performance and ESG permanency that measure how well a company's engagement in ESG values, the ESG Controversies measure the opposite. It measures companies involvement in controversy topics, such as controversies published in the media linked to business ethics in general, political contributions or bribery and corruption, controversies published in the media linked to use of child labour issues, etc (Refinitve, 2022). It has been argued that ESG scandals are often associated with reputation damages, leading to slumps in stock prices (Nirino et al., 2021). Further, Krüger (2015) reported that investors' reactions are strongly adverse to negative events and recognizing the existence of considerable costs connected with an adverse event. This is also evident in the case of the BP oil spill in the Gulf of Mexico in 2010, where BP's share price dropped by 50% as the disaster progressed (Clark et al., 2015). Likewise, regarding greenwashing, which involves companies providing deceptive information about their environmental and social commitments, (Baldi & Pandimiglio, 2022) discovered that investors require higher premiums as compensation for companies involved in such practices.

Hypothesis 3: ESG Controversies has negative impact on firm value

3.3 Framework of Thinking



3.4. Chapter summary

This chapter developed three key hypotheses about how different aspects of ESG affect firm value, based on theoretical arguments and previous research findings. The first hypothesis (H1) states that ESG performance (measured by annual ESG scores) has a positive influence on firm value. The second hypothesis (H2) proposes that ESG permanency (sustained ESG commitment over time) positively influences firm value. The third hypothesis (H3) suggests that ESG controversies negatively affect firm value. Together, these hypotheses provide a comprehensive framework for examining ESG's role in value creation. These three hypothesis recognise that ESG is multidimensional—its effects depend not just on current performance (H1), but also on long-term consistency (H2) and avoidance of negative incidents (H3). The next chapter will outline the methodology for testing these hypotheses empirically.

CHAPTER 4. RESEARCH METHOD

4.1 Introduction

The previous chapters reviewed the relevant literature and developed hypotheses concerning the effects of ESG score, ESG permanency, and ESG controversies on firm value. This chapter presents the research methodology employed in the study. Section 4.2 and Section 4.3 describe the model specification and the procedures used to test the hypotheses. Section 4.4 outlines the estimation methods, while Section 4.5 details the measurement of variables. Section 4.6 discusses the subgroup analysis, followed by Section 4.7 on endogeneity testing. Section 4.8 covers robustness checks, and Section 4.9 addresses sensitivity analysis. Finally, Section 4.10 provides a summary of the chapter.

4.2 Research Model

This dissertation focuses on examining the impact of a firm's ESG on firm value. The following generic multivariate regression models are employed to test the hypotheses.

Model 1

$$\text{Firm Value}_{it} = \alpha + \beta_1 \text{ESGScore}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Leverage}_{it} + \beta_4 \text{ROE}_{it} + \beta_5 \text{Growth}_{it} + \text{Industry FE} + \text{Year FE} + \varepsilon_{it}$$

Model 2

$$\text{Firm Value}_{it} = \alpha + \beta_1 \text{ESGPermanency}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Leverage}_{it} + \beta_4 \text{ROE}_{it} + \beta_5 \text{Growth}_{it} + \text{Industry FE} + \text{Year FE} + \varepsilon_{it}$$

Model 3

$$\text{Firm Value}_{it} = \alpha + \beta_1 \text{ESGControversies}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Leverage}_{it} + \beta_4 \text{ROE}_{it} + \beta_5 \text{Growth}_{it} + \text{Industry FE} + \text{Year FE} + \varepsilon_{it}$$

Where:
Firm Value: Firm value at year t measure by Tobins Q
ESG Score: A firm's ESG Score at year t
ESG Permanency: A firm's ESG Permanency at year t
ESG controversies: A firm's ESG controversies score at year t

Size: Natural logarithm of total asset as of the fiscal year end
Leverage: total debt divided by total asset at year *t*
ROE: income divided by total equity
Growth: Sales growth at year t

4.3 Hypothesis testing

Test for hypothesis 1

The following model is used to test for Hypothesis 1, whether ESG Performance has positively impact on firm value

Model 1

$$\text{Firm Value}_{it} = \alpha + \beta_1 \text{ESGScore}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Leverage}_{it} + \beta_4 \text{ROE}_{it} + \beta_5 \text{Growth}_{it} + \text{Industry FE} + \text{Year FE} + \varepsilon_{it}$$

Hypothesis 1 is supported if β_1 (the coefficient on ESG Performance) is positive and statistically significant.

Test for Hypothesis 2.

The following model is used to examine if ESG Permanency has positive influence on firm value.

Model 2

$$\text{Firm Value}_{it} = \alpha + \beta_1 \text{ESGPermanency}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Leverage}_{it} + \beta_4 \text{ROE}_{it} + \beta_5 \text{Growth}_{it} + \text{Industry FE} + \text{Year FE} + \varepsilon_{it}$$

Hypothesis 2 is supported if β_1 (the coefficient on ESG Permanency) is positive and statistically significant.

Test for Hypothesis 3.

The following model is used to examine if ESG Controversies has negative impact on firm value.

Model 3

$$\text{Firm Value}_{it} = \alpha + \beta_1 \text{ ESGControversies}_{it} + \beta_2 \text{ Size}_{it} + \beta_3 \text{ Leverage}_{it} + \beta_4 \text{ ROE}_{it} + \beta_5 \text{ Growth}_{it} + \text{Industry FE} + \text{Year FE} + \varepsilon_{it}$$

Hypothesis 3 is supported if β_1 (the coefficient on ESG Controversy) is positive and statistically significant.

4.4 Estimation methods

To examine the relationship between ESG performance and firm value, this study employs Ordinary Least Squares (OLS) regression with robust standard errors as the primary estimation method. OLS is a widely used approach in empirical corporate finance and sustainability research due to its simplicity, interpretability, and effectiveness in estimating linear relationships between variables (Faure et al., 2024; Ha & Kim, 2024; Liu et al., 2025). In this study, OLS is applied to an unbalanced panel dataset comprising firm-level observations from multiple countries over the period 2008 to 2024.

To address potential issues of heteroskedasticity, robust standard errors are employed. This adjustment ensures that the standard errors of the estimated coefficients are valid even if the assumption of constant variance is violated. Furthermore, to address potential differences in industry-specific characteristics that may influence firm value, we include industry fixed effects and year fixed effect.

The choice of OLS with robust standard errors is particularly suitable given the nature of the dataset. The panel is unbalanced due to variations in ESG disclosure and data availability across firms and countries. While more advanced panel techniques such as fixed-effects or random-effects estimators could be considered, the inclusion of year and industry dummies already

captures a significant portion of the unobserved heterogeneity. Moreover, the primary objective of this study is to examine average cross-sectional relationships between ESG indicators and firm value, rather than within-firm variation over time, which further appropriate to use OLS method.

4.5 Measurement of Variables

4.5.1 Dependent variable

Firm value. To capture investors' perceptions of a company's economic value, this research uses market valuation rather than accounting valuation. Tobin's Q is widely recognized in the finance and corporate governance literature as a forward-looking indicator of market valuation, for example Albuquerque et al. (2019); Aouadi & Marsat, (2018); El Ghoul et al. (2017); Rahat & Nguyen, 2024). Tobin's Q captures the ratio between a firm's market value and the replacement cost of its assets, thereby reflecting investors' expectations of a company's future growth and profitability rather than relying solely on accounting-based measures.

Tobin's Q offers several advantages over traditional valuation methods. First, Tobin's Q provides a more comprehensive measure of firm performance because it incorporates both market perceptions and book value information (Rahat & Nguyen, 2024). Moreover Tobin's Q helps evaluate operational efficiency and determine whether a company's stock is fairly value in the market (Jardak & Ben Hamad, 2022). This choice is particularly relevant in emerging markets, where accounting standards and reporting practices may vary, making purely accounting-based measures less reliable. Second, unlike book valuation that rely on historical cost and may not reflect the true value of assets and liabilities, the market value component of

Tobins Q incorporates the present value of expected future cash flows, discounted at the required rate of return, making Tobin's Q inherently risk-adjusted (Aouadi & Marsat, 2018). Third, Tobin's Q is especially relevant in asset-intensive industries like manufacturing, real estate, and oil and gas due to its focus on the relationship between a company's market value and the replacement cost of its assets (Faria et al., 2022). Lastly, Tobin's Q is suitable for long-term investment analysis which enables investors and businesses to evaluate a company's sustainability and competitive advantage over time (Rahat & Nguyen, 2024).

This study estimate Tobins Q as follow:

$$Qit = \frac{Total\ Assetit + Market\ Valueit - BVEquityit}{Total\ Asset\ it}$$

A value of Tobin's Q less than 1 implies that the market values the company below the cost of replacing its assets, possibly indicating underutilization of assets or undervaluation in the stock market. When Tobin's Q more than 1, it signifies that the market values the company higher than the replacement cost of its assets, indicating that the company is highly valued by investors due to its potential growth or high profitability. Finally, Tobin's Q of 1 suggests that the market values the company in line with the cost of replacing its assets, indicating fair valuation.

4.5.2 Independent variables

ESG Score.

ESG score or ratings have increasingly been adopted in academic research as a quantitative tool to capture firms' sustainability orientation and their ability to address stakeholder interests (Khan, 2022). Consistent with prior studies (Agnese et al., 2023; Demers et al., 2021; Dorfleitner et al., 2020; Melinda and Wardhani, 2020), this study employs the Refinitiv Eikon

ESG Score to proxy for corporate ESG performance. There are some previous research that also use ESG score from refinitive eikon database such as (Cicchiello et al., 2023; Demers et al., 2021; Srivastava and Anand, 2023; Umar et al., 2022).

The Refinitiv ESG score is reported on an interval scale ranging from 0 to 100, with higher values indicating stronger ESG engagement (Refinitiv, 2022). The construction of the score is conducted in a multi-step process designed to ensure comparability across firms, industries and countries.

To calculate ESG Score, Refinitive begins with the transformation of raw data points into standardized measures. Refinitiv collects 186 indicators from publicly available sources. These indicators consist of both Boolean (yes/no) and numeric variables. Boolean variables, such as the presence of a water policy, are assigned values of 1 or 0 depending on the appearance in a company's disclosure. For positive indicators, disclosure is scored as 1 and non-disclosure or absence as 0, whereas for negative indicators the assignment is reversed. Numeric variables, such as CO_2 emissions or percentage of recycled water, are benchmarked relative to industry peers. Each data point is then converted into a percentile rank according to the company's relative position among peers. For environmental and social indicators, the peer set is at the industry-group level, while governance indicators are benchmarked at the country level.

The standardized data points are subsequently aggregated into ten ESG categories: emissions, resource use, innovation, workforce, human rights, community, product responsibility, management, shareholders, and CSR strategy.

Refinitiv applies a materiality matrix to determine the relative weight of each category. For environmental and social indicators, weights are derived using two complementary approaches: industry median weighting for numeric variables and transparency weighting for Boolean variables. For example in industry median weighting, for industrial sectors, utilities typically consume huge amounts of energy. Median energy use is high so energy use is given more weight. In contrast, banks consume very little energy. Median energy use is low so energy use gets less weight in the banking sector. Example for transparency weighting, in mining, if 90% of companies disclose water management policies, then this issue is treated as important (high weight). However if only 10% disclose, it's considered less material (low weight). All weights are normalized so that category scores can be compared across industries.

Finally, category scores are aggregated into pillar scores (environmental, social, and governance) and then combined into an overall ESG score. Within each pillar, category weights are re-normalized so that the weighted average produces a pillar score. The overall ESG score is then computed as the weighted sum of the ten category scores using the materiality-adjusted weights specific to the firm's industry. Detail for the example for ESG score calculation is in appendix 2.

ESG permanency. This study follows Jeong et al. (2018) and Noor et al. (2020) to calculate for ESG permanency. To calculate the ESG permanency, this study use the ESG Score from Refinitive Eikon. Firstly, this study calculate the ESG industrial mean based on ESG score for each industry for each country. Secondly, a dummy variable equals 1 if firm's ESG score is exceeds its respective industry average ESG score in at least three of the past four years.

Environment Social and Governance (ESG) controversies. ESG Controversies are corporate environmental, social and governance news stories that place a firm under the media spotlight (Aouadi & Marsat, 2018). Following Aouadi & Marsat, (2018), this study considers controversies to be public news stories about questionable ESG conduct which are collected by Refinitiv Eikon from diverse media sources, including hundreds of major English-speaking news outlets, Non-Government Organisations (NGOs) such as Amnesty International, Human Rights Watch, Greenpeace or Transparency International, and trade unions (Refinitve., 2022). Based on Refinitiv Eikon website, The ESG controversies score is calculated based on 23 ESG controversy topics (see Appendix 3 for the details). During the year, if a scandal occurs, the company involved is penalised and reflected in their ESG Controversies score. Default value for controversies measure is 0. Companies with no controversies will get a score of 100.

To address the fact that larger firms tend to attract more media attention than smaller firms, Refinitiv applies a severity weighting system linked to market capitalization. Large-cap firms are assigned a weight of 0.33, mid-cap firms a weight of 0.67, and small-cap firms a weight of 1. This adjustment ensures that one controversy at a small firm carries a greater penalty than one at a large firm, reflecting the relative impact on corporate reputation. For each company, the number of controversies is multiplied by the severity weight to obtain a weighted value. Firms are then ranked based on these weighted values, with companies that have lower weighted values considered better performers. Detail for example of ESG controversies score calculation is in appendix 4.

4.5.3 Control variables

Firm size

Previous studies have identified that firms' size impacts on firms' value (See Adams and Ferreira, 2009; Bohren and Strom, 2010; Campbell and Mínguez-Vera, 2008). The inverse correlation between size and firm value stems from increased monitoring expenses, attributed to the greater complexity and higher number of arm's length transactions in larger firms. Hence the larger the companies the lower firms' value. This relationship were evidenced in Adams & Ferreira (2009), Bohren and Strom, (2010) and Campbell and Mínguez-Vera (2008).

On the other hand, Berger & Bonaccorsi di Patti, (2006) and Qiu et al. (2021) shows the opposite, that size has positive impact on firm value. Smaller firms have stock primarily concentrated in a limited area. Larger firms often take risks by selling stock to sustain sales growth. Further, larger firms find it easier to access both internal and external sources of funding, consequently impacting their value. This positive relationship is evidenced in Berger & Bonaccorsi di Patti (2006) and Qiu et al. (2021). As it has been identified in previous studies that the size of a firms influence its value and following previous studies on ESG and Firm value, such as (Albuquerque et al., 2019; Fatemi et al., 2018; Qiu et al., 2021; Wong et al., 2020) this study use firm size as a control variable. Size is calculated by the natural log of total assets.

Leverage

Financial leverage is the proportion of capital which is financed by debt as opposed to equity. It serves as an indicator of firms' inherent risk (Hermuningsih et al., 2022) , as investors may view companies with substantial assets financed through high debt as attractive yet riskier

investments. Debt has advantage as it offers firms a tax shield and therefore firms pursue higher levels of debt in order to gain the maximum tax benefit and ultimately enhance profitability (Myers, 2001).

However, high levels of debt increase the possibility of bankruptcy. The trade-off between the advantages and disadvantages of leverage has resulted in varied research outcomes. Gupta et al., (2016) show a statistically significant negative relationship between firm value and degree of operating leverage. In contrast, Bhandari (1988) shows positive relationship between stock returns and debt to equity ratio of the firms. Further, a U-shaped relation is evidenced in (Huffman, 1983; Kale et al., 1991). Following previous studies on ESG and firm value, such as Hu et al., (2021); Noor et al., (2020); Qiu et al., (2021) this study use leverage as a control variable. Leverage is calculated as ratio of debt to equity.

Return on Equity (ROE)

ROE reflects companies' financial performance. It is a key profitability indicator that reflects a firm's ability to generate earnings from shareholders' equity. A higher ROE typically signals efficient management and strong financial performance, which can enhance investor confidence and positively influence firm value. According to the signalling theory, firms with high ROE send positive signals to the market regarding their profitability and future growth potential, thus attracting investment and improving valuation.

It has been argued that in context of financial and ESG research, endogeneity can arise when there is reverse causality, omitted variable bias, or measurement errors (Margolis et al., 2012).

For example while strong ESG performance may enhance firm value by attracting investors and improving stakeholder relationships, it is also possible that high-valued firms have greater resources and incentives to invest in ESG initiatives. This bidirectional relationship complicates causal inference (Lahouel et al., 2019; Garcia-Castro et al., 2010). To help address this issue, ROE is included as a control variable in the regression model. ROE serves as a proxy for a firm's internal profitability and managerial efficiency. Firms with higher profitability may be more capable of investing in ESG activities, while also enjoying higher market valuation due to strong financial performance. By controlling for ROE, the model helps to isolate the effect of ESG from the firm's underlying profitability, thereby reducing the risk of omitted variable bias and mitigating part of the endogeneity problem.

Growth.

Investors and stakeholders generally view a growing firm as a promising investment opportunity due to its potential for higher returns. Growth contributes to market share expansion and competitive positioning. The expanded market share has the potential to result in economies of scale, improved operational efficiencies, and increased bargaining power with suppliers, thereby further contributing to the positive impact on the firm's value. Several previous studies evidenced positive links between growth and firm value (Aouadi & Marsat, 2018; Green & Jame, 2013; Lang et al., 2003). In this study, growth is measured as sales growth.

Table 2 Description of variables

Variable	Definition / Proxy	Expected Sign	Variable Description
Firm Value	Tobins Q		(book value of asset + market value of equity – shareholders' equity) / book value of asset
ESG Performance	ESG Score	+	As provided by Refinitiv Eikon. Refinitiv Eikon ESG rating is an interval scale numeric score (0 to 100) reflecting the ESG rating of each firm
ESG Permanency	ESG Permanency Dummy	+	It is ESG permanency which is calculated based on ESG performance score provided by Refinitiv Eikon. ESG permanency equals 1 if firm's ESG score is exceeds its respective year average industrial ESG score in for three times for the last four year.
ESG Controversies	ESG Controversies Scores	-	As provided by Refinitiv Eikon. Refinitiv Eikon ESG Controversies is an interval scale numeric score (100 to 0) reflecting the ESG controversies of each firm. A rating of 100 being no controversies recorded during the year.
Size		+ / -	Ln(Book value of total Asset
Leverage		-	Total Debt / Total Equity
ROE		+	Income / Total Equity
Growth		+	Growth is measured by sales growth $\frac{\text{Sales}_t - \text{Sales}_{t-1}}{\text{Sales}_{t-1}}$

4.6 Sub-group analysis.

To explore for potential heterogeneity in the relationship between ESG efforts and firm value, we conducted subgroup analysis based on firm size and ownership type. Firms were categorized into two size group: small and large. A firm were classified as large if it was included in its respective national index. This study uses national index inclusion because these indices are explicitly designed to capture the largest and most liquid companies based on free-float-adjusted market capitalization and trading activity. Consequently, index membership serves as an

objective and transparent proxy for identifying large firms, as it reflects both their economic significance and visibility in the capital market.

The classification is below:

- For Indonesia, a firm was considered large if it was included in LQ45 index.
- Singapore, a firm was considered large if it was included in Straits Times Index (STI) 30.
- For Malaysia, a firm was considered large if it was included in the FTSE 30 Bursa Malaysia KLCI Index.
- For Thailand, a firm was considered large if it was included in the Stock Exchange Thailand (SET) 50.
- For Philippines, a firm was considered large if it was included in the PSEi 30 Index.
- And for Vietnam, a firm was considered large if it was included in VN30 index.

Due to limited information on which firms were included in the respective national indexes during the period 2008–2024, we used data from the years for which such information was available. For example, if data on the SET 50 constituents were not available for 2010, 2011, and 2012, but data were available for 2013, then the 2013 SET 50 constituent data were used as a proxy for those earlier years. The data on index constituents in the countries included in the research sample were obtained through online searches.

For ownership type, this dissertation classifies firms into two group: State Owned Enterprise (SOEs) and non-SOEs. Firm will be categorised as SOEs if government holds a significant ownership stake, typically defined as owning more than 50% of the equity or having controlling interest. The data collection on SOEs in the countries included in the research sample was conducted manually through online searches.

4.7 Endogeneity testing

To account for potential endogeneity problems (i.e., due to omitted variable or a reverse causality) and potential self-selection biased of observing firms with available ESG score only, this dissertation employs instrument variable(s) in a two stage least squares (2SLS) method. In the first stage of the 2SLS approach, instrumental variables that are correlated with ESG efforts but uncorrelated with the error term in the firm value equation were used to predict ESG. In the second stage, the predicted values from the first stage were then used as regressors in the firm value equation. This method helps to obtain consistent and unbiased estimates, thereby enhancing the robustness of the findings.

4.8 Robustness test

For the robustness test, this study replaced Tobin's Q with an alternative measure of firm value—market valuation. Market valuation serves as a widely accepted proxy for firm performance in financial and accounting literatures, capturing investor perceptions of a company's value in the market. The market valuation data were obtained from Refinitiv Eikon. To address potential skewness and improve comparability, market valuation was also used in its log-transformed form (log market valuation). These robustness checks help confirm the consistency of the main results.

4.9 Sensitivity analysis.

The sensitivity analysis provides an additional perspective by altering the model specification to include ESG Score, ESG Permanency, and ESG Controversies simultaneously in a single equation. This approach allows for assessing whether the results remain consistent when the

measures are considered jointly, and whether one dimension dominates or diminishes the explanatory power of the others. Moreover, by estimating the three ESG measures within the same framework, this analysis also provides insights into which dimension serves as the strongest predictor of firm value in the Southeast Asian context.

4.10 Chapter summary

This chapter presents the research methodology used for this dissertation. The design of the model to test for my three hypotheses is described and the variables included in the regression model are explained. The choice of using OLS model was also highlighted. The next chapter describes data needed and sample selection process for testing all my three hypotheses.

CHAPTER 5. DATA AND SAMPLE DISTRIBUTION

5.1 Introduction.

This chapter presents the data sources, sample selection process and distribution of sample based on countries and industry representatives.

5.2 Data source

All financial and ESG rating data sources are obtained from Refinitiv Eikon Thompson Reuters database. Refinitiv Eikon is an open-technology solution for financial markets professionals providing access to industry-leading data, insights and exclusive and trusted news. One of the key strengths of Refinitiv Eikon lies in its ESG database, covering of more than 12,500 listed and private companies worldwide and representing over 85 percent of global market capitalization. There are some previous research that also use ESG data from refinitive eikon database such as (Cicchiello et al., 2023; Demers et al., 2021; Srivastava & Anand, 2023; Umar et al., 2022).

According to Refinitiv Eikon (2022), they collects ESG data through a systematic process that combines human expertise and algorithmic checks to ensure both breadth and accuracy. A global team of over 700 research analysts, based in multiple countries and equipped with local language skills, manually extract information from a broad range of publicly available sources, including annual reports, corporate social responsibility (CSR) reports, company websites, stock exchange filings, Non-Government Organisations (NGOs) publications, and credible media outlets. These data points are then standardized into a consistent framework to allow comparability across firms and industries.

To maintain reliability, Refinitiv employs a multilayered quality assurance system consisting of around 400 built-in error check logics and nearly 300 automated quality screeners that identify inconsistencies, missing information, or unusual values. In addition to automated checks, daily audits, product-level reviews, and independent assessments are performed to validate data integrity. The ESG database is continuously updated in line with companies' reporting cycles and corporate disclosures. Most ESG indicators are refreshed annually following the release of companies' financial and sustainability reports, whereas ESG news events and controversies are captured on a continuous basis as they emerge in global media. This approach ensures that the Refinitiv ESG database remains timely, objective, and comprehensive, thus providing a robust foundation for ESG performance measurement .

5.3 Sample Selection.

The sample initially covered all countries in Southeast Asia. However, only six countries—Indonesia, Malaysia, Singapore, Thailand, the Philippines, and Vietnam—had sufficiently complete ESG and financial data available from the Refinitiv Eikon database. Accordingly, the study focuses on firms from these six countries during the period 2008–2024, as represented in the Refinitiv ESG Score. After merging the ESG and financial data, the initial dataset comprised 3855 firm-year observations.

Firms with negative common equity were excluded, as such conditions indicate financial distress or accounting anomalies that may distort firm value measurement and bias regression results. Consistent with prior ESG studies (Fatemi et al., 2018; Melinda & Wardhani, 2020; Noor et al., 2020), companies in the banking and financial sector were also removed. This exclusion is further supported by Foerster and Sapp (2005), who argue that the financial sector

is structurally distinct, as high leverage is typical and does not necessarily indicate financial distress, potentially leading to skewed analytical outcomes.

Following these criteria, 4 firm-year observations with negative common equity and 730 observations from the financial sector were excluded, resulting in a full sample of 3118 firm-year observations. This full sample will be used to test for hypothesis 1 and hypothesis 3. ESG permanency is measured as a dummy variable equal to 1 if a firm's ESG score exceeds its industry average in at least three of the previous four years. Accordingly, firm-year observations without four consecutive years of ESG data are excluded. For the ESG permanency analysis, this led to an additional exclusion of 1,658 firm-year observations, leaving a final sample of 1,460 firm-year observations to test for hypothesis 2.

Table 3 Sample Selection

	Total Number
Initial dataset - Matched firm-year observations from Refinitive Database	3855
Exclude:	
- Firm-year observations with negative common equity	(4)
- Bank & Financial sector	(730)
Total full sample for ESG score and ESG Controversies	**3118**
- Firm-year observation that do not have 4-year consecutive data to calculate permanency	1658
Total sample for permanency	**1460**

Table 4 Sample Distribution by country

ESG Score and ESG Controversies				ESG Permanency			
Countries	No. Firm	No. Obs	Percentage	Countries	No. Firm	No. Obs	Percentage
Malaysia	403	1190	38%	Malaysia	62	401	27,5%
Thailand	179	725	23%	Thailand	76	309	21,2%
Singapore	85	483	15%	Singapore	41	303	20,8%
Indonesia	69	431	14%	Indonesia	39	273	18,7%
Philippines	31	250	8%	Philippines	21	170	11,6%
Vietnam	19	39	1%	Vietnam	3	4	0,3%
Total	786	3118	100%	Total	242	1460	100%

Table 4 presents the distribution of the sample across countries for both the ESG Score & ESG Controversies analysis and the ESG Permanency analysis. For the ESG Score and ESG Controversies sample, the dataset includes 786 unique firms and 3118 firm-year observations. Malaysia contributes the largest share with 403 firms (38% of total observations), followed by Thailand (23%), Singapore (15%), Indonesia (14%), the Philippines (8%), and Vietnam (1%). For the ESG Permanency analysis, the sample is reduced to 242 firms and 1,460 firm-year observations. Malaysia again accounts for the largest proportion (27,5%), followed by Thailand (21,2%) and Singapore (20,8%), Indonesia (18,7%), the Philippines (11,6%) and Vietnam (1%). The reduction in observations for ESG Permanency does not imply that firms failed to engage in long-term sustainable practices. Rather, it reflects the data requirement that permanency can only be calculated for firms with at least four consecutive years of ESG rating in the database.

Table 5 Sample distribution by industry

ESG Score and ESG Controversies				ESG Permanency			
Industry	No. Firm	No. Obs	Percentage	Industry	No. Firm	No. Obs	Percentage
Industrials	180	643	21%	Industrials	41	292	20%
Real Estate	111	413	13%	Consumer Staples	37	236	16%
Consumer Staples	102	469	15%	Real Estate	42	185	13%
Communication service	46	278	9%	Communication service	25	171	12%
Consumer Discretionary	76	284	9%	Energy	20	146	10%
Materials	83	268	9%	Consumer Discretionary	23	122	8%
Energy	45	251	8%	Utilities	21	118	8%
Utilities	38	211	7%	Materials	17	95	7%
Information Technology	75	168	5%	Health Care	11	62	4%
Health Care	30	133	4%	Information Technology	5	33	2%
Total	786	3118	100%	Total	242	1460	100%

Table 5 shows the industry distribution of the sample. For ESG Score and ESG Controversies, Industrials (21%), Consumer Staples (15%) and real estate (13%) are the three largest sectors. For ESG Permanency, despite the reduced sample due to the four-year data requirement, the composition is the same that industrial, consumer staples and real estate remain the three dominant industries.

5.4 Chapter summary.

This chapter outlines the sample selection process and identifies all databases used to collect necessary data to test the hypotheses. A total of 3118 firm-year observations are comprised for my total sample, which is used to test for the first hypothesis and the last hypothesis. To test for the second hypothesis, there are 1460 firm-year observations. Next chapter will discuss about descriptive statistic and result analysis.

CHAPTER 6. DESCRIPTIVE STATISTIC AND RESULT ANALYSIS

6.1 Introduction.

This chapter presents the descriptive statistics and empirical findings of the study. Section 6.2 reports the descriptive statistics, followed by Section 6.3, which discusses the regression results. Section 6.4 addresses the results of the endogeneity treatment, while Section 6.5 presents the robustness checks. Section 6.6 provides the sensitivity analysis, and finally, Section 6.7 concludes the chapter.

6.2 Descriptive Statistic

Table 6 provides the descriptive statistics for all the regression variables for the full sample. Tobins Q and sales growth are Winsorized at the 1st and 99th percentile levels to mitigate the effect of possible outliers.

Table 6 Descriptive Statistic

Variables	Obs	Mean	Std. Dev	Min	Max
Tobins Q	3118	1,598	1,846	0,117	12,474
ESG Score	3118	46, 410	19,311	0,194	92,043
ESG Perm	1460	0,399	0,490	0	1
ESG Contro	3118	97,770	10,575	9,091	100
Size	3118	21,282	1,820	15,147	25,336
Leverage	3118	0,463	0,499	0	9.309
ROE	3118	7,398	13,431	-184,715	181,903
Growth	3118	0,065	0,275	-0,664	1,385

The average of Tobins Q across 6 countries are bigger than 1 (mean Tobins Q = 1,598), the value indicates that the average of firms in South-east Asia has firm's assets more than their replacement cost. The range ESG Score is between 0,194 and 92.043 with standard deviation of 19,311 indicating the great amount of variation in ESG Score of our sample firms. The average ESG score is 46,410. This value fit into C categories (ESG Score between 25 – 50)

which means satisfactory relative ESG performance and moderate degree of transparency in reporting material ESG data publicly (Refinitiv, 2022). The range value of ESG permanency is between 0 and 1. The ESG permanency is a dummy value, which value of 1 means a firm engages in ESG activities for a long period of time. The mean value of ESG controversies is 97,770 ESG controversies range value is between 100 – 0. With a value of 100 indicates no controversies. Mean value of 97,770 shows that there are relatively few scandals occurred in our samples.

Table 7 Correlation Matrix

	tobins	esg_score	esg_perm	esg_contro	size	leverage	roe	growth
tobins	1	0.116***	0.0565*	0.0152	-0.274***	-0.113***	0.539***	0.0198
esg_score	0.116***	1	0.543***	-0.0483*	0.116***	0.0602**	0.0533*	0.0486*
esg_perm	0.0565*	0.543***	1	-0.0124	0.184***	0.0809***	0.0327	0.000953
esg_contro	0.0152	-0.0483*	-0.0124	1	-0.132***	-0.0334	-0.0147	-0.0333
size	-0.274***	0.116***	0.184***	-0.132***	1	0.200***	-0.139***	0.0192
leverage	-0.113***	0.0602**	0.0809***	-0.0334	0.200***	1	-0.324***	-0.00792
roe	0.539***	0.0533*	0.0327	-0.0147	-0.139***	-0.324***	1	0.0891***
growth	0.0198	0.0486*	0.000953	-0.0333	0.0192	-0.00792	0.0891***	1

Value represent Pearson Correlation Coefficients.
Significant levels *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

Table 7 reports the correlation coefficients among the key variables used in the analysis. Tobin's Q is positively correlated with ESG score (0.116, $p < 0.001$) and ESG permanency (0.0565, $p < 0.05$), suggesting that firms with higher ESG performance and consistent long-term ESG engagement tend to be valued more highly by the market. In contrast, the correlation with ESG controversies is negligible (0.0152), indicating that controversies do not show a direct statistical association with firm value in this sample. Tobin's Q is also strongly and positively related to profitability (ROE) (0.539, $p < 0.001$), confirming that profitable firms are more highly valued. Conversely, Tobin's Q is negatively correlated with firm size (-0.274, $p < 0.001$) and leverage (-0.113, $p < 0.001$), implying that larger and more indebted firms tend to have lower market

valuation relative to assets. Sales growth shows no significant correlation with Tobin's Q (0.0198).

Before running the regression analysis, this study conducted diagnostic tests to ensure the validity of the model. Multicollinearity was examined using the Variance Inflation Factor (VIF). Table 8 indicate that all VIF values are below 10, the commonly accepted threshold, suggesting that multicollinearity is not a serious concern and the independent variables can be included simultaneously in the model.

Table 8 Variation Inflation Factor (VIF)

	1st Model	2nd Model	3rd Model
Variables	**VIF**	**VIF**	**VIF**
ESG Score	1,08		
ESG Perm		1,04	
ESG Contro			1,02
Size	1,16	1,08	1,11
Leverage	1,17	1,15	1,16
ROE	1,10	1,14	1,09
Growth	1,02	1,01	1,02

In addition, heteroskedasticity was tested to using The Breusch–Pagan / Cook–Weisberg test to verify whether the variance of the error terms is constant across observations. The test results presented in table 9 show of heteroskedasticity in all three models; therefore, robust standard errors were employed in all regression estimations to correct for potential bias in the coefficient standard errors.

Table 9 Heteroskedasticity Result

Model 1			Model 2			Model 3		
chi2 (1)	=	613,47	chi2 (1)	=	55,29	chi2 (1)	=	545,99
Prob > chi 2	=	0.0000	Prob > chi 2	=	0.0000	Prob > chi 2	=	0.0000

Next, we use OLS estimations with robust standard errors to test our hypotheses. We test the null hypothesis that ESG Score, ESG Permanency and ESG Controversies do not affect Tobin's Q.

6.3 Regression results and discussions

6.3.1 Results for Hypothesis 1 (ESG_score and Firm Value)

Hypothesis 1 examines the relationship between ESG score and firms value. Viewing ESG as a value added activities, hypothesis 1 predict that ESG_score is positively associated with firms value. Hypothesis 1 will be supported if β_{1ESG_Score} is significantly positive ($\beta_{1ESG_Score} > 0$) and the p-values fall below conventional thresholds of 1%, 5%, or 10%.

Table 10 reports the regression results of ESG Score on firm value (measured by Tobin's Q), controlling for firm size, leverage (LEV), return on equity (ROE), and Growth, with year and industry fixed effects included in all specifications. In Column (1), using the full sample, ESG Score shows a positive and statistically significant ($p < 0.001$) coefficient of 0.017 ($t = 8.149$), indicating that **hypothesis 1 is supported**. Column (2) restricts the sample to small firms, where the coefficient remains positive and significant at 0.011 ($t = 4.670$). Column (3) presents the result for larger firms, showing a slightly bigger coefficient of 0.016, consistent to be statistically significant ($t = 5.211$). In Column (4), using the non-state-owned enterprise sample, ESG Score is positively and significantly associated with Tobin's Q at 0.021 ($t = 8.354$). In contrast, Column (5) shows the result for state-owned enterprises (SOE), where the coefficient on ESG Score is -0.000 and statistically insignificant ($t = -0.095$).

Table 10 Regression result for hypothesis 1 (ESG performance and firm value)

This table provides results of the regression of the firm value on ESG Score controlling for Size, Leverage, Return On Equity (ROE) and sales growth. The firm value is measured using TobinsQ.

	(1)	(2)	(3)	(4)	(5)
	TobinsQ	TobinsQ	TobinsQ	TobinsQ	TobinsQ
VARIABLES	Full sample	Small Firm	Big Firm	Non SOE	SOE
ESG_score	0.017***	0.011***	0.016***	0.021***	-0.000
	(8.149)	(4.670)	(5.211)	(8.354)	(-0.095)
Size	-0.322***	-0.268***	-0.605***	-0.353***	-0.134***
	(-13.160)	(-8.385)	(-7.203)	(-11.928)	(-5.275)
Leverage	0.331***	0.428***	-0.264***	0.370**	-0.177**
	(2.759)	(4.232)	(-3.341)	(2.502)	(-1.992)
ROE	0.062***	0.046***	0.083***	0.067***	0.022**
	(8.214)	(6.570)	(4.352)	(8.270)	(2.130)
Sales_growth	-0.017	0.135	-0.319	-0.073	0.177
	(-0.115)	(0.831)	(-1.326)	(-0.402)	(0.855)
Constant	6.512***	6.347***	12.967***	8.338***	4.099***
	(7.618)	(9.293)	(4.893)	(11.715)	(6.249)
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	3,118	1,776	1,342	2,495	623
R-squared	0.376	0.264	0.596	0.400	0.241

Reported values are regression coefficient
Robust t-statistics are reported in parentheses
***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Across all specifications, firm size consistently shows a negative and significant coefficient. Leverage shows mixed effects: positive for the full sample, small firms, and non-SOEs, but negative for large firms and SOEs. ROE is positive and significant in all models, confirming profitability enhances firm value. Sales growth, however, is insignificant across all specifications. Overall, the results suggest ESG performance improves firm value particularly in small firms, large firms, and non-SOEs.

6.3.2 Discussion for Hypothesis 1 (ESG_score and Firm Value)

Result for the full sample regression shows that ESG_score as proxy for short-term ESG effort or initial ESG effort show a positive and significant relationship to Tobins Q, indicator of firm value. This suggests that on average firms with higher ESG_score tend to be valued more highly by the market. This findings support existing literature such as Qureshi et al., 2020; Rahat & Nguyen, 2024; Seok et al., 2024 which suggest that ESG efforts contributes positively to firm value. The result can be interpreted based on signalling theory and stakeholder theory. According to signalling theory, firms use ESG practices as credible signals to convey non-observable attributes (such as managerial quality, commitment to sustainability, and forward-looking strategic orientation) to investors and other external parties. By doing so, they reduce information asymmetry and enhance investor confidence, thereby increasing firm value. Simultaneously, stakeholder theory posits that firms that actively address the interests of a broader set of stakeholders are more likely to secure long-term support and legitimacy, which can translate into sustained financial performance. Thus, ESG efforts may be viewed not only as market signals but also as strategic tools to align corporate actions with stakeholder expectations, ultimately contributing to enhanced firm value.

Small vs large firms

Subsample analysis based on firm size is expected to reveal further insights into the heterogeneity of the ESG–firm value relationship. Prior studies (D'Costa et al., 2024; Godos-Díez et al., 2020; McWilliams & Siegel, 2018) emphasize that firm size can significantly influence the extent and effectiveness of CSR initiatives. Larger firms are typically more exposed to greater public scrutiny, institutional investor pressure, and regulatory oversight,

which collectively create more incentive to implement structured and transparent ESG practices (Godos-Díez et al., 2020). Additionally, their broader resource base and more formalized governance structures may enable these firms to implement comprehensive ESG strategies. In contrast, smaller firms may operate with more limited financial, managerial, and technical resources, which can restrict the quality and consistency of their ESG implementation. Moreover, smaller firms are often less visible to institutional investors and regulators, potentially reducing their external pressure to prioritize ESG activities.

The empirical results are consistent with these theoretical expectations. ESG Score is positively and significantly associated with firm value in both small and large firms, but the effect is slightly stronger for large firms (0.016***) than for small firms (0.011***). It suggests that while ESG practices enhance market valuation across firm sizes, investors place greater weight on the ESG engagement of large firms than small firms. In large firms, ESG performance is more visible and subject to stronger stakeholder pressures, thereby functioning as a credible signal of legitimacy, long-term stability, and responsible governance. This aligns with stakeholder theory, as large firms are more accountable to a broader set of stakeholders and are rewarded by the market for meeting these expectations.

For small firms, the positive but smaller coefficient implies that ESG adoption still generates value, though the effect is less pronounced. In this firm, ESG practices may operate primarily through signalling theory. By adopting ESG activities, small firms signal responsible management and reduce information asymmetry, helping to build credibility and trust among

investors and stakeholders. However, given their limited visibility and resource constraints, the signalling effect is weaker compared to large firms.

State owned enterprises (SEOs) Vs Non SEOs (Private enterprises).

Column 4 show for the non SOEs and column 5 shows for the SOEs. For non SOEs, ESG Score continues to show a positive and significant relationship with firm value. However, for SOEs the coefficient is statistically insignificant, suggesting that ESG performance may not play a significant role in enhancing market valuation for SOEs. The result is aligned with Hsu et al., (2023) that find no significant link between environmental choice and tobinsQ for SOEs.

The differing impact of ESG performance on firm value between non SOEs and SOEs can be attributed to variations in institutional objectives, governance structure, market discipline and number of observations. High level of government ownership in SOEs create pressure for the management to serve public interest such as infrastructure development, reducing unemployment, resolution of government fiscal (Li & Zhang, 2010) political agenda goals (Ligorio et al., 2024). Such priorities may divert attention from value-maximizing potential of ESG strategies to poor potential of ESG strategies.

Furthermore, governance in SOEs is often characterised by bureaucratic in efficiencies. Frye & Shleifer (1997) shows that the state ownership allows government to have ‘grabbing hand’ that divert corporate wealth for the benefit of politicians and bureaucrats. Fan et al. (2007) documented that the accounting and stock return performance of the firms run by politically connected CEOs is poor relative to their politically unconnected counterparts.

Market discipline in SOEs is often constrained by their special organization goals which prioritizes socio-political objectives alongside or even above economic efficiency. SOEs benefit from easier access to financing, often through state-owned banks, reducing financial discipline pressures (Le et al., 2023). The presence of state support can lead to reduced market pressure on SOEs to perform efficiently, potentially hindering competitiveness. These characteristic can dilute the signalling effect of ESG performance and reduces their relevance to investors, thereby weakening the impact in firm value.

Finally, the SOEs subsample comprises only 623 observations, compared with 2,495 observations for non-SOEs. This imbalance lowers statistical power in the SOE regressions, increasing standard errors and making it more difficult to detect significant ESG effects, even if the underlying economic relationship exists.

In contrast, non-SOEs generally operate under greater scrutiny from investors and capital markets, which motivates them to improve ESG performance as a strategy to enhance reputation, reduce risk, and attract investment (Brooks & Oikonomou, 2018). These firms adopt more transparent and timely disclosures to the market (OECD, 2017) This suggests that non SOEs, driven by investor expectations and market mechanisms, are more transparent in their reporting practices. Consequently, ESG activities in private firms are more likely to be value-enhancing, as they are pursued with efficiency and pressured for profitability, allowing markets to better assess and reward ESG performance. This result aligns with the idea that institutional

context and ownership structure moderate the link of ESG performance on firm value (Buchanan et al., 2018; Yuan et al., 2025).

Control variables.

With respect to the control variables, my results exhibit distinct patterns across the full sample and subsamples, shedding light on their varying influence on firm value. Across the full sample and all subsamples, size consistently shows a negative and significant relationship with Tobin's Q. The bigger the firms the lower of its firms' value. This support arguments that bigger firms attributed to greater complexity and higher number of arm's length transactions hence firms need to increase its monitoring expenses. The result is consistent to Aouadi & Marsat, (2018), Harjoto & Laksmana (2018) and Seok et al. (2024). The negative effect of firms' size is stronger in the large-firm group, indicating that they may face reduced growth opportunities, bureaucratic inefficiencies, or lower agility compared to smaller firms.

The role of leverage differs across groups. In the full sample, leverage is positive and significant, suggesting that debt financing overall is associated with higher firm value, potentially as a signal of financial discipline. This positive association holds for small firms and non-SOEs, indicating that leverage enhances credibility and supports growth opportunities in these contexts. However, in large firms and SOEs, leverage turns negative and significant, implying that higher debt levels are viewed unfavourably. For these firms, the market may interpret additional leverage as an excessive risk burden rather than a value-enhancing mechanism.

Profitability, measured by ROE, consistently exhibits a positive and highly significant effect on firm value across all models. This confirms that profitability remains the most reliable and universal driver of Tobin's Q regardless of firm size or ownership structure. The effect is slightly stronger in large firms, suggesting that investors particularly reward profitability in bigger firms where returns signal effective use of substantial resources.

However, sales growth is insignificant across the full sample and all subsamples, indicating that revenue expansion alone does not translate into higher market valuation once other firm fundamentals are accounted for. This finding can be better understood in term of the sample's sectoral composition and timeframe. Only a small fraction (5%) of the firms in the sample belong to the IT sector, where revenue growth is typically a key driver of market valuation. Instead, the majority of firms are concentrated in industrials, consumer staples, and real estate, where growth rates are relatively stable and less volatile over time. Moreover, across the 2008–2024 period, which experienced multiple shocks, such as the global financial crisis and COVID-19 that sales growth figures may have fluctuated without consistently signalling long-term value creation. Thus, the insignificance of sales growth reflects the sample's sector composition and the market condition, where stable revenues are common but not enough to increase firm value.

6.3.3 Result for Hypothesis 2 (ESG permanency and Firm Value)

Hypothesis 2 examines the relationship between ESG Permanency and firms value. Considering ESG as a value added activities, hypothesis 2 predict that ESG permanency is positively associated with firms value. Hypothesis 2 will be supported if $\beta_{1ESGPermanency}$ is significantly

positive ($\beta_{1ESGpermanecy} > 0$) and the p-values fall below conventional thresholds of 1%, 5%, or 10%. Column (1) of Table 11 reports the results for the full sample. ESG Permanency is positively and significantly associated with Tobin's Q, with a coefficient of 0.407 (t = 5,532), thereby supporting Hypothesis 2.

Table 11 Regression result for hypothesis 2 (ESG permanency and firm value)

This table provides results of the regression of the firm value on ESG Permanency controlling for Size, Leverage, Return On Equity (ROE) and Sales Growth. The firm value is measured using TobinsQ.

	(1)	(2)	(3)	(4)	(5)
	TobinsQ	TobinsQ	TobinsQ	TobinsQ	TobinsQ
VARIABLES	Full sample	Small Firm	Big Firm	Non SOEs	SOEs
Esg_perm	0.407***	0.086	0.429***	0.467***	0.031
	(5.532)	(0.726)	(5.879)	(5.040)	(0.409)
Size	-0.395***	-0.299***	-0.466***	-0.423***	-0.179***
	(-8.871)	(-4.507)	(-9.574)	(-6.710)	(-4.418)
Leverage	0.389**	0.370***	-0.281***	0.518**	-0.278**
	(2.325)	(3.479)	(-2.792)	(2.476)	(-2.505)
ROE	0.064***	0.031***	0.114***	0.076***	0.017
	(5.904)	(3.650)	(12.646)	(7.081)	(1.487)
Sales_growth	-0.083	0.017	-0.204	-0.135	0.253
	(-0.280)	(0.065)	(-0.557)	(-0.339)	(0.549)
Constant	9.232***	7.096***	10.214***	9.636***	5.795***
	(8.558)	(4.761)	(8.792)	(6.942)	(5.704)
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	1,460	536	924	1,076	384
R-squared	0.443	0.319	0.675	0.492	0.232

Reported values are regression coefficient
Robust t-statistics are reported in parentheses
***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Column (2), which restricts the sample to small firms, shows a positive but insignificant coefficient. In Column (3), focusing on large firms, ESG Permanency remains positive and significant with a coefficient of 0.429 (t = 5.879). Column (4), which includes only non-SOEs, also demonstrates a positive and significant association, with a coefficient of 0.467 (t = 5.040).

In contrast, Column (5), which covers SOEs, reports a small and insignificant coefficient of 0.031 (t = 1.409).

Firm size consistently exhibits a negative and significant effect across all models, indicating that larger firms tend to have lower Tobin's Q. Leverage shows mixed effects, being positive and significant in the full sample, small firms, and non-SOEs, but negative and significant in large firms and SOEs. ROE is positive and highly significant in all models except for SOEs, where it becomes insignificant. Sales growth remains insignificant in every specification. The explanatory power of the models, as indicated by R-squared, ranges from 0.240 for SOEs to 0.673 for large firms. Overall, ESG Permanency is positively related to firm value in the full sample, large firms, and non-SOEs.

6.3.4 Discussion for Hypothesis 2 (ESG permanency and Firm Value

For the full sample, ESG permanency shows a positive and significant effect on Tobin's Q, indicating that firms with consistent and long-term ESG practices achieve higher valuations. This finding supports stakeholder theory, as sustained ESG engagement signals to stakeholders that the firm is committed to balancing financial performance with social and environmental responsibilities. Such long-term commitments reduce legitimacy risks, strengthen stakeholder trust, and improve the firm's reputation. From the perspective of signalling theory, ESG permanency also acts as a credible signal to investors, demonstrating that the firm is not engaging in short-term or symbolic sustainability initiatives but is instead embedding ESG principles into its long-term strategy. Our result is consistent with Jeong et al (2018) and Noor et al. (2020) a long-term ESG commitment is valued more by the market.

Small vs larger firms

When the sample is split by firm size, the results reveal that ESG permanency is positively and significantly associated with firm value only for large firms, while the effect is insignificant for small firms. For large firms, the result is consistent with stakeholder theory, as these firms face stronger scrutiny from regulators, investors, and society. Sustained ESG practices allow large firms to maintain legitimacy, strengthen stakeholder relations, and preserve their social license to operate. From a signalling theory perspective, large firms benefit because stakeholders can observe and verify their long-term ESG efforts more easily, making the signal both credible and value-enhancing. In contrast, for small firms, the lack of a significant effect may stem from limited visibility and resource constraints. Stakeholders may not perceive ESG permanency in smaller firms as a credible or impactful signal, reducing its effect on firm value.

State owned enterprises (SEOs) Vs Non SEOs (Private enterprises).

When the sample is split by ownership type, the effect of ESG Permanency also varies. The positive impact of ESG permanency on firm value is observed only among non SOEs. This suggests that non SOEs benefit substantially from maintaining consistent ESG strategies, likely due to greater reliance on external reputation and long-term stakeholder trust. On the other hand, ESG_Permanency is not statistically significant for SOEs. It indicates that the market does not meaningfully reward long-term ESG commitment in these firms. Investors may perceive ESG initiatives in SOEs as driven more by regulatory compliance or political mandates rather than by strategic value creation, which could undermine their credibility and effectiveness as signals of long-term orientation.

Similar to the ESG Score analysis where SOEs have a smaller sample, the ESG permanency test also reflects a sample imbalance. The SOE subsample comprises only 384 observations, compared with 1,076 observations for non-SOEs. This substantial difference in sample size may reduce the statistical power of the SOEs analysis, potentially contributing to the insignificant results observed.

In contrast, Non SOEs that voluntarily and consistently pursue permanent ESG activities may be seen as more proactive, efficient, and responsive to stakeholder demands. Hence investors are more likely to reward through higher valuations. This result may reflect the unique institutional characteristics of SOEs, where the presence of government backing can reduce exposure to market discipline and weaken the signalling value of ESG permanency.

Control variables.

The control variables show broadly consistent patterns across the models and are largely similar to those observed in the model 1 regressions. Firm size is negatively and significantly associated with Tobin's Q, indicating that larger firms are generally valued lower by the market, likely due to fewer growth opportunities. Leverage has mixed effects across the models. It is positive in the full sample, small firms, and non-SOEs, supporting signalling theory where debt signals financial strength, but turns negative in large firms and SOEs, where higher leverage raises concerns over financial risk. ROE remains strongly positive in most cases, reaffirming profitability as a key driver of firm value, though it loses significance for SOEs, suggesting investors discount profitability in state-owned firms. Sales growth is consistently insignificant,

both here and in the ESG Score models, confirming that revenue expansion alone does not reliably enhance valuation once profitability and leverage are taken into account.

6.3.5 Result for Hypothesis 3 (ESG Controversy and Firm Value)

Hypothesis 3 examines if ESG Controversies is negatively correlated to firms value. It has been argued that ESG scandals are often associated with reputation damages, leading to slumps in stock prices (Nirino et al., 2021). Further, Krüger (2015) reported that investors' reactions are strongly adverse to negative events and recognizing the existence of considerable costs connected with an adverse event. Since the ESG Controversies score ranges from 100 (no controversies) to 0 (high controversies), hypothesis 3 is supported if the coefficient of ESG Controversies (β_1) is positive and statistically significant ($\beta_1 > 0$) with p-values below the conventional thresholds of 1%, 5%, or 10%.

Table 12 presents regression results for the hypothesis 3. Similar to hypothesis 1 and 2, the analysis in hypotheses 3 is also performed on the full sample as well as subsamples based on firms size (small vs. big) and ownership type (non SOEs and SOEs). Table 11 presents the regression results examining the relationship between ESG Controversies and firm value, measured by Tobin's Q. Across all model specifications (Columns 1–5), the coefficient on ESG Controversies is statistically insignificant, indicating no robust relationship between ESG controversies and firm value in the full sample or within any of the subsamples, confirming that **hypothesis 3 is not supported.**

Table 12 Regression result for hypothesis 3 (ESG controversies and firm value)

This table provides results of the regression of the firm value on ESG Permanency controlling for Size, Leverage, Return On Equity (ROE) and Sales growth. The firm value is measured using TobinsQ.

	(1)	(2)	(3)	(4)	(5)
	TobinsQ	TobinsQ	TobinsQ	TobinsQ	TobinsQ
VARIABLES	Full sample	Small Firms	Big Firms	Non SOEs	SOEs
Esg_contro	0.000	-0.000	0.002	0.003	0.002
	(0.184)	(-0.075)	(0.659)	(0.745)	(0.902)
Size	-0.250***	-0.220***	-0.570***	-0.278***	-0.130***
	(-11.533)	(-7.285)	(-7.047)	(-10.239)	(-5.374)
Leverage	0.348***	0.441***	-0.237***	0.419**	-0.179**
	(2.649)	(4.066)	(-3.053)	(2.568)	(-2.003)
ROE	0.065***	0.047***	0.087***	0.072***	0.022**
	(8.302)	(6.591)	(4.435)	(8.359)	(2.144)
Sales_growth	-0.039	0.117	-0.327	-0.103	0.181
	(-0.260)	(0.712)	(-1.331)	(-0.559)	(0.876)
Constant	5.346***	5.600***	12.359***	6.889***	3.849***
	(5.589)	(6.568)	(4.758)	(8.347)	(5.696)
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	3,116	1,775	1,341	2,494	622
R-squared	0.354	0.253	0.578	0.371	0.243

Reported values are regression coefficient
Robust t-statistics are reported in parentheses
***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Control variables generally behave consistently across specifications. Size shows negative and significant associations with Tobin's Q, while ROE is positively and significantly related to firm value in most models. Leverage has mixed effects across the models. It is positive in the full sample, small firms, and non-SOEs but turns negative in large firms and SOEs. Sales growth is consistently insignificant in all three models, confirming that revenue expansion alone does not reliably enhance valuation once profitability and leverage are taken into account.

6.3.6 Discussion for Hypothesis 3 (ESG controversies and Firm Value)

This study finds a positive but statistically insignificant relationship between ESG Controversies and firm value across both the full sample and all sub-samples. The positive coefficients are intuitive because the score is scaled so that 100 represents no controversies, and higher scores would normally be expected to correspond with higher firm value. However, the results provide no statistical evidence to support this expectation.

The lack of statistical significance indicates that the Southeast Asian market appears to less reactive and punitive for controversial firms. Our results differ to De Franco (2020) that documented that stocks in Europe and the US stocks which engages in severe ESG controversies experienced financial underperformance as compared to stocks with low or no controversy at all. In those markets, investors tend to respond more strongly to changes in controversy levels, particularly through negative reactions to ESG downgrades.

There are several reasons to explain why the southeast Asian markets are less punitive for controversial firms. First, ESG enforcement and regulation in many South-east Asian countries are still in the early stages as compared to the developed countries. For instance, Evershed Sutherland (2023) highlights that Singapore has more advanced ESG regulatory landscape among those countries in South-east Asia. However, its development is still lag-behind those global players such as the US and European territory. Hence, the presence of institutional weakness may reduce investor pressure to avoid controversies.

Second, limited availability and reliability of ESG-related information may hinder investors from accurately assessing ESG risks and integrating them into their valuation frameworks. Indonesia, the Philippines, and Vietnam may face challenges in ensuring ESG compliance for potential investments, as investors often struggle to verify data that may be unreliable or influenced by political motivations (Evershed Sutherland, 2023). When ESG data is inconsistent or difficult to verify, market participants may simply disregard it.

Third, cultural differences shape how investors perceive ESG controversies in Southeast Asia compared to those in the United States. In many Southeast Asian cultures, ESG may not yet considered as priority. Further, lack of legal enforcement and media pressure in South east Asia has made it difficult to hold firms accountable for ESG performance. Also investors in these markets may be more focused on short-term financial returns rather than long-term sustainability. In the case of SOEs, the lack of significance might also reflect market perceptions that such firms are insulated from accountability due to their government backing.

Control variables.

The control variables reveal consistent patterns across specifications, and the results closely mirror those reported in the Model 1 and Model 2regressions. Firm size shows a negative and significant association with Tobin's Q, suggesting that larger firms tend to be valued lower by the market, possibly because they face limited growth prospects. Leverage displays mixed effects: it is positively related to firm value in the full sample, small firms, and non-SOEs, consistent with signalling theory where debt conveys financial strength, but the relationship turns negative for large firms and SOEs, where higher leverage raises concerns about financial

risk. ROE is generally positive and significant, highlighting profitability as a key determinant of valuation, though the effect disappears for SOEs, indicating that profitability is less relevant for state-owned firms. Sales growth remains insignificant in all models, reinforcing the idea that revenue expansion alone does not increase firm value once profitability and capital structure are considered.

6.4 Endogeneity test

Previous study has indicated potential challenges like omitted variable bias and measurement errors, contributing to potential endogeneity issues (Garcia-Castro et al., 2010). Moreover, previous research such as Soytas et al. (2019) and Chau et al. (2025) also indicated the presence of reverse causality between ESG performance and corporate outcomes. This reverse relationship implies that firms with superior financial performance may achieve higher ESG ratings (Srivastava & Anand, 2023). Failing to address endogeneity can result in overstated coefficients, unclear interpretations, and misleading theoretical insights regarding the link between corporate financial performance and ESG (Ben Lahouel et al., 2019; Soytas et al., 2019). To address these concerns and obtain more reliable estimates, this study perform the two-stage least squares (2SLS) with instrumented variable (IV). The Sargan/Hansen test was also performed to check the plausibility of exogenous variables after running the 2SLS regression.

Following Chen et al., (2024) and Hanh & Truong (2024) this study use lagged one-year ESG Score as our IV. Lagged ESG scores are commonly used as instruments to address endogeneity concerns in ESG-related studies. Past ESG performance influences future ESG performance, suggesting that lagged ESG scores can serve as valid instruments due to their predictive power

and temporal precedence (Wedajo et al., 2024). We assume that past ESG performance is correlated with current ESG performance but uncorrelated with the current error term in the structural equation for firm value (exogeneity condition).

The IV for Model 1 is lagged one-year ESG Score, IV for Model 2 is lagged one-year ESG permanency and IV for model 3 is lagged one-year of ESG Controversies.

In the first stage of the 2SLS estimation for model 1, the ESG Score is regressed on the instrumental variable and all control variables included in the main model. The predicted value of ESG Score in the first stage regression is then used on the second stage regression. Similar step also conducted for ESG Permanency (Model 2) and ESG Controversies (Model 3).

Table 13 presents the regression results from the 2SLS model. Across Models (1) and (2), both ESG Score and ESG Permanency show positive and highly significant coefficients (0.018 and 0.526 respectively), indicating that firms with higher ESG performance and consistent ESG engagement are associated with higher Tobin's Q.

These findings reinforce the main OLS results, suggesting that ESG activities, particularly when sustained over time, contribute positively to firm value. In contrast, ESG Controversies in Model (3) yields a negative but insignificant coefficient (–0.009), consistent with the OLS findings that controversies do not show a statistically meaningful effect on firm value. The direction of the coefficient remains as it is expected, as higher scores indicate fewer controversies, but the lack of significance suggests that the market does not systematically price this measure.

Table 13 Result for two-stage least squares (2SLS) regression

This table provides results of the 2SLS Methods the firm value on ESG Score controlling for Size, Leverage, Return On Equity (ROE) and growth. The firm value is measured using TobinsQ

VARIABLES		(1) TobinsQ	(2) TobinsQ	(3) TobinsQ
ESG_score		0.018***		
		(7.913)		
ESG_perm			0.526***	
			(5.649)	
ESG_contro				-0.009
				(-0.960)
Size		-0.326***	-0.419***	-0.260***
		(-13.198)	(-8.849)	(-10.614)
Leverage		0.320***	0.426**	0.341***
		(2.714)	(2.575)	(2.657)
ROE		0.061***	0.059***	0.063***
		(8.125)	(5.287)	(8.110)
Sales_growth		-0.011	-0.008	-0.054
		(-0.076)	(-0.025)	(-0.369)
Constant		6.588***	9.942***	6.568***
		(7.833)	(8.709)	(4.331)
Observations		3,116	1,148	3,111
R-squared		0.372	0.435	0.346
Underindetification test (anderson canon. corr. LM statistic)		1.060,716	681,299	19,262
Chi-sq(2) P-Val		0.0000	0.0000	0.0000
Weak-identification test (Cragg-Donald Wald F Statistic) :		18000	2855,976	181,698
Stock-Yogo weak ID test critical values:	10% maximal IV size	19.93	19.93	19.93
	15% maximal IV size	11.59	11.59	11.59
	20% maximal IV size	8.75	8.75	8.75
	25% maximal IV size	7.25	7.25	7.25
Instrumented:		esg_score	esg_perm	esg_contro
Included instruments		size, leverage, ROE, Sales_growth	size, leverage, ROE, Sales_growth	size, leverage, ROE, Sales_growth
Excluded instruments		lagged esg_score	lagged esg_perm	lagged esg_contro

Reported values are regression coefficient
Robust z-statistics are reported in parentheses
***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

The identification tests confirm the validity and strength of the instruments. The underidentification test (Kleibergen-Paap LM statistic) is highly significant ($p = 0.000$), rejecting the null of underidentification. The weak identification tests also show very large F-statistics (all far exceeding the Stock–Yogo critical values), indicating that the instruments are strong. The Hansen J statistic is not reported in this case because each model includes only one endogenous variable and one excluded instrument, making the equations exactly identified; under such conditions, overidentification cannot be tested.. Overall, the instruments used (lagged ESG measures) are valid and sufficiently strong.

Taken together, the 2SLS results confirm the main findings from the OLS regressions. ESG Score and ESG Permanency are positively and significantly related to firm value, while ESG Controversies is not significant. The consistency across OLS and 2SLS models suggests that the results are robust to potential endogeneity concerns and that the positive association between ESG engagement and firm value is not driven by reverse causality.

6.5 Robustness test (alternative measure of firm value)

To test for the robustness of the our findings, this study will use market capitalisation as an alternative measure of firm value. Our main analysis adopts Tobin's Q as the primary proxy. It reflects the ratio of a firm's market value to the replacement cost of its assets. This robustness check uses market capitalization, as a supplementary indicator. Market capitalization, defined as the total market value of a firm's outstanding equity. It offers a direct market-based assessment of firm value that reflects investor sentiment and expectations regarding future performance.

6.5.1 ESG Score and Log Market Valuation

Table 14 reports the regression results using log-transformed Market Valuation (log_MV) as an alternative measure of firm value. The results show that ESG score has a positive and significant relationship with firm value in the full sample, as well as in small firms, big firms, and non-SOEs. However, the coefficient becomes insignificant in SOEs. When comparing these findings with the main measure that uses Tobin's Q, the general pattern is consistent: ESG score is positive and significant in most groups except SOEs. This consistency strengthens the evidence that ESG efforts are positively valued by the market, irrespective of the firm value proxy used.

Table 14 Regression results for ESG Score on Market Valuation

This table provides results of the regression of the firm value on ESG Score controlling for Size, Leverage, Growth, Return On Equity (ROE) and Growth. Firm value is measured using Log of Market Valuation.

	(1)	(2)	(3)	(4)	(5)
	Log_MV	Log_MV	Log_MV	Log_MV	Log_MV
VARIABLES	Full sample	Small Firm	Big Firm	Non SOEs	SOEs
Esg_score	0.009***	0.009***	0.003***	0.010***	0.000
	(9.653)	(6.964)	(3.361)	(9.966)	(0.196)
Size	0.794***	0.735***	0.617***	0.776***	0.886***
	(65.082)	(43.060)	(21.913)	(57.425)	(32.071)
Leverage	-0.204***	-0.107	-0.401***	-0.136*	-0.828***
	(-2.661)	(-1.376)	(-8.889)	(-1.760)	(-7.685)
ROE	0.028***	0.025***	0.028***	0.029***	0.024***
	(9.024)	(7.633)	(4.606)	(8.713)	(2.704)
Sales_growth	0.141*	0.161*	0.070	0.109	0.272*
	(1.794)	(1.744)	(0.636)	(1.240)	(1.855)
Constant	3.956***	5.439***	8.329***	4.680***	2.475***
	(12.076)	(13.494)	(9.931)	(15.233)	(3.447)
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	3,118	1,776	1,342	2,495	623
R-squared	0.830	0.769	0.537	0.834	0.786

Reported values are regression coefficient
Robust t-statistics are reported in parentheses
***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

For firm size subsamples, ESG Score is significantly and positively related to firm value in smaller firms, although the magnitude is slightly stronger for small firms. This pattern is different to the main analysis where the positive impact of ESG is somewhat stronger for big firms. This difference highlights how the choice of valuation metric shapes the interpretation of ESG's role. Log_MV reflects the scale of absolute market size. In this case, small firms appear to benefit more as ESG provides a strong signal that helps them gain legitimacy and attract investor trust. This, in turn, may boost their market capitalization. In contrast, Tobins Q captures relative market expectations and growth opportunities. For large firms with greater resources and visibility, ESG may strengthen perceptions of competitiveness and good governance, leading to higher Tobins Q

Among ownership types the result remain consistent to the main model with TobinsQ. ESG Score remains highly significant for non SOEs and non-significant for SOEs. This finding reinforces the view that market participants may be less responsive to ESG disclosures from SOEs, possibly due to perceived bureaucratic inefficiencies, less market discipline, or less credible signalling from ESG efforts in these firms.

In regards to control variables, across the full sample and all subsamples, the control variables generally behave as expected. Firm size shows a positive correlation to market valuation. The larger the firms, the higher their valuation. However when we compare it to the main test (firms value is measured by Tobin's Q), the coefficient of firm size (log total assets) turns positive when firm value is measured using log market valuation. This difference reflects the conceptual distinction between relative and absolute measures of firm value. Tobin's Q is a ratio of market

value to the replacement cost of assets. Larger firms typically have more asset base, which increases the denominator of the Q ratio. As a result, even if their market value is high in absolute terms, their valuation per unit of asset tends to be lower, producing a negative association between size and Tobin's Q.

In contrast, log market valuation is an absolute measure of firm value. Larger firms naturally have higher total market capitalization because they have greater assets, revenues, and operational scale. Therefore, when firm value is measured directly through market valuation, the size coefficient becomes positive, indicating that bigger firms are more valuable in absolute term, even though their relative valuation (Tobin's Q) is lower. This change in sign does not imply inconsistencies in the results. Instead, it reflects the conceptual difference between absolute and relative valuation metric.

ROE consistently show strong positive effects on market valuation, indicating that larger and more profitable firms are valued higher by investors. Leverage generally exhibits a negative significant impact—especially among big firms and SOEs—reflecting the market's sensitivity to financial risk. Sales growth shows mixed significance, contributing modestly in some groups but not driving valuation consistently. These patterns of the control variables confirm that the models are well-specified and that the ESG results are not driven by omitted firm characteristics.

In conclusion, the alternative analysis confirms the robustness of the main findings. The positive market valuation of ESG performance (particularly among smaller and private firms) remains

evident across different value proxies. This enhances confidence in the conclusion that initial ESG or short-term ESG activities contribute to firm value.

6.5.2 ESG Permanency and Log Market Valuation

Table 15 shows that ESG Permanency continues to show a positive and statistically significant link to firm value for the full sample, both small and big firm and non SOEs. Markets respond favourably its sustained ESG implementation over time.

Table 15 Regression result for ESG Permanency on Market Valuation

This table provides results of the regression of the firm value on ESG Permanency controlling for Size, Leverage, Growth, Return On Equity (ROE) and Growth. The firm value is measured using Log of Market Valuation.

	(1)	(2)	(3)	(4)	(5)
	Log_MV	Log_MV	Log_MV	Log_MV	Log_MV
VARIABLES	Full sample	Small Firm	Big Firm	Non SOEs	SOEs
Esg_perm	0.194***	0.212***	0.114***	0.183***	0.032
	(4.643)	(2.733)	(3.067)	(3.889)	(0.441)
Size	0.762***	0.704***	0.666***	0.727***	0.876***
	(33.006)	(19.721)	(32.672)	(25.075)	(21.881)
Leverage	-0.178*	-0.078	-0.469***	-0.042	-1.069***
	(-1.710)	(-1.055)	(-8.908)	(-0.447)	(-8.377)
ROE	0.029***	0.017***	0.041***	0.031***	0.020*
	(6.405)	(4.524)	(9.647)	(6.938)	(1.964)
Sales_growth	0.200	0.136	0.175	0.169	0.200
	(1.118)	(0.690)	(1.069)	(0.863)	(0.730)
Constant	5.108***	5.952***	7.085***	5.756***	3.519***
	(9.486)	(7.332)	(14.140)	(9.038)	(3.520)
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	1,460	536	924	1,076	384
R-squared	0.648	0.598	0.599	0.639	0.749

Reported values are regression coefficient
Robust t-statistics are reported in parentheses
***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Across size subsamples, the impact of ESG permanency to firm value is more pronounced for the small firms than big firms. This is different to the main analysis using tobinsQ, where the coefficient is bigger for the big firms. The difference occurs because log market valuation and Tobin's Q measure firm value in different ways. Market valuation is an absolute measure, so ESG permanency has a bigger effect on small firms because it helps them look more credible and reduces investor uncertainty. Tobin's Q reflects how much investors expect a company to grow in the future. Large firms usually have more resources, more visibility, and stronger reputation, so investors take their long-term ESG commitment more seriously. This makes ESG permanency have a bigger impact on Tobin's Q for big firms

For subsample ownership, ESG Permanency is again positively and significantly related to firm value in the non-SOEs. This is consistent with the result observed under Tobin's Q. It suggests that non SOEs benefit more in terms of market valuation from persistent ESG behaviour.

The control variables, behave largely as expected. Firm size and ROE consistently show strong positive effects on market valuation, indicating that larger and more profitable firms are valued higher by investors. Leverage generally exhibits a negative significant impact, especially among big firms and SOEs. This is reflecting the market's sensitivity to financial risk. Sales growth is insignificant to market valuation, showing that revenue expansion alone does not strongly influence firm value once other fundamentals are controlled for. Overall, the alternative analysis validates the robustness of the earlier findings, ESG Permanency is positively associated with firm value.

6.5.3 ESG Controversies and Log Market Valuation

Table 16 reports the results from an alternative specification using the log-transformed market valuation (log MV) as the dependent variable. The findings are broadly consistent with the main analysis that employs Tobin's Q that ESG controversies remain statistically insignificant in most cases, including the full sample, small firms, non-SOEs, and SOEs. The difference appears in large firms, where ESG controversies show a positive and significant association with firm value. This positive relationship is intuitive given that the controversies score is reverse-scaled, where a value of 100 reflects the absence of controversies.

The positive and significance in large firms can be explained by the fact that bigger companies typically receive more visibility and closer scrutiny from investors, regulators, and media. As a result, any reduction in controversies provides a stronger signal of sound governance, stable operations, and reputational strength, which translates into higher absolute market capitalization. In contrast, the main analysis using Tobin's Q yielded no significant effect of controversies for large firms. This difference can be explained by the nature of the two valuation measures. Tobin's Q is a relative indicator, comparing market value to the book value of assets and thus reflecting investor expectations. By contrast, log MV captures the firm's current absolute market value rather than relative expectations. For large firms, reducing ESG controversies may not strongly shift future expectations (hence no effect on Tobin's Q), but it does strengthen investor confidence in the firm's stability and reputation, which directly supports higher market capitalization.

Table 16 Regression results for ESG Controversies on Market Valuation

This table provides results of the regression of the firm value on ESG Controversies controlling for Size, Leverage, Growth, Return On Equity (ROE) and R&D Intensity. The firm value is measured using Log of Market Valuation.

	(1)	(2)	(3)	(4)	(5)
	Log_MV	Log_MV	Log_MV	Log_MV	Log_MV
VARIABLES	Full sample	Small Firm	Big Firm	Non SOEs	SOEs
Esg_contro	0.002	0.001	0.004**	0.002	0.003
	(1.466)	(0.200)	(2.427)	(1.225)	(1.481)
Size	0.833***	0.774***	0.631***	0.813***	0.895***
	(74.007)	(48.392)	(23.547)	(63.514)	(34.297)
Leverage	-0.195**	-0.097	-0.397***	-0.112	-0.834***
	(-2.386)	(-1.169)	(-8.887)	(-1.333)	(-7.688)
ROE	0.030***	0.025***	0.029***	0.031***	0.024***
	(9.278)	(7.756)	(4.840)	(8.989)	(2.761)
Sales_growth	0.132	0.148	0.069	0.096	0.279*
	(1.640)	(1.584)	(0.623)	(1.060)	(1.891)
Constant	3.128***	4.756***	7.737***	3.879***	2.010***
	(8.255)	(9.790)	(9.564)	(10.341)	(2.739)
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	3,116	1,775	1,341	2,494	622
R-squared	0.825	0.762	0.535	0.826	0.788

Reported values are regression coefficient
Robust t-statistics are reported in parentheses
***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

The control variables, behave largely as expected. Firm size and ROE consistently show strong positive effects on market valuation. Leverage generally exhibits a negative significant impact, especially among big firms and SOEs and Sales growth is insignificant to market valuation in full and sub samples. Overall, the evidence from log MV remains broadly consistent with the Tobin's Q analysis, reinforcing the robustness of the results.

6.6 Sensitivity analysis (alternative model)

To assess the sensitivity of the findings, this study re-estimates the regression models by incorporating ESG Score, ESG Permanency, and ESG Controversies simultaneously. The combined specification allows for testing whether the results remain consistent when all ESG measures are included in a single model and to identify which measure provides the strongest explanatory power for firm value.

Table 17 Regression results for alternative model

This table provides results of the regression of the firm value on ESG Score, ESG Perm and ESG Controversies controlling for Size, Leverage, ROE and Growth. The firm value is measured using TobinsQ

	(1)	(2)	(3)	(4)	(5)
	TobinsQ	TobinsQ	TobinsQ	TobinsQ	TobinsQ
VARIABLES	Full sample	Small firm	Big Firm	Non SOEs	SOEs
Esg_score	0.018***	0.016***	0.012***	0.026***	-0.008**
	(6.158)	(3.191)	(3.775)	(7.001)	(-2.107)
Esg_perm	0.029	-0.248*	0.190**	-0.107	0.118
	(0.410)	(-1.742)	(2.421)	(-1.199)	(1.322)
Esg_contro	0.000	0.003	-0.003	0.003	0.002
	(0.019)	(0.803)	(-1.389)	(0.874)	(0.859)
Size	-0.409***	-0.310***	-0.472***	-0.426***	-0.156***
	(-9.167)	(-4.694)	(-9.632)	(-6.916)	(-3.661)
Leverage	0.378**	0.357***	-0.289***	0.494**	-0.292**
	(2.425)	(3.581)	(-2.897)	(2.560)	(-2.585)
ROE	0.062***	0.031***	0.112***	0.073***	0.018
	(5.796)	(3.603)	(12.625)	(7.179)	(1.587)
Sales_growth	-0.104	0.030	-0.230	-0.179	0.263
	(-0.358)	(0.117)	(-0.621)	(-0.470)	(0.575)
Constant	9.241***	6.737***	10.425***	8.965***	5.420***
	(8.280)	(4.431)	(8.722)	(6.313)	(4.922)
Industry FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	1,459	535	924	1,075	384
R-squared	0.462	0.339	0.682	0.523	0.242

Reported values are regression coefficient
Robust t-statistics are reported in parentheses
***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

The table 17 results reveal that ESGScore consistently demonstrates a positive and significant impact on firm value, even after controlling for ESG permanency (ESGPERM) and ESG controversies (ESGCONTRO). When examined individually in the hypothesis 1 and 2, both ESGScore and ESG permanency show positive significant associations with Tobin's Q, suggesting that short-term ESG activities as well as long-term ESG commitments are valued by the market. However, when these measures are included jointly in the model, only ESG Score remains significant, while ESG permanency loses its explanatory power. It does not mean that the value-relevance of ESG Permanency disappear, but its effect is embedded within the broader ESG Score due to overlapping informational content between the two measures. Hence, ESG Score is the most comprehensive and dominant measure, effectively capturing both short-term and long-term aspects of ESG activities.

Importantly, the reduced independent effect of ESG Permanency may reflect the stage of ESG development in Southeast Asia, where long-term, consistent ESG practices are still emerging. This pattern is evident in the sample composition shown in table 4, out of 786 firms, only 242 firms meet the criteria for ESG permanency, indicating that long-term ESG engagement is still rare in Southeast Asia. With limited firms demonstrating long-term ESG commitment, the independent signal provided by ESG permanency becomes naturally weaker. As a result, investors rely more heavily on the broader ESG Score when assessing firm value. Nevertheless, the positive results in the individual model underscore that ESG Permanency remains meaningful as ESG adoption matures across Southeast Asia.

Meanwhile, ESG controversies do not show a significant effect on firm value, implying that in this sample, negative ESG incidents are either already priced in by investors or are insufficiently large to offset the positive contributions of overall ESG activities.

Taken together, these findings indicate that while the regression models examining each ESG measure individually are the appropriate specifications for testing the hypotheses, the combined specification provides a more comprehensive framework for identifying which ESG measure contributes most to explaining firm value. The combined model further highlights that ESG Score represents the most robust and powerful indicator of ESG performance in explaining firm value in Southeast Asian markets.

6.7 Chapter summary

The regression results reveal several key insights about the relationship between ESG and firm value, measured by both Tobin's Q and Market Valuation. Notably, there are consistent patterns across both measures, as well as some differences.

1. ESG Score:
    - ESG score is positively associated with both firm value metrics (Tobins Q and Market Valuation) for the full sample, size subsample and non SOEs.
    - In the subsample analysis by firm size, the ESG score coefficient is higher in large firms compared to small firms.
    - For the subsample of firm ownership, ESG score is generally associated with increased firm value (Tobisn Q and Market valuation) in the non-SOEs.

2. ESG Permanency
    - ESG permanency is positively associated with both firm value metrics (Tobins Q and market valuation) for the full sample
    - In the subsample analysis by firm size, the ESG permanency coefficient is higher in large firms when the firm value is measured by TobinsQ. But the ESG permanency coefficient is higher in small firms when the firm value is measured by Log Market Valuation.
    - For the subsample of firm ownership, ESG permanency is generally associated with increased firm value (Tobins Q and market valuation) in the non SOEs.
3. ESG controversies
    - Our study do not exhibit any statistically significant relationship in full sample and subsamples
4. When all ESG measures are included together, only ESG Score remains significant, while ESG Permanency loses its explanatory power. This suggests that ESG Score is the most comprehensive and dominant measure, effectively capturing both short-term and long-term aspects of ESG activities.

Next chapter will present our conclusion.

CHAPTER 7. CONCLUSION

7.1 Introduction

This chapter presents conclusion for the dissertation. Section 7.2 provides a summary of the study and findings. Section 7.3 explains implications and contributions of this study. Section 7.4 presents limitations and directions for future research and finally section 7.5 provides summary for the chapter.

7.2 Summary and Findings

This dissertation examines the impact of ESG performance and firm value in South East Asia. This study is motivated by the mixed findings of previous studies in ESG performance and firm value. Some previous studies show positive impact (such as Buchanan et al., (2018); Cho (2022); Hannah et al., (2020); Makhdalena et al., (2023); Noor et al., (2020), some shows negative impact (Di Giuli & Kostovetsky, 2014; Duque-Grisales & Aguilera-Caracuel, 2021; Makni et al., 2009) and some show no effect (Garcia-Castro et al., 2010; Landi & Sciarelli, 2019; Mikołajek-Gocejna, 2024).

To further investigate how ESG performance impact on firm value, our study employ three different measures of ESG performance. First one is ESG score yearly to capture short-term or initial stage ESG activities , second one is ESG permanency that reflect long-term commitment of ESG practices and last one is ESG controversies representing reputational risk due to ESG misconduct. Most of previous literature mentioned above have adopted a single measure of CSR/ESG performance, either only using one-year ESG Performance (such as Buchanan et al. (2018); Servaes & Tamayo, (2013), only ESG permanency (such as Noor et al. (2020) or only

ESG Controversies (such as Aouadi & Marsat (2018). Exploring these three different ESG performance will allow us to understand how different ESG performance shape companies' value.

Advocating stakeholder theory and signalling theory, this study propose three hypothesis. Hypothesis [1] stated that ESG score is positively impact on firm value. Hypothesis [2] stated that ESG permanency is positively impact on firm value and hypothesis [3] stated that ESG controversy is negatively impact on firm value. To test the hypothesis, our research gathered all financial and ESG performance data from Refinitiv Eikon database. It is an open-technology solution for financial markets professionals providing access to industry-leading data, insights and trusted news. Refinitiv Eikon covers approximately 85% of global market capitalization and includes over 630 ESG metrics, with data histories extending back to 2002 (Refinitiv, 2022). There are some previous research that also use ESG data from Refinitiv eikon database such as (Cicchiello et al., 2023; Demers et al., 2021; Srivastava & Anand, 2023; Umar et al., 2022).

Our sample consists of 3118 firm-year observation dated from 2008 – 2024 and covering 6 countries in South-east Asian market, Indonesia, Malaysia, Singapore, Thailand, Philippines and Vietnam. This study employs multivariate regression analysis using Ordinary Least Squares (OLS) with robust standard errors to account for heteroskedasticity. The multivariate regression control for firm size, leverage, ROE and sales growth.

Our finding shows that ESG score is significant and positively associated with firm value, supporting for hypothesis 1. For further analysis, this study split the sample into small and large firms. The finding shows that the positive links between ESG score and firm value is pronounced for both small and large firms but the effect is slightly stronger for large firms than for small firms. It suggests that while ESG practices enhance firm valuation across firm sizes, investors place greater weight on the ESG engagement of large firms than small firms. In large firms, ESG performance is more visible and subject to stronger stakeholder pressures. Therefore, ESG performance useful as a credible signal for legitimacy, long-term stability, and responsible governance. This result aligns with the findings of D'Costa et al. (2024), who find that firm size negatively moderates the relationship between ESG disclosures and firm value.

In term of ownership structure, we find that ESG score is positively linked to firm value in the non SOEs. No significant links in SOEs. Less market discipline and bureaucratic inefficiencies experienced in SOEs may reduce the signalling effect of ESG performance and its relevance to investors. As a result, ESG performance appears to have no correlation with firm value in SOEs. While these institutional characteristics provide the primary explanation for the absence of significant ESG effect in SOEs, it is also important to acknowledge that the SOE subsample contains fewer observations than the non-SOE group, which may reduce statistical power and make it more difficult to detect significant effects.

For hypothesis 2, our finding support hypothesis 2. ESG permanency is significant and positively associated with firm value. Unlike ESG score that positively impact firm value on both small and large firms, ESG permanency has only positive impacts on large firms. This

suggests that long-term and consistent ESG engagement is more visible and more credible in firms with greater resources, stronger disclosure systems, and broader stakeholder scrutiny

Regarding the ownership structure, the result is similar to ESG Score, that ESG permanency is positively impact on firm value only in the non SOEs. This suggests that investors may perceive ESG initiatives in SOEs as driven by regulatory compliance or political mandates rather than by management strategic decision. Consequently, long term ESG engagement loss its signalling function to the market. It is also important to acknowledge that the SOE subsample contains fewer observations than the non-SOE group, which may reduce statistical power of ESG Permanency in firm value.

In hypothesis 3, our finding failed to support hypothesis 3. This study find no statistical evidence that ESG controversy is negatively linked to firm value. There are several reasons to explain why the southeast Asian markets are less punitive for controversial firms. First, ESG enforcement and regulation in many South-east Asian countries are still in the early stages as compared to the developed countries. Hence, institutional legal setting is weak and may result in investor to have less motivation to pressure firm to avoid controversies. Second, limited availability and reliability of ESG-related information may hinder investors to integrate ESG activities into their valuation criteria. In countries such as Indonesia, the Philippines and Vietnam, some investors are often struggle to verify ESG related information as this information may be unreliable or influenced by political motivation (Evershed Sutherland, 2023).

Our robustness test using two stages least regression (2-SLS) method and alternative measure are also consistent with those of the main test. In addition, the sensitivity test analysis that joints ESG Score, ESG Perm and ESG Controversies in the same model shows that when these three measures are included in the same model, only ESG Score remains significant, while ESG permanency loses its explanatory power. The reduced effect of ESG Permanency does not mean that the value-relevance of ESG Permanency disappear, but its effect is embedded within the broader ESG Score. This pattern may reflect the early stage of ESG adoption in Southeast Asia, where long-term ESG practices are still developing. As a result, ESG Score serves as a more comprehensive measure that incorporate the effect of ESG permanency, capturing both short-term and long-term ESG performance.

In conclusion our finding support hypothesis 1 and 2 and reject hypothesis 3. Our findings are robust to sensitivity test including alternative model specifications measurements and potential endogeneity issue due to reverse causality and self-selection bias.

7.3 Contribution and implications.

Contributions

This study makes several contributions to the literature of ESG and firm value by showing that different time horizons and dimension of ESG efforts impact differently on firm value. First, for the time horizon of ESG effort, this research shows that both ESG performance and ESG permanence are positively associated with firm value, but the strength and consistency of these relationships differ depending on firm characteristics. The ESG performance is evidenced to increase firm value regardless firm size. This is indicating that short-term ESG activities may serve as stronger signals of responsible governance for both small and large firm. However,

long-term ESG efforts is consistently showing a positive impact only for large firm. The finding indicates that limited visibility as it happens in small firms hinder investors to observe and reward their consistency. In addition, the limited visibility of small firms may lead to less standardized and less transparent of ESG reporting which often make difficulties for investors to evaluate the credibility of this information.

Further, the result of ESG performance and ESG permanence that evidence only in non SOE firms indicates that these firms have stronger incentives to pursue long-term value creation to attract and retain investors. Whereas SOEs may have less intention to attract investors from the capital market as their ownership is already secured by the government. SOEs are also expected to perform government mission such as employment creation as a result SOEs may place less priorities on ESG initiatives as a strategic value creation.

Second, for the difference dimension of ESG effort, the finding that shows the negative dimension of ESG efforts do not have a statistically significant effect on firm value, indicating that markets may not respond strongly to ESG controversies. This could suggest that, in South Asian markets, ESG enforcement mechanisms are weak, or that investors place greater emphasis on financial performance than on ethical or sustainability issues.

Implications for financial sectors

The findings have practical implications for corporate managements. First, firms should actively adopt ESG practices not only as a compliance reason but also a strategic tool for value creation. The positive impact of both short-term ESG and long-term ESG highlights the

importance of implementing ESG activities regardless firm size and particularly for the non SOEs. Second, while this study fails to evidence negative impact of ESG controversies on firm does not mean that investors are indifferent to controversial news or that firms are permitted to engage in such controversies. Such controversies may impair reputation. Maintaining transparency and building long-term ESG credibility may help mitigate potential fallout from future controversies.

For investors, the positive correlation between ESG practice (both ESG performance and ESG permanency) and firm value suggest that investors in south-east Asia market should incorporate ESG rating into their valuation models and portfolio allocation strategy. This strategy is evidenced to enhance firm value and reduce risk exposure. Although this study finds no evidence that ESG controversies reduce firm value, this does not mean that such controversies have no impact at all. It is possible that market reacts temporally but these reactions are eventually offset as firms fundamental remain stable. Hence it is still important for investor to consider ESG controversies in their portfolio selection strategy.

Overall, the results imply that financial markets in the region are evolving toward integrating ESG as a driver of firm value, but the emphasis lies more on good dimensions of ESG activities rather the bad dimension of ESG activities. For corporate finance, this underscores the need to align capital structure, investment decisions, and risk management with long-term ESG strategies to attract more capital and improve firm valuation.

Implications for public policy.

The finding that ESG Score and ESG Permanency positively contribute to firm value indicates that markets reward firms that consistently engage in sustainability practices. This highlights that ESG disclosures is financially material information. In response, policy makers should move toward mandatory adoption of standardized sustainability disclosure frameworks, such as the IFRS Sustainability Standards or GRI-aligned requirements. Establishing mandatory and uniform disclosure rules would enhance comparability and ensure more reliable reporting.

However, the absence of a significant relationship between ESG controversies and firm value implies that negative ESG events do not meaningfully influence investor assessments. This highlights a structural weakness, when markets fail to penalize companies for environmental misconduct, they may not feel compelled to invest in stronger risk mitigation. Recent environmental disasters in Indonesia have highlighted this issue. One example is the flooding in Sumatera, where factors such as deforestation, land degradation, and weak oversight have been cited as contributing causes. These demonstrate the urgency of strengthening public policy related to environmental protection, land-use regulation, and corporate accountability. Clearer reporting obligations and stronger penalties would ensure that controversies carry appropriate financial consequences, aligning market incentives with long-term environmental protection.

Implication for accounting sector

The finding that ESG Score and ESG Permanency are associated with higher firm value highlights that ESG disclosures is financially material information for investors' decision making. This condition requires accounting professionals to expand their competencies in

sustainability reporting. It also calls for enhanced professional training and incorporating sustainability topics into accounting education.

In addition, the finding that ESG controversies do not exhibit a significant relationship with firm value suggests that negative ESG events may not be consistently captured or reported in current sustainability disclosures. This underscores the need for auditors to strengthen the verification of controversy-related information. Auditors play a critical role in assessing whether ESG data, including environmental and social incidents, is complete, accurate, and free from selective reporting. By enhancing assurance procedures and evaluating the effectiveness of ESG reporting, auditors can help ensure that both positive and negative aspects of ESG performance are presented transparently and reliably.

7.4 Limitations and direction for future research

This study has several limitations. Firstly, although this study has employ 2SLS approach to addresses endogeneity concerns, this approach may still be limited in capturing complex, nonlinear relationships between ESG factors and firm value. Given the non linier relationship is evidenced in Chau et al., (2025) that ESG rating initially increase firm value up to a critical threshold, then declines as firms face rising costs and diminishing returns, before rising again once ESG ratings exceed a second threshold.

Secondly, the potential disadvantage of using third party ESG rating provider is that the ESG rating may be driven by the biases of analysts in their rating assessments. Refinitiv Eikon uses publicly available information such as annual reports, companies' website, stock market fillings

and news source. As there is variety in frameworks and enforcement of ESG disclosure across southeast Asia there may be in some degree difficulty in maintaining comparability of rating across countries. Hence there is a potential limitation on the data quality.

Lastly, although several important factors have been included in the control variables, the findings of ESG and firm value may be driven by omitted variables such as corporate governance quality, media exposure and degree of market competition. Wu et al., (2023) find that effective corporate governance (such as board independence, equity incentive, board gender diversity) can mitigate the negative impact of ESG controversies on firm value. Further, it is argued that competitive pressure influence how company behave toward their ESG activities (Cicchiello et al., 2023). In addition when firms are frequently covered in the media—whether through news reports, social media, or analyst commentary—they face increased public scrutiny, which can influence their ESG strategies (Anita et al., 2023)

Given that this study failed to evidence significant association between ESG controversies and firm value, future research could explore this relationship by introducing moderating variables that may influence the impact of ESG controversies. For instance, media coverage could play a critical role in shaping stakeholder perceptions and market reactions to ESG-related misconduct. Controversies that receive high levels of negative media attention are more likely to damage a firm's reputation and influence investor sentiment hence it could decrease firms value (Anita et al., 2023). Similarly, the level of market competition may also moderate this relationship. A high market competition acts as an effective disciplinary mechanism, discouraging firms to

engage in unethical practices that would increase firms reputation risks, thereby moderating the negative effect of controversies on firm value (Cicchiello et al., 2023).

By accounting for these contextual factors, future studies may uncover conditional effects that help explain why ESG controversies appear to have limited direct impact in Southeast Asia, where regulatory enforcement and stakeholder sensitivity to ESG issues may still be evolving.

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Appendix 1. ESG Pillars in each categories.

Pillars	**Categories**	**Themes**
Environmental	Emission	Emission
		Waste
		Biodiversity
		Environmental management systems
	Innovation	Product Innovation
		Green revenues, research and development (R&D) and capital expenditures (CapEx)
	Resources use	Water
		Energy
		Sustainable packaging
		Environmental supply chain
Social	Community	Community
	Human rights	Human rights
	Product responsibility	Responsible marketing
		Product quality
		Data privacy
	Workforce	Diversity and inclusion
		Career development and training
		Working conditions
		Health and safety
Governance	CSR Strategy	CSR Strategy
		ESG reporting and transparency
	Management	Structure independence, diversity, commitees)
		Compensation
	Shareholders	Shareholders rights
		Takeover defense

Appendix 2. Worked Example: From Raw Indicators to Overall ESG Score

This section presents a worked example to illustrate how Refinitiv calculates the ESG score step by step, starting from raw indicator values through to the final overall ESG score.

Step 1: Raw indicator → Percentile score (0–1)
Suppose we are in the utilities industry and want to calculate the emissions category. One of the raw indicators is CO_2 intensity (negative polarity: lower is better).
Company A reports 0.00005 tons CO_2 per unit.
Out of 11 peer companies, 10 have worse values (higher CO_2), and 1 has the same value.

Formula:

$$\text{score} = \frac{\text{no of companies with worse value} + \frac{\text{no of companies with same value included in the current one}}{2}}{\text{no of companies with a value}}$$

$$= (10 + (1/2)) / 11 = 10.5 / 11 = 0.9545$$

So, for this indicator, Company A's percentile score = 0.95 (≈ 95%). This process is repeated for all indicators within the category and then averaged to form the category score (say, 0.98 in this example).

Step 2: Calculate other category scores
After repeating Step 1 for all indicators, suppose Company A obtains the following category scores:
• Emissions: 0.98
• Resource Use: 0.97
• Innovation: 0.85
• Community: 0.89
• Human Rights: 0.95
• Product Responsibility: 0.92
• Workforce: 0.98
• Management: 0.34
• Shareholders: 0.73
• CSR Strategy: 0.19

Step 3: Apply industry weights using Materiality Matrix)
Weights are determined by Refinitiv's materiality matrix. For the utilities industry, suppose the normalized industry weights are:
• Emissions: 0.15
• Resource Use: 0.15
• Innovation: 0.13
• Community: 0.09
• Human Rights: 0.05
• Product Responsibility: 0.04
• Workforce: 0.13
• Management: 0.034
• Shareholders: 0.05

• CSR Strategy: 0.174
These weights sum to 1.00, ensuring that all categories contribute proportionally to the final ESG score.

Step 4: Multiply category score × industry weight

Category	**Score (0–1)**	**Industry Weight**	**Weighted Contribution**
Emissions	0.98	0.15	0.147
Resource Use	0.97	0.15	0.145
Innovation	0.85	0.13	0.111
Community	0.89	0.09	0.080
Human Rights	0.95	0.05	0.048
Product Responsibility	0.92	0.04	0.037
Workforce	0.98	0.13	0.127
Management	0.34	0.034	0.012
Shareholders	0.73	0.05	0.036
CSR Strategy	0.19	0.174	0.033

Step 5: Aggregate to overall ESG score
Summing all weighted contributions:
0.147 + 0.145 + 0.111 + 0.080 + 0.048 + 0.037 + 0.127 + 0.012 + 0.036 + 0.033 = 0.776
Therefore, the overall ESG Score = 0.776 (77.6/100).

Appendix 3. List of Controversies Topics

Category	Controversies	Description
Community	Anti-competition controversies	Number of controversies published in the media linked to anti-competitive behaviour (e.g., anti-trust and monopoly), price-fixing or kickbacks.
Community	Business-ethics controversies	Number of controversies published in the media linked to business ethics in general, political contributions or bribery and corruption.
Community	Intellectual property controversies	Number of controversies published in the media linked to patents and intellectual property infringements.
Community	Critical countries controversies	Number of controversies published in the media linked to activities in critical, undemocratic countries that do not respect fundamental human rights principles
Community	Public health controversies	Number of controversies published in the media linked to public health or industrial accidents harming the health and safety of third parties (non-employees and non-customers)
Community	Tax fraud controversies	Number of controversies published in the media linked to tax fraud, parallel imports or money laundering
Human rights	Child labour controversies	Number of controversies published in the media linked to use of child labour issues
Human rights	Human rights controversies	Number of controversies published in the media linked to human rights issues
Management	Management compensation controversies count	Number of controversies published in the media linked to high executive or board compensation
Product responsibilities	Consumer controversies	Number of controversies published in the media linked to consumer complaints or dissatisfaction directly linked to the company's products or services
Product responsibilities	Customer health and safety controversies	Number of controversies published in the media linked to consumer health and safety.
Product responsibilities	Privacy controversies	Number of controversies published in the media linked to employee or customer privacy and integrity.

Product responsibilities	Product access controversies	Number of controversies published in the media linked to product access
Product responsibilities	Responsible marketing controversies	Number of controversies published in the media linked to company's marketing practices, such as over-marketing of unhealthy food for vulnerable consumers.
Product responsibilities	Responsible R&D Controversies	Number of controversies published in the media linked to responsible R&D
Resources use	Environmental controversies	Number of controversies related to the environmental impact of the company's operations on natural resources or local communities.
Shareholders	Accounting controversies count	Number of controversies published in the media linked to aggressive or non-transparent accounting issues
Shareholders	Insider dealings controversies	Number of controversies published in the media linked to insider dealings and other share price manipulations
Shareholders	Shareholders rights controversies	Number of controversies published in the media linked to shareholders rights infringements
Workforce	Diversity and opportunity controversies	Number of controversies published in the media linked to workforce diversity and opportunity (e.g., wages, promotions, discrimination and harassment)
Workforce	Employee health and safety controversies	Number of controversies published in the media linked to workforce health and safety.
Workforce	Wages and working conditions controversies	Number of controversies published in the media linked to the company's relations with employees or relating to wages or wage disputes
Workforce	Strikes	Has there has been a strike or an industrial dispute that led to lost working days.

Appendix 4. Example for ESG controversies score calculation

Company name	Market cap	Count of controversies per company	Severity Weight	Value after applying severity weight	Percentile formula applied only for companies with controversies	Controversies score
PSF	Large	0	0,33	0	0	100%
MNO	Mid	1	0,67	0,67	(1+(1/2) /2 = 0,75	75%
ENR	Small	1	1	1	(0+(1/2) /2 = 0,25	25%

The table illustrates the step-by-step calculation of the ESG controversies score. The process begins with identifying the number of controversies associated with each company. Each controversy is then assigned a severity weight, reflecting the seriousness of the issue. Multiplying the count of controversies by the severity weight produces the adjusted controversy value for each firm.

For companies with no controversies, such as PSF, the adjusted value is zero. In this case, the firm is assigned the maximum controversies score of 100%, since its clean record places it at the top of the ranking.

For companies with controversies, the next step involves applying a percentile formula to determine their relative position. For example, company MNO has one controversy with a severity weight of 0.67, resulting in an adjusted value of 0.67. Applying the percentile formula $(1 + (1/2))/2 = 0.75$, the firm's controversies score is 75%.

Similarly, company ENR has one controversy with the maximum severity weight of 1. Its adjusted value is therefore 1. The percentile formula $(0 + (1/2))/2 = 0.25$ assigns the company a controversies score of 25%.

Through this method, firms with fewer or less severe controversies are rewarded with higher scores, while those with more or severe controversies receive lower scores. This scoring ensures comparability across firms of different sizes and provides a consistent way to incorporate controversies into the ESG framework.

Appendix 5. List of companies covered in the sample

No	Identifier	Company Name	GICS Sector Name	Country
1	AALI.JK	Astra Agro Lestari Tbk PT	Consumer Staples	Indonesia
2	AAV.BK	Asia Aviation PCL	Industrials	Thailand
3	ABBA.JK	Mahaka Media Tbk PT	Communication Services	Indonesia
4	ABLE.KL	Able Global Bhd	Consumer Staples	Malaysia
5	ABMM.JK	ABM Investama Tbk PT	Energy	Indonesia
6	AC.PS	Ayala Corp	Industrials	Philippines
7	ACE.BK	Absolute Clean Energy PCL	Utilities	Thailand
8	ACEN.PS	Acen Corp	Utilities	Philippines
9	ACES.JK	Aspirasi Hidup Indonesia Tbk PT	Consumer Discretionary	Indonesia
10	ACOG.KL	ACO Group Bhd	Industrials	Malaysia
11	ACST.JK	Acset Indonusa Tbk PT	Industrials	Indonesia
12	ADBm.BK	Applied DB PCL	Materials	Thailand
13	ADES.JK	Akasha Wira International Tbk PT	Consumer Staples	Indonesia
14	ADHI.JK	Adhi Karya (Persero) Tbk PT	Industrials	Indonesia
15	ADRO.JK	Adaro Energy Indonesia TBK PT	Energy	Indonesia
16	ADVA.KL	Advance Synergy Bhd	Real Estate	Malaysia
17	ADVANC.BK	Advanced Info Service PCL	Communication Services	Thailand
18	ADVE.KL	Adventa Bhd	Health Care	Malaysia
19	AEM.SI	AEM Holdings Ltd	Information Technology	Singapore
20	AEML.KL	Aemulus Holdings Bhd	Information Technology	Malaysia
21	AEOM.KL	AEON CO (M) Bhd	Consumer Discretionary	Malaysia
22	AEV.PS	Aboitiz Equity Ventures Inc	Industrials	Philippines
23	AGI.PS	Alliance Global Group Inc	Industrials	Philippines
24	AGXG.KL	AGX Group Bhd	Industrials	Malaysia
25	AH.BK	AAPICO Hitech PCL	Consumer Discretionary	Thailand
26	AIMA.SI	AIMS APAC REIT	Real Estate	Singapore
27	AIMD.KL	Advance Information Marketing Bhd	Information Technology	Malaysia
28	AIMF.KL	AIMFLEX Bhd	Information Technology	Malaysia
29	AIRX.KL	AirAsia X Bhd	Industrials	Malaysia
30	AJIN.KL	Ajinomoto (Malaysia) Bhd	Consumer Staples	Malaysia
31	AJIY.KL	Ajiya Bhd	Materials	Malaysia
32	AKPm.BK	Akkhie Prakarn Public Company Limited	Industrials	Thailand
33	AKRA.JK	AKR Corporindo Tbk PT	Energy	Indonesia
34	ALDR.KL	Aldrich Resources Bhd	Information Technology	Malaysia
35	ALI.PS	Ayala Land Inc	Real Estate	Philippines
36	AMATA.BK	Amata Corporation PCL	Real Estate	Thailand
37	AMATAV.BK	Amata VN PCL	Real Estate	Thailand
38	AMEE.KL	AME Elite Consortium Bhd	Industrials	Malaysia
39	AMER.KL	AME Real Estate Investment Trust	Real Estate	Malaysia
40	AMMN.JK	Amman Mineral Internasional Tbk PT	Materials	Indonesia
41	AMRT.JK	Sumber Alfaria Trijaya Tbk PT	Consumer Staples	Indonesia
42	AMRY.KL	AmanahRaya Real Estate Investment Trust	Real Estate	Malaysia
43	ANCM.KL	Ancom Nylex Bhd	Materials	Malaysia
44	ANCO.KL	Ancom Logistics Bhd	Industrials	Malaysia
45	ANEK.KL	Aneka Jaringan Holdings Bhd	Communication Services	Malaysia
46	ANNJ.KL	Ann Joo Resources Bhd	Materials	Malaysia
47	ANTM.JK	Aneka Tambang Tbk PT	Materials	Indonesia
48	AOT.BK	Airports of Thailand PCL	Industrials	Thailand
49	AP.BK	AP Thailand PCL	Real Estate	Thailand
50	AP.PS	Aboitiz Power Corp	Utilities	Philippines
51	APER.KL	Apex Healthcare Bhd	Health Care	Malaysia
52	APMA.KL	APM Automotive Holdings Bhd	Consumer Discretionary	Malaysia
53	APPA.KL	AppAsia Bhd	Information Technology	Malaysia
54	ASIAN.BK	Asian Sea Corporation PCL	Consumer Staples	Thailand
55	ASII.JK	Astra International Tbk PT	Consumer Discretionary	Indonesia

56	ASPY.KL	Asia Poly Holdings Bhd	Materials	Malaysia
57	ASRI.JK	ALAM SUTERA REALTY Tbk PT	Real Estate	Indonesia
58	ASSA.JK	Adi Sarana Armada Tbk PT	Industrials	Indonesia
59	ASTR.KL	Astro Malaysia Holdings Bhd	Communication Services	Malaysia
60	ASW.BK	Assetwise PCL	Real Estate	Thailand
61	ATAI.KL	ATA IMS Bhd	Information Technology	Malaysia
62	AURE.KL	Aurelius Technologies Bhd	Information Technology	Malaysia
63	AUTC.KL	AutoCount Dotcom Bhd	Information Technology	Malaysia
64	AVAL.KL	Avaland Bhd	Real Estate	Malaysia
65	AVIA.JK	Avia Avian PT Tbk	Materials	Indonesia
66	AWAN.KL	AwanBiru Technology Bhd	Consumer Discretionary	Malaysia
67	AWC.BK	Asset World Corp PCL	Consumer Discretionary	Thailand
68	AXIA.KL	Axiata Group Bhd	Communication Services	Malaysia
69	AXSR.KL	Axis Real Estate Investment Trust	Real Estate	Malaysia
70	AZRB.KL	Ahmad Zaki Resources Bhd	Industrials	Malaysia
71	BA.BK	Bangkok Airways PCL	Industrials	Thailand
72	BAFS.BK	Bangkok Aviation Fuel Services PCL	Industrials	Thailand
73	BANPU.BK	Banpu PCL	Energy	Thailand
74	BATO.KL	British American Tobacco (Malaysia) Bhd	Consumer Staples	Malaysia
75	BCG.HM	Bamboo Capital Group JSC	Industrials	Vietnam
76	BCH.BK	Bangkok Chain Hospital PCL	Health Care	Thailand
77	BCMA.KL	BCM Alliance Bhd	Information Technology	Malaysia
78	BCP.BK	Bangchak Corporation PCL	Energy	Thailand
79	BCPG.BK	BCPG PCL	Utilities	Thailand
80	BDBS.KL	Bina Darulaman Bhd	Real Estate	Malaysia
81	BDMS.BK	Bangkok Dusit Medical Services PCL	Health Care	Thailand
82	BEC.BK	BEC World PCL	Communication Services	Thailand
83	BEM.BK	Bangkok Expressway and Metro PCL	Industrials	Thailand
84	BERA.KL	Bermaz Auto Bhd	Consumer Discretionary	Malaysia
85	BESH.KL	Beshom Holdings Bhd	Consumer Discretionary	Malaysia
86	BGC.BK	BG Container Glass PCL	Materials	Thailand
87	BGRIM.BK	BGrimm Power PCL	Utilities	Thailand
88	BGRO.KL	Berjaya Corporation Bhd	Industrials	Malaysia
89	BH.BK	Bumrungrad Hospital PCL	Health Care	Thailand
90	BIOA.KL	Bioalpha Holdings Bhd	Health Care	Malaysia
91	BJC.BK	Berli Jucker PCL	Consumer Staples	Thailand
92	BLAD.KL	Berjaya Land Bhd	Real Estate	Malaysia
93	BLOOM.PS	Bloomberry Resorts Corp	Consumer Discretionary	Philippines
94	BMGR.KL	BM Greentech Bhd	Industrials	Malaysia
95	BMTR.JK	Global Mediacom Tbk PT	Communication Services	Indonesia
96	BONI.KL	Bonia Corporation Bhd	Consumer Discretionary	Malaysia
97	BPAC.KL	Bright Packaging Industry Bhd	Materials	Malaysia
98	BPP.BK	Banpu Power PCL	Utilities	Thailand
99	BPPL.KL	BP Plastics Holding Bhd	Materials	Malaysia
100	BRPT.JK	Barito Pacific Tbk PT	Materials	Indonesia
101	BSDE.JK	Bumi Serpong Damai Tbk PT	Real Estate	Indonesia
102	BSES.SI	Bukit Sembawang Estates Ltd	Real Estate	Singapore
103	BSRC.BK	Bangchak Sriracha PCL	Energy	Thailand
104	BTS.BK	BTS Group Holdings PCL	Industrials	Thailand
105	BUAB.KL	Bumi Armada Bhd	Energy	Malaysia
106	BUMI.JK	Bumi Resources Tbk PT	Energy	Indonesia
107	BUMI.SI	Bumitama Agri Ltd	Consumer Staples	Singapore
108	BWG.BK	Better World Green PCL	Industrials	Thailand
109	BYAN.JK	Bayan Resources Tbk PT	Energy	Indonesia
110	CABC.KL	CAB Cakaran Corporation Bhd	Consumer Staples	Malaysia
111	CAPA.SI	CapitaLand China Trust	Real Estate	Singapore
112	CAPC.SI	CapitaLand India Trust	Real Estate	Singapore
113	CAPD.SI	CapitaLand Ascendas REIT	Real Estate	Singapore

114	CAPI.KL	Capital A Berhad	Industrials	Malaysia
115	CAPN.SI	Capitaland Investment Ltd	Real Estate	Singapore
116	CAPS.SI	CapitaLand Ascott Trust	Real Estate	Singapore
117	CARM.KL	Carimin Petroleum Bhd	Energy	Malaysia
118	CATH.KL	Catcha Digital Bhd	Communication Services	Malaysia
119	CBG.BK	Carabao Group PCL	Consumer Staples	Thailand
120	CBIP.KL	CB Industrial Product Holding Bhd	Industrials	Malaysia
121	CBMS.KL	Carlsberg Brewery Malaysia Bhd	Consumer Staples	Malaysia
122	CCKH.KL	CCK Consolidated Holdings Bhd	Consumer Staples	Malaysia
123	CDLT.SI	CDL Hospitality Trusts	Real Estate	Singapore
124	CELC.KL	CelcomDigi Bhd	Communication Services	Malaysia
125	CENTEL.BK	Central Plaza Hotel PCL	Consumer Discretionary	Thailand
126	CEWL.SI	China Everbright Water Ltd	Utilities	Singapore
127	CFRESH.BK	Seafresh Industry PCL	Consumer Staples	Thailand
128	CHG.BK	Chularat Hospital PCL	Health Care	Thailand
129	CHIN.KL	Chin Hin Group Property Bhd	Industrials	Malaysia
130	CHIU.KL	Chin Hin Group Bhd	Industrials	Malaysia
131	CITA.KL	Citaglobal Bhd	Industrials	Malaysia
132	CITR.KL	Citra Nusa Holdings Bhd	Real Estate	Malaysia
133	CJCE.KL	CJ Century Logistics Holdings Bhd	Industrials	Malaysia
134	CK.BK	CH Karnchang PCL	Industrials	Thailand
135	CKP.BK	CK Power PCL	Utilities	Thailand
136	CMDG.SI	Comfortdelgro Corporation Ltd	Industrials	Singapore
137	CMLT.SI	CapitaLand Integrated Commercial Trust	Real Estate	Singapore
138	CMRY.JK	Cisarua Mountain Dairy Tbk PT	Consumer Staples	Indonesia
139	CNAO.SI	China Aviation Oil (Singapore) Corporation Ltd	Energy	Singapore
140	CNON.KL	Can-One Bhd	Consumer Staples	Malaysia
141	CNVRG.PS	Converge Information and Communications Technology Solutions Inc	Communication Services	Philippines
142	COM7.BK	Com7 PCL	Consumer Discretionary	Thailand
143	COMF.KL	Comfort Gloves Bhd	Health Care	Malaysia
144	CORA.KL	Coraza Integrated Technology Bhd	Information Technology	Malaysia
145	COSC.SI	Cosco Shipping International (Singapore) Co Ltd	Industrials	Singapore
146	CPALL.BK	CP All PCL	Consumer Staples	Thailand
147	CPF.BK	Charoen Pokphand Foods PCL	Consumer Staples	Thailand
148	CPIN.JK	Charoen Pokphand Indonesia Tbk PT	Consumer Staples	Indonesia
149	CPN.BK	Central Pattana PCL	Real Estate	Thailand
150	CRC.BK	Central Retail Corporation PCL	Consumer Discretionary	Thailand
151	CROM.SI	Cromwell European Real Estate Investment Trust	Real Estate	Singapore
152	CSC.BK	Crown Seal PCL	Materials	Thailand
153	CSES.SI	CSE Global Ltd	Information Technology	Singapore
154	CSTH.KL	CSC Steel Holdings Bhd	Materials	Malaysia
155	CTAL.KL	Coastal Contracts Bhd	Industrials	Malaysia
156	CTDM.SI	City Developments Ltd	Real Estate	Singapore
157	CTOS.KL	CTOS Digital Bhd	Information Technology	Malaysia
158	CTPB.KL	Chin Teck Plantations Bhd	Consumer Staples	Malaysia
159	CTRA.JK	Ciputra Development Tbk PT	Real Estate	Indonesia
160	CWHB.KL	Chin Well Holdings Bhd	Industrials	Malaysia
161	DATA.KL	Dataprep Holdings Bhd	Information Technology	Malaysia
162	DAYT.KL	Daythree Digital Bhd	Information Technology	Malaysia
163	DEHB.KL	Dayang Enterprise Holdings Bhd	Energy	Malaysia
164	DELF.SI	Delfi Ltd	Consumer Staples	Singapore
165	DELM.KL	DKSH Holdings (Malaysia) Bhd	Industrials	Malaysia
166	DELTA.BK	Delta Electronics Thailand PCL	Information Technology	Thailand
167	DFIR.SI	DFI Retail Group Holdings Ltd	Consumer Staples	Singapore
168	DGBA.KL	DGB Asia Bhd	Consumer Discretionary	Malaysia
169	DIAL.KL	Dialog Group Bhd	Energy	Malaysia
170	DIFu.BK	Digital Telecommunications Infrastructure Fund	Real Estate	Thailand
171	DIG.HM	Development Investment Construction JSC	Industrials	Vietnam

172	DLEU.KL	Deleum Bhd	Energy	Malaysia
173	DMC.PS	DMCI Holdings Inc	Industrials	Philippines
174	DMW.PS	D.M. Wenceslao & Associates Inc	Industrials	Philippines
175	DOHOME.BK	Dohome PCL	Consumer Discretionary	Thailand
176	DOVT.KL	D & O Green Technologies Bhd	Information Technology	Malaysia
177	DRBM.KL	DRB-HICOM Bhd	Consumer Discretionary	Malaysia
178	DRT.BK	Diamond Building Products PCL	Materials	Thailand
179	DSOM.KL	Digi.Com Bhd	Communication Services	Malaysia
180	DTAC.BK	Total Access Communication PCL	Communication Services	Thailand
181	DUFU.KL	Dufu Technology Corp Bhd	Industrials	Malaysia
182	DUOP.KL	Duopharma Biotech Bhd	Health Care	Malaysia
183	DUTA.KL	DutaLand Bhd	Real Estate	Malaysia
184	DXG.HM	Dat Xanh Group JSC	Real Estate	Vietnam
185	EA.BK	Energy Absolute PCL	Utilities	Thailand
186	EASTW.BK	Eastern Water Resources Development and Management PCL	Utilities	Thailand
187	ECAI.KL	ECA Integrated Solution Bhd	Industrials	Malaysia
188	ECOH.KL	Econpile Holdings Bhd	Industrials	Malaysia
189	ECOM.KL	Ecomate Holdings Bhd	Consumer Discretionary	Malaysia
190	ECOR.KL	Econframe Bhd	Industrials	Malaysia
191	ECOW.KL	Eco World Development Group Bhd	Real Estate	Malaysia
192	EDUS.KL	Eduspec Holdings Bhd	Consumer Discretionary	Malaysia
193	EGCM.KL	EG Industries Bhd	Industrials	Malaysia
194	EGCO.BK	Electricity Generating PCL	Utilities	Thailand
195	EKOV.KL	Ekovest Bhd	Industrials	Malaysia
196	ELSR.KL	Elsoft Research Bhd	Information Technology	Malaysia
197	EMI.PS	Emperador Inc	Consumer Staples	Philippines
198	EMTK.JK	Elang Mahkota Teknologi Tbk PT	Communication Services	Indonesia
199	ENOB.KL	Eastern & Oriental Bhd	Real Estate	Malaysia
200	EPG.BK	Eastern Polymer Group PCL	Materials	Thailand
201	EPMB.KL	EP Manufacturing Bhd	Industrials	Malaysia
202	ERW.BK	Erawan Group PCL	Consumer Discretionary	Thailand
203	ESCB.KL	Eversendai Corporation Bhd	Industrials	Malaysia
204	ESCM.KL	ES Ceramics Technology Bhd	Materials	Malaysia
205	ESRE.SI	ESR-REIT	Real Estate	Singapore
206	ESRO.SI	ESR-Logos REIT	Real Estate	Singapore
207	ESSO.BK	Esso Thailand PCL	Energy	Thailand
208	ETC.BK	Earth Tech Environment PCL	Industrials	Thailand
209	ETEX.KL	Engtex Group Bhd	Industrials	Malaysia
210	EVES.KL	Eversafe Rubber Bhd	Materials	Malaysia
211	EVGN.KL	Evergreen Fibreboard Bhd	Materials	Malaysia
212	EXCL.JK	XL Axiata Tbk PT	Communication Services	Indonesia
213	FAEH.SI	Far East Hospitality Trust	Real Estate	Singapore
214	FAST.KL	Fast Energy Holdings Bhd	Energy	Malaysia
215	FBGH.KL	FBG Holdings Bhd	Industrials	Malaysia
216	FCRT.SI	Frasers Centrepoint Trust	Real Estate	Singapore
217	FGVH.KL	FGV Holdings Bhd	Consumer Staples	Malaysia
218	FOPT.KL	Focus Point Holdings Bhd	Consumer Discretionary	Malaysia
219	FOUN.KL	FoundPac Group Bhd	Information Technology	Malaysia
220	FPIB.KL	Formosa Prosonic Industries Bhd	Consumer Discretionary	Malaysia
221	FPT.BK	Frasers Property (Thailand) PCL	Real Estate	Thailand
222	FPT.HM	FPT Corp	Information Technology	Vietnam
223	FRAE.SI	Frasers Logistics & Commercial Trust	Real Estate	Singapore
224	FRAS.KL	Fraser & Neave Holdings Bhd	Consumer Staples	Malaysia
225	FRET.SI	First Real Estate Investment Trust	Real Estate	Singapore
226	FRHO.SI	Frasers Hospitality Trust	Real Estate	Singapore
227	FRKN.KL	Frontken Corporation Bhd	Industrials	Malaysia
228	FRLD.SI	First Resources Ltd	Consumer Staples	Singapore
229	FRNM.SI	Fraser and Neave Ltd	Consumer Staples	Singapore

230	FRPL.SI	Frasers Property Ltd	Real Estate	Singapore
231	FRT.HM	FPT Digital Retail JSC	Consumer Discretionary	Vietnam
232	FSCA.SI	First Sponsor Group Ltd	Real Estate	Singapore
233	FVCO.KL	Favelle Favco Bhd	Industrials	Malaysia
234	GADA.KL	Gadang Holdings Bhd	Industrials	Malaysia
235	GAGR.SI	Golden Agri-Resources Ltd	Consumer Staples	Singapore
236	GAMU.KL	Gamuda Bhd	Industrials	Malaysia
237	GAQR.KL	Gabungan AQRS Bhd	Industrials	Malaysia
238	GDBH.KL	GDB Holdings Bhd	Industrials	Malaysia
239	GDEX.KL	Gdex Bhd	Industrials	Malaysia
240	GENM.KL	Genting Malaysia Bhd	Consumer Discretionary	Malaysia
241	GENP.KL	Genting Plantations Bhd	Consumer Staples	Malaysia
242	GENS.SI	Genting Singapore Ltd	Consumer Discretionary	Singapore
243	GENT.KL	Genting Bhd	Consumer Discretionary	Malaysia
244	GESH.KL	GE-SHEN Corporation Bhd	Information Technology	Malaysia
245	GEX.HM	Gelex Group JSC	Industrials	Vietnam
246	GFPT.BK	GFPT PCL	Consumer Staples	Thailand
247	GGRM.JK	Gudang Garam Tbk PT	Consumer Staples	Indonesia
248	GJTL.JK	Gajah Tunggal Tbk PT	Consumer Discretionary	Indonesia
249	GKMS.KL	George Kent (Malaysia) Bhd	Industrials	Malaysia
250	GLO.PS	Globe Telecom Inc	Communication Services	Philippines
251	GLOBAL.BK	Siam Global House PCL	Consumer Discretionary	Thailand
252	GNCH.KL	Guan Chong Bhd	Consumer Staples	Malaysia
253	GNIC.KL	Globetronics Technology Bhd	Information Technology	Malaysia
254	GOLD.KL	Golden Land Bhd	Real Estate	Malaysia
255	GOOD.JK	Garudafood Putra Putri Jaya Tbk PT	Consumer Staples	Indonesia
256	GOPK.KL	Gopeng Bhd	Materials	Malaysia
257	GOTO.JK	GoTo Gojek Tokopedia PT Tbk	Communication Services	Indonesia
258	GPSC.BK	Global Power Synergy PCL	Utilities	Thailand
259	GREA.KL	Greatech Technology Bhd	Information Technology	Malaysia
260	GTCAP.PS	GT Capital Holdings Inc	Industrials	Philippines
261	GULF.BK	Gulf Energy Development PCL	Utilities	Thailand
262	GUNKUL.BK	Gunkul Engineering PCL	Utilities	Thailand
263	GUOC.SI	GuocoLand Ltd	Real Estate	Singapore
264	HANA.BK	Hana Microelectronics PCL	Information Technology	Thailand
265	HAPP.KL	Hap Seng Plantations Holdings Bhd	Consumer Staples	Malaysia
266	HAPS.KL	Hap Seng Consolidated Bhd	Industrials	Malaysia
267	HARR.KL	Harbour-Link Group Bhd	Industrials	Malaysia
268	HBC.HNO	Hoa Binh Construction Group JSC	Industrials	Vietnam
269	HBEE.SI	Ho Bee Land Ltd	Real Estate	Singapore
270	HBGL.KL	HB Global Ltd	Industrials	Malaysia
271	HEIN.KL	Heineken Malaysia Bhd	Consumer Staples	Malaysia
272	HEKR.KL	Hektar Real Estate Investment Trust	Real Estate	Malaysia
273	HENY.KL	Hengyuan Refining Company Bhd	Energy	Malaysia
274	HEVE.KL	HeveaBoard Bhd	Materials	Malaysia
275	HEXE.KL	Hextar Technologies Solutions Bhd	Information Technology	Malaysia
276	HEXI.KL	Hextar Retail Bhd	Consumer Discretionary	Malaysia
277	HEXR.KL	Hextar Healthcare Bhd	Consumer Staples	Malaysia
278	HEXT.KL	Hextar Global Bhd	Materials	Malaysia
279	HHCS.KL	Ho Hup Construction Company Bhd	Industrials	Malaysia
280	HHRG.KL	HHRG Bhd	Industrials	Malaysia
281	HIAP.KL	Hiap Huat Holdings Bhd	Industrials	Malaysia
282	HIBI.KL	Hibiscus Petroleum Bhd	Energy	Malaysia
283	HKLD.SI	Hongkong Land Holdings Ltd	Real Estate	Singapore
284	HLIB.KL	Hong Leong Industries Bhd	Industrials	Malaysia
285	HLTG.KL	HLT Global Bhd	Industrials	Malaysia
286	HMPRO.BK	Home Product Center PCL	Consumer Discretionary	Thailand
287	HMSP.JK	Hanjaya Mandala Sampoerna Tbk PT	Consumer Staples	Indonesia

288	HOME.KL	Homeritz Corporation Bhd	Consumer Discretionary	Malaysia
289	HOWA.KL	Ho Wah Genting Bhd	Industrials	Malaysia
290	HPAR.SI	Haw Par Corporation Ltd	Health Care	Singapore
291	HPG.HM	Hoa Phat Group JSC	Materials	Vietnam
292	HPHT.SI	Hutchison Port Holdings Trust	Industrials	Singapore
293	HPMT.KL	HPMT Holdings Bhd	Industrials	Malaysia
294	HPPH.KL	HPP Holdings Bhd	Industrials	Malaysia
295	HPPS.SI	Hotel Properties Ltd	Consumer Discretionary	Singapore
296	HSIB.KL	Hup Seng Industries Bhd	Consumer Staples	Malaysia
297	HTC.BK	Haad Thip PCL	Consumer Staples	Thailand
298	HTHB.KL	Hartalega Holdings Bhd	Health Care	Malaysia
299	HTVE.KL	Hiap Teck Venture Bhd	Materials	Malaysia
300	HUMC.KL	Hume Cement Industries Bhd	Materials	Malaysia
301	HVN.HM	Vietnam Airlines JSC	Industrials	Vietnam
302	IBHD.KL	I-Bhd	Real Estate	Malaysia
303	ICBP.JK	Indofood CBP Sukses Makmur Tbk PT	Consumer Staples	Indonesia
304	ICT.PS	International Container Terminal Services Inc	Industrials	Philippines
305	IFCA.KL	IFCA MSC Bhd	Industrials	Malaysia
306	IGRE.KL	IGB Real Estate Investment Trust	Real Estate	Malaysia
307	IHHH.KL	IHH Healthcare Bhd	Health Care	Malaysia
308	III.BK	Triple i Logistics PCL	Industrials	Thailand
309	IJMS.KL	IJM Corporation Bhd	Industrials	Malaysia
310	ILINK.BK	Interlink Communication PCL	Information Technology	Thailand
311	IMSP.KL	Imaspro Corporation Bhd	Industrials	Malaysia
312	INAR.KL	Inari Amertron Bhd	Information Technology	Malaysia
313	INCO.JK	Vale Indonesia Tbk PT	Materials	Indonesia
314	INDF.JK	Indofood Sukses Makmur Tbk PT	Consumer Staples	Indonesia
315	INKP.JK	Indah Kiat Pulp & Paper Tbk PT	Materials	Indonesia
316	INNA.KL	InNature Bhd	Consumer Discretionary	Malaysia
317	INNO.KL	Innoprise Plantations Bhd	Consumer Staples	Malaysia
318	INNY.KL	Innity Corporation Bhd	Communication Services	Malaysia
319	INTP.JK	Indocement Tunggal Prakarsa Tbk PT	Materials	Indonesia
320	INTUCH.BK	Intouch Holdings PCL	Communication Services	Thailand
321	IOIB.KL	IOI Corporation Bhd	Consumer Staples	Malaysia
322	IOIP.KL	IOI Properties Group Bhd	Real Estate	Malaysia
323	IRC.BK	Inoue Rubber Thailand PCL	Consumer Discretionary	Thailand
324	IRPC.BK	IRPC PCL	Energy	Thailand
325	ISAT.JK	Indosat Tbk PT	Communication Services	Indonesia
326	ITEL.BK	Interlink Telecom PCL	Communication Services	Thailand
327	ITMA.KL	ITMAX System Bhd	Information Technology	Malaysia
328	ITMG.JK	Indo Tambangraya Megah Tbk PT	Energy	Indonesia
329	IVL.BK	Indorama Ventures PCL	Materials	Thailand
330	IWCI.KL	Iskandar Waterfront City Bhd	Real Estate	Malaysia
331	JAPF.SI	Japfa Ltd	Consumer Staples	Singapore
332	JARD.SI	Jardine Matheson Holdings Ltd	Industrials	Singapore
333	JAS.BK	Jasmine International PCL	Communication Services	Thailand
334	JAYC.KL	Jaycorp Bhd	Industrials	Malaysia
335	JCYC.SI	Jardine Cycle & Carriage Ltd	Industrials	Singapore
336	JCYI.KL	JCY International Bhd	Information Technology	Malaysia
337	JENT.KL	Jentayu Sustainables Bhd	Industrials	Malaysia
338	JFC.PS	Jollibee Foods Corp	Consumer Discretionary	Philippines
339	JFTB.KL	JF Technology Bhd	Information Technology	Malaysia
340	JGS.PS	JG Summit Holdings Inc	Industrials	Philippines
341	JHMC.KL	JHM Consolidation Bhd	Information Technology	Malaysia
342	JMART.BK	Jaymart Group Holdings PCL	Information Technology	Thailand
343	JPFA.JK	Japfa Comfeed Indonesia Tbk PT	Consumer Staples	Indonesia
344	JSMR.JK	Jasa Marga (Persero) Tbk PT	Industrials	Indonesia
345	JTIA.KL	Jaya Tiasa Holdings Bhd	Materials	Malaysia

346	JTS.BK	Jasmine Technology Solution PCL	Information Technology	Thailand
347	KARE.KL	Karex Bhd	Consumer Staples	Malaysia
348	KASA.SI	Keppel REIT	Real Estate	Singapore
349	KBC.HM	Kinhbac City Development Holding Corp	Real Estate	Vietnam
350	KCE.BK	KCE Electronics PCL	Information Technology	Thailand
351	KELG.KL	Kelington Group Bhd	Industrials	Malaysia
352	KEPE.SI	Keppel DC REIT	Real Estate	Singapore
353	KEPL.SI	Keppel Infrastructure Trust	Materials	Singapore
354	KESM.KL	KESM Industries Bhd	Information Technology	Malaysia
355	KEX.BK	KEX Express (Thailand) PCL	Industrials	Thailand
356	KIMI.KL	Kim Hin Joo (Malaysia) Bhd	Consumer Staples	Malaysia
357	KIML.KL	Kim Loong Resources Bhd	Consumer Staples	Malaysia
358	KINE.KL	Kinergy Advancement Bhd	Information Technology	Malaysia
359	KIPR.KL	KIP Real Estate Investment Trust	Real Estate	Malaysia
360	KKBE.KL	KKB Engineering Berhad	Industrials	Malaysia
361	KLBF.JK	Kalbe Farma Tbk PT	Health Care	Indonesia
362	KLCC.KL	KLCCP Stapled Group	Real Estate	Malaysia
363	KLKK.KL	Kuala Lumpur Kepong Bhd	Consumer Staples	Malaysia
364	KOBA.KL	Kobay Technology Bhd	Information Technology	Malaysia
365	KONE.KL	K-One Technology Bhd	Information Technology	Malaysia
366	KPJH.KL	KPJ Healthcare Bhd	Health Care	Malaysia
367	KPLM.SI	Keppel Ltd	Industrials	Singapore
368	KPSB.KL	Kumpulan Perangsang Selangor Bhd	Industrials	Malaysia
369	KREJ.KL	Kerjaya Prospek Group Bhd	Industrials	Malaysia
370	KREN.JK	Quantum Clovera Investama Tbk PT	Information Technology	Indonesia
371	KRIB.KL	Kossan Rubber Industries Bhd	Health Care	Malaysia
372	KSL.BK	Khon Kaen Sugar Industry PCL	Consumer Staples	Thailand
373	KSLH.KL	KSL Holdings Bhd	Real Estate	Malaysia
374	KUBM.KL	KUB Malaysia Bhd	Energy	Malaysia
375	KWNF.KL	Kawan Food Bhd	Consumer Staples	Malaysia
376	LAND.KL	Land & General Bhd	Real Estate	Malaysia
377	LBSB.KL	Lbs Bina Group Bhd	Real Estate	Malaysia
378	LCBH.KL	Luxchem Corporation Bhd	Industrials	Malaysia
379	LEOG.KL	Leong Hup International Bhd	Consumer Staples	Malaysia
380	LEON.KL	Leon Fuat Bhd	Materials	Malaysia
381	LGMS.KL	LGMS Bhd	Industrials	Malaysia
382	LH.BK	Land and Houses PCL	Real Estate	Thailand
383	LHEN.KL	Lii Hen Industries Bhd	Consumer Discretionary	Malaysia
384	LIAN.KL	Lianson Fleet Group Berhad	Industrials	Malaysia
385	LINK.JK	Link Net Tbk PT	Communication Services	Indonesia
386	LLBM.KL	Lion Industries Corporation Bhd	Materials	Malaysia
387	LOTT.KL	Lotte Chemical Titan Holding Bhd	Materials	Malaysia
388	LPKR.JK	Lippo Karawaci Tbk PT	Real Estate	Indonesia
389	LPN.BK	LPN Development PCL	Real Estate	Thailand
390	LPPF.JK	Matahari Department Store Tbk PT	Consumer Discretionary	Indonesia
391	LTER.KL	Luster Industries Bhd	Materials	Malaysia
392	LTG.PS	LT Group Inc	Industrials	Philippines
393	MACT.SI	Mapletree Pan Asia Commercial Trust	Real Estate	Singapore
394	MAGM.KL	Magnum Bhd	Consumer Discretionary	Malaysia
395	MAHB.KL	Malaysia Airports Holdings Bhd	Industrials	Malaysia
396	MAHS.KL	Mah Sing Group Bhd	Real Estate	Malaysia
397	MAJOR.BK	Major Cineplex Group PCL	Communication Services	Thailand
398	MAKRO.BK	Siam Makro PCL	Consumer Staples	Thailand
399	MALA.KL	Malakoff Corp Bhd	Utilities	Malaysia
400	MALY.KL	Malayan Cement Bhd	Materials	Malaysia
401	MANU.SI	Manulife US Real Estate Investment Trust	Real Estate	Singapore
402	MAPI.SI	Mapletree Industrial Trust	Real Estate	Singapore
403	MAPL.SI	Mapletree Logistics Trust	Real Estate	Singapore

404	MATR.KL	Matrix Concepts Holdings Bhd	Real Estate	Malaysia
405	MAYB.KL	Maybulk Bhd	Industrials	Malaysia
406	MBMR.KL	MBM Resources Bhd	Consumer Discretionary	Malaysia
407	MC.BK	MC Group PCL	Industrials	Thailand
408	MCLN.KL	MClean Technologies Bhd	Industrials	Malaysia
409	MCRK.KL	Microlink Solutions Bhd	Information Technology	Malaysia
410	MDKA.JK	Merdeka Copper Gold Tbk PT	Materials	Indonesia
411	MEDC.JK	Medco Energi Internasional Tbk PT	Energy	Indonesia
412	MEG.PS	Megaworld Corp	Real Estate	Philippines
413	MEGA.BK	Mega Lifesciences PCL	Health Care	Thailand
414	MEGA.KL	Mega First Corporation Bhd	Utilities	Malaysia
415	MER.PS	Manila Electric Co	Utilities	Philippines
416	MEST.KL	Mestron Holdings Bhd	Industrials	Malaysia
417	METR.KL	MKH Bhd	Real Estate	Malaysia
418	MFMS.KL	Malayan Flour Mills Bhd	Consumer Staples	Malaysia
419	MGBB.KL	MGB Bhd	Industrials	Malaysia
420	MHEB.KL	Malaysia Marine and Heavy Engineering Holdings Bhd	Energy	Malaysia
421	MIKB.KL	Mikro MSC Bhd	Information Technology	Malaysia
422	MILU.KL	Milux Corporation Bhd	Materials	Malaysia
423	MINT.BK	Minor International PCL	Consumer Discretionary	Thailand
424	MISC.KL	Misc Bhd	Industrials	Malaysia
425	MITE.KL	MI Technovation Bhd	Information Technology	Malaysia
426	MITR.KL	Mitrajaya Holdings Bhd	Industrials	Malaysia
427	MLTO.KL	Malton Bhd	Real Estate	Malaysia
428	MMMG.KL	MMM Group Bhd	Industrials	Malaysia
429	MNCN.JK	Media Nusantara Citra Tbk PT	Communication Services	Indonesia
430	MNHL.KL	MN Holdings Bhd	Industrials	Malaysia
431	MOIL.SI	Mandarin Oriental International Ltd	Consumer Discretionary	Singapore
432	MONDE.PS	Monde Nissin Corp	Consumer Staples	Philippines
433	MOONGm.BK	Moong Pattana International PCL	Consumer Discretionary	Thailand
434	MPIM.KL	Malaysian Pacific Industries Bhd	Information Technology	Malaysia
435	MPRM.KL	Media Prima Bhd	Communication Services	Malaysia
436	MRDI.KL	Mr DIY Group (M) Bhd	Consumer Discretionary	Malaysia
437	MSC.BK	Metro Systems Corporation PCL	Information Technology	Thailand
438	MSCB.KL	Malaysia Smelting Corporation Bhd	Materials	Malaysia
439	MSMH.KL	MSM Malaysia Holdings Bhd	Consumer Staples	Malaysia
440	MSN.HM	Masan Group Corp	Consumer Staples	Vietnam
441	MSWK.KL	Malaysia Steel Works (KL) Bhd	Materials	Malaysia
442	MTDL.JK	Metrodata Electronics Tbk PT	Information Technology	Indonesia
443	MTEL.JK	PT Dayamitra Telekomunikasi Tbk	Communication Services	Indonesia
444	MTOU.KL	mTouche Technology Bhd	Information Technology	Malaysia
445	MUDA.KL	Muda Holdings Bhd	Materials	Malaysia
446	MUHI.KL	Muhibbah Engineering (M) Bhd	Industrials	Malaysia
447	MUIB.KL	Malayan United Industries Bhd	Consumer Discretionary	Malaysia
448	MWC.PS	Manila Water Company Inc	Utilities	Philippines
449	MWG.HM	Mobile World Investment Corp	Consumer Discretionary	Vietnam
450	MXSC.KL	Maxis Bhd	Communication Services	Malaysia
451	MYEG.KL	My EG Services Bhd	Information Technology	Malaysia
452	MYMB.KL	MYMBN Bhd	Utilities	Malaysia
453	MYNE.KL	Mynews Holdings Bhd	Consumer Discretionary	Malaysia
454	MYOR.JK	Mayora Indah Tbk PT	Consumer Staples	Indonesia
455	MYRS.KL	Malaysian Resources Corporation Bhd	Industrials	Malaysia
456	NATI.KL	NationGate Holdings Bhd	Industrials	Malaysia
457	NCHB.KL	Naim Holdings Bhd	Industrials	Malaysia
458	NCKL.JK	PT Trimegah Bangun Persada Tbk	Energy	Indonesia
459	NCTA.KL	NCT Alliance Bhd	Information Technology	Malaysia
460	NDRm.BK	ND Rubber PCL	Materials	Thailand
461	NESM.KL	Nestle (Malaysia) Bhd	Consumer Staples	Malaysia

462	NETL.SI	NetLink NBN Trust	Communication Services	Singapore
463	NETX.KL	NetX Holdings Bhd	Information Technology	Malaysia
464	NEXB.KL	NexG Bhd	Industrials	Malaysia
465	NEXT.KL	Nextgreen Global Bhd	Industrials	Malaysia
466	NHFH.KL	New Hoong Fatt Holdings Bhd	Consumer Staples	Malaysia
467	NOVW.KL	Nova Wellness Group Bhd	Health Care	Malaysia
468	NRF.BK	NR Instant Produce PCL	Consumer Staples	Thailand
469	NTPM.KL	NTPM Holdings Bhd	Consumer Staples	Malaysia
470	NUEN.KL	Nuenergy Holdings Bhd	Energy	Malaysia
471	NVD.BK	Nirvana Daii PCL	Real Estate	Thailand
472	NVL.HM	No Va Land Investment Group Corp	Real Estate	Vietnam
473	NVTE.KL	Notion VTec Bhd	Information Technology	Malaysia
474	NYT.BK	Namyong Terminal PCL	Industrials	Thailand
475	OCEN.KL	Ocean Vantage Holdings Bhd	Industrials	Malaysia
476	OCKG.KL	OCK Group Bhd	Communication Services	Malaysia
477	OLAG.SI	Olam Group Ltd	Consumer Staples	Singapore
478	OMES.KL	Omesti Bhd	Information Technology	Malaysia
479	OPPS.KL	Oppstar Bhd	Industrials	Malaysia
480	OPTI.KL	Optimax Holdings Bhd	Health Care	Malaysia
481	OR.BK	PTT Oil and Retail Business PCL	Consumer Discretionary	Thailand
482	ORGA.KL	Orgabio Holdings Bhd	Health Care	Malaysia
483	ORI.BK	Origin Property PCL	Real Estate	Thailand
484	OSKV.KL	Osk Ventures International Bhd	Industrials	Malaysia
485	OSP.BK	Osotspa PCL	Consumer Staples	Thailand
486	OUEI.SI	OUE Real Estate Investment Trust	Real Estate	Singapore
487	OVER.KL	Oversea Enterprise Bhd	Industrials	Malaysia
488	OVES.SI	OUE Ltd	Real Estate	Singapore
489	OXHL.SI	Oxley Holdings Ltd	Real Estate	Singapore
490	PANS.KL	Pansar Bhd	Industrials	Malaysia
491	PAP.BK	Pacific Pipe PCL	Industrials	Thailand
492	PAPP.KL	Pappajack Bhd	Consumer Discretionary	Malaysia
493	PARB.KL	PA Resources Bhd	Materials	Malaysia
494	PB.BK	President Bakery PCL	Consumer Staples	Thailand
495	PCGB.KL	Petronas Chemicals Group Bhd	Materials	Malaysia
496	PCSGH.BK	PCS Machine Group Holding PCL	Consumer Discretionary	Thailand
497	PDR.HM	Phat Dat Real Estate Development Corp	Real Estate	Vietnam
498	PECC.KL	Pecca Group Bhd	Consumer Discretionary	Malaysia
499	PEPT.KL	PPB Group Bhd	Consumer Staples	Malaysia
500	PERM.KL	Pertama Digital Bhd	Information Technology	Malaysia
501	PERT.KL	Perak Transit Bhd	Industrials	Malaysia
502	PESO.KL	Pesona Metro Holdings Bhd	Industrials	Malaysia
503	PETR.KL	Petronas Dagangan Bhd	Energy	Malaysia
504	PGAS.JK	Perusahaan Gas Negara Tbk PT	Utilities	Indonesia
505	PGAS.KL	Petronas Gas Bhd	Utilities	Malaysia
506	PGEO.JK	Pertamina Geothermal Energy PT Tbk	Utilities	Indonesia
507	PGOLD.PS	Puregold Price Club Inc	Consumer Staples	Philippines
508	PHMA.KL	Pharmaniaga Bhd	Health Care	Malaysia
509	PHUA.KL	Poh Huat Resources Holdings Bhd	Consumer Discretionary	Malaysia
510	PIEN.KL	PIE Industrial Bhd	Industrials	Malaysia
511	PLANB.BK	Plan B Media PCL	Communication Services	Thailand
512	PLHB.KL	PeterLabs Holdings Bhd	Consumer Staples	Malaysia
513	PLSB.KL	PLS Plantations Bhd	Consumer Staples	Malaysia
514	PM.BK	Premier Marketing PCL	Consumer Staples	Thailand
515	PMAS.KL	Pentamaster Corporation Bhd	Industrials	Malaysia
516	PMBT.KL	PMB Technology Bhd	Information Technology	Malaysia
517	PMET.KL	Press Metal Aluminium Holdings Bhd	Materials	Malaysia
518	PNTE.KL	Pantech Group Holdings Bhd	Materials	Malaysia
519	POHK.KL	Poh Kong Holdings Bhd	Consumer Discretionary	Malaysia

520	POWE.KL	Power Root Bhd	Consumer Staples	Malaysia
521	POWR.JK	Cikarang Listrindo Tbk PT	Utilities	Indonesia
522	PPHB.KL	Public Packages Holdings Bhd	Industrials	Malaysia
523	PPP.BK	Premier Products PCL	Industrials	Thailand
524	PPSm.BK	Project Planning Service PCL	Industrials	Thailand
525	PR9.BK	Praram 9 Hospital PCL	Health Care	Thailand
526	PRIE.SI	Prime US REIT	Real Estate	Singapore
527	PRKN.KL	Parkson Holdings Bhd	Consumer Discretionary	Malaysia
528	PRM.BK	Prima Marine PCL	Energy	Thailand
529	PRMS.KL	Paramount Corporation Bhd	Real Estate	Malaysia
530	PRTB.KL	PRIVASIA Technology Bhd	Information Technology	Malaysia
531	PSH.BK	Pruksa Holding PCL	Real Estate	Thailand
532	PSHL.KL	Pos Malaysia Bhd	Industrials	Malaysia
533	PT.BK	Premier Technology PCL	Information Technology	Thailand
534	PTAR.KL	Prestar Resources Bhd	Materials	Malaysia
535	PTBA.JK	Bukit Asam Tbk PT	Energy	Indonesia
536	PTG.BK	PTG Energy PCL	Consumer Discretionary	Thailand
537	PTMR.KL	Petron Malaysia Refining & Marketing Bhd	Energy	Malaysia
538	PTRD.KL	Perdana Petroleum Bhd	Energy	Malaysia
539	PTRE.KL	Petra Energy Bhd	Energy	Malaysia
540	PTRS.KL	PT Resources Holdings Bhd	Energy	Malaysia
541	PTT.BK	PTT PCL	Energy	Thailand
542	PTTEP.BK	PTT Exploration and Production PCL	Energy	Thailand
543	PTTGC.BK	PTT Global Chemical PCL	Materials	Thailand
544	PWLR.SI	Parkway Life Real Estate Investment Trust	Real Estate	Singapore
545	PWON.JK	Pakuwon Jati Tbk PT	Real Estate	Indonesia
546	QESG.KL	QES Group Bhd	Information Technology	Malaysia
547	QH.BK	Quality Houses PCL	Real Estate	Thailand
548	QMDT.SI	Q & M Dental Group (Singapore) Ltd	Health Care	Singapore
549	QRES.KL	QL Resources Bhd	Consumer Staples	Malaysia
550	QTC.BK	QTC Energy PCL	Energy	Thailand
551	RADI.KL	Radiant Globaltech Bhd	Information Technology	Malaysia
552	RAFG.SI	Raffles Medical Group Ltd	Health Care	Singapore
553	RATCH.BK	Ratch Group PCL	Utilities	Thailand
554	RBF.BK	R&B Food Supply PCL	Consumer Staples	Thailand
555	RCL.BK	Regional Container Lines PCL	Industrials	Thailand
556	RENE.KL	Reneuco Bhd	Consumer Discretionary	Malaysia
557	RGBI.KL	RGB International Bhd	Consumer Discretionary	Malaysia
558	RGTB.KL	RGT Bhd	Materials	Malaysia
559	RIMB.KL	Rimbunan Sawit Bhd	Consumer Staples	Malaysia
560	RLC.PS	Robinsons Land Corp	Real Estate	Philippines
561	ROHA.KL	Rohas Tecnic Bhd	Industrials	Malaysia
562	RRHI.PS	Robinsons Retail Holdings Inc	Consumer Staples	Philippines
563	RS.BK	RS PCL	Communication Services	Thailand
564	RVHL.SI	Riverstone Holdings Ltd	Health Care	Singapore
565	S.BK	Singha Estate PCL	Real Estate	Thailand
566	SAB.HM	Saigon Beer Alcohol Beverage Corp	Consumer Staples	Vietnam
567	SABINA.BK	Sabina PCL	Consumer Discretionary	Thailand
568	SAEG.KL	SAM Engineering & Equipment (M) Bhd	Industrials	Malaysia
569	SAEN.KL	Sapura Energy Bhd	Energy	Malaysia
570	SAHB.KL	Samchem Holdings Bhd	Industrials	Malaysia
571	SALU.KL	Salutica Bhd	Information Technology	Malaysia
572	SAMA.KL	Samaiden Group Bhd	Industrials	Malaysia
573	SAPPE.BK	SAPPE PCL	Materials	Thailand
574	SASS.SI	Sasseur Real Estate Investment Trust	Real Estate	Singapore
575	SAT.BK	Somboon Advance Technology PCL	Consumer Discretionary	Thailand
576	SATS.SI	SATS Ltd	Industrials	Singapore
577	SBVV.SI	SBS Transit Ltd	Industrials	Singapore

578	SC.BK	SC Asset Corporation PCL	Real Estate	Thailand
579	SCC.BK	Siam Cement PCL	Materials	Thailand
580	SCC.PS	Semirara Mining and Power Corporation	Utilities	Philippines
581	SCCC.BK	Siam City Cement PCL	Materials	Thailand
582	SCCH.KL	SCC Holdings Bhd	Materials	Malaysia
583	SCG.BK	Ratch Pathana Energy PCL	Utilities	Thailand
584	SCGP.BK	SCG Packaging PCL	Materials	Thailand
585	SCIB.KL	Sarawak Consolidated Industries Bhd	Industrials	Malaysia
586	SCIE.KL	Scientex Packaging (Ayer Keroh) Bhd	Materials	Malaysia
587	SCIL.SI	Sembcorp Industries Ltd	Utilities	Singapore
588	SCMA.JK	Surya Citra Media Tbk PT	Communication Services	Indonesia
589	SDGU.KL	SD Guthrie Bhd	Materials	Malaysia
590	SEAT.SI	Seatrium Limited	Industrials	Singapore
591	SEDU.KL	SEG International Bhd	Consumer Discretionary	Malaysia
592	SENH.KL	Senheng New Retail Bhd	Consumer Discretionary	Malaysia
593	SETI.KL	S P Setia Bhd	Real Estate	Malaysia
594	SEVE.KL	7-Eleven Malaysia Holdings Bhd	Consumer Staples	Malaysia
595	SFPT.KL	SFP Tech Holdings Bhd	Information Technology	Malaysia
596	SGNA.KL	Signature International Bhd	Consumer Discretionary	Malaysia
597	SGP.BK	Siamgas and Petrochemicals PCL	Energy	Thailand
598	SHEN.SI	Sheng Siong Group Ltd	Consumer Staples	Singapore
599	SHIN.KL	Shin Yang Group Bhd	Materials	Malaysia
600	SIAE.SI	SIA Engineering Company Ltd	Industrials	Singapore
601	SIAL.SI	Singapore Airlines Ltd	Industrials	Singapore
602	SIME.KL	Sime Darby Bhd	Industrials	Malaysia
603	SINA.KL	Sinaran Advance Group Bhd	Information Technology	Malaysia
604	SIND.SI	Singapore Land Group Ltd	Real Estate	Singapore
605	SINGER.BK	Singer Thailand PCL	Consumer Discretionary	Thailand
606	SIPL.KL	Sime Darby Plantation Bhd	Consumer Staples	Malaysia
607	SIPR.KL	Sime Darby Property Bhd	Real Estate	Malaysia
608	SIRI.BK	Sansiri PCL	Real Estate	Thailand
609	SISB.BK	SISB PCL	Consumer Discretionary	Thailand
610	SITHAI.BK	Srithai Superware PCL	Materials	Thailand
611	SJWD.BK	SCGJWD Logistics PCL	Industrials	Thailand
612	SKOU.KL	Sern Kou Resources Bhd	Consumer Discretionary	Malaysia
613	SLCN.KL	Salcon Bhd	Utilities	Malaysia
614	SLEG.KL	Solution Group Bhd	Information Technology	Malaysia
615	SLPB.KL	SLP Resources Bhd	Materials	Malaysia
616	SM.PS	SM Investments Corp	Industrials	Philippines
617	SMC.PS	San Miguel Corp	Industrials	Philippines
618	SMGR.JK	Semen Indonesia (Persero) Tbk PT	Materials	Indonesia
619	SMPC.BK	Sahamitr Pressure Container PCL	Materials	Thailand
620	SMPH.PS	SM Prime Holdings Inc	Real Estate	Philippines
621	SMRA.JK	Summarecon Agung Tbk PT	Real Estate	Indonesia
622	SNC.BK	SNC Former PCL	Industrials	Thailand
623	SNJ.BK	S & J International Enterprises PCL	Consumer Staples	Thailand
624	SNP.BK	S & P Syndicate PCL	Consumer Discretionary	Thailand
625	SOIL.KL	Solid Automotive Bhd	Industrials	Malaysia
626	SOLA.KL	Solarvest Holdings Bhd	Utilities	Malaysia
627	SOPS.KL	Sarawak Oil Palms Bhd	Consumer Staples	Malaysia
628	SPALI.BK	Supalai PCL	Real Estate	Thailand
629	SPI.BK	Saha Pathana Inter-Holding PCL	Industrials	Thailand
630	SPLN.KL	Sarawak Plantation Bhd	Consumer Staples	Malaysia
631	SPOR.KL	Sports Toto Bhd	Consumer Discretionary	Malaysia
632	SPOS.SI	Singapore Post Ltd	Industrials	Singapore
633	SPRC.BK	Star Petroleum Refining PCL	Energy	Thailand
634	SPRN.KL	Spring Art Holdings Bhd	Materials	Malaysia
635	SSSC.BK	Siam Steel Service Center PCL	Materials	Thailand

636	STA.BK	Sri Trang Agro Industry PCL	Consumer Discretionary	Thailand
637	STAR.KL	Star Media Group Bhd	Communication Services	Malaysia
638	STAR.SI	StarHub Ltd	Communication Services	Singapore
639	STARK.BK	Stark Corporation PCL	Industrials	Thailand
640	STEC.BK	Sino Thai Engineering and Construction PCL	Industrials	Thailand
641	STEE.KL	Southern Steel Bhd	Materials	Malaysia
642	STEG.SI	Singapore Technologies Engineering Ltd	Industrials	Singapore
643	STEL.SI	Singapore Telecommunications Ltd	Communication Services	Singapore
644	STGT.BK	Sri Trang Gloves (Thailand) PCL	Health Care	Thailand
645	STHL.SI	Starhill Global Real Estate Investment Trust	Real Estate	Singapore
646	STIK.KL	Scientex Bhd	Materials	Malaysia
647	STON.SI	Stoneweg Europe Stapled Trust	Real Estate	Singapore
648	STRA.KL	Straits Energy Resources Bhd	Energy	Malaysia
649	SUNT.SI	Suntec Real Estate Investment Trust	Real Estate	Singapore
650	SUNW.KL	Sunway Real Estate Investment Trust	Real Estate	Malaysia
651	SUPER.BK	Super Energy Corporation PCL	Utilities	Thailand
652	SUPM.KL	Supermax Corporation Bhd	Health Care	Malaysia
653	SUTHA.BK	Golden Lime PCL	Materials	Thailand
654	SWAY.KL	Sunway Bhd	Industrials	Malaysia
655	SWIF.KL	Swift Haulage Bhd	Industrials	Malaysia
656	SYCA.KL	Sycal Ventures Bhd	Materials	Malaysia
657	SYML.KL	Symphony Life Bhd	Real Estate	Malaysia
658	SYNEX.BK	Synnex (Thailand) PCL	Information Technology	Thailand
659	SYNTEC.BK	Syntec Construction PCL	Industrials	Thailand
660	SYST.KL	Systech Bhd	Industrials	Malaysia
661	TAAN.KL	Ta Ann Holdings Bhd	Materials	Malaysia
662	TAFI.KL	TAFI Industries Bhd	Industrials	Malaysia
663	TANC.KL	Tanco Holdings Bhd	Industrials	Malaysia
664	TASC.KL	TASCO Bhd	Industrials	Malaysia
665	TASCO.BK	TIPCO Asphalt PCL	Materials	Thailand
666	TBEV.SI	Thai Beverage PCL	Consumer Staples	Singapore
667	TBIG.JK	Tower Bersama Infrastructure Tbk PT	Communication Services	Indonesia
668	TCOM.KL	TIME dotCom Bhd	Communication Services	Malaysia
669	TCSG.KL	Tcs Group Holdings Bhd	Industrials	Malaysia
670	TDMS.KL	TDM Bhd	Consumer Staples	Malaysia
671	TECB.KL	Techbond Group Bhd	Materials	Malaysia
672	TECE.KL	Techbase Industries Bhd	Information Technology	Malaysia
673	TEL.PS	PLDT Inc	Communication Services	Philippines
674	TELA.KL	Teladan Group Bhd	Industrials	Malaysia
675	TENA.KL	Tenaga Nasional Bhd	Utilities	Malaysia
676	TEXC.KL	Texchem Resources Bhd	Materials	Malaysia
677	TFG.BK	Thaifoods Group PCL	Consumer Staples	Thailand
678	TFMAMA.BK	Thai President Foods PCL	Consumer Staples	Thailand
679	TGIB.KL	Thong Guan Industries Bhd	Materials	Malaysia
680	THAI.BK	Thai Airways International PCL	Industrials	Thailand
681	THCOM.BK	Thaicom PCL	Communication Services	Thailand
682	THEA.KL	Three-A Resources Bhd	Consumer Staples	Malaysia
683	THIP.BK	Thantawan Industry PCL	Materials	Thailand
684	THPB.KL	TH Plantations Bhd	Consumer Staples	Malaysia
685	THRB.KL	Tong Herr Resources Bhd	Industrials	Malaysia
686	TIPCO.BK	Tipco Foods PCL	Consumer Staples	Thailand
687	TITI.KL	Titijaya Land Bhd	Real Estate	Malaysia
688	TKIM.JK	Pabrik Kertas Tjiwi Kimia Tbk PT	Materials	Indonesia
689	TKN.BK	Taokaenoi Food & Marketing PCL	Consumer Staples	Thailand
690	TKS.BK	TKS Technologies PCL	Information Technology	Thailand
691	TLKM.JK	Telkom Indonesia (Persero) Tbk PT	Communication Services	Indonesia
692	TLMM.KL	Telekom Malaysia Bhd	Communication Services	Malaysia
693	TMCN.KL	TMC Life Sciences Bhd	Health Care	Malaysia

694	TMEI.KL	Tomei Consolidated Bhd	Industrials	Malaysia
695	TMILLm.BK	T S Flour Mill PCL	Consumer Staples	Thailand
696	TMT.BK	TMT Steel PCL	Materials	Thailand
697	TNL.BK	Thanulux PCL	Consumer Discretionary	Thailand
698	TNTT.KL	Tiong Nam Logistics Holdings Bhd	Industrials	Malaysia
699	TOA.BK	TOA Paint Thailand PCL	Materials	Thailand
700	TOG.BK	Thai Optical Group PCL	Health Care	Thailand
701	TOMY.KL	Tomypak Holdings Bhd	Materials	Malaysia
702	TOP.BK	Thai Oil PCL	Energy	Thailand
703	TOWR.JK	Sarana Menara Nusantara Tbk PT	Communication Services	Indonesia
704	TPCS.BK	Tpcs PCL	Consumer Discretionary	Thailand
705	TPGC.KL	Top Glove Corporation Bhd	Health Care	Malaysia
706	TPIA.JK	Chandra Asri Pacific PT Tbk	Materials	Indonesia
707	TPIPP.BK	TPI Polene Power PCL	Utilities	Thailand
708	TRCG.KL	TRC Synergy Bhd	Industrials	Malaysia
709	TRIM.KL	Tri-Mode System (M) Bhd	Information Technology	Malaysia
710	TROP.KL	Tropicana Corporation Bhd	Real Estate	Malaysia
711	TRUE.BK	True Corporation PCL	Communication Services	Thailand
712	TSC.BK	Thai Steel Cable PCL	Consumer Discretionary	Thailand
713	TSCP.KL	Teo Seng Capital Bhd	Consumer Staples	Malaysia
714	TSHR.KL	TSH Resources Bhd	Consumer Staples	Malaysia
715	TSTH.BK	Tata Steel Thailand PCL	Materials	Thailand
716	TTA.BK	Thoresen Thai Agencies PCL	Industrials	Thailand
717	TTCL.BK	TTCL PCL	Industrials	Thailand
718	TTW.BK	TTW PCL	Utilities	Thailand
719	TU.BK	Thai Union Group PCL	Consumer Staples	Thailand
720	TUJU.KL	Tuju Setia Bhd	Industrials	Malaysia
721	TURB.KL	Turbo-Mech Bhd	Industrials	Malaysia
722	TVDHm.BK	TVD Holdings PCL	Consumer Discretionary	Thailand
723	TVO.BK	Thai Vegetable Oil PCL	Consumer Staples	Thailand
724	TWHB.KL	Ta Win Holdings Bhd	Materials	Malaysia
725	TWPC.BK	Thai Wah PCL	Consumer Staples	Thailand
726	TWRK.KL	Taliworks Corporation Bhd	Utilities	Malaysia
727	TXCY.KL	Tex Cycle Technology (M) Bhd	Industrials	Malaysia
728	UAC.BK	UAC Global PCL	Industrials	Thailand
729	UCHI.KL	Uchi Technologies Bhd	Information Technology	Malaysia
730	UMSB.KL	UEM Sunrise Bhd	Real Estate	Malaysia
731	UMWS.KL	UMW Holdings Bhd	Consumer Discretionary	Malaysia
732	UNSM.KL	Unisem (M) Bhd	Information Technology	Malaysia
733	UNTR.JK	United Tractors Tbk PT	Energy	Indonesia
734	UNVR.JK	Unilever Indonesia Tbk PT	Consumer Staples	Indonesia
735	UPAB.KL	UPA Corporation Bhd	Materials	Malaysia
736	UPF.BK	Union Pioneer PCL	Industrials	Thailand
737	URC.PS	Universal Robina Corp	Consumer Staples	Philippines
738	UTOS.SI	UOL Group Ltd	Real Estate	Singapore
739	UTPS.KL	United Plantations Bhd	Consumer Staples	Malaysia
740	UULI.KL	United U-LI Corporation Bhd	Industrials	Malaysia
741	UWCB.KL	UWC Bhd	Industrials	Malaysia
742	VANT.KL	Vantris Energy Bhd	Energy	Malaysia
743	VCG.HM	Viet Nam Construction and Import Export Joint Stock Corp	Industrials	Vietnam
744	VELE.KL	Velesto Energy Bhd	Energy	Malaysia
745	VENM.SI	Venture Corporation Ltd	Information Technology	Singapore
746	VGI.BK	VGI PCL	Communication Services	Thailand
747	VHM.HM	Vinhomes JSC	Real Estate	Vietnam
748	VIC.HM	Vingroup JSC	Real Estate	Vietnam
749	VNM.HM	Vietnam Dairy Products JSC	Consumer Staples	Vietnam
750	VSDY.KL	VisDynamics Holdings Bhd	Industrials	Malaysia
751	VSID.KL	VS Industry Bhd	Information Technology	Malaysia

752	VSTE.KL	VSTECS Bhd	Information Technology	Malaysia
753	VTRX.KL	ViTrox Corporation Bhd	Information Technology	Malaysia
754	WACOAL.BK	Thai Wacoal PCL	Consumer Discretionary	Thailand
755	WASC.KL	Wasco Bhd	Energy	Malaysia
756	WAVE.KL	WAVEFRONT Bhd	Industrials	Malaysia
757	WCAL.KL	Wellcall Holdings Bhd	Industrials	Malaysia
758	WCEH.KL	WCE Holdings Bhd	Industrials	Malaysia
759	WCTE.KL	WCT Holdings Bhd	Industrials	Malaysia
760	WGZH.KL	Wang-Zheng Bhd	Consumer Staples	Malaysia
761	WHA.BK	WHA Corporation PCL	Real Estate	Thailand
762	WHAUP.BK	Wha Utilities and Power PCL	Utilities	Thailand
763	WICE.BK	WICE Logistics PCL	Industrials	Thailand
764	WLCON.PS	Wilcon Depot Inc	Consumer Discretionary	Philippines
765	WLIL.SI	Wilmar International Ltd	Consumer Staples	Singapore
766	WLOW.KL	Willowglen MSC Bhd	Information Technology	Malaysia
767	WPHB.KL	Westports Holdings Bhd	Industrials	Malaysia
768	WSKT.JK	Waskita Karya (Persero) Tbk PT	Industrials	Indonesia
769	WTHS.SI	Wing Tai Holdings Ltd	Real Estate	Singapore
770	WTKH.KL	W T K Holdings Bhd	Materials	Malaysia
771	WTON.JK	Wijaya Karya Beton Tbk PT	Materials	Indonesia
772	XOXB.KL	XOX Bhd	Communication Services	Malaysia
773	XOXN.KL	XOX Networks Bhd	Communication Services	Malaysia
774	XOXT.KL	XOX Technology Bhd	Information Technology	Malaysia
775	YAZG.SI	Yangzijiang Shipbuilding (Holdings) Ltd	Industrials	Singapore
776	YGLC.KL	Ygl Convergence Bhd	Information Technology	Malaysia
777	YINS.KL	Yinson Holdings Berhad	Energy	Malaysia
778	YNLG.SI	Yanlord Land Group Ltd	Real Estate	Singapore
779	YSPS.KL	YSP Southeast Asia Holding Bhd	Health Care	Malaysia
780	YTLP.KL	YTL Power International Bhd	Utilities	Malaysia
781	YTLR.KL	YTL Hospitality REIT	Real Estate	Malaysia
782	YTLS.KL	YTL Corporation Bhd	Utilities	Malaysia
783	ZEN.BK	Zen Corporation Group PCL	Consumer Discretionary	Thailand
784	ZETR.KL	Zetrix AI Bhd	Information Technology	Malaysia
785	ZHCO.KL	Zhulian Corp Bhd	Consumer Discretionary	Malaysia
786	ZHEN.SI	Zheneng Jinjiang Environment Holding Co Ltd	Utilities	Singapore