Do enterprise risk management practices and ESG performance influence firm value of banks? Evidence from ASEAN countries

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ABSTRACT

This study investigates the impact of enterprise risk management (ERM) practices and environmental, social, and governance (ESG) performance on firm value both individually and collectively, within the context of five ASEAN nations. This study used a dataset consisting of annual reports over a two-year timeframe (2021–2022) from a total of 29 banks that are publicly listed on the stock exchanges in Indonesia, Malaysia, Singapore, Thailand, and the Philippines. The results of this study indicate that ESG performance has a statistically significant positive impact on firm value. However, the effect of ERM practices on firm value is shown to be positive but lacks statistical significance. The findings also indicate that the combined influence of ERM procedures and ESG performance has a positive effect on company value, while the impact is statistically insignificant. According to the study's findings, the impact of the variables under investigation on firm value may account for a sizable portion of them, or 71.8%. The results of this study suggest that companies should adopt a consistent enterprise risk management (ERM) approach to enhance the accessibility of ERM-related information. This will ensure that investors are not only reliant on quantitative outcomes from a company, which may aid in their investment decision-making process. This study provides new insights for investors on the influence of ERM practices and ESG performance on the firm value of banks in developing countries, especially in ASEAN countries.

Contribution/ Originality: This study makes a novel contribution to the present body of literature by being the first study that examines the simultaneous impact of ERM practices and ESG performance on firm value in five ASEAN nations, with specific emphasis on Indonesia, Malaysia, Singapore, Thailand, and the Philippines.

1. INTRODUCTION

The contemporary business landscape has seen significant transformations as a result of the forces of globalisation, rapid technical advancements, and the ever-evolving nature of the commercial environment. The aforementioned modifications require organisations to swiftly and precisely adjust in order to remain competitive in an increasingly competitive market. The dynamic nature of the business environment necessitates that organisations confront uncertainty in order to maintain their competitiveness in the market. Uncertainty has the potential to either provide a danger or offer an opportunity that impacts the goals of firms. The corporation has a duty to enhance the well-being of its stakeholders, including the need to enhance its own performance in order to generate returns for those stakeholders. Consequently, firms will endeavour to effectively navigate and mitigate uncertainty in order to

provide favourable outcomes for their stakeholders. When a pneumonia case in Wuhan City, China, emerged in December 2019, the entire world was shocked to learn that it was the result of a brand-new coronavirus strain (Yamali & Putri, 2020). The imposition of a lockdown strategy by governments in response to the rapid growth and transmission of the virus has led to a downturn in the global economy, affecting ASEAN countries as well. Despite the economic slowdown caused by the ongoing pandemic, it is noteworthy that the banking industry in the Association of Southeast Asian (ASEAN) region remains resilient. This resilience has enabled regulators to effectively address the challenges arising from the current economic drop. In industrialised nations, firms possess streamlined access to the corporate credit market, thereby facilitating the ease with which they may access financial resources. Even firms that have terrible financial circumstances are still able to get interest rates that are cheap due to the prevailing low interest rates. This is because investors are still drawn to the attractive returns that are being offered. Despite the relatively advanced state of debt markets in Singapore, Malaysia, and Thailand, it is important to note that bank loans continue to have a strong position as the primary source of financing in these nations. Consequently, the performance of banks and the associated risks they encounter have a significant influence on the credit cycle and the overall economy. The stock market is significantly impacted by the performance of banks, particularly in Singapore and Indonesia, where banks serve as the primary constituents of the stock index. Approximately 40% of the constituents of the Straits Times Index and the Jakarta Composite Index on the Jakarta Stock Exchange are comprised of entities associated with the banking sector. Banks serve as the primary conduit for the transmission of monetary policy from a macroeconomic standpoint. Following the occurrence of the Asian Financial Crisis in 1997, banks within the ASEAN countries have undertaken measures to augment their capital reserves and adopt more stringent risk management practises (Zurich Insurance Company Ltd, 2021).

According to Attar, Mariotti, and Salanie (2014) the bank has assumed a function whereby it not only serves as an institution but also exerts an impact on the economic growth of a nation. ASEAN banks have robust financial indicators, as seen by their average Capital-to-Asset Ratio of 11%, which is on par with that of banks in the United States and above that of their European counterparts. The banking sector plays a crucial role in supporting governments via its significant holdings of government bonds. For instance, Indonesian banks have seen a notable increase in their ownership of government bonds, with their share rising from 20% in the previous year to now encompassing 50% of the total government bonds. The banking sector is a relevant area of research due to the reduced risk of debt default resulting from ASEAN's autonomous monetary policies and competent central banks (Zurich Insurance Company Ltd, 2021) notwithstanding the potential hazards in the bank-government connection. In light of the potential consequences associated with risks, financial institutions allocate significant resources to their management. Consequently, banks throughout the ASEAN region have adopted ERM practices as a means to effectively tackle many difficulties, including the ongoing COVID-19 pandemic. The main objective of this study is to examine the impact of ERM practices and ESG performance on the shareholder value of banks in Indonesia, Malaysia, Singapore, Thailand, and the Philippines. This study differs from previous studies by simultaneously examining the relationship between ERM practices and ESG performance on the financial performance of banks in ASEAN countries. This study provides investors and other stakeholders with valuable insights into the impact of ERM practices and ESG performance on the market value of banking companies in ASEAN. The following section (Section 2) provides a comprehensive review of the relevant literature pertinent to this study. Section 3 explains the study design, while Section 4 presents the results. The final section, Section 5, serves as the concluding part of this study.

2. LITERATURE REVIEW

2.1. Firm Value

According to Kurniawan (2018) firm value is the comprehensive assessment of a company's current and future conditions made by investors. Typically, there is a direct correlation between a company's valuation and its stock

price. The significance of business value arises from the correlation between substantial firm value and the accrual of wealth for shareholders (Brigham & Gapenski, 1996). The firm value encompasses both the market worth and the potential for owners to accumulate money via an increase in share price. Fama and French (1998) empirically validated the concept that a company's stock price effectively represents its market worth. The significance of a company's value stems from the correlation between the company's worth and the welfare of its shareholders (Brigham & Houston, 2007). A direct relationship exists between the rise in the stock price and the growth in the company's worth. The major objective of shareholders is to enhance the company's worth, since a higher valuation translates into more wealth for shareholders. The share price valuation of a business is a reliable measure of the financial health of both the shareholders and the firm. It is a reflection of the outcomes of investment choices, financial plans, and asset management practices.

When making financial decisions, it is essential for a financial manager to possess the ability to make sound and appropriate choices. According to Mudjijah, Khalid, and Astuti (2019) making appropriate financial choices has the potential to enhance the overall worth of a firm, hence leading to augmented prosperity for its owners. Firm value serves as a market indication that enables the comprehensive evaluation of a firm, including its whole, and signifies its present worth in relation to the desired future revenue. Stock prices are consistently linked to the worth of a firm, therefore making firm value a metric that investors use to assess corporate success. In order to assess the worth of a firm, many ratios may be used, specifically:

2.1.1. Price to Earnings Ratio (P/E Ratio)

The aforementioned ratio is derived by dividing the market price of common stock by the earnings per share at its highest value. According to Sumardi and Suharyono (2020) a greater ratio signifies a favourable financial position for the firm, whereas a lower ratio suggests the opposite. The price-to-earnings (P/E) ratio quantifies the valuation that investors are ready to assign to a company's earnings per share (EPS) (Gitman & Zutter, 2015).

2.1.2. Price to Book Value (PBV)

The Price-to-Book-Value metric offers an additional perspective on the firm's valuation as seen by investors. Those that are favourably perceived by investors, indicating their ability to generate stable and increasing profits and cash flow, tend to command higher price-to-book value ratios compared to those with lower returns. The calculation of the book value per share involves dividing the aggregate equity capital by the entire number of outstanding shares. The formula for this ratio is as follows (Brigham & Houston, 2007):

$$PBV = \frac{Market\ Price\ per\ Share}{Book\ Value\ per\ Share}$$

2.1.3. Tobin's Q

The Q-ratio, also known as Tobin's Q-ratio, is a measure of the relationship between the market value and replacement value of an asset. James Tobin, a well-known recipient of the Nobel Prize in Economics, created this ratio. Tobin proposed the idea that the total market value of all firms listed on the stock exchange should align with their individual replacement costs. Key metrics are used to ascertain the valuation of individual firms as well as whole stock markets. In reality, establishing the value of the replacement cost of capital poses a significant issue. In this study, the variable being assessed to determine the worth of the firm is Tobin's Q, which includes an evaluation of the company's future prospects. The statistics are used as the dependent variable. Tobin's Q has many benefits, such as providing a thorough depiction of a company's assets and accurately reflecting the market. The question is computed using the approach outlined by the Corporate Finance Institute team in 2018 (Corporate Finance Institute, 2023).

$$TQ = \frac{Market\,Value\,of\,Assets}{Replacement\,Cost\,of\,Capital}$$

2.2. Enterprise Risk Management and Firm Value

According to COSO (2004) ERM is a methodical process that the board, management, and staff of an organization use to instill a suitable level of assurance in the achievement of operational, reporting, and compliance goals. Enterprise risks are types of risks that might potentially impact the operations and worth of a business (Mosbah, Serief, & Abd Wahab, 2017). The objective of implementing a comprehensive risk management strategy throughout a company is to build a strong and effective risk management policy. The primary goal of risk management is to optimize shareholder value (Malarvizhi, Nahar, & Manzoor, 2018). To reach this objective, we need to improve the efficiency of capital utilization by creating a fair system for allocating company funds, pinpointing areas with high risk and suggesting risk-focused improvements, and putting in place a methodical approach that reassures every one of the company's dedication to good risk management practices. ERM is a crucial management practice that should be adopted to methodically discover and evaluate different.

According to the Cadbury Report of 1992, the Board has the responsibility of developing risk management policies to ensure that businesses are knowledgeable about significant risks. The first release of the risk management standard occurred in 1995, via the Australian/New Zealand Standard (AS/NZS 4360: 1995). The standard, which underwent revisions in 1999 and 2004, provided the foundation for the founding of the International Standards Organization (ISO). The Institute of Risk Management (IRM), a prominent professional body in the area of risk management, developed the ISO 31000:2018 (previously ISO 31000:2009) guidelines, which are considered the best practices in risk management (Mohd Ali, Ab Hamid, & Ghani, 2019). ERM, as per the guidelines, is a unified effort that offers direction and supervision to businesses in the management and regulation of risk. Nevertheless, despite the growing need for enterprise risk management (ERM) to handle risks in a competitive environment, the implementation of ERM still encounters some obstacles. An analysis of the banking industry in the ASEAN 5 nations exposes several deficiencies in enterprise risk management (ERM). These vulnerabilities are apparent in many instances of theft, ill-advised investment choices, and insufficient operational supervision. Collectively, these variables lead to a deterioration in overall performance. These controversies may erode the trust of investors and the public, leading to a decrease in the total worth of the firm (Chairani & Siregar, 2021; Otero, Durán, & Tamayo, 2020; Wong, Chui, & Qing, 2023).

COSO (2004) noted that organisations will encounter ongoing uncertainty in the next period. The presence of uncertainty poses a potential danger to the firm, which may be mitigated through the use of risk management strategies. The primary objective of the company's management is to proactively mitigate any risks that may impede operational activity. Different entities have published a variety of definitions of risk management. According to the British Standard (2018) ISO:31000 delineates risk management as a collection of coordinated operations aimed at effectively managing and controlling an organization's risks. Moreover, ERM is a field of study used by organisations across many industries to evaluate, regulate, capitalise on, finance, and oversee risks originating from diverse origins, with the aim of enhancing the organization's worth in both the immediate and long-term (Mohd Ali et al., 2019). The purpose of ERM is to systematically identify, evaluate, and mitigate various risks, including physical and metaphorical threats, that have the potential to impact the operations and goals of organisations. ERM is a comprehensive approach that encompasses several categories of hazards. Additionally, it encompasses the provision of action plans to all relevant parties, such as shareholders and prospective investors, inside their annual reports. ERM encompasses a set of interconnected components that are drawn from the firm's management practises and seamlessly incorporated into the overall management process. According to COSO (2004) the components included in this framework are the internal environment, objective setting, event detection, risk assessment, risk response, control actions, information and communication, and monitoring.

Several studies have investigated the correlation between ERM practices and firm value. These studies posited that stakeholders exhibit a need for a diverse range of information, including ERM practices as well. High levels of ERM disclosure are indicative of proficient corporate governance practises, including the efficient management and regulation of risks inside the organisation. According to Florio and Leoni (2017) companies that possess a better degree of preparedness in practicing ERM have superior financial and market performance. In their respective studies, Chairani and Siregar (2021), Ghazieh and Chebana (2021) and Florio and Leoni (2017) have observed that ERM practices have a substantial impact on firm performance, hence enhancing firm value. Nevertheless, there have been studies that have shown conflicting results. Alawattegama (2018) conducted a study that concluded that there is no statistically significant correlation between ERM practices and firm success. In a similar vein, Horvey and Ankamah (2020) discovered a non-linear association between ERM practices and firm value. In light of the inconclusive results, this study formulates the following hypothesis:

H₁: ERM practices significantly and positively influence the firm value of the banks in ASEAN countries.

2.3. Environmental, Social, and Governance (ESG)

In addition to ERM practices, the financial sector is increasingly focusing on non-financial risks, namely ESG aspects. The term ESG gained popularity via the research titled "Who Cares Wins," which was first published in 2004. This report was organised by the United Nations and included a consortium of 18 banks and financial businesses. The paper included recommendations for enhancing the integration of ESG considerations within the domains of asset management, brokerage services, and related research endeavours. About a year after the United Nations commissioned it, the renowned London-based law firm Freshfields Bruckhaus Deringer published the report under that name. This report delineated a comprehensive legal framework that pertained to the incorporation of ESG considerations into investment decision-making processes (Sandburg, 2011). ESG refers to the abbreviation for environmental, social, and governance. The ESG framework pillars represent the three primary areas of concern that companies should disclose. The objective of ESG is to comprehensively assess the non-financial risks and opportunities inherent in a company's day-to-day activities (Splawski & Lukács, 2023). ESG represents an advancement in the realm of socially responsible investing (SRI) and corporate social responsibility (CSR) (Chen & Xie, 2022). In summary, the ESG framework serves as a mechanism via which stakeholders may get insight into a company's approach to managing the opportunities and risks related to ESG aspects (Peterdy, 2023).

Deloitte (2021) emphasises the significance of ESG issues in relation to the implementation of sustainable business practises. The effect of ESG factors goes beyond just financial concerns. It encompasses the evaluation of firm performance, share price, and risk profile in response to increasing expectations for long-term sustainability (Ji, Sun, Liu, & Chiu, 2023). Currently, there is a growing emphasis among investors on the integration of ESG factors into the operational and investment strategies of financial institutions (B&FT Online, 2022). According to a study by Hampson (2021), 79% of investors consider the ESG performance when making investment decisions. Additionally, the collaborative research by BlackRock and PwC revealed a rising trend towards sustainable investing, with about one in five investors prioritizing sustainability as a result of the epidemic. Kearney highlights the potential of ESG factors to enhance the financial performance of banks. According to Nagarsheth, Arcati, and Desentis (2022) Kearney estimates that the US banking system may see an annual revenue increase of $115 billion as a result of ESG initiatives. Additionally, Kearney suggests that investors might benefit from a 12% premium by investing in banks that prioritise ESG considerations. The increased attention given by ASEAN investors to ESG factors may be attributed to a combination of factors, including employee demands, regulatory mandates, and the perceived potential for enhanced profits or risk reduction (HSBC Bank PLC, 2021).

In light of this, stakeholders express a need for corporations to provide extensive ESG information. This need is met via the use of Sustainability Reports, which adhere to established standards such as the Global Reporting Initiative (GRI) Standards, which have gained widespread acceptance and are considered reliable. The Asia Pacific

region is seeing a growing trend of implementing ESG legislation to promote transparency and encourage sustainable investment. Among the countries in the region, the ASEAN countries have emerged as a prominent leader in adopting and promoting sustainable business practises (Sandria, 2022). The influence of ESG factors on the value of firms has been observed in various research studies. These studies have demonstrated positive effects on both firm performance and value (Alareeni & Hamdan, 2020; Wong et al., 2021). However, it is worth noting that conflicting findings also exist, suggesting either no significant correlation or even a negative influence on financial performance (Menicucci & Paolucci, 2022; Rahi, Akter, & Johansson, 2022). According to the stakeholder theory, it is posited that a company's stakeholders possess both an obligation and entitlement to engage in managerial decision-making processes that have an impact on their livelihoods. The theoretical framework identifies the people and organizations that the firm's decisions will have an impact on or influence (Albasteki, Shaukat, & Alshirawi, 2019). Consequently, it is important for management to cultivate positive relationships with stakeholders by meeting their demands and preferences, particularly those who possess the potential to impact the accessibility of resources for organisational activities, including employees, clients, and shareholders (Hörisch, Freeman, & Schaltegger, 2014). The management consistently strives to provide stakeholders with accurate financial information, which is very intriguing. Stakeholders possess the entitlement to get knowledge about corporate operations with the aim of mitigating possible losses incurred by them.

According to legitimacy theory, managers are inclined to adopt measures aimed at demonstrating the company's commitment to meeting societal expectations through active engagement in the social contract (Deegan, Rankin, & Tobin, 2002). One of the tactics used by managers to fulfil the social contract is the disclosure of all operational information that may have societal implications. The disclosure will be presented in the form of a document known as the Sustainability Report. Stakeholders may use the report to evaluate the ESG initiatives undertaken by firms. Nevertheless, it should be noted that the disclosure of ESG information is just the first phase of the company's overall ESG trajectory. Stakeholders use the evaluation of ESG performance as a means to gauge the efficacy of firms' adherence to their duties in the realm of ESG over the course of their commercial operations. The assessment of ESG performance is facilitated by the use of an ESG score, which is disseminated by reputable institutions such as Refinitiv. This obviates the need for stakeholders to manually gather ESG data and calculate the ESG score themselves. Given the contemporary expectations of stakeholders, firms are increasingly required to prioritise not just profitability but also the social consequences of their actions. Consequently, the ESG score has assumed significant importance, as it serves as a determinant in investment decision-making processes.

Numerous scholarly investigations have shown a favourable association between commendable ESG performance, augmented stock returns, and mitigated downside risk. The study, conducted by the NYU Stern Centre for Sustainable Business, examines over 1,000 research papers published since 2015. The results show that effective ESG factors are linked to better financial performance measures like stock price, operational efficiency, return on equity (ROE), and return on assets (ROA) (Whelan, Atz, Holt, & Clark, 2015). Buallay, Fadel, Alajmi, and Saudagaran (2020) conducted a study that yielded comparable findings. The incorporation of ESG factors has the potential to enhance the financial performance of firms. Based on the aforementioned facts, this study formulates the following hypothesis:

H_2: *ESG performance significantly and positively influences the firm value of the banks in ASEAN countries.*

Another group of studies has shown that each of the variables, ERP and ESG, positively influences firm value. These two variables are non-financial in nature and have the potential to impact the decision-making process of stakeholders. Presently, there is a growing inclination towards sustainability, leading stakeholders to emphasise the need for corporations to prioritise profit alongside non-financial considerations such as ERM and ESG. Nevertheless, the studies have failed to investigate the concurrent impact of ERM practices and ESG performance on the firm value of the banks. This study is motivated by the need to investigate the combined impact of ERM practices and ESG

performance on the firm value of banks operating in ASEAN countries. Consequently, the following hypothesis is formulated:

H_3: *ERM practices and ESG performance simultaneously significantly and positively influence the firm value of the banks in ASEAN countries.*

3. RESEARCH DESIGN

3.1. Sample Selection and Data Collection

This study relies on a sample consisting of banks listed in five ASEAN countries. This study chose a sample of firms from five ASEAN countries, including Indonesia, Malaysia, Singapore, Thailand, and the Philippines, for the period between 2020 and 2021. The data gathering methodology used in this study was content analysis, which involves examining literature material in accordance with specific research requirements. The used data sources include financial reports, information obtained from the official websites of the Indonesia Stock Exchange, Bursa Malaysia, Singapore Exchange, and Thailand Stock Exchange, as well as the Philippines Stock Exchange. Additionally, data was sourced from the firms' official websites and the Data stream platform.

A content analysis was conducted in order to extract pertinent information from the yearly reports. A selection is made of publicly-listed firms that have successfully collected data throughout the two-year timeframe spanning from 2020 to 2021. This analysis used the annual report data of 29 publicly listed firms for the years 2020-2021. The selection process included choosing public firms that met two criteria: having their ESG Score accessible on the Data stream Database and providing comprehensive data for the period spanning from 2020 to 2021. This study gathered data from a total of 58 publicly listed firms across five ASEAN countries. The sample selection for this investigation is shown in Table 1.

Table 1. Sample selection.

Sample criteria	2021	2020
Firms that were listed in the banking industry on the Indonesian stock exchange, Malaysian stock exchange, Singapore stock exchange, Thailand stock exchange, and Philippine stock exchange over the years 2020-2021.	90	90
Firms that possess an ESG score inside the data stream database within the period of 2020-2021.	(61)	(61)
Firms that provide comprehensive data pertaining to academic research during the years 2020-2021.	0	0
Total sample	29	29

3.2. Research Variables and Operational Definitions

The dependent variable of this study is the valuation of banks that are publicly traded on the stock markets of Indonesia, Malaysia, Singapore, Thailand, and the Philippines. The use of Tobin's Q in this study serves as a means to assess the worth of a corporation. A Tobin's Q value of 1 is often regarded as an optimal situation since it signifies that the market has effectively assessed the company's worth. The calculation of Tobin's Q is determined by the following formula, as stated by Menicucci and Paolucci (2022).

$$TobinsQ = \frac{MVE + BVL}{BVA}$$

Where:

MVE: Market Value of Equity (Calculated by total amount of outstanding shares multiplied by closing price in year-end).

BVL: Book Value of liabilities.

BVA: Book Value of assets.

Prior studies have shown the absence of a universally accepted metric for assessing ERM. Adam, Soliman, and Mahtab (2023) study served as the source of the ERM Index, a measurement of ERM. The index used for the ERM is as follows:

$$ERMI = \sum_{k=1}^{18} \frac{Quantitative(k)}{11-4} + \sum_{k=1}^{35} \frac{Qualitative(k)}{1(35)}$$

Where:

ERMI = ERM index

$$\sum_{k=1}^{15} \frac{Quantitative(k)}{11-4} = Total\ sum\ of\ 18\ quantitatve\ measures$$

$$\sum_{k=1}^{35} \frac{Qualitative(k)}{1(35)} = Total\ score\ of\ 35\ qualitative\ measures$$

Both quantitative (CAMELS model) and qualitative (ERM model) measurements were used to make the index, which was based on the Table 2 that shows the metrics and risk measures. The suggested approach offers a complete framework for integrating both quantitative and qualitative ERM practices. In order to provide an equitable contribution of the two distinct metrics to the overall ERM index, modifications have been implemented to guarantee that the highest attainable score for both quantitative and qualitative indicators for a particular bank is 1. The approach produces an optimum total ERM score of 2, where both quantitative and qualitative indicators contribute equally, according to Adam et al. (2023). Every quantitative metric in the financial analysis was obtained by comparing two components from either the balance sheet or the income statement. Typically, the maximum value for any ratio is 1 or 100%. Nevertheless, there are some situations in which the value may surpass this limit. Adam et al. (2023) found that each quantitative indicator was assigned a maximum value of 1 and was labelled with a negative or positive sign to indicate its predicted influence on a financial institution. A negative value might be provided to indicate an undesirable effect of the measure, suggesting insufficient risk management if the number is high, and vice versa.

Table 2. Quantitative measurement of ERM index.

Ratio	Description	Assigned value
CAR	Capital adequacy ratio	1
RPLL	Total related party loans/ Total loans	-1
NPL	Non-performing loan/ Gross loans	-1
COR	Provision charge/ Gross loans	-1
LLR	Loan loss reserve ratio (Loan loss reserve/ Gross non-performing loan (GNPL)	1
LRR	Loan recovery ratio (Loan recover/ Total NPL)	1
TETOE	Training expenses/ Total operating expense	1
PPE	Profit/ Employee	1
ERR	Earnings retention ratio	1

In their study, Adam et al. (2023) used Table 2 to allocate numerical values to ratios. Positive values ranging from 1 to 11 were assigned, whereas negative values ranging from 1 to 7 were assigned. As a consequence, the highest positive value obtained was 4. However, there are three ratios that are deemed inapplicable due to the scarcity of available data for gathering the necessary information. Therefore, the equation may be expressed in the following manner:

$$\sum_{k=1}^{15} \frac{Quantitative(k)}{11-4}$$

In their study, Adam et al. (2023) conducted an evaluation of banks using six primary criteria to assess qualitative measures. These criteria included risk management, the efficacy of the board, supervision of the audit committee, the quality of the audit, the quality of the internal audit, and the quality of management comments in annual reports. The qualitative evaluation has a total of 35 questions that are distributed across the six primary categories. The scoring of these questions is derived from data obtained from yearly reports and other publicly accessible sources, as shown in Table 3. Adam et al. (2023) have proposed a revision to the qualitative measurements used in research. The study made a minor adjustment by introducing a dummy variable to address the lack of a detailed explanation of the criteria for assigning scores of 1-3. This dummy variable was assigned a value of 1 to represent accessible information and a value of 0 to represent tidal conditions. By dividing the sum of the qualitative measurements by the factor of 1 and multiplying it by 35, the maximum qualitative score is 1, which is possible. The alterations are expressed in mathematical notation as follows:

$$\sum_{k=1}^{35} \frac{Qualitative(k)}{1(35)}$$

Table 3. Qualitative measurement of ERM index.

Component
Risk organisation
There is a defined framework for risk management
Clearly stated risk management philosophies
There is a separate risk management department with plenty of staff
A risk management framework is in place
Terms of references for risk management committees that are clearly stated
There is a clear disclosure of the asset-liability committee (ALCO)'s existence and its scope of authority
Major risk management techniques and tools are presented in detail.
Board effectiveness and involvement in the risk management process
Clearly specified board participation and responsibility for risk management
Clearly stated board risk management committee terms of reference
Senior risk officers are explicitly identified in the risk management organisation as being in charge of coordinating risk management activities
Publishes at least yearly board evaluations and assessments
Executive directors are outnumbered by non-executive directors
Among the non-executive directors, there are at least two independent directors
Directors' total stock holdings are less than 10%
Do all board committees and the board as a whole meet at least once every three months?
At board meetings, every board member arrives on time
The CEO is distinct from the board chair
Committee of audit oversight
The annual report contains an ideal audit committee report
At least once every three months, the audit committee meets
Shareholders have representatives on the audit committee
The chairperson of the audit committee is a non-director
Quality of audit
The audit opinion is unqualified
One of the big four audit firms is the auditor
The current tenure of the auditor is under ten years
There is no evidence in the audit report that specific laws and regulations were broken
The audit report date and the date on which the accounts were authorised by the directors are separated by no more than 14 days
Internal audit
Clearly defined internal audit department roles
Extracts from the internal audit charter were made public
Head of internal audit is senior enough to exercise the needed power and authority
The work of internal audit depends on external auditor

Component
The work of internal audits examined and reported on by the audit committee
Quality of management discussion in financial reports and timeliness of financial reporting
The management comments in the financial report include key ratios and performance measurements and cover all material operational areas.
In addition to the annual reports required by regulations, further reports are provided.
Investor conferences are held to answer queries from investors and provide further information
Financial reports are released 90 days following the reporting of data
Total score = Sum of all qualitative measurement

The assessment of ESG performance is conducted using the ESG Score derived from the Refinitiv Datastream. Refinitiv's ESG scores use publicly accessible data to evaluate a company's ESG performance, commitment, and efficacy across ten key areas, including emissions, environmental product innovation, human rights, and shareholders. The intention is to provide a comprehensive and impartial assessment of a company's relative ESG standing. The ESG scores developed by Refinitiv serve as the foundation for the methodology used to analyse ESG data. These ratings provide a clear and objective evaluation of companies' ESG performance and capabilities. Industry materiality and company size biases are considered and included (Refinitiv, 2023). The selection of Refinitiv as the data source for ESG Scores was based on many factors, including the availability of data points, the transparency of metrics, and the provision of detailed insights. This choice was made to ensure a full examination (Gracia & Siregar, 2021). Table 4 lists the score range that Refinitiv assigned for the ESG Score.

Table 4. Range of ESG score.

Score	Quartile	Description
0 to 25	First quartile	demonstrates *weak* ESG performance and inadequate transparency in disclosure of ESG data to the public
>25 to 50	Second quartile	demonstrates *satisfactory* ESG performance and a modest level of transparency in publicly reporting important ESG data.
>50 to 75	Third quartile	demonstrates *good* ESG performance and an above-average level of transparency in publishing relevant ESG data publicly.
>75 to 100	Fourth quartile	demonstrates *strong* ESG performance and high levels of transparency in the public disclosure of relevant ESG data.

This study incorporates control variables, including both national characteristics and company characteristics. The corporate features refer to the entire assets of the firm, which may be understood as its size. Country characteristics include several factors, one of which is inflation. The chosen time interval for the dependent variable (2022–2021) aligns with the timeframe used. According to earlier studies Buallay et al. (2020) and Chairani and Siregar (2021) the yearly rate of each country served as the basis for measuring inflation in this study. Similar to other studies, Florio and Leoni (2017) determined the measurement of firm size by taking the natural logarithm of each company's total assets. The inflation rate data was sourced from the World Bank, while the data pertaining to total assets was derived from financial records spanning the period of 2022–2021 and the Data stream database.

Table 5. Descriptive analysis.

Country	N	ERM				ESG performance				Firm value			
		Minimum	Maximum	Mean	Std. deviation	Minimum	Maximum	Mean	Std. deviation	Minimum	Maximum	Mean	Std. deviation
Indonesia	12	0.97	1.89	1.49	0.29	0.61	0.88	0.75	0.08	0.88	1.63	1.11	0.26
Malaysia	16	0.54	1.97	1.22	0.37	0.45	0.86	0.69	0.15	0.95	1.07	1.00	0.04
Philippines	8	1	1.4	1.29	0.15	0.42	0.71	0.56	0.11	0.93	1.05	0.10	0.04
Singapore	6	0.89	1.23	1.01	0.15	0.53	0.76	0.67	0.11	0.99	1.04	1.02	0.02
Thailand	16	0.57	1.66	1.17	0.36	0.42	0.72	0.61	0.10	0.82	1.15	0.98	0.08

3.3. Research Model

The structural equations used in this study are derived from the assumptions and variables employed. The linear relationship between the independent and dependent variables is indicated by a positive (+) β. While the opposite relationship between variables is indicated by β is negative (-).

$$TQ = \propto + \beta_1(ERM) + \beta_2(ESG) + \beta_3(SIZE) + \beta_4(INF) + e$$

Where:

TQ = The dependent variable, firm value.

ERM and ESG = The independent variable, ERM practices and ESG performance.

SIZE and INF = Control variable, firm size and inflation.

β1, β2, β3, β4 = Regression coefficient.

e = Error

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics

The descriptive data on ERM practices, ESG Performance, and firm value are shown in Table 5. The use of the ERM Index, which has a maximum value of 2, quantifies the ERM variable. Indonesia has the highest mean ERM Index in comparison to the 5 ASEAN countries. In 2020, Public Bank Berhad, a firm based in Malaysia, attained the highest score on the ERM Index, nearing the maximum score of 1.97. Public Bank Berhad has effectively implemented a comprehensive range of quantitative and qualitative assessments to assess its enterprise risk management (ERM) practises. In contrast, the financial institution that attained the lowest ERM Index score was TMB Thanachart Bank, situated in Thailand. Singapore has the lowest average ERM Index, with a score of 1.0095.

One potential limitation is the very small sample size of banking corporations in Singapore, including three entities. Hence, it is inadequate in providing a comprehensive depiction of the whole application of ERM practices in Singapore.

The standard deviation of the 5 ASEAN countries is comparatively lower than the mean for any individual country, suggesting a somewhat balanced distribution of data with few occurrences of severe deviations. The measurement of ESG performance is conducted via the use of the ESG score derived from the Refinitiv Database. Indonesia has a consistently superior ESG score in comparison to Malaysia, the Philippines, Singapore, and Thailand. The comparison of the lowest, maximum, and mean values reveals disparities in their magnitudes. The ESG score in Indonesia has an average value over 0.50, suggesting that enterprises within the country demonstrate commendable ESG performance and a higher level of openness in their public disclosure of significant ESG information. PT Bank Central Asia Tbk attains the highest score of 0.88, placing it in the distinguished category, indicating an outstanding ESG performance and a commendable degree of transparency. The standard deviation of the 5 ASEAN countries is likewise below the mean for each individual country, suggesting a rather uniform distribution of data with limited severe outliers.

The findings in Table 5 make it clear that the firm value calculated using the Tobins Q ratio in each country is very close to the ideal value of firm value, which is 1. This metric suggests that the management team demonstrates a satisfactory level of performance, indicating that the firm has promising investment prospects. According to Thanachart Capital PCL, Thailand has the lowest score among the five nations, with a value of 0.82. This implies that the company's shares are now priced below their intrinsic value and that the return on investment for shareholders is relatively poor. According to Bank Central Asia Tbk, Indonesia has obtained the highest score among the five nations, with a score of 1.63. The standard deviation for each nation is likewise lower than the mean number. This observation suggests that the distribution of values has a very uniform pattern, with no significant presence of exceptionally low or high values.

4.2. Measurement Model

Prior to doing panel data regressions, it is essential to ascertain the most appropriate panel data model. The static linear panel data models include three distinct types: common effects, random effects, and fixed effects. In order to ascertain the best appropriate panel data regression model for this research model, three tests might be used. To begin with, the Chow test may be used to conduct a comparison of common and fixed effects. Furthermore, the Lagrange Multiplier test was used to conduct a comparative analysis of common and random effects. In our analysis, we used the Hausman Test to assess the disparity between common effects and random effects. Table 6 presents the outcomes of all examinations conducted to ascertain the optimal model for this investigation.

Table 6. Model determination test.

Model test	Chow test (Prob >F)	Lagrange multiplier test (Prob > chibar2)	Hausman test (Prob > chi2)
Probability	0.00	0.09	0.00
Decision	Common effect	Random effect	Random effect

The first test used is the Chow Test, which uses the probability of the F statistic. Based on the observed prob > F value being less than 0.05, it may be concluded that the common effect model is more appropriate than fixed effects. Next, the Lagrange Multiplier test was performed by using the probability value compared to the chi-square distribution. The results indicate that the random effect is more appropriate than the common effect since the obtained value is above the threshold of 0.05. Lastly, the Hausman test should be performed in order to ascertain the most appropriate value for this particular research. The findings indicate that the random effect model is the most appropriate model based on the observation that the probability value (prob > chibar2) is below the significance level of 0.05. Once the researcher has identified the best appropriate model for this investigation, it becomes necessary to do the traditional assumption test. The application of the Random Effects Model involves the use of the generalised least-squares (GLS) approach, as described by Gujarati (2003). The GLS (Generalised Least Squares) approach yields an estimation that has the attributes of being a BLUE (Best Linear Unbiased Estimator), hence adhering to the principles of the Gauss-Markov theory. Given that this research utilises the Random Effect Model, it is not necessary to conduct conventional assumption tests in order to ascertain the Best Linear Unbiased Estimators (BLUE) associated with the Random Effect Model.

4.3. Hypothesis Testing

The regression models' findings for this investigation are shown in Table 7. The present research conducted several hypothesis tests and calculated the coefficient. According to the findings shown in Table 7 and Table 8, the ERM variable exhibits a p-value larger than the critical value (z) of 0.212. This suggests a positive relationship and exceeds the predetermined significance threshold of 0.05. Therefore, it may be inferred that ERM practices have a beneficial impact on business value but are not statistically significant. The findings of this study are in line with those of Tahir and Razali (2011) as well as Agustina and Baroroh (2016). There are several factors that might contribute to the limited impact of ERM on firm value, despite its positive orientation.

Regarding the second hypothesis, the ESG variable exhibits a p-value greater than the z-value of 0.013, suggesting a positive relationship and a significance level lower than the predetermined threshold of 0.05. Based on the observed probability (prob z) being less than the predetermined significance level (α), it is appropriate to conclude that the null hypothesis (Ho) should be rejected. Therefore, based on a confidence level of 95%, it may be inferred that this variable has a statistically significant and positive impact on the value of the company. This finding aligns with the results of other investigations done by Buallay et al. (2020). A study conducted on financial institutions in Europe and the Middle East/North Africa (MENA) region revealed that there is a strong and positive correlation between ESG performance and Tobin's Q, a measure of a company's market value. It may be argued that there exists a positive

correlation between a firm's ESG performance and its overall worth, as seen by the company's stock price. This problem is also seen in a poll performed by PwC in 2021, when a majority of investors (79%) expressed the view that using a company's ESG performance as the foundation for investing choices is misguided. A study undertaken by HSBC has also synthesised three elements that contribute to the heightened awareness among ASEAN investors about the problem of ESG. Employee pressure. Regulatory restrictions exist, and investors may potentially enhance their return on investment or mitigate risk by placing more emphasis on ESG factors.

Table 7. Hypothesis 1 and 2 testing.

Variable	β	P > |z|	Decision	Conclusion
ERM → Firm value	0.030	0.212	Accept Ho1	Insignificant
ESG score → Firm value	0.256	0.013	Reject Ho2	Significant

Table 8. Hypothesis 3 testing.

Variable	Prob > chi2	Decision	Conclusion	R²
ERM and ESG score → Firm value	0.086	Accept Ho3	Insignificant	0.281

The third hypothesis posits that there is a simultaneous positive and substantial relationship between ERM practices, ESG performance, and firm value. Based on the findings of this investigation, it was determined that the probability value (prob) for the chi-square statistic (chi²) was 0.0860. Based on the findings, it can be inferred that there exists a positive but statistically insignificant relationship between ERM practices and ESG performance on firm value, at a significance level of 5%. Therefore, the null hypothesis (Ho3) of this investigation is accepted. The potential for a limited impact may arise from ERM practices since ESG factors have been shown to have a substantial effect on firm value. This finding aligns with previous studies conducted on the relationship between ERM practices and ESG performance, as well as firm value (Agustina & Baroroh, 2016; Buallay et al., 2020). Incomplete information pertaining to risk management or a dearth of comprehensible information in annual reports might be attributed to potential causes. The information is often provided in a qualitative manner. Skerci (2013) asserts that external entities tend to overlook qualitative reporting due to the inherent challenges associated with comparing information across different organisations. Therefore, given the ample qualitative data available, it can be concluded that risk management does not have a substantial impact on the value of a corporation.

Another factor to consider is that the inclusion of an excessive amount of ERM information in annual reports might lead to a "diluted meaning" being communicated to individuals involved in the market. Based on the principles of signalling theory, it may be argued that investors interpret this disclosure primarily as a strategic endeavour aimed at constructing a favourable and symbolic impression of commitment with the intention of influencing stakeholder views (Michelon, Pilonato, & Ricceri, 2015). Conversely, it may be seen that the performance of ESG factors has a noteworthy and constructive impact on the valuation of a corporation. This observation aligns with many polls conducted by PwC and HSBC, which indicate that ESG factors have gained prominence among investors as a significant consideration in their investment decision-making processes. This finding may serve as a valuable point of reference for future scholars, as it indicates that both ERM practices and ESG performance do not have a statistically significant impact on company value within the ASEAN banking sector.

According to Table 8, the R-squared value is 0.2813, which can also be expressed as 28.13%. This study shows that ERM practices, ESG performance, inflation, and firm size, along with the other variables used as controls, explain about 28.06% of the changes in the value of the firm. Regarding the remaining portion, it accounts for 71.87% and may be attributed to additional factors that are not included in the study model.

5. CONCLUSION

This study investigates the influence of ERM practices and ESG performance on firm value. This study used content analysis to investigate a sample of 29 publicly traded firms in Indonesia, Malaysia, Singapore, Thailand, and the Philippines. The findings of this study indicate that the implementation of ERM practices does not have a statistically significant influence on the value of a corporation. Multiple variables may influence its occurrence. These factors encompass the scarcity of quantitative measurement data for all companies, the absence of evaluation criteria for qualitative measurements, and the perception that ERM practices are primarily motivated by regulatory requirements rather than being viewed as a strategic initiative to attract investors. Moreover, a likelihood score lower than the 5% threshold indicates a strong and statistically significant correlation between ESG performance and firm value in the findings of this study. This study aligns with the outcomes of prior research, indicating that about 79% of investors see ESG aspects as significant determinants in their investing choices. It is important to mention that both ERM practices and ESG performance have a simultaneous favorable effect, but this effect is not statistically significant.

This study is not without limitations. First and foremost, it is crucial to acknowledge the presence of a constraint in terms of the quantity of available data. The absence of ESG performance data from Refinitiv's ESG score was a constraint in this analysis, leading to a reduced sample size of firms included. This research offers firms new insights into the influence of ERM practices and ESG performance on the financial worth of banking institutions in developing markets, specifically within the ASEAN-5 nations, namely Indonesia, Malaysia, Singapore, Thailand, and the Philippines. Investors could also consider integrating enterprise risk management (ERM) into their investment decision-making process. The implementation of ERM may motivate organizations to efficiently handle and reduce the risks encountered by financial institutions, thereby enhancing returns for investors. Furthermore, this research may function as a standard against which corporations can continuously enhance the accessibility of ERM-related information. This would enable investors to not only take into account quantitative outcomes but also make well-informed investment choices. A recommended approach involves first conducting a standardised measurement to qualitatively evaluate the ERM Index. This assessment aims to provide a complete evaluation of the quality of information pertaining to ERM as disclosed by various firms. Additionally, the study time might be extended in order to augment the sample size by including a greater number of organisations. Moreover, it has the potential to diversify the scope of the examined industry, transcending its confinement to a single sector. Furthermore, future research endeavours may include other characteristics that have the potential to influence the valuation of firms.

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