



Aalto University
School of Business

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ESG IN INVESTING: A CROSS-COUNTRY STUDY

The Relationship between ESG Score and Financial Performance

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Bachelor's Thesis

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ABSTRACT OF
BACHELOR'S THESIS

<p>Author: Duong Mai Title of thesis: ESG IN INVESTING: A CROSS-COUNTRY STUDY</p>
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<p>Objectives The main objectives of this study were to compare the variation and impact of ESG on an international level and two countries: Finland and Vietnam. Zooming inside, each pillar E, S, and G, might not have equal weights on overall ESG on the company's financial performance. Through an empirical study, the paper aims to measure the correlation between ESG and general business practices and if it is a well-founded index.</p> <p>Summary Valid data records from publicly listed firms in Finland and Vietnam in 2022 retrieved from Asset4 – Thomson Reuters were the sample for the analysis. A regression model was built based on previous studies, and modifications are introduced along the way. In general, the differences in ESG practices are discussed in the literature review and raised hypotheses are tested using quantitative data.</p> <p>Conclusions In Vietnam, there are no signs of significance in the correlation between ESG and CFP, whereas Finland showed a slightly negative relationship between the two. It was discovered that country-specific factors significantly influenced ESG performance in both nations. According to the findings, ESG elements should be taken into account by businesses, investors, and decision-makers who support sustainable growth. In order to establish the causal link that ESG can exert on financial performance over time, future research might shift the focus to the impacts of various ESG determinants on financial performance, cross-country comparisons, and longitudinal studies.</p>
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1. Introduction

1.1. Background

Since the internationalization of business, enterprises are expected to be more and more responsible for the environment, society, and their own governance (Cappucci, 2018). This trend has led to the establishment of ESG (Environment, Society, and Governance) ratings, which are used as benchmarks and depictions of a particular company. The concept has gained prominence as an indicative figure of firms regarding their activities towards their governance as well as external image.

While ESG has been studied in various countries such as Germany, South Korea, and the US or even internationally, conflicts in findings remain unchanged (Fatemi et al, 2018). While some works arrived at the conclusion that there is a positive correlation between ESG and financial performance, others ended up with no significant relationship or even a negative correlation. One attribute to this might be the difference in the data provider used as well as the countries of interest. Therefore, extracting data from two countries on contrasting spectrums of ESG for analysis and comparison would be effective and more comprehensive.

Two countries selected for the research are Finland and Vietnam. Finland is a developed market that has been a pioneer in adopting sustainable practices, technological advancements, and innovative spirits. On the other hand, Vietnam is an emerging market that recently joined the sustainable route, and the country has been in its fast-growing phase (Pedersen et al., 2020). Both countries, regardless of their position on the ESG scale, have committed to promoting sustainable development, especially in business practice with all efforts.

Since Vietnam just set its way on the ESG path, it is more sensible to use more recent data, thus posing a challenge to compare with previous one from as early as the 2010s. However, the insights can be powerful resources for the analysis,

which be merged with Finnish companies datasets to evaluate the impact of ESG and whether the aggregate ESG is divergent across these countries.

1.2. Research Problem

ESG has been more extensively integrated; however, emerging markets such as Vietnam have yet to be studied. The most challenging obstacle to the model development is the lack of data, notably ESG data for sampling, not to mention the data available from different providers are graded based on their own scales such as 0-1 or 0-100. Another barrier is the unavailability of financial data such as book value per share which requires some hand collecting.

Taking these attributes into consideration, this study attempts to evaluate the extent of diverse impacts that ESG has, namely on the company's financial performance. Three pillars of ESG will be taken into consideration as well to evaluate if they appear to be of equal importance. Through different models and analysis, this research seeks to find a pattern of ESG in both markets to make implications for managers and future research,

1.3. Research Questions

Research questions are formed alongside the previously raised situation and problem:

1. What is the variation of ESG ratings across countries: Finland and Vietnam?
2. How did different elements of ESG influence stock prices in combination with firm characteristics?
3. To what extent is the correlation between ESG ratings and a company's financial performance?

The different ESG scores will be answered through review of other scholarly articles to develop a comprehensive approach to the quantitative analysis. Following is the ESG test with the presence of other controlling variables to evaluate the influences of ESG on financial performance. Lastly, since ESG

comprises 3 pillars: environmental, social, and governance, studying the three in terms of contributing weights will come as valuable.

1.4. Research Objectives

Through answering the research question, the research aspires to achieve the following objectives:

1. To present and compare the variation of ESG on an international level and two countries: Finland and Vietnam.
2. To identify the impact of each pillar E, S, G, and overall ESG on the company's financial performance.
3. To measure the correlation between ESG and general business practices and if it is a well-founded index.

1.5. Thesis Structure

The thesis will explore the ESG concepts from different papers, its drivers including country-related factors and firm-related factors. Following is the discussion of ESG role and going concerns related to firms and investors in Finland and Vietnam. The data and methodology will provide the guideline for quantitative analysis with details on samples and used variables. A model is developed and tested through regression, and the outcome will be further discussed to make suggestions for further research in international business.

2. Literature Review & Hypotheses Development

Environmental, social, and governance (ESG) rating has attracted raising concerns in society since the integration of markets about not only the depletion of natural resources but also the violation of human rights (Singhania and Saini, 2022). The term has been interpreted in the 2005 United Nations for Responsible Investment (UN PRI) as the corporate commitment to sustainable development, which can benefit the environment, society, and stakeholders, and the structure and financial position (UN PRI, 2015). In its 2022 Sustainability Report, the Governance & Accountability Institute highlighted that 96% of S&P500 and 81% of Russell 1000 firms published sustainability reports. The figures have soared dramatically from roughly 20% in 2011 as for companies are making efforts to build a more reputable image in the eye of the society. Bloomberg Intelligence also reported that ESG assets has climbed from \$22.8 trillion in 2016 to more than \$35 trillion in a four-year period. Regarding the implications of ESG in investing, the data are collected by financial agencies to compile another rating as a reference for users (Flammer, 2013). ESG disclosure has been integrated into investment decisions for a more rational foundation, and companies can clarify and deliver a more complete picture of their operation. However, such incredible expansion initiated the question of to which extent the data is validated and if the information was reported with scrutiny (Chatterji et al., 2016). ESG has been regarded as lowering corporate risk and revamping financial performance, yet there are several research papers concerning productivity and doubting if the result is misleading (Eccles, Ioannou, and Serafeim, 2014). The impacts of ESG might differ across industries and countries, which will be discussed and measured in deeper detail.

2.1. Building the concept of ESG

2.1.1. ESG definition

The term ESG has recently been developed in response to the integration and concern for sustainability (Friede, Busch, and Bassen, 2015). It was not clearly defined until 20 financial institutions filed a report in response to the Secretary-General of the United Nations (Gillian, Koch, and Starks, 2021). The term has been further developed, but the consentaneous core remains a strategic framework for

corporates to be committed to, thus appearing to be more appealing (White, 2022). A finding from empirical studies conducted by Berg, Kölbel, and Rigobon (2022) indicates the disparities are the most noticeable when there have been ongoing and various approaches to how one, especially financial agencies measuring ESG, might assess the three pillars as guidance for ESG disclosures. To better illustrate the argument, criteria for each dimension retrieved from three leading firms: MSCI, S&P Global, and CFA Institute were found to be diverging. For instance, even though the three firms take into account the impact of climate change factors, notably carbon emissions, biodiversity, and water and waste management, other subordinate factors are incorporated in assessing ESG performance (MSCI, 2022, S&P Global, n.d., and CFA Institute, 2022). While MSCI considers the environmental opportunities, S&P Global also evaluates the efficiency of environmental documents together with strategies. A similar pattern can be found in the other two categories.

However, regardless of the detailed properties, it is more important to clearly identify ESG among other sustainability indexes. Larcker, Tayan, and Watts (2022) clarified in their paper one myth that ESG should not be perceived as being synonymous with CSR even though both terms concern sustainability. Generally, CSR traditionally has been referred to by required law as corporations' activities that could shape the image of being more socially responsible in terms of environmental and social aspects toward relevant stakeholders, namely customers, communities, and investors (Yoon, Lee and Byun, 2018). Therefore, CSR, without the explicit presence of governance, is considered a narrower terminology than ESG.

2.1.2. The ESG data inconsistency

Even though ESG ratings are publicly recognized and incorporated into business models, one of the most prioritized challenges that users encountered lies within the divergence in measurement (Cornell, 2020). The author highlighted that despite firms publishing a wide-ranging and sophisticated set of ESG attributes,

these benchmarks are not consistent among firms, resulting in confusion in evaluating the information provided. Additionally, this inconsistency in reporting can be ascribed to companies for reporting using different metrics (Kotsantonis and Serafeim, 2019). For example, there are about 20 different names for a variable about Health and Safety at Work in units such as percentage and number (Christensen et al., 2019). This issue, accordingly, will pose an obstacle to financial agencies and raise more disagreements when measuring since the units of measurement are inconvertible. Scholars analyzing this topic proposed that the validity can be enhanced through more consistent unprocessed data together with a more standardized evaluating approach (Keig et al., 2014). Another shortcoming Fiaschi et al. (2019) also identified lies within the interpretation of ESG rating when the root cause of a lower ESG stayed undefined, thus investors might not understand the business misconduct and the effects on the company.

2.2. Drivers of ESG

2.2.1. Country-related factors

With the inconsistency of data discussed earlier, sometimes the variation depends on the country or the industry itself due to the diverging criteria applied (Gillian, Koch, and Starks, 2021). A previous study involving 2600 companies from 36 nations by Cai et al. (2016) reported that corporate social performance is highly correlated to the level of income-per-capita, competition and civil liberties. A study by Singhania and Saini (2022) about ESG benchmarks in 28 countries suggests that European countries, especially Nordics, consist of a more well-developed ESG framework. On the other hand, Southeast Asian countries such as Vietnam, Thailand, and Indonesia are in the early stage of adopting a suitable strategy. The findings of the study have shed light on the comparison across the two spectrums to assess whether the impacts and impressions about ESG stay coherent.

The hypotheses are constructed based on the concern for this factor:

H1a: Firm's domicile Finland and Vietnam have a significant impact on ESG.

H1b: Firm's domicile Finland and Vietnam have a significant impact on CFP.

2.2.2. Firm-related factors

Besides countries-related factors, characteristics such as ethical and social practices also influence ESG scores (Fatemi et al., 2017). Researchers also emphasize that companies that develop a more comprehensive strategy toward the environment and society tend to have a higher ESG score (Chouaibi and Affes, 2021). Being voluntary in disclosing social performance also indicates the company's commitment to environmental initiatives such as carbon emissions or competence in energy efficiency (Clarkson et al., 2013). While the matter of environment and society are widely represented in other indicators, governance helps with the assessment of the internal structure of the company. In the examination of ESG drivers, Gillian et al. (2021) discovered that board characteristics and gender diversity help improve ESG scores. Another study by Dyck et al. (2022) involving more than 3,000 companies located in 41 countries indicates that ESG performance can be improved significantly through the careful selection of the board. More specifically, the mechanisms include the integration of new board members, a transparent voting process, and advocacy of women's leadership. Accordingly, another hypothesis is formulated:

H2: ESG has a significant impact on CFP.

H3: Different components of ESG have unequal impacts on the CFP.

2.3. The role of ESG

2.3.1. For investors:

ESG ratings can play as an additional indicator for investors, particularly when making responsible decisions (Dorfleitner et al., 2015). The paper identified that there can be two approaches investors can select: negative and positive (Renneboog et al., 2008). For example, as for the positive tactic, they can make the decision to invest in companies with highly rated ESG through market screening. Otherwise, investors might have the option to eliminate indices such as alcohol, tobacco, or any debatable industries. This method, however, comes with a tradeoff when alcohol stock prices, for instance, become intriguing due to change

in market discount rate (Cappucci, 2018). One reminder responsible investors should keep in mind is no strategies are optimal suppose that they rely on one data source. Instead, the same attribute for each ESG component should be retrieved for better comparison and validation.

2.3.2. For firms:

ESG disclosure is not only useful for investors, but firms also benefit from their announcement (Chatterji and Toffel, 2010). The benefits were claimed to be the most outstanding in terms of mitigating the rising uncertainty, notably when the market becomes more uncertain (Mio and Venturelli, 2012). In that circumstance, ESG can act as a reassurance that firms can communicate to relevant stakeholders. Chouaibi and Affes (2021) also support the idea that the ESG framework can serve as a guideline of responsible practices for a company and the position of that company in comparison with the others within the industry. Additionally, this contemporary governance approach, though might not be as simplistic, is considered to outperform the traditional in terms of the value and information created for a company (Charreaux and Desbrieres, 2001).

2.4. Overview of ESG in Finland and Vietnam

The significance of ESG practices for sustainable development and economic progress has been acknowledged by both Finland and Vietnam. Nonetheless, because of their respective cultural and institutional backgrounds, these nations have adopted diverse strategies. A culture of sustainability and social responsibility has developed in Finland as a result of the country's highly developed regulatory structure and significant incentives for ESG regulation (Rahi et al., 2022). Vietnam, in comparison, is currently constructing its institutional framework, despite the government having implemented some environmental legislation and financial incentives (Long et al., 2022).

2.4.1. Finland

Being one of the developed markets, Finland has continuously maintained its high rank among the world's most sustainable countries by the Global Sustainable Competitiveness Index (GSCI) (GSCI, 2021). In 2021, this global leading country has set clear goals in accomplishing complete carbon neutrality as well as achieving a circular economy by 2035. Some glaring examples of these ESG pioneers include KONE, Neste, and Wärtsilä. Reports from these companies announced that, for example, KONE is working on not only optimizing energy consumption to make their elevators and escalators both effective and efficient but also integrating inclusivity in the workplace. Neste, a diesel supplier, has been making efforts to adopt a sustainable supply chain and minimize carbon footprints. Lastly, Wärtsilä has been expanding its business to tackle marine and energy problems.

In terms of regulations, the Corporate Governance Code updates and publishes its guidelines and recommendations to be followed. The coverage of the code includes transparency, accountability, and ethical behaviors. According to this association, the latest version in 2020 experienced some key changes, notably in governance as well as remuneration reporting policy. Additionally, social responsibility has long been a tradition within Finnish society. This implies that profit is not the sole pursuit of the company but rather the incorporation of sustainability and economic growth.

2.4.2. Vietnam

Now in its emerging phase, Vietnam has been setting objectives to raise corporate awareness of ESG. There are still ongoing environmental and social issues, which can act as a hands-on example of how to approach the problems in a more innovative and sustainable way. According to the Vietnamese government, they are proposing and implementing several initiatives such as the National Action Plan with detailed guidelines and criteria for a business to follow for both its daily operation and sustainability report.

Nevertheless, in practice, the enforcement of this plan is not widely covered and compulsory for all businesses. There are some pioneering companies such as Vinamilk or Vingroup that publish their report, but other companies that are concentrating on maximizing their profits express little care about the sustainable aspects. Even though there is limited information about ESG in Vietnamese, the country has been undergoing a major change toward its sustainable development goals, and progress are to be possibly witnessed in the following 5 years.

2.5. The relationship between ESG and financial performance

The study of the relationship between ESG and corporate financial performance (CFP) has been recorded to happen in the early 1970s (Friede, Busch, and Bassen, 2015). For more than 40 years, the topic has undergone continuous debate, nevertheless, there was found to be a statistically positive correlation (Cappucci, 2018). Velte (2017) has proposed a potential reason for disparities is due to the selection of measuring variables. For example, ESG might be reflected through CSR reports or ratings, and financial performance is measured by return on assets (ROA), return on equity (ROE), or stock returns. Despite the divergence, Cappucci (2018) recommended that it is beneficial for companies to integrate ESG practices in the long term for higher investor confidence and the increasing possibility of capital investments, even though ESG adoption in the short run is already efficient. Additionally, the relationship between ESG and financial performance is depicted as a curvilinear line (Barnett and Salomon, 2006), most companies would not experience a promising performance on ESG unless they are outstanding and making intensive efforts to develop the action framework. Hence, the paradox proposed is ESG sometimes might play a counterproductive role in the case of half-committed firms, and companies should be devoted to building a compelling profile to stay outstanding.

Another intriguing finding of the relationship suggests that a single component results in double the positivity for CFP than the combination of ESG itself, with governance disclosure taking the lead (Friede, Busch, and Bassen, 2015). The

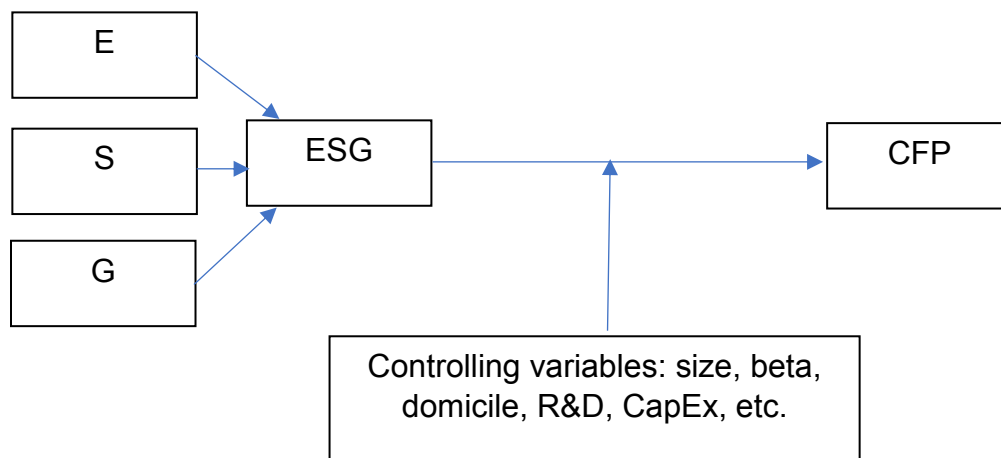
study on a global level also indicated the most promising returns in emerging markets and markets with ex-portfolios in general. Even when the research scope changes or firm size is considered a moderator, the conclusion that firms holding higher ESG ratings will perform better and lower ones remain unchanged (Ahmad, Morabek, and Roni, 2021).

Apart from promoting value creation, a reputable ESG report can prevent corporates from suffering severe losses should a negative controversy happen (Minor and Morgan, 2010). An ESG approach is mentioned to be a faster track to acquiring organization legitimacy from the community than an R&D approach, therefore, more firms are now focusing on building a detailed ESG profile as an indirect way to maintain financial performance (DasGupta, 2022). The outcomes of firm valuation are tested to be independent of the ESG report type such as integrated or stand-alone, thus suggesting that firms are highly encouraged to adopt either form (Mervelskemper and Streit, 2016).

2.6. Conceptual Framework

As the hypotheses suggest, the paper will investigate if the relationship between ESG and CFP is reciprocal, with a focus on the impact of ESG on CFP and further discussion if there is enough evidence for the reverse way. There will be a quantitative assessment of whether the weight distributions of ESG components are identical or if one factor slightly outweighs the others. A moderator of the framework is countries-related elements such as policies, economic development, and overall integration of ESG. Specifically, Finland is regarded as a well-developed ESG market with a relatively high percentage of responsible investment adoption, but it does not experience any significant relations between investment position and ESG or traditional indices (Slepecký et al., 2022). On the other hand, ESG has not been clearly introduced in Vietnam until 2016, and the guidance was opaque, thus resulting in increasing confusion. However, the country has gone through innovative legislation so that there is motivation and a transparent common ground for both firms and investors (Long et al., 2022).

The framework is visualized as the graph below:



3. Data and Methodology

3.1. Data collection

3.1.1. Sample

The sample filter considers 2 factors: the firm's domicile, and whether it is publicly listed. The purpose of studying public companies is that the sample size can be limited, and stock prices or other financial information are more credibly retrieved. Eventually, 1,801 publicly listed companies in Finland and Vietnam were extracted from Asset4 – Thomson Reuters, also known as Refinitiv. Overall, there are 1609 in Vietnam and 192 in Finland registered. Other data providers such as MSCI or Sustainalytics, though credible, do not have sufficient data for firms in Vietnam and Finland.

Refinitiv provides general information about the firms with overall ESG scores as well as the breakdown of different pillars. There are more than 150 indices within a pillar, but the most applied are, for example, emissions score, resource use, environmental innovation, workforce score, human rights score, management score, CSR strategy, and community score. Eventually, after filtering, 103 firms were reported with ESG scores, with 26 in Vietnam and 77 located in Finland. The divergence in the actual sample could be attributed to the development of ESG policies in each country as discussed in the literature review.

3.1.2. Variables

Required data for the model include financial performance figures, ESG and its breakdown score, and controlling variables data. Financial information will be collected in accordance with Ohlson's model used in the framework by Yoon et al. in 2018. These contain stock price at a given time, book value per share, and earnings per share. In this scenario, stock price at the given time will be the dependent variable, since it varies as the market while book value per share and earnings per share are retrieved from the financial statements (Ohlson, 1995). Other indices could be taken into account, for instance, return on asset (ROA), Tobin's Q, or return on equity (ROE), however, these factors can be indirectly

incorporated through later variables such as firm size, calculated as the natural logarithm of total assets, or systematic risk.

The following element of the model, ESG, will be based on the retrieved information from Refinitiv. This variable will be independent and range from a 0 to 100 scale, with 100 being the most optimal. However, each pillar, environment, social, and governance, does not make up for an equal weight in the overall score. To be more specific, some companies that have a significantly higher environment score will not be graded to the same weight due to the considerations of the company's operations.

Last but not least, controlling variables concern the firm characteristics such as size, domicile, risk, and other investments (Fischer and Sawczyn, 2013). For example, firm size will be comparatively represented by the natural logarithm of total assets, beta will symbol systematic risk while debt will measure unsystematic risk. Other factors such as research and development expenses and capital expenditure could be considered; however, due to Refinitiv's limited ability to collect R&D data, the scope of the research applies to size and risk only. The research also distinguish from previous articles which focused on the industry, or chaebol (Velte, 2017 and Yoon et al., 2018) by investigating the relationship is different whether the company is located in Finland or Vietnam. Since the two countries have different currencies, the selected currency will be the euro from selection on Refinitiv. The table below will summarize the variables incorporated in the model:

Variable	Meaning
P_t	Stock price at time t (in €)
$BVPS_t$	Book value per share at time t (in €)
EPS_t	Earnings per share at time t (in €)
ESG_t	ESG score at time t
E	Environmental pillar score

<i>S</i>	Social pillar score
<i>G</i>	Governance pillar score
<i>BETA</i>	Beta 5 year, monthly – systematic risk
<i>DEBT</i>	$\frac{\text{total debt}}{\text{total asset}}$ (Unsystematic risk)
<i>SIZE</i>	$\ln(\text{total assets})$
<i>FINLAND</i>	Dummy variable if the firm is in Finland (1 = yes, 0 = no)

3.2. Methods

Being aforementioned in the variables selection, the simplified version of the Ohlson's valuation model is the core methodology. The equation is expressed as:

$$P_t = aBVPS_t + bEPS_t + c \quad (1)$$

In this model, the price performance of the company will be dependent on the values from financial statements as well as residuals. To further develop this, ESG factor is introduced as an independent model and correlation tests as well as regression analysis will be conducted to confirm the suggested hypotheses:

$$P_t = aBVPS_t + bEPS_t + cESG_t + d \quad (2)$$

As the next step, a joint test for both countries will be followed by individual tests. The purpose of separating the analysis is to witness the divergent impacts of ESG in two different countries on the spectrum. If the adjusted R-square is above 0.5 and p-value is less than the significance level, a positive coefficient c will suggest ESG score will positively impact CFP:

$$P_t = aBVPS_t + bEPS_t + cESG_t + dFINLAND + e \quad (3)$$

To test hypothesis H1a, another regression model is developed:

$$ESG_t = aE + bS + cG + dFINLAND + e \quad (4)$$

Since the overall ESG score comprise three pillars: E, S, and G, it is also essential to evaluate if each pillar when standing alone will exert the same impact as the overall score. The findings for this scenario can be similarly analyzed as the previous models, suggesting that these pillars significantly impact CFP supposing that null hypothesis is rejected. Thus, the model built to test the hypothesis is presented as:

$$P_t = aBVPS_t + bEPS_t + cE + dS + eG + f \text{ FINLAND} + g(5)$$

Lastly, controlling variables are brought into the model to avoid any pitfalls and improve the comprehensiveness. These variables include *BETA*, *DEBT*, and *SIZE* (Fischer and Sawczyn, 2013) as explained above. Beta value will be collected directly from Refinitiv, while firm's debt and size will be calculated through the natural logarithm. This is also the finalized model, and likewise, a separate domicile analysis will be conducted:

$$P_t = aBVPS_t + bEPS_t + cESG_t + dBETA + eDEBT + fSIZE + g(6)$$

Throughout the evaluations, it is expected that ESG score is correlated with firm's financial performance, but the extent and impact can be divergent between the two countries. For example, in Finland where there are more observations and ESG practices are more solid, ESG is more likely to significantly influence CFP. On the other hand, in Vietnam, ESG might have some impacts, but the results might not be significant, partly due to the limited observations as opposed to more companies recorded.

4. Findings

4.1. Descriptive Statistics

Table 1 summarizes the descriptive statistics of the variables in the model, in the order independent financial figures, ESG data, controlling variables, and dependent variable – price.

In terms of financial performance, the sample covers both positive and negative net income. The price range is also considerable, with the highest traded price more than 200 times larger than the minimum price. However, the focus of the statistics is ESG score and its pillars. ESG mean scores for all firms is 47.74, but generally, governance score is higher than the other two, being 50.38 and environment is the lowest graded with the score of 42.63. Environment factor also witnessed the widest difference from as low as 0.05 to its peak of 96.6. There is also a considerable gap in the firm's unsystematic risk since beta is ranging from 0.19 to 1.91.

Table 1: Descriptive Statistics

	Mean	ST.Error	Median	ST.Dev	Variance	Range	Min	Max
<i>BVPS</i>	5.4057037	0.54373	3.616806	5.51826	30.45119	23.88339	-0.194	23.69
<i>EPS</i>	0.7557312	0.083578	0.47	0.848219	0.719476	4.516817	-0.164	4.3525
<i>ESG</i>	47.74221	2.233202	49.50266	22.66453	513.6808	81.22595	8.147	89.373
<i>S</i>	49.209273	2.535012	52.43913	25.72757	661.9076	91.46482	1.986	93.451
<i>G</i>	50.380796	2.229566	50.61008	22.62762	512.0093	86.18037	10	96.18
<i>E</i>	42.628116	2.754053	36.26879	27.95058	781.2351	96.55077	0.0496	96.6
<i>SIZE</i>	20.9241	0.187837	20.93098	1.906336	3.634118	13.52163	13.59	27.112
<i>DEBT</i>	0.2714167	0.013992	0.2608	0.141999	0.020164	0.644256	0.0084	0.6527
<i>BETA</i>	1.0879253	0.039712	1.045401	0.403033	0.162435	1.718384	0.1928	1.9112
<i>Price</i>	12.621871	1.408401	8.05	14.29371	204.3101	70.18574	0.2543	70.44

4.2. Correlation Test

Table 2 depicts the results generated by the Pearson correlation analysis of all variables in the model. Despite some expected outcomes about ESG and its pillar, the correlation of price and other factors are quite unanticipated.

It is noticeable that overall ESG score is highly correlated with each pillar, respectively 0.89, 0.94, and 0.77. Nevertheless, the cross correlation between each pair of elements is not as high, with E-G being 0.53, S-G being 0.59, and the highest correlation belongs to E-S: 0.81. If significant, this figure suggests that a firm excelling environmental performance has likelihood to has a high evaluation in social score.

The risk variables have a positive correlation coefficient with each other, but they are negatively correlated to the other variables as expected. Similarly, there is a quite strong correlation between BVPS and EPS or EPS and price. However, a surprising finding of this correlation test is that the coefficient between overall ESG and price stays at 0.26, and there is an even lower correlation between governance score and price (0.08). The outcome post a contemplation about whether ESG can have a significant impact on CFP, which will be answered through regression models.

Table 2: Pearson Correlation

	<i>BVPS</i>	<i>EPS</i>	<i>ESG</i>	<i>S</i>	<i>G</i>	<i>E</i>	<i>SIZE</i>	<i>DEBT</i>	<i>BETA</i>	<i>Price</i>
BVPS	1									
EPS	0.8374	1								
ESG	0.4484	0.4194	1							
S	0.4569	0.4428	0.9378	1						
G	0.2237	0.2134	0.7741	0.59	1					
E	0.5075	0.4689	0.8906	0.81	0.534	1				
SIZE	0.3035	0.2851	0.4453	0.34	0.399	0.492	1			
DEBT	-0.1362	-0.2002	-0.175	-0.23	-0.07	-0.14	-0.1	1		
BETA	-0.1935	-0.1139	-0.186	-0.25	-0.097	-0.09	-0.1	0.147	1	
Price	0.6052	0.8338	0.258	0.29	0.082	0.311	0.11	-0.214	-0.099	1

4.3. Regression Analysis

Table 3 shows the results for regression analysis of model (2). The R-square value suggests that 72% of price are explained by the independent variables. Even though more than half of the dependent variable values fit in the model, the ESG had a slightly negative coefficient with CFP, and p-value suggest that this is not statistically significant. Therefore, to conclude **H2**, in this model, we do not reject the null hypothesis, and there is not enough evidence to suggest ESG has a negative significant impact on CFP.

Table 3: Regression Result for (2)

<i>Regression Statistics</i>	
Multiple R	0.853771
R Square	0.728926
Adjusted R Squ	0.720711
Standard Error	7.553908
Observations	103

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>ower 95.0%</i>	<i>pper 95.0%</i>
Intercept	4.877153	1.742982	2.798167	0.006177406	1.418699383	8.335607	1.418699	8.335607
Book Value pe	-0.74033	0.252841	-2.92805	0.004232557	-1.242023425	-0.23864	-1.24202	-0.23864
Earnings Per St	18.63186	1.619577	11.50415	5.94512E-20	15.41827172	21.84546	15.41827	21.84546
ESG Score	-0.04889	0.037071	-1.31873	0.190303375	-0.122443461	0.02467	-0.12244	0.02467

The outcome from the second model led to model (3) which aims to test **H1b** where the concern lies within the effect of the domicile of the firm on CFP. Table 4 below include the results of the test. When the firm country of location is introduced, there are 74% of dependent variables fitting in the model. Additionally, both p-values for FINLAND and ESG are lower than the significance level, suggesting that these two factors are statistically significant. For **H1b**, null hypothesis is rejected, implying that there is enough evidence to conclude Finnish firms are performing better financially. Similarly, for **H2**, there is enough evidence that ESG disclosure can bring a slightly negative impact to the countries.

Table 4: Regression Result for (3)

<i>Regression Statistics</i>	
Multiple R	0.866432
R Square	0.750704
Adjusted R Square	0.740529
Standard Error	7.280974
Observations	103

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.15906	1.779665	1.775087	0.0789882	-0.37263	6.690747	-0.37263	6.690747
Book Value	-0.81421	0.24501	-3.32319	0.0012522	-1.30043	-0.328	-1.30043	-0.328
Earnings Per	18.0804	1.572396	11.49863	7.042E-20	14.96003	21.20077	14.96003	21.20077
ESG Score	-0.08807	0.038158	-2.30794	0.0231051	-0.16379	-0.01234	-0.16379	-0.01234
Finland?	5.892139	2.013737	2.925972	0.0042675	1.895943	9.888335	1.895943	9.888335

To further investigate the impact of countries on ESG data, regression for model (4) was conducted and shown in Table 5. 99.2% of the overall ESG scores are explained by each pillar as well as firm's location. All independent variables in the model are positively correlated with ESG score; however, due to a high P-value of 0.17, FINLAND variable is not statistically significant. Thus, **H1a**'s null hypothesis is rejected, indicating that there is not enough evidence to conclude firm's domicile has a significant impact on ESG score.

Table 5: Regression Result for (4)

<i>Regression Statistics</i>	
Multiple R	0.996131
R Square	0.992278
Adjusted R Square	0.991962
Standard Error	2.031941
Observations	103

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.93022	0.578056	-1.60922	0.1107859	-2.07735	0.216916	-2.07735	0.216916
Finland?	0.832661	0.602419	1.382197	0.1700535	-0.36282	2.028142	-0.36282	2.028142
S	0.42253	0.015586	27.11045	2.46E-47	0.391601	0.453459	0.391601	0.453459
G	0.319252	0.011768	27.12845	2.322E-47	0.295899	0.342606	0.295899	0.342606
E	0.262113	0.012491	20.9843	4.968E-38	0.237325	0.286901	0.237325	0.286901

Even though Table 2 and Table 5 points out that there is a positive relationship between overall ESG score and each of its pillar, it is worthwhile to apply regression analysis to model (5) to evaluate the impacts of each pillar on CFP. Table 6 shows the results, which indicates that excluding the financial variables, the location of the firm is the only statistically significant variable, with P-value being 0.005. Contrastingly, all E, S, and G pillars have a negative coefficient, and the lowest P-value found was 0.17. Therefore, we do not have enough evidence to reject null hypothesis of **H3**, and it cannot be concluded that each pillars has different weight on CFP.

Table 6: Regression Result for (5)

<i>Regression Statistics</i>					
Multiple R	0.867614				
R Square	0.752754				
Adjusted R Square	0.737301				
Standard Error	7.326115				
Observations	103				

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	6	15687.12	2614.52	48.7129657	5.21724E-27
Residual	96	5152.508	53.67196		
Total	102	20839.63			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2.962392	2.087979	1.418785	0.15920031	-1.18221297	7.106998	-1.18221	7.106998
S	-0.07646	0.056234	-1.35966	0.17712093	-0.188084062	0.035164	-0.18808	0.035164
G	-0.00816	0.042432	-0.19241	0.84782896	-0.092390922	0.076062	-0.09239	0.076062
E	-0.00719	0.046554	-0.1545	0.87753703	-0.099601871	0.085216	-0.0996	0.085216
BVPS	-0.82271	0.248761	-3.30724	0.0013267	-1.316496611	-0.32892	-1.3165	-0.32892
EPS	18.1853	1.584211	11.47909	1.0341E-19	15.04066917	21.32994	15.04067	21.32994
finland	6.479734	2.255682	2.872627	0.00501067	2.002240585	10.95723	2.002241	10.95723

Last but not least, considering all variables, a holistic analysis is presented in Table 7. Overall, 73.82% dependent variables can be explained by the model, and the same pattern can be witnessed throughout. The coefficient of ESG is still negative, yet this result is the closest to statistically significant (0.061). Therefore, null hypothesis of **H2** can not be rejected. On the contrary, the location once again is

significant, implying that the locating in Finland in general will result in better performance.

Table 7: Regression Result for (6)

<i>Regression Statistics</i>	
Multiple R	0.869696
R Square	0.756371
Adjusted R Square	0.73842
Standard Error	7.310508
Observation	103

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	7	15762.49	2251.785	42.1339058	1.91874E-26
Residual	95	5077.135	53.44353		
Total	102	20839.63			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	10.88691	10.34068	1.052824	0.29509235	-9.641934104	31.41576	-9.64193	31.41576
BVPS	-0.80944	0.251667	-3.21633	0.0017755	-1.309063915	-0.30982	-1.30906	-0.30982
EPS	17.97934	1.622782	11.07933	8.3506E-19	14.75770679	21.20097	14.75771	21.20097
ESG	-0.08715	0.046037	-1.89297	0.06140631	-0.178541385	0.004248	-0.17854	0.004248
SIZE	-0.21365	0.500052	-0.42725	0.67016636	-1.206375358	0.779084	-1.20638	0.779084
DEBT	-5.86045	5.339153	-1.09764	0.27513765	-16.46000643	4.73911	-16.46	4.73911
BETA	-1.33179	1.867803	-0.71303	0.47757673	-5.039852955	2.376264	-5.03985	2.376264
finland	5.609413	2.377207	2.359666	0.02033751	0.890060955	10.32876	0.890061	10.32876

The findings have raised a question as if the result can be deviated due to the combination of countries. Hence, the analysis for this model was re-run for each country. Surprisingly, ESG variable is significant with its P-value equal to 0.049. However, due to the coefficient -0.13, ESG scores for Finnish companies can negatively affect the financial performance.

Table 8: Regression Result for (6) – Finland

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.836618
R Square	0.69993
Adjusted R Square	0.67421
Standard Error	8.387935
Observations	77

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	6	11487.88	1914.64637	27.21312902	1.69E-16
Residual	70	4925.022	70.3574502		
Total	76	16412.9			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	8.116159	14.61377	0.55537767	0.580406977	-21.0301	37.26239	-21.0301	37.26239
BVPS	-0.89035	0.312086	-2.8528926	0.00569209	-1.51278	-0.26791	-1.51278	-0.26791
EPS	18.04863	1.896585	9.51638233	3.01038E-14	14.26601	21.83125	14.26601	21.83125
ESG	-0.13523	0.06763	-1.9995589	0.049430407	-0.27011	-0.00035	-0.27011	-0.00035
SIZE	0.389771	0.848827	0.45918734	0.647522427	-1.30316	2.082704	-1.30316	2.082704
DEBT	-8.80062	7.116298	-1.2366848	0.220337295	-22.9936	5.392392	-22.9936	5.392392
BETA	-1.59627	2.438196	-0.6546921	0.514811515	-6.4591	3.266561	-6.4591	3.266561

As for Vietnamese companies, the results are different as shown in Table 9. ESG variable, despite having a positive coefficient, is not statistically significant since P-value equals to 0.75. With this number, there is not enough evidence for ESG's impact on CFP in Vietnam.

Table 9: Regression Result for (6) – Vietnam

<i>Regression Statistics</i>	
Multiple R	0.899235
R Square	0.808623
Adjusted R Square	0.75121
Standard Error	1.131711
Observations	27

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	6	108.2325	18.03875	14.0843056	2.9688E-06
Residual	20	25.61539	1.28077		
Total	26	133.8479			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	5.740923	3.527562	1.627448	0.11929441	-1.617442014	13.09929	-1.61744	13.09929
BVPS	-0.29613	0.235044	-1.25991	0.2222048	-0.786427063	0.194158	-0.78643	0.194158
EPS	11.22673	2.122747	5.288777	3.5517E-05	6.798761903	15.65471	6.798762	15.65471
ESG	0.004844	0.015494	0.312638	0.75779241	-0.027476386	0.037165	-0.02748	0.037165
SIZE	-0.21766	0.155619	-1.39868	0.17722433	-0.542276283	0.106954	-0.54228	0.106954
DEBT	0.677719	1.73206	0.391279	0.69972805	-2.935294118	4.290733	-2.93529	4.290733
BETA	-0.61181	0.695904	-0.87915	0.3897594	-2.063436627	0.839825	-2.06344	0.839825

5. Discussion

The paper has delivered the analysis on the most recent data about ESG in 2022 in relation with its pillars, financial performance, and other firm's characteristics. The two countries of the study, Finland and Vietnam displayed different results in the regression analysis.

The correlation table suggests that there could be a positive relationship between, notably, ESG and Price, however, the regression analysis has disagreed. Overall, in both countries, there is no significance of ESG's impact on CFP but only the location. These results have proposed another approach to the problem by doing individual analysis of Finland and Vietnam. As from table 8, ESG significantly and negatively influences CFP when all controlling variables are considered. Using the same method for Vietnam with the outcome in Table 9, there is so significance at all in whether ESG can impact CFP. Thus, from the analysis, location seems to play a more crucial role in shaping the outcome. One rationale for this could be the diverging data retrieved from the two countries where the combination would not come in handy.

Similarly, since the data for each pillar E, S, and G are quite wide-ranging, the deviations is relatively higher than the overall ESG, implying that there is not enough in evidence in its weights. One conclusion that can be drawn from the score breakdown is these three are in significantly positive relationships with the overall score regardless of the country.

The model was picked up and modified from previous studies by Yoon et al., 2018 and Velter, 2017 conducting in South Korea and Germany respectively; however, the same expected results could not be found. Discussions from both articles mentioned the model coverage might be confusing as when it is applied in an emerging market or a well-developed market. In the paper example, even when

the result is significant, it turned out not to be completely reliable since less than 20% of data was explained, thus posing a question of whether a positive relationship is the ultimate goal in that scenario.

6. Conclusion

6.1. Main Findings

The paper attempts to explore ESG comprehensively through both qualitative and quantitative data. The analysis of the relationship between ESG and financial performance in Finland and Vietnam has provided conflicting yet interesting insights on the usage of ESG in association with financial performance. Through a dataset in 2022, the highest ESG scores are usually in Finland; however, the regression analysis suggests a slightly negative impact on financial performance by ESG. Meanwhile, in Vietnam, the relationship was found to be insignificant. Other firm characteristics are also insignificant with the presence of ESG, nonetheless, it could not be completely implied that efforts to stay committed to sustainable goals can pose a financial risk to a firm.

6.2. Limitations

The paper has taken into account of different factors when carrying out the analysis to ensure the most reliable result; however, limitations are unavoidable.

The major constraint of this paper is the lack of historical data. It might be more comfortable to retrieve data from companies in Finland since the country has been applying financial reports and financial reports for a sufficient period of time. The data from Vietnam has been a challenge as the national acts have been into effect recently, which is asking companies to put more effort in reporting, and previous data could have been inconsistent.

That being mentioned, the timeline of the study is 2022 and, therefore, can not represent the whole time period in a solid way. ESG data, together with other variables, can be different from time to time whether the companies has been thriving in its business or suffering from a downfall. Additionally, the scope for the study are publicly listed companies with available ESG score. Even though the model can explain a minimum of 70% dependent variables for every test, it is not

fully guaranteed since there are other listed companies, not to mention other organization types.

6.3. Implications for International Business

This cross-country study can serve as a guideline for investors when making investing decisions. When an investor expresses interest in sustainable investing and aim for higher ESG scores equities, it sometimes does not mean that they can gain financial benefit such as in Vietnam.

The ESG score should also taken into account by firms so that they have the view of their performance and to avoid any extreme gap between the scores. For example, firms in Vietnam can pay more attention to factors and regulations that can drive the score dramatically while Finnish firms can build a more solid strategy based on their previous ESG score.

Lastly, the implication from this paper is for policymakers not just in Vietnam or Finland but any countries, especially emerging ones. Having a well instructed criteria and a defined goals not only motivates policymakers themselves to take actions towards the more sustainable future but it also helps firms understand the vision so that they can join their hands in adopting ESG practices.

6.4. Suggestions for Further Research

Future study might examine the influence of various ESG elements on financial success and how the link may varies across industries in order to further expand our understanding of the connection between ESG and financial performance. One optimal strategy could be studying the impacts of ESG and its variation on a country level since the data could be more consistent to collect. Followed by that can be comparative research across nations which can also shed light on the contribution of institutional and cultural elements on ESG performance rather than an international study due to the limited access to underdeveloped markets

in incorporating ESG. Last but not least, long-term research can assist establish the causal link between ESG and financial performance.

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