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# The Impact of ESG Ratings on Financial Performance of the Companies: Evidence from BRICS Countries

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## Abstract

Non-financial factors become the relevant topic in the context of understanding the successful development of companies over the world. The purpose of this paper is to study the relationship between ESG scores and financial performance of firms operating in emerging markets, in particular BRICS countries. This study includes three financial performance indicators to cover three different perspectives: accounting measure (ROA), market performance (TSR) and economic metric (EVA spread). The ESG scores, its pillars and other financial metrics are taken from Refinitiv Eikon. The sample consists of 257 listed companies operating in BRICS countries throughout 2017–2021. The main method of the research is the Fixed Effect method for panel data. The results showed that there is no statistical significance between ESG and ROA. Besides, government pillars negatively affect ROA through CSR that is explained by legitimacy theory. As for TSR, ESG, social and environment pillars have positive effects on market performance measure, following stakeholder theory. Regarding economic performance, ESG and social pillar have negative influence on EVA spread.

**Keywords:** ESG, sustainable development, financial performance, BRICS

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## Introduction

Key determinants of financial performance (FP) had always been the topic of current interest. Every management team would like to know “the right” path that leads to the successful development of their corporation. Unfortunately, there is no single formula on how to achieve it. Nowadays, it is academically clear that the level of corporate financial performance can be determined by both financial and non-financial factors and their combinations.

In the recent decades, the rise of socio-economic and environmental problems became more and more critical, which made most economies pay attention to sustainable practices. Most companies tend to transition towards green growth to try and prevent climate changes and environmental degradation issues. The most pressing environmental, social and governance issues have been brought together by the United Nations. Based on these issues, they formed the overarching Sustainable Development Goals (SDGs), with the aim of preserving and improving the economic, social and environmental spheres.

All these innovations have caused increased attention to the corporate actions of companies from both internal stakeholders and external stakeholders. Customers expected the implementation of higher ESG standards. Regula-

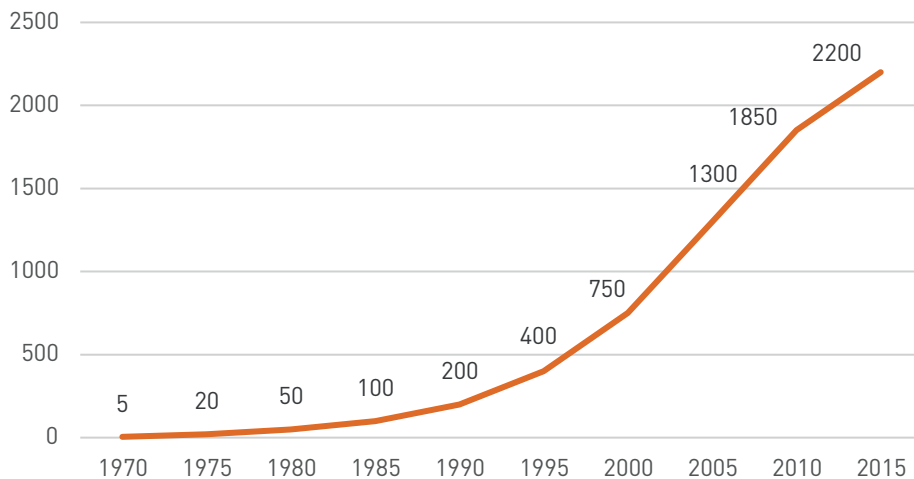
tors and policymakers have sought to tighten controls on environmental impact, resource consumption, respect for human rights, and company transparency. Employees and managers aimed to be in line with the international community’s vision for more environmentally friendly technological processes and manufacturing strategies [1].

As the ESG agenda began to attract significant attention from world business leaders, it entailed significant capital inflows, investments and costs. The natural question arose as how the integration of sustainable practices affects the financial performance of companies – both in the short- and long-term perspective.

The purpose of this paper is to confirm or refuse the question of the existence of a significant relation of ESG performance to financial performance of firms, and to assess whether these connections are positive or negative.

The relevance of the research comes from the fact that the impact of ESG performance on the financial performance of a firm remains uncertain. More than 2000 research articles devoted to the relations between ESG activities and corporate financial performance have been published by 2015 [2]. And the number is constantly growing. Despite the fact that the question has been vastly studied, some studies provided strong positive effect of ESG performance on FP, while others proved a vice versa hypothesis.

**Figure 1.** The growth of the number of studies on the ESG-FP relation over time



Source: [2].

Furthermore, results vary depending on the region of study. Related articles tend to be mostly concentrated on the performance of companies from developed economies like European and North America companies [3]. Firms representing emerging economies were not frequently studied in the ESG-FP related studies, despite the fact that they form a significant part of the business around

the globe (Table 1). This literature gap could be explained due to reliable data unavailability up to a certain period. However, in recent years, academical studies showed that positive correlation between sustainable performance and financial performance of companies from the emerging countries could be even higher than in the developed markets [2].

**Table 1.** Active countries on ESG literature

Rank	Country	Documents	Citations
1	United States	26	456
2	Italy	25	360
3	Germany	22	450
4	United Kingdom	22	255
5	Spain	20	307
6	France	13	219
7	South Korea	13	74
8	Australia	10	202
9	Malaysia	10	20
10	India	9	43
11	Canada	7	137
12	Netherlands	6	18
13	China	5	53

Source: [4].

The novelty of this study is represented in usage of new financial performance proxy, based on Boston Consulting Group methodology: Total Shareholder Return [5]. By exploring the relationship between ESG scores and TSR, the study contributes to the growing body of research on sustainable investing and responsible corporate practices. This new methodology of TSR allows both investors and academics to consider other perspectives of financial performance of companies and its link to sustainable practices.

The implication of the findings may be useful for investors who want to form a portfolio consisting of companies from different industries and want to know how the value of their portfolio may be affected by information about these companies' ESG activity. This study could help investors and regulatory bodies to understand the impact of the ESG performance on firms' financial results and make necessary investment decisions. This study could also encourage management of corporations to adopt more efficient and effective ESG policies and initiatives, as ESG performance can maximize market value.

The main contribution of the current study to the existing literature is that previous papers considered mainly accounting financial metrics of companies operating in developed markets, while this paper is also considering market and value-based measures of financial performance and is focused on the firms operating in emerging markets.

## The Influence of Sustainability Practices on Financial Performance: Literature Trends

### The origin of sustainable initiatives implementation

Successful financial performance has always been one of the main priorities of business firms and organizations. Many research papers study and analyze various economic and non-economic aspects that affect the financial performance of the companies. Moreover, the concepts of corporate social responsibility and sustainability became more popular in the context of the financial market and the growth of the company's outcomes. In this sense, there are recent studies that have investigated the relationship between such concepts as ESG and corporate financial performance.

The ESG framework consists of three major components: environment, social and governance. The comprehensive definitions of the ESG components are presented in the article "Understanding the Effects of Environment, Social, and Governance Conduct on Financial Performance: Arguments for a Process and Integrated Modelling Approach" by M. T. Lee and I. Suh [6]. The environmental pillar (E-pillar) determines how well companies prevent environmental damage such as climate change, depletion of natural resources, waste and pollution. The social pillar (S-pillar) is identified by the employee relations, working conditions, organizational diversity, human rights, employee equity and justice, inclusion, product responsibility, and community health and safety. The governance pillar (G-pillar) shows the quality of the company's management that include the following characteristics: board functions, structure, firm policies, compensation, lobbying, corruption, donation.

Companies implement special initiatives inside the business processes in one or several ESG dimensions that boost the sustainable development. However, some of these actions may promote value creation of the company, while others can reduce financial value. Companies dedicated to ESG principles tend to utilize resources more efficiently, resulting in higher revenues, increased dividends, and reduced reputational risks [7]. Additionally, McKinsey & Company (2019) has highlighted the various ways in which a strong ESG proposition generates value, including top-line growth, cost reductions, productivity gains, and optimized investments and assets [8]. However, while many surveys have investigated stakeholder perspectives, ongoing research is still underway to quantify the precise impact of ESG on value creation.

Thereby, the ESG score is used as a non-financial factor of evaluation of companies' sustainable performance and explains how the companies deal with environmental, social and governance issues [9]. Nowadays, there are different ESG rating agencies that evaluate sustainable performance of the firms: Refinitiv, MSCI, Bloomberg, Sustainalytics

and others. Each ESG rating provider employs its unique methodology for assessing the pillars of ESG, utilizing diverse datasets and assigning varying weights to each category. Comparatively, the average correlation among the seven most commonly used ESG rating providers is only 0.55, while different credit rating providers exhibit a significantly higher correlation of 0.99 [10].

### Theoretical Framework

There are two academic opinions in terms of the relationship between ESG activities and financial performance of a firm. The first strand follows one of the most frequent modern theoretical frameworks, called Stakeholder theory. The primary contention revolves around the notion that “good governance” practices play a key role in reducing agency costs, aligning the interests of managers and shareholders, and implementing strategies that enhance productivity. Furthermore, extensive literature has demonstrated that firms that embrace ESG principles effectively mitigate long-term risks associated with events and litigation. These findings have been supported by studies conducted by H. Servaes and A. Tamayo, R. Eccles et al., and R. Albuquerque et al. [11–13].

The second strand follows the line of increased costs to support ESG activities, thereby serving short-term interest and private benefits rather than generating real value of the company [14]. Thus, despite the emerging academic interest in sustainable development studies, the relationship between ESG activities and financial performance of a company remains uncertain and understanding of the effect of the ESG activities on financial performance of the company becomes an essential question for the discussion [2; 15; 16].

As it has been mentioned before, increasing disclosure of ESG information, immediately attracted both academics’ interest and investors’ attention. It brought to the popularization of two main theories, connected to G pillar of ESG agenda – the Shareholders theory, which then rapidly transformed into Stakeholder theory [9].

Stakeholder theory became one of the leading theoretical frameworks in the ESG literature [4]. Increased availability of non-financial information led to the increased transparency of business and increased trustworthiness of the stakeholders, for whom sustainable performance was a way of meeting their expectations. According to Cheng et al., commitment to transparency lower informational asymmetries among companies and shareholders, thereby mitigating risks [17]. Thus, ESG ratings became a useful tool to measure stakeholders’ satisfaction and demonstrate low risks for the stock market [18; 19].

Talking about socially responsible actions of firms, it is important to mention Legitimacy theory, that plays a significant role in the development and worldwide integration of ESG disclosure. The theory is connected with S-pillar of ESG and promotes an idea that there is a tacit contract between a company and surrounding society. The contract has its own terms and conditions including compliance with applicable social laws and regulations required by govern-

ment as well as satisfying the expectation of the society in terms of ESG issues.

In ESG literature, Legitimacy theory is used as a theoretical framework that helps to understand the value creation process through disclosure of non-financial information. Corporations are constantly forced to become more and more transparent under the social and political pressure. Despite subsequent costs, this could be a way to comply with the terms of the deal between business and society, as well as to highlight the legitimacy of corporate actions [4]. Legitimacy theory is an example of how a company can go beyond the goal of economic profits and achieve non-financial value, which at some point can be transformed into the increase in financial performance metrics.

On the one hand, the positive impact of ESG agenda on financial performance can be explained by the social impact theory. While on the other hand, there is evidence of negative influence of sustainability on financial success of companies, following trade-off theory.

Social impact theory complies with stakeholder theory stating that for long-term value creation companies should take into account all agents’ interests. Social impact theory is based on the idea that favorable social performance will lead to favorable financial performance, through meeting the needs of various stakeholders [20]. Moreover, the implementation of ESG activities help companies to achieve a competitive market advantage. Failure in satisfying stakeholder’s needs increases risks and costs, leading to the loss of profitability. Thus, serving the interests of stakeholders boosts a firm’s reputation in the first place, which then affects financial results of the company [21].

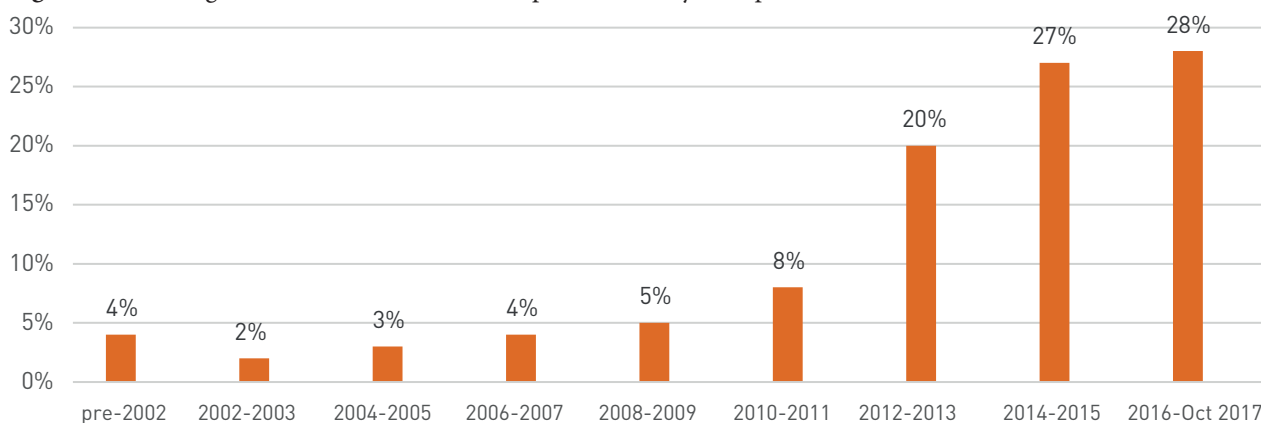
On the contrary, there are academic articles that follow the idea of trade-off hypothesis. It states that social activities may have a negative effect on financial results of the company due to increase financial costs. In other words, the trade-off hypothesis or traditionalist view implies that the growth of costs and the drop in profitability could be due to the achievement of social and environmental goals [20].

Companies with strong socially responsible activities including charity, environmental innovations, community investments etc., may suffer from resource and capital outflow leading to a relative disadvantage compared to less socially active firms. What is more, some research articles showed that such companies can experience declining stock prices, due to growing financial costs [21].

### Discussion of existing researches

#### *Time period distribution*

The increasing number of research on this topic can be observed in the last decades. According to Friede et al., approximately 2,250 empirical studies on the nexus between ESG and financial performance were published from the 1970s to 2014, more than 1,000 research studies have appeared since 2015 [2; 6; 16]. Nevertheless, the numerous papers did not accelerate into the final unified conclusion about the impact of ESG performance on financial outcomes.

**Figure 2.** Percentage of ESG-CFP related articles publications by time period

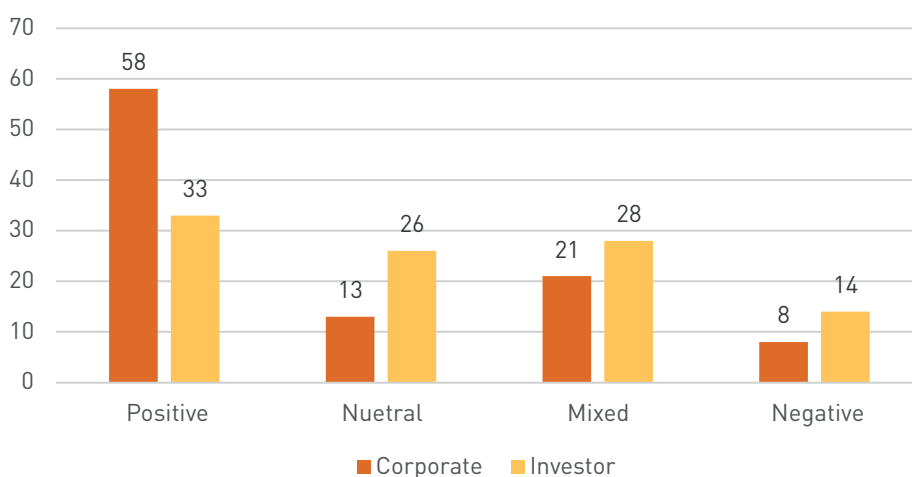
Source: [22].

The studies about the relationship between ESG and financial performance may be divided into various groups by different methods, different samples of companies, different variables as proxy for financial performance and different measures for the sustainable development of the firms.

#### **Financial performance metrics distribution**

Generally, there are two types of papers: corporate-oriented and investor-oriented research. The corporate-oriented studies examine the operating metrics such as return on equity (ROE), return on assets (ROA), or stock performance as the earning per share (EPS). As for investor-oriented, the company's performance is considered from the investor's point of view with the following measures: Tobin's Q or Sharpe ratio on a portfolio of stocks.

The report of the members of NYU Stern Center investigated the difference in the results of these two types of papers on the basis of approximately 245 research papers between 2015 and 2020 [16]. The main outcomes are presented in the diagram from their article below. Regarding corporate-oriented studies, 58% of papers that used operational metrics concluded about positive and statistically significant impact of ESG on financial performance, 8% showed negative results, 21% concluded about mixed effects, and in 13% there was no statistical significance. For investment-oriented research, 33% of research papers showed positive effects, 14% of studies – negative outcomes, 26% – mixed results, and in 26% there was no statistical significance. Thus, there is no consensus in the studies about the impact of ESG and financial performance of the companies in both corporate-oriented and investor-oriented studies.

**Figure 3.** Research results for correlation between ESG and financial performance

Source: [16].

As mentioned above, corporate-oriented research papers use the operating measures of financial performance, such as ROA, ROE, ROCE, etc. However, there is no consensus among these studies: some papers found positive relationships [23; 24], others concluded about negative [25], there were examples with mixed results for different accounting metrics [26] and finally several researchers found no statistically significant effects [27; 28].

On the one hand, there is a considerable body of research that supports the idea that ESG success is positively correlated with financial performance. According to this point of view, a firm's high ESG performance is a reflection of its dedication to sustainable development and risk management, both of which may contribute to improved financial success for the organization. Researchers have discovered that companies with high ESG ratings often have better

long-term financial performance compared to their competitors. According to the findings of this research, businesses that have strong ESG practices have a tendency to have higher operational performance and to be less hazardous. Changhong Zhao and his colleagues investigated the relationship between ESG and financial performance in 20 large listed power generation companies in China for the period of 10 years [24]. The conclusion stated that ESG scores have a positive impact on Return on capital employed (ROCE).

On the other hand, some researchers have claimed that there may be a negative association between ESG and financial success, while others have suggested that there is no substantial correlation between the two. According to this point of view, ESG efforts can take resources away from activities that generate profits, which would have a detrimental effect on the company's financial performance. E. Duque-Grisales and J. Aguilera-Caracuel explored the effect of ESG scores and ROA for 104 companies from Brazil, Chile, Colombia, Mexico and Peru between 2011–2015 [25]. The conclusions showed a statistically significant negative effect of ESG score and its pillar on ROA. This means that firms that demonstrated superior ESG performance tended to exhibit lower financial performance. In other words, companies that performed exceptionally well in sustainable activities were not necessarily the most profitable ones. This result posits an inverse relationship between environmental stewardship and profitability in the corporate world.

Furthermore, the effect on different accounting metrics can be different. Carnini Pulino and his colleagues investigated the impact of ESG on EBIT and ROA for the sample for largest Italian listed companies from 2011 to 2020 [26]. The outcomes show positive effects of ESG components on EBIT, but negative impact for ROA. In particular, the environmental pillar and the social pillar have a positive impact on EBIT.

Besides, investor-oriented studies also include market metrics of financial performance such as Tobin's Q, returns or others. But outcomes are also controversial. For example, one of the past studies by, D. D. Lee, R. W. Faff and K. Langfield-Smith studied the effect of ESG on both ROA, ROS and ROE as accounting performance measures and on 3-year absolute return, one and six-factor alpha as proxies for market performance [29]. The sample included about 500 firms from the Dow Jones Global Index (DJGI) database. As for results, the authors found the negative relationship between ESG and market-based metrics, but there was no effect of ESG on accounting measures. More recent study by Patrick Velte investigated the impact of ESG and its components on ROA and Tobin's Q [19]. The sample included 412 companies listed on the German Prime Standard for the period of 2010–2014. The results of this study are in contrast to the previous one by D.D. Lee, R.W. Faff and K. Langfield-Smith Based on the regression analysis, P. Velte found that ESG and its pillars have a positive impact on ROA but for Tobin's Q there are no statistically significant coefficients. Therefore, the effect on market and ac-

counting metrics of financial performance may be different due to various meanings.

Nevertheless, R. Atan and his colleagues studied the effect of ESG on ROE and Tobin's Q of Malaysian public-limited companies [30]. They analyzed 54 companies for the period 2010–2013. Using regressions analysis, there is no statistical significance for both ROE and Tobin's Q.

Furthermore, in some papers there were found different effects by various ESG pillars. For instance, D. Sharma, S. Bhattacharya, and S. Thukral focused their study of the nexus between ESG score and the disclosure on financial performance of firms in India. The sample covered 99 companies from BSE-500 over the period between 2011–2015. The financial performance was measured by ROA and Tobin's Q. The study concluded about negative influence of ESG and its pillars on accounting and market measures of FP. But social pillar positively affects Tobin's Q and size of the firm has a moderating role in this relationship [31].

A separate scope of articles is devoted to the value-based management topic. Value-based methods contribute the maximization of the economic worth of an organization by allocating company's assets to their most effective use. Capital is not for free; it has a price that must be accounted for when utilizing it. One of the most frequently used VBM metrics in academic articles is Economic Value Added (EVA). EVA gauges the surplus value generated by managers, reflecting the growth or decrease in the company's value over a specific period. It can be used for either forward or backward looking [32]. The EVA, or economic profit, is a calculation of the actual profit generated by a business during a year and is vastly distinct from its accounting profit as the latter does not factor in the cost of equity capital. EVA depicts the remaining income after factoring in the cost of all capital, which includes equity capital whereas accounting profit is determined without including any charges for equity capital [33]. EVA technically is earning before interest less the company's book value multiplied by the average cost of capital [34].

The problem with EVA starts when analytics tried to describe this parameter with a meaning this parameter actually does not have. Value as well as value creation always depend on expectations of stakeholders. It could be real that the EVA figure and the economic profit in specific year have been positive and even higher than were expected, but at the same time the value of the firm or business unit has decreased cause the expectation have become worse due to weak management [34].

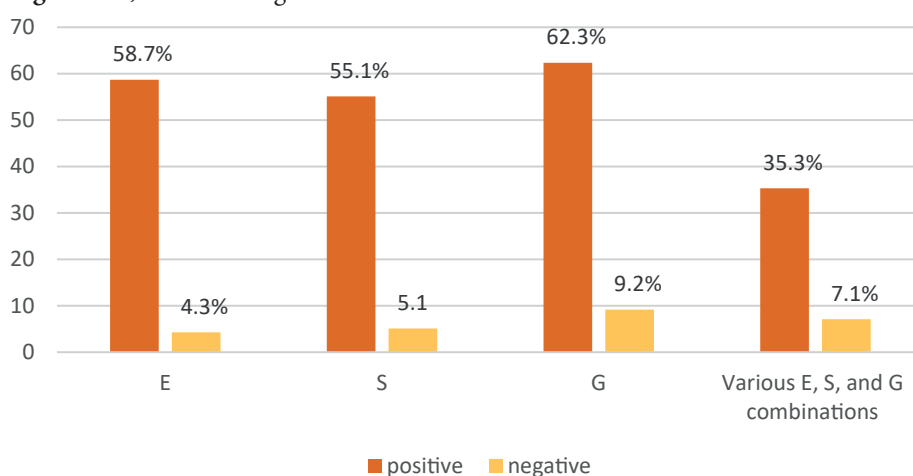
Another study proving that EVA still affects the ESG is "Research on the Correlation between ESG Performance and Economic Value Added" written by Jing Huang, Guiqian Li, Zhishu Li. This paper uses the data of a sample of A-share listed companies selected from 2012 to 2019 as the research sample to analyze the impact effect between ESG performance and EVA through empirical research, proving that ESG performance is significantly and positively related to EVA and well ESG performance can enhance the figure for EVA [35]. All three pillars of ESG have significant-

ly positive effect on EVA. What is even more interesting, this research also revealed that ESG performance remains highly significant in increasing the figure for EVA of companies in high-carbon emission industries.

What is more, various ESG factors differently affect companies' financial results. Certain companies may concentrate on initiatives in one of these three areas, thereby enhancing value, while others may actually diminish financial value. For instance, a firm could prioritize social practices and stakeholder relations, yet neglect environmental responsibility or maintain poor governance standards. Consequently, a more in-depth examination of the individual factors could provide valuable insight into how ESG activities influence financial performance [25].

Thereby, studies may consider only one part of the ESG framework. V.L. Crisóstomo and her colleagues examined the effect of CSR on ROA and Tobin's Q for 78 companies from Brazil over the period 2001–2006 [36]. The results indicated that CSR had significantly negative correlation between CSR and Tobin's Q. But there was no statistically significant relationship between CSR and ROA. T.G. Landi and M. Sciarelli also considered how CSR affects abnormal returns of Italian firms for the period of 2007–2015 [37]. The abnormal returns were measured by Fama – French approach. In the study they used EBITDA to equity, debt to equity, total assets, and reinvestment rate. Using the Fixed Effects Model for regression analysis, the authors found an insignificant effect of ESG on abnormal returns.

**Figure 4.** E, S and G categories and their relation to CFP



Source: [2].

Another branch of the studies is the nonlinear relationship between ESG and financial performance. In this sense, Shabbir and his colleagues investigated the linear and non-linear relationship between CSR and financial performance. The study uses data from 350 firms from the Karachi Stock Exchange in Pakistan for the period 2008–2017 [38]. This study comprises two main firm's performance indicators such as excess stock returns, ROA and ROC. They used sales, R&D disclosure expenditure, and leverage as control variables. Using linear panel regression analysis, the authors found that there are no significant relationships between CSR and all financial performance metrics. Nevertheless, the non-linear models indicated that the ESG disclosures scores had significant U-form relationship of ESG for ROA and ROC, but there was still no statistical significance for stock returns.

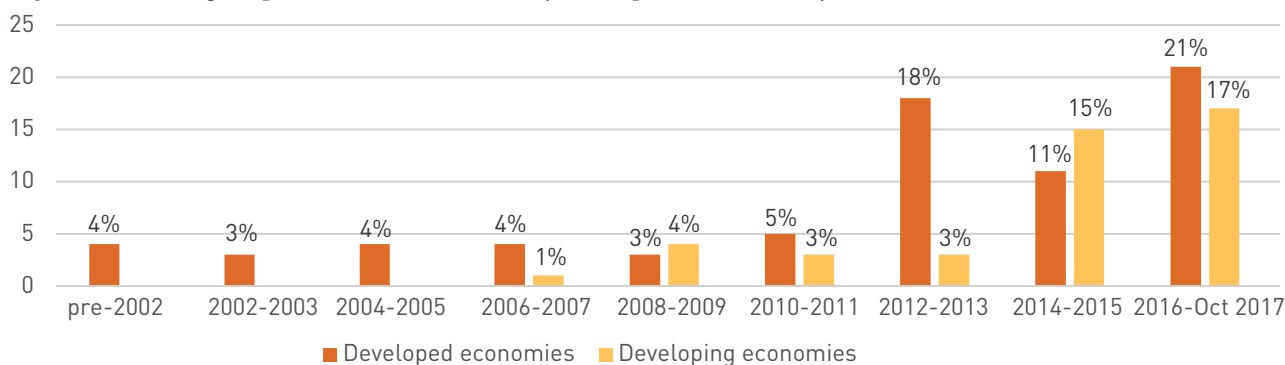
#### **Geographical difference**

The ESG-FP relations may also be affected by geographic area in which company operates in. The most common geographical division in academic literature is used in the comparative studies of emerging and developed countries. The institutional context of developed and emerging economies differs significantly. Advanced economies have strong liability laws, efficient information dissemination,

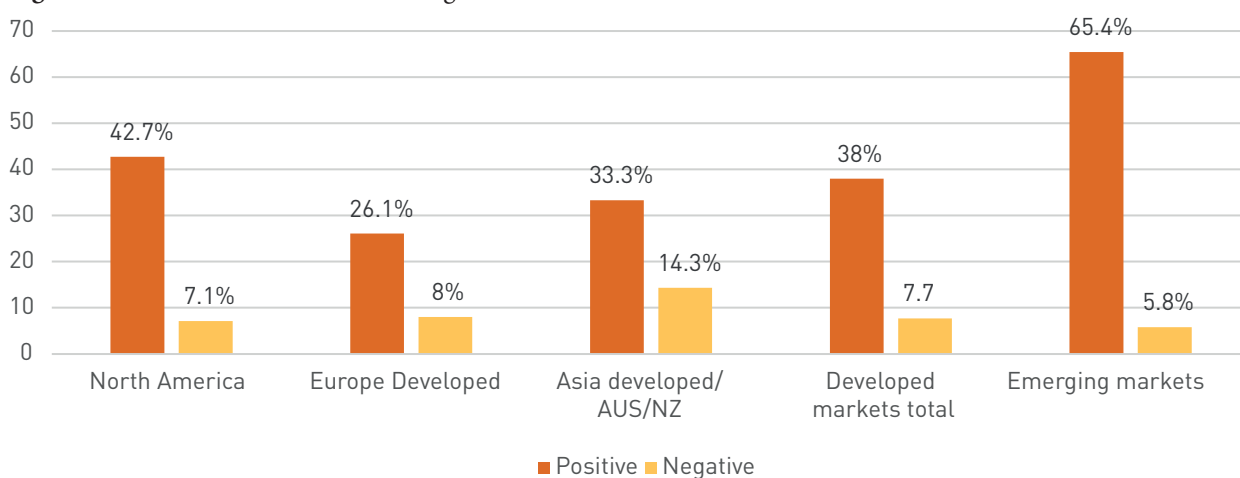
and a large number of activist consumers. In contrast, emerging economies have weak liability laws, limited information dissemination, and few activist consumers.

In advanced economies, there is a reliable enforcement of liability laws, which means that individuals or organizations can be held accountable for any harm caused to others. This creates a sense of responsibility among businesses and individuals to act ethically and take necessary precautions to avoid causing harm. Additionally, there is efficient dissemination of information, which enables consumers to make informed decisions about products and services. This is supported by many activist consumers who actively seek out information and hold businesses accountable for their actions.

On the other hand, emerging economies have limited enforcement of liability laws, which means that businesses and individuals may not be held accountable for any harm caused. This lack of accountability creates a culture of impunity where unethical behavior goes unchecked. Furthermore, there is a limited dissemination of information, which makes it difficult for consumers to make informed decisions. Finally, there are few activist consumers in emerging economies, which means that there is less pressure on businesses to act ethically [39].

**Figure 5.** Percentage of publications distribution by development of economy

Source: [22].

**Figure 6.** ESG-CFP relation in various regions

Source: [2].

In some studies, the authors concentrate on how the impact of ESG performance on the corporate financial performance differs between developed and emerging countries in the context of ROA, ROE and Tobin's Q. For example, N. Naeem, S. Cankaya, and R. Bildik analyzed the sample of 305 environmentally sensitive firms from advanced economies and 78 from developing markets [40]. The findings suggested that the impacts of the ESG performance of environmentally sensitive corporations on the financial performance are higher for developed countries than developing countries. There were no statistically significant relationships between ESG and its pillar with all financial performance variables. Regarding developed countries, E-pillar had positive effect on ROA, S-pillar had negative effect on ROA, ESG and G-pillar had positive influence on ROE. Furthermore, ESG and E-pillar positively impact Tobin's Q for developed countries.

Another example is a comparative study by I.W.K. Ting et al., where authors investigated the difference of impact of ESG score on FP in emerging and developed markets [41]. The study was based on ESG scores in the Thomson Reuters database, and included 1317 emerging market firms and 3569 developed market firms. The paper showed that firms operating in emerging market had higher ESG scores

in such points as workforce, human rights, resource use and CSR. However, the impact of ESG scores on firm's value was statistically significant and positive only for developed countries.

In conclusion, based on the experience of other studies, the topic about nexus between ESG score and financial performance of the companies can be considered from different directions. Some studies consider different dependent variables of financial performance: accounting or market metrics. Besides, the samples also vary depending on a single country or mix of countries. Another type of research is an investigation of nonlinear relations. Among this variety of papers there is no one prevalent reply about the effect of ESG on financial performance. In this sense, this study concentrates on the investigation of this nexus from three dimensions of financial performance variables using new approaches from BCG.

### Development of hypothesis

Following the analysis of literature, this study considers the relationship between ESG ratings and financial performance as the main subject. We decided to cover three different types of financial performance metric to cover various companies' abilities to generate value. Moreover, we focus this investiga-



tion on BRICS countries to follow the effect of ESG activities in emerging countries. In addition, we include not only a single ESG score in the analysis, but also its sub-pillars to understand deeper effects. Thus, the research gaps mentioned above, motivated us to develop the following hypothesis:

H1a: There is a negative impact of ESG score and pillars on ROA ( $\beta_1 < 0$ ).

We expect that the impact of ESG performance on ROA would be negative.

We assume, that the link between the accounting criteria of financial performance and ESG performance aligns with the principles of legitimacy theory. Legitimacy theory suggests that companies engage in ESG activities to conform to government regulations, satisfy external stakeholders' expectations and demonstrate their commitment to societal well-being, even in the presence of accounting losses and costs. Overall, the negative impact of ESG scores on ROA can be explained by factors such as increased costs, regulatory compliance expenses and market immaturity.

H1b: There is a positive impact of ESG score and pillars on TSR ( $\beta_1 > 0$ ).

We expect that this measure would show a positive relationship with ESG score. Our assumption is based on several research articles that argue about the increase of investor's expectations and trust based on the high ESG ratings. Positive relationship of market criteria of financial performance with ESG scores goes along with stakeholder theory. Transparency and comparatively more ethical business practices in companies with higher ESG scores attracts investors. Companies, that actively implement ESG agenda in their operations, enjoy stronger confidence and trust of

stakeholders, which positively affects their stock prices.

H1c: There is a positive impact of ESG score and pillars on EVA ( $\beta_1 < 0$ ).

We expect that this measure would show a positive relationship with ESG score. This hypothesis is derived from previous studies that have indicated a positive correlation between ESG performance and financial performance. This suggests that sustainable business practices and responsible corporate behavior positively contribute to a company's ability to create economic value above its cost of capital. Overall, the significant positive relationship between ESG performance and EVA can be explained by the interplay of operational efficiency, risk mitigation, stakeholder relationships, and access to capital.

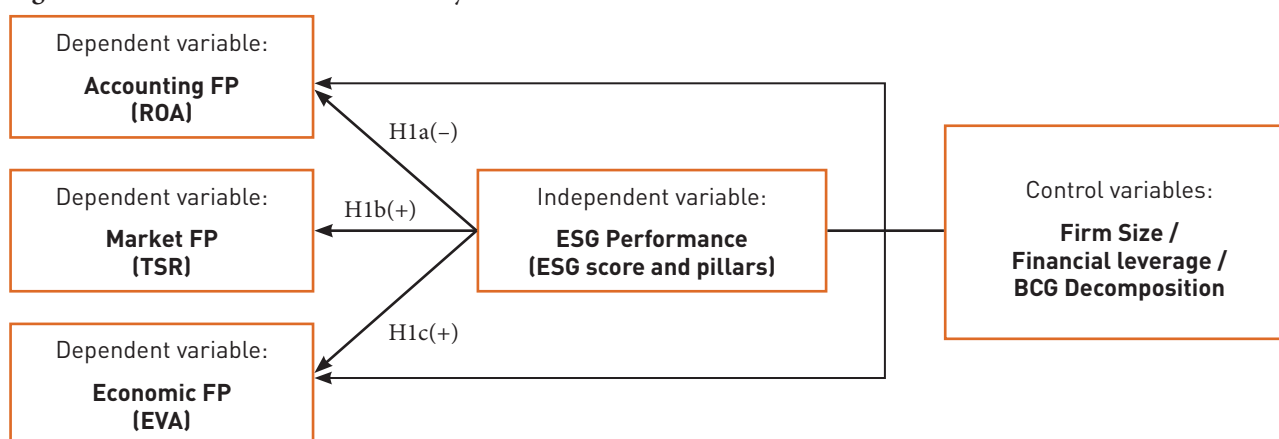
## Research design and data

### Data and sample selection

The objective of this study is to investigate the impact of ESG scores on financial performance. To achieve this, the research adopts a quantitative approach that emphasizes objective measurements, employing numerical, statistical, and mathematical analysis of data. By employing rigorous quantitative methods, this paper aims to provide empirical evidence and precise insights into the relationship between ESG scores and financial performance.

Figure 7 demonstrate the research framework of our study. The study employs one independent variable presented with ESG score and 3 dependent variables presented by 3 financial performance metrics. For each measure of financial performance, we identified different control variables.

**Figure 7.** Resource framework of the study



Source: created by the authors.

In this research, we utilize annual data from various companies operating in BRICS countries. The selection of BRICS countries is motivated by the observation that ESG-FP relations of emerging economies are not frequently observed in the existing literature, due to the fact that companies operating in emerging markets often exhibit lower ESG ratings. This can be attributed to factors such as limited disclosure requirements for

non-financial information and relatively lower adoption of ESG standards, which can stem from higher investment risks and resource volatility. However, it is worth noting that emerging economies with higher economic growth rates, including BRICS countries, can afford to offer opportunities for companies to invest in and effectively implement ESG practices, thus, achieving higher ESG scores [2].

The final sample for this study includes 257 companies from BRICS countries: 45 companies from Brazil that cover 76% of country's market capitalization (excluding financial firms), 27 companies from Russia (78% country's market capitalization), 63 companies from India (41% country's market capitalization), 82 companies from China (26% country's market capitalization), and 40 companies from South Africa (81% country's market capitalization).

Final dataset covers the period of the last five years, namely 2017–2021. In general, the development of ESG rating in BRICS countries started in 2010 according to the availability of ESG data from the Refinitiv database. Nevertheless, it is vital to mention that some companies have not adopted integrated reporting immediately in 2010. In this sense the range of companies that had ESG scores in 2010 are quite narrow. Thus, the selection criteria to cover as much as possible publicly traded companies from BRICS is availability of data starting from 2017. To sum up, the final sample for this study includes 257 companies from BRICS countries during the period between 2017 and 2021.

## Variables measurement and definition

### *Dependent variables*

In our study we apply a set of financial performance metrics including accounting, market and economic metrics. Our approach is based on the idea of evolution of financial performance measures from basic accounting measures like Net Profit or Return on Assets (ROA) to market measures such as Total Shareholder Return (TSR) and Market Value Added (MVA) and economic measures like Economic Value Added (EVA) and Cash Value Added (CVA). Based on literature analysis above, there are corporate-oriented studies focusing on accounting measures of financial performance and investor-oriented papers using market measures for financial performance. The results vary depending on various dependents variables. In this sense, we decided to cover several measures of financial performance to trace the difference in the effect of ESG score on various types of financial outcomes.

The study of Amir Hossein Rahdari focuses on creating a special Triangular Rating Framework for Corporate Governance, Corporate Social Responsibility and Corporate Financial Performance ratings [21]. The part of his rating framework devoted to financial performance considers it from three sides: accounting, market and economic. Based on it, we also decided to choose one metric of financial performance from each of three dimensions.

As for accounting measures, we choose the most common metric from the studies – Return on assets (ROA). It is calculated by the following formula: Net income divided by Total Assets. This ratio characterizes the efficiency with which companies manage their operations and utilize assets to generate profits. The strength of accounting measures lies in their ability to provide comprehensive evidence of the interconnectedness between accounting and economic returns. Furthermore, ROA serves as a vital indicator of financial performance by normalizing the

comparison of companies, eliminating the influence of size differences. Additionally, ROA captures changes in business conditions on an annual basis. Previous studies on integrated reporting, such as Sharma et al., Malarvizhi and Matta, Naeem et al., have also utilized ROA as a metric [28; 31; 40]. Nevertheless, ROA can be criticized by the inability to show feature perspective and take into account risk factors. These weaknesses can be reduced by including control variables in the model.

As for market and economic measures, we decided to add novelty to our research and to study the impact of ESG performance on such metrics as Total Shareholder Return and Economic Value Added. These are financial performance measures that help to evaluate companies' performance from external and internal perspective respectively.

TSR is a measure of corporate performance introduced by Boston Consulting Group (BCG) that represent the most important from the investor perspective firm's financial changes [5]. The calculation is based on the percentage change in share price per period and incorporates dividends per share over the given period. Growth of TSR attracts investors as it is a comprehensive ratio that shows the increase in target metrics for investors. This measure also allows investors to make competitive comparisons, as it is hard to manipulate with the calculations.

Nowadays, the influence of the sustainable development agenda has become one of the important factors when taking investment decisions. This is especially true in the context of sustainable investments and responsible corporate practices. Understanding the impact of strong ESG performance on a company's financial performance and shareholder value creation could help investors make informed decisions. This study of the impact of TSR on the ESG contributes to the question of the value of including ESG factors in investment strategies.

Nevertheless, TSR provides an understanding of just external value creation process, thus, there is a need to evaluate internal value creation process that provide insights into the key drivers behind business's fundamental performance. When talking about value-based measures, the most frequently used one in academic literature is EVA. EVA is a financial performance measure that aims to assess a company's ability to generate economic value above its cost of capital. EVA has gained widespread recognition as a valuable tool for evaluating a company's financial performance and value creation.

Economic Value Added (EVA) is calculated by subtracting the company's cost of capital from its Net Operating Profit After Tax (NOPAT). The formula for calculating EVA is as follows:

$$EVA = NOPAT - (\text{Capital Invested} \cdot \text{Cost of Capital}).$$

Here's a breakdown of the components involved in the calculation:

Net Operating Profit After Tax (NOPAT): NOPAT represents the operating profit generated by a company after deducting taxes. It is calculated by multiplying EBIT by one minus tax rate.

**Capital Invested:** Capital refers to the total capital employed by the company, including both debt and equity. It represents the amount of cash invested in the company's operations and is usually calculated as the difference between total assets and current liabilities.

**Cost of Capital:** The cost of capital is the rate of return required by investors to compensate them for the risk associated with investing in the company. It represents the opportunity cost of using capital in a particular investment. The cost of capital is usually expressed as a percentage and includes the cost of debt and the cost of equity.

To increase comparability of the variable we use EVA spread. EVA spread is calculated by subtracting cost of capital from ROIC, where ROIC is the ratio of NOPAT to Capital employed. EVA spread provides insights into whether the company is generating returns above or below its required rate of return. A positive EVA spread indicates that the company is generating excess returns, while a negative EVA spread suggests that the company is not meeting its cost of capital. Analyzing the EVA spread over time can help assess the company's value creation performance and its ability to generate returns that exceed its cost of capital, indicating positive economic value added.

### **Independent variables**

The independent variables in our paper are ESG performance metrics. As the proxy for ESG performance, we used Refinitiv ESG score and its pillars [42]. The Refinitiv ESG overall score consists of 3 pillar scores that include 10 ESG category scores. The category scores include 186 data points, relevant for each industry, and these data points in its turn combine more than 630 data points, which makes Refinitiv ESG score one of the most comprehensive ones.

In this sense, E-pillar consists of Resource use, Emissions and Innovation; S-pillar includes Workforce, Human rights, Community and Product responsibility; and G-pillar involves Management, Shareholders and Corporate social responsibility (CSR) strategy. Weights of all categories are normalized to percentages ranging from 0 to 100.

The methodology for evaluating the ESG rating of companies developed by the Refinitiv is a universally recognized tool for analyzing how effectively companies operate in a rapidly changing world, adjusting to issues that are sensitive to the world community. The Refinitiv assessment is as comprehensive as possible, covering an incredible range of issues from global warming to gender equality. Therefore, Refinitiv ESG data is widely used in academic literature to study and test scientific hypotheses [26; 40; 41; 43; 44].

### **Control variables**

Based on the previous research articles, we identified the most frequently used and significant variables and decided to take separate control variables for different financial performance measures.

For ROA and EVA, we chose Firm Size, Leverage and Capex to assets ratio. These variables were selected based

on theoretic expectations and are similar to previous studies, which also examined the impact of ESG score on financial performance of firms [3; 31; 40; 43; 45; 46].

Firm Size is determined by the natural logarithm of a firm's sales. Previous research has consistently revealed a positive correlation between firm size and financial performance [4; 47]. This can be attributed to various factors such as the advantages of economies of scale and scope, the availability of slack resources, and greater control over stakeholders enjoyed by larger firms. Additionally, larger companies often face heightened media scrutiny and external pressures, which incentivize them to adhere more extensively to governance policies [43].

Leverage is characterized by the ratio of total liabilities to total assets. On one hand, maintaining regular debt payments can contribute to effective management. However, excessive leverage, high interest rates, or substantial debt payments may limit available cash flow for further investments [40]. Highly leveraged firms are more prone to experiencing agency costs of debt and financial distress costs. Additionally, the increased financial obligations of these firms may render them vulnerable and lead to a reduction in financial performance [43]. Hence, we assume that there is a negative correlation between leverage and firm financial performance.

Capex, which represents capital expenditure as a proportion of total assets, serves as a proxy for investment. In the context of a long-term perspective, it is generally believed that Capex has a positive correlation with a firm's economic performance [43].

For TSR model we followed BCG methodology for TSR decomposition and used the components as control variables [48]. According to BCG, there are three basic drivers that affect TSR: fundamental value, investor expectations and distribution of free cash flow.

Fundamental value represents the present value of a business's future cash flows, taking into account its profit margins, asset productivity, growth prospects and cost of capital. By enhancing these fundamental aspects, a company can influence how the market perceives and values its performance, thus potentially boosting its share price. The combination of sales growth and margin changes provides a rough indication of a company's enhancement in fundamental value. In this study we use EBIT margin change as a proxy for fundamental value.

Investor expectations are gauged through the expectation premium, which measures how a company's valuation multiple compares to that of its industry peers. By positively shaping investor perceptions and generating confidence, a company can foster higher expectations, leading to increased shareholder value. The EBITDA multiple serves as a measure of a company's valuation multiple and is widely utilized by investors to approximate the company's future prospects. It is derived by dividing the enterprise value, encompassing the market value of equity and debt, by EBITDA. In this study, we specifically chose the EV/Revenue multiple over EV/EBITDA metric, considering that certain

companies in our sample reported negative earnings during specific years of our analysis.

Furthermore, optimizing the distribution of free cash flow can contribute to improved TSR. Dividends directly impact TSR, but other mechanisms such as share repurchases and debt payments can indirectly influence a company's value, thereby enhancing overall shareholder returns. Dividend yield, changes in shares outstanding, and net debt change are all means of distributing free cash flow to investors, collectively forming the free cash flow yield.

## Methodology

### Econometrical Model Specification

H1a: There is a negative impact of ESG score and pillars on ROA ( $\beta_1 < 0$ ).

H1b: There is a positive impact of ESG score and pillars on TSR ( $\beta_1 > 0$ ).

H1c: There is a positive impact of ESG score and pillars on EVA ( $\beta_1 < 0$ ).

The models for the hypothesized are presented by the following equations:

$$ROA_{n,t} \sim \alpha + \beta_1 \cdot ESG_{n,t} + \beta_2 \cdot Size_{n,t} + \beta_3 \cdot Leverage_{n,t} + \beta_4 \cdot Capex_{n,t} + \varepsilon_{n,t};$$

$$TSR_{n,t} \sim \alpha + \beta_1 \cdot ESG_{n,t} + \beta_2 \cdot EBIT\_mg_{n,t} + \beta_3 \cdot Multiple_{n,t} + \beta_4 \cdot FCF_{n,t} + \varepsilon_{n,t};$$

$$EVAspread_{n,t} \sim \alpha + \beta_1 \cdot ESG_{n,t} + \beta_2 \cdot Size_{n,t} + \beta_3 \cdot Leverage_{n,t} + \beta_4 \cdot Capex_{n,t} + \varepsilon_{n,t},$$

where  $ESG_{n,t}$  is one of the fourteen ESG metrics described above,  $\alpha$  is an intercept that also takes into account unobserved fixed effects and  $\varepsilon_{n,t}$  is an error term.

## Empirical results

### Findings for the accounting metric

Table 2 shows the result of general model with ESG score as independent variable of sustainability and ROA as dependent variable. We controlled for the following variables: Size, Leverage and CAPEX ratio. The signs of the coefficient fully correspond to our expectations that Size and CAPEX ratio has statistically significant positive coefficients, while leverage has statistically significant negative coefficient.

**Table 2.** The results of regression model for H1a: Fixed effect with Robust Standard Errors

Model 1a: ESG-pillar as independent variable	Model 1a: G-pillar as independent variable	Model 1a: CSR as independent variable
Dependent variable: ROA	Dependent variable: ROA	Dependent variable: ROA
ESG	G-pillar	CSR
-0.0004 (0.0003)	-0.0003* (0.0002)	-0.0004** (0.0002)
Ln(Sales)	Ln(Sales)	Ln(Sales)
0.163*** (0.046)	0.159*** (0.044)	0.168*** (0.044)
Liabilities to Assets	Liabilities to Assets	Liabilities to Assets
-0.249* (0.198)	-0.250* (0.197)	-0.250* (0.197)
CAPEX to Asset	CAPEX to Asset	CAPEX to Asset
0.162* (0.065)	0.153* (0.063)	0.150 (0.066)
Observations	Observations	Observations
1,274	1,274	1,276
R2	R2	R2
0.216	0.216	0.221
F Statistic	F Statistic	F Statistic
69.323*** (df = 4; 1009)	69.691*** (df = 4; 1009)	71.853*** (df = 4; 1011)
Note:	Note:	Note:
*p<0.1**p<0.05***p<0.01	*p<0.1**p<0.05***p<0.01	*p<0.1**p<0.05***p<0.01

Note: generated by RStudio ("stargazer").

Source: created by the authors.

Moreover, deeper analysis of ESG pillars, the coefficients of environmental and social scores also show the absence of statistically significant effect. To better investigate this outcome, we examine what category of government pillar plays the key role in this effect. The result presents that CSR category has a negative statistically significant coefficient, namely -0.0004 (statistical significance at 5%) (see Table 2). To sum up, our part one in first hypothesis is not rejected for ESG score and government pillar. The negative impact of ESG scores on ROA in BRICS countries can be attributed to several factors specific to the emerging economies.

BRICS countries may have varying degrees of regulatory stringency and enforcement when it comes to ESG practices. It goes along with Legitimacy theory, as companies operating in these regions may face compliance costs, fines, or legal liabilities associated with environmental, social, or governance issues. These factors can reduce profitability and negatively impact ROA. Moreover, BRICS countries may face resource constraints, such as limited access to sustainable technologies, inadequate infrastructure, or inefficient resource utilization. These limitations can also increase operational costs and reduce productivity, thus, negatively impacting ROA.

Another reason could be that firms operating in BRICS countries are in the process of transitioning towards better ESG practices. The initial investments required to align with ESG standards, such as upgrading infrastructure or implementing environmental innovations, can temporarily reduce profitability. For example, China, who stably has the lowest ESG scores, is currently in transition to more sustainable development. Thus, firms operating in such conditions are forced to implement additional costs to meet the new requirements. Thus, in such emerging markets companies may experience short-term negative impacts of ESG scores on the financial performance.

Investor perception and market dynamics play a crucial role in determining a company's valuation and financial performance. If the market does not fully appreciate or reward companies for their ESG efforts, companies with higher ESG scores may not experience immediate positive impacts on their ROA. This can lead to a negative correlation between ESG scores and ROA.

### Findings for the market metric

Table 3 below show the result of general model with ESG score as independent variable of sustainability and TSR as dependent variable. The signs of the coefficient fully correspond to our expectations that all control variable have statistically significant positive coefficients. So, there is positive influence of ESG scores on accounting performance of the company. In this sense, by the increase of ESG by 1 score leads to the increase of TSR by 0.009.

Moreover, deeper analysis of ESG pillars, the coefficients of environmental and social scores also show the positive statistically significant effect (see Table 3). However, government part of ESG has a no statistically significant coefficient (see Appendix 1).

In this sense, the development of environmental pillar by 1 score leads to the decrease of TSR by 0.006 (statistical significance at 5%). To better investigate this outcome, we also consider various category of environmental pillar. The result presents that Resource use category has a positive statistically significant coefficient, namely 0.005 (statistical significance at 5%) (see Table 3). Based on Refinitiv methodology, Resource use category reflects company's performance and capacity to reduce the use of materials, energy, or water and to find more eco-efficient solutions by improving supply chain management. Therefore, the improvements of resource use practices may lead to higher market performance of the companies.

**Table 3.** The results of regression model for H1b: Fixed effect with Robust Standard Errors

Model 1b: ESG as independent variable	Dependent variable: TSR	Model 1b: E-pillar as independent variable	Dependent variable: TSR	Model 1b: Resource usage as independent variable	Dependent variable: TSR
ESG	0.009*** (0.003)	E-pillar	0.006** (0.002)	Resource use	0.005** (0.002)
EBIT margin growth	0.010* (0.008)	EBIT margin growth	0.010* (0.008)	EBIT margin growth	0.010 (0.004)
EV to Revenue growth	0.277*** (0.086)	EV to Revenue growth	0.278*** (0.086)	EV to Revenue growth	0.226*** (0.086)
FCF yield	-0.0001 (0.001)	FCF yield	-0.0001 (0.001)	FCF yield	-0.0001 (0.001)

Model 1b: ESG as independent variable		Model 1b: E-pillar as independent variable		Model 1b: Resource usage as independent variable	
Observations	1128	Observations	1128	Observations	1128
R2	0.079	R2	0.075	R2	0.078
F Statistic	14.908*** (df = 4; 699)	F Statistic	14.244*** (df = 4; 699)	F Statistic	14.915*** (df = 4; 702)
Note:	*p<0.1**p<0.05***p<0.01	Note:	*p<0.1**p<0.05***p<0.01	Note:	*p<0.1**p<0.05***p<0.01

Note: generated by RStudio (“stargazer”).

Source: created by the authors.

Furthermore, social pillar also has positive and statistically significant coefficient in relation with TSR, namely 0.011 (statistical significance at 1%) (Table 4). So, higher social pillar by 1 score leads to the increase of TSR by 0.011. Moreover, the regression with categories of social pillar show that all categories have positive and statistically significant effect on TSR. Thus, all aspects of social pillar, Workforce, Human Rights, Community and Product Responsibility, are important to boost market performance. However, government pillar and its categories have no statistically significant effect in TSR. To sum up, part two in first hypothesis is not rejected for ESG score, environmental and social pillars. The positive impact of ESG scores on TSR in BRICS can be explained by the following reasons:

To begin with, according to the stakeholder theory, companies with higher ESG scores usually have better connection with customers, employers and government. The reason behind that is that when companies are dedicated to more responsible environmental and social processes, as well as transparent governance, they have a better social reputation and gain additional credit of trust among stakeholders. Positive stakeholder relationships can lead to increased customer loyalty, employee satisfaction and productivity, and supportive regulatory environments, ultimately benefiting the company’s financial performance and TSR. What is more, there is a growing trend of investors seeking sustainable investment opportunities that align with their values and promote positive environmental and social impacts. Companies with high ESG scores are often perceived as better positioned to address emerging societal challenges, regulatory changes, and stakeholder expectations. This perception attracts socially responsible investors, leading to increased demand for their shares and potentially driving up stock prices and hence TSR.

**Table 4.** The results of regression model for H1b: Fixed effect with Robust Standard Errors

Model 1b: S-pillar as independent variable	
	Dependent variable: TSR
S-pillar	0.011*** (0.003)

#### Model 1b: S-pillar as independent variable

EBIT margin growth	0.009* (0.004)
EV to Revenue growth	0.264*** (0.040)
FCF yield	-0.0001 (0.001)
Observations	1128
R <sup>2</sup>	0.086
F Statistic	16.508*** (df = 4; 699)
Note:	*p<0.1**p<0.05***p<0.01

Note: generated by RStudio (“stargazer”).

Source: created by the authors.

Secondly, companies with strong ESG performance tend to adopt sustainable business practices that consider environmental and social factors alongside financial considerations. These practices can lead to reduced risks, and enhanced reputation, ultimately contributing to long-term value creation. Regarding the risk mitigation issues, ESG-focused companies in BRICS countries are more likely to be compliant with environmental and social regulations. By effectively managing risks related to environmental impacts, social controversies, and governance issues, companies can avoid costly legal penalties, reputational damage, and disruptions to their operations. This proactive risk management approach contributes to higher TSR.

Last, but not least, as the study sample consisted of developing firms, it is important to mention investment opportunities. Firms with higher ESG scores in BRICS countries may have improved access to capital and lower borrowing costs. ESG-conscious investors, including socially responsible investment funds and institutional investors, are increasingly interested in companies that demonstrate strong ESG performance. The increased access to capital and investment opportunities can provide companies with the resources needed to drive growth, innovation, and market expansion, contributing to higher TSR.

## Findings for the economic metric

Table 5 represent the outcome for model with ESG score as independent variable of sustainability and EVA spread as dependent variable. The signs of the coefficient fully correspond to our expectations that all control variable have statistically significant positive coefficients. Considering the effect of ESG on EVA spread, the negative coefficient of ESG is statistically significant, namely  $-0.008$  (statistical significance at 10%). So, there is negative effect of ESG scores on economic performance of the company. In this sense, by the increase of ESG by 1 score leads to the drop in EVA spread by 0.008.

Moreover, deeper analysis of ESG pillars, the coefficients of environmental pillar, government pillar and their categories also show the absence of statistically significant effect. Nevertheless, social part of ESG has a negative statistically significant coefficient, namely  $-0.007$  (statistical significance at 10%) (see Table 5). It means that by the increase of social pillar by 1 score leads to the decrease of EVA spread by 0.007. To better investigate this outcome, we examine what category of social pillar plays the key role in this effect. The result presents that Workforce category

has a negative statistically significant coefficient, namely  $-0.007$  (statistical significance at 1%) (see Table 5). Based on Refinitiv methodology, Workforce include the company's effectiveness in promoting job satisfaction, maintaining a healthy and safe workplace, providing diversity and equal opportunities, and offering development opportunities for its workforce. To sum up, our last part of the first hypothesis is not rejected for ESG score and social pillar. The negative impact of ESG scores on EVA in the context of BRICS countries can be attributed to several factors specific to these economies.

Companies in BRICS countries are still be in the early stages of fully integrating ESG practices into their strategies and operations. Limited awareness, lower investor demand for ESG-focused investments or a lack of resources for ESG initiatives could result in a weaker relationship between ESG scores and EVA. The initial investments and adjustments required to align with ESG standards can temporarily impact profitability and hinder EVA growth. However, over the long term, these efforts may contribute to enhanced sustainability and value creation.

**Table 5.** The results of regression model for H1c: Fixed effect with Robust Standard Errors

Model 1c: ESG as independent variable		Model 1c: S-pillar as independent variable		Model 1c: Workforce as independent variable	
	Dependent variable: EVA spread		Dependent variable: EVA spread		Dependent variable: EVA spread
ESG	$-0.008^*$ (0.005)	S-pillar	$-0.007^*$ (0.004)	Workforce	$-0.007^{***}$ (0.003)
Ln(Sales)	$2.501^{***}$ (0.468)	Ln(Sales)	$2.493^{***}$ (0.465)	Ln(Sales)	$2.518^{***}$ (0.455)
Liabilities to Assets	$-1.224^{***}$ (0.452)	Liabilities to Assets	$-1.246^{***}$ (0.455)	Liabilities to Assets	$-1.244^{***}$ (0.446)
CAPEX to Asset	$3.180^{**}$ (1.681)	CAPEX to Asset	$3.300^{**}$ (1.697)	CAPEX to Asset	$3.418^{**}$ (1.694)
Observations	1,266	Observations	1,266	Observations	1,272
R2	0.078	R2	0.079	R2	0.084
F Statistic	$21.271^{***}$ (df = 4; 1001)	F Statistic	$21.355^{***}$ (df = 4; 1001)	F Statistic	$23.114^{***}$ (df = 4; 1007)
Note:	$*p < 0.1^{**} p < 0.05^{***} p < 0.01$	Note:	$*p < 0.1^{**} p < 0.05^{***} p < 0.01$	Note:	$*p < 0.1^{**} p < 0.05^{***} p < 0.01$

Note: generated by RStudio ("stargazer").

Source: created by the authors.

To be more detailed, it is worth mentioning that companies operating in emerging markets, like BRICS, and heavily investing in sustainable development face significant costs for the implementation of environmental initiatives and compliance with standards. These costs, which include the costs of improving working conditions, strengthening corporate governance and introducing new technologies, negatively affect the profitability of the company and, consequently, EVA.

Moreover, as it has been mentioned earlier, the BRICS countries face additional challenges in implementing sustainable practices. This may be due to limited access to information technology, insufficient awareness of the society on the topic of sustainable development, as well as inefficient use of resources. These factors also influence the operating costs of firms and negatively affects their economic value.

Finally, due to the fact that EVA is frequently considered from the investor's point of view, it is important to note that BRICS market environment is a subject to volatility, political uncertainty and additional risks. Market uncertainties affect the behavior of investors and their decision-making methods. Investors may be focused on other factors, thereby not fully paying attention to the long-term financial benefits from the integration of ESG practices. It hinders the growth of the EVA, despite companies' efforts to improve the ESG indicators.

## Conclusion and recommendations

### Discussion of results

The sustainable development agenda is being actively introduced into the business sphere of BRICS countries. Some progress in this direction has been achieved in recent years, however additional efforts are required to overcome the existing difficulties and improve sustainable development practices.

To improve the implementation of the ESG practices in BRICS countries, it is necessary to strengthen the regulatory framework, especially in terms of transparency in data disclosure and the introduction of mandatory standards for sustainable reporting. Another aspect worth noting is the need to pay additional attention to the social aspects of sustainable development in terms of human rights, workforce and community in general. To achieve success, it is necessary to encourage international cooperation and the exchange of knowledge and practices regarding experience in the field of ESG.

Although high ESG scores of BRICS companies may have a negative impact on profitability indicators, in particular ROA, this relationship may vary depending on industrial and geographical aspects. As companies become more committed to sustainable development, reporting requirements will become more regulated and market perceptions of sustainable development will change. Thus, we assume, that in the long term, the negative impact of ESG indicators on ROA is likely to decrease and a more positive relationship between these indicators will appear.

A similar assumption can be made for the case of EVA. As sustainable practices gain momentum and the regulatory frameworks evolve, companies that address sustainability issues effectively can improve their economic value over time. Risk mitigation through the implementation of sustainable practices contributes to the creation of sustainable value in the long-term perspective.

Integration of the ESG agenda into the business processes of companies has a positive effect on the market value of the company and increases the profitability of shareholders, in particular, the TSR indicator. Industry and country specific factors may affect market conditions and hence the magnitude of the positive relationship between ESG performance and financial performance. However, in spite of everything, sustainable development agenda is already increasingly recognized as one of the driving forces for stability and guarantees of high financial results.

### Implication of research

This work contains important information for investors. The results of the study provide an understanding of how the ESG valuation of a company's performance can affect the market value of shares, which can affect investment strategies. This information may also be interesting to regulators, who will be able to make more informed decisions regarding investments in sustainable development.

Moreover, this study can be valuable for companies' managers and can help them to adopt more efficient and effective ESG policies and initiatives. Recognizing the potential of sustainable practices in terms of market value increase, companies could pay more attention to integration of ESG agenda into their business strategies. Thereby, they can enhance their financial performance and contribute to the broader sustainable development goals.

The current study makes a significant contribution to the existing literature by expanding the scope of analysis beyond traditional accounting financial metrics. This paper highlights the importance to study the impact of sustainable development on financial performance by looking at more than one financial indicator, as this allows to look at the results from different perspectives and evaluate different effects.

This study extends the research by incorporating new financial performance proxy – Total Shareholder Return. The results of this study could serve as a guide for investors seeking to align their portfolios with sustainable values, enabling them to make informed decisions. Additionally, the research facilitates informed decision-making for companies as they strive for long-term value creation, highlighting the significance of incorporating ESG practices into their strategies. Ultimately, the study contributes to the advancement of sustainable investing by emphasizing the importance of ESG performance and its impact on financial outcomes. Thus, as a part of a future research perspective, it could be helpful to investigate the impact of TSR on the financial performance of a broader sample of firms.



Furthermore, while previous papers predominantly focused on companies operating in developed markets, the study specifically concentrates on firms operating in emerging markets, thus providing valuable insights into a distinct context and shedding light on the dynamics of financial performance in these economies. By considering a broader range of financial indicators and exploring emerging market settings, this research enriches the understanding of the relationship between financial performance and business environments. The results of the study highlight the importance of studying geographic influences on the ESG-FP relationship. Even within the same group of countries, each country has its own different level of implementation and application of sustainable practices. Despite the existence of common frameworks, each country adapts the sustainable development agenda and makes its own accents in different ways.

### Limitations and future research

It is important to acknowledge the limitations imposed by the chosen design of this research. Firstly, the dataset utilized in this study is limited to companies listed in the BRICS countries at a specific point in time. Additionally, the timeframe of the analysis is restricted to the data available during the research period.

Nevertheless, the shortage of existing studies on the topic suggests potential opportunities for future research. Future studies should consider broader sample of emerging economies on a longer time horizon. It is also important to compare different statistical methods to analyze data, and to complement and validate the findings obtained through the current approach.

ESG data availability and quality can pose challenges in BRICS countries, affecting the accuracy and comparability of ESG scores. Inconsistent reporting standards, data gaps and limited disclosure practices can hinder the reliable assessment of a company's ESG performance, making it difficult to accurately evaluate the relationship between ESG scores and financial performance metrics.

Another limitation concerning ESG score measurement is the variation in methodologies across different rating agencies. If the ESG scores do not accurately capture the company's true ESG performance or fail to consider industry-specific nuances, it could result in misleading results.

Given the limitations discussed, future research should consider examining similar hypotheses using alternative databases such as MSCI or Bloomberg. Conducting comparative analyses of the main differences between various ESG scores could offer valuable insights into the variations in ratings and their implications for firm value. Understanding these differences would facilitate cross-checking and enhance stakeholder trust in ESG ratings.

Additionally, conducting further research on the costs associated with ESG implementation would provide firms with a deeper understanding of the potential value increase. Investigating the financial implications and resource requirements of integrating ESG practices could

help firms make informed decisions about the allocation of resources and the expected returns on their sustainability efforts. This research would contribute to the business case for ESG adoption and provide valuable insights into the economic aspects of sustainable business practices.

### Research conclusion

The focus of previous literature on motivations for superior performance in corporations has predominantly centered around developed economies, overlooking the significance of emerging markets despite their substantial presence in the global business landscape. The limited attention given to ESG performance in emerging markets can be attributed, in part, to the lack of reliable data until relatively recently.

By analyzing data from 257 companies listed in the BRICS countries and utilizing fourteen distinct ESG performance indicators, including overall ESG performance score, ESG pillars, and their respective components, our study aims to test the hypothesis that ESG performance has both a negative impact on the financial performance of BRICS firms, as measured by accounting metrics such as ROA, and a positive impact on economic and market-based metrics of financial performance.

The findings indicate that sustainable practices have a negative effect on accounting and economic performance measures. This negative association suggests that companies with strong ESG performance tend to exhibit lower profitability. These findings align with existing studies on corporate environmental legitimacy among companies from BRICS countries, wherein such firms invest in their ESG practices to safeguard their reputation and meet the required standards.

Furthermore, the study reveals a positive impact of sustainable practices on market performance of companies. The positive correlation suggests that companies with higher ESG scores tend to experience increased stock prices and enhanced shareholder wealth. These findings align with the principles of stakeholder theory, supporting the notion that companies operating in BRICS countries adopt sustainable practices to fulfill the needs of their stakeholders and foster trust.

By demonstrating the favorable relationship between sustainable practices and market performance, the study highlights the importance of considering ESG agenda as one of the key drivers of market success. It provides empirical evidence that companies prioritizing sustainable initiatives are more likely to generate positive outcomes in terms of stock market performance and shareholder value. This insight contributes to the understanding of the broader implications of sustainable practices, emphasizing the alignment of stakeholder interests and the potential for long-term value creation in companies operating within the BRICS countries.

Overall, this study contributes to the understanding of ESG performance in emerging markets, providing insights into the potential trade-offs between sustainable practices

and financial performance. It highlights the importance of considering the specific context of industry and country factors, when examining the link between sustainable and financial performance, thereby enriching the literature in this area.

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## Appendix 1

Regression model results for H1b: Fixed effect with Robust Standard Errors

**Model 1b: Workforce as independent variable**

<i>Dependent variable:</i>	
TSR	
Workforce	0.004* (0.002)
EBIT margin growth	0.010** (0.004)
EV to Revenue growth	0.266*** (0.040)
FCF yield	-0.0001 (0.001)
Observations	1128
R <sup>2</sup>	0.073
F Statistic	13.760*** (df = 4; 702)
Note:	*p<0.1**p<0.05***p<0.01

**Model 1b: Human Rights as independent variable**

<i>Dependent variable:</i>	
TSR	
Human Rights	0.005*** (0.002)
EBIT margin growth	0.010*** (0.008)
EV to Revenue growth	0.268*** (0.085)
FCF yield	-0.0001 (0.001)
Observations	1128
R <sup>2</sup>	0.079
F Statistic	15.009*** (df = 4; 702)
Note:	p<0.1**p<0.05***p<0.01

**Model 1b: Community as independent variable**

<i>Dependent variable:</i>	
TSR	
Community	0.005** (0.002)
EBIT margin growth	0.010* (0.008)
EV to Revenue growth	0.263*** (0.086)
FCF yield	-0.0002 (0.001)
Observations	1128
R <sup>2</sup>	0.076
F Statistic	14.338*** (df = 4; 702)
Note:	*p<0.1**p<0.05***p<0.01

**Model 1b: Product Responsibility as independent variable**

<i>Dependent variable:</i>	
TSR	
Product Responsibility	0.005*** (0.002)
EBIT margin growth	0.009 (0.008)
EV to Revenue growth	0.258*** (0.086)
FCF yield	-0.0002 (0.0005)
Observations	1128
R <sup>2</sup>	0.078
F Statistic	14.794*** (df = 4; 702)
Note:	*p<0.1**p<0.05***p<0.01

Note: generated by RStudio ("stargazer").

Source: created by the authors.

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