INVESTIGATING THE RELATIONSHIP BETWEEN ESG FACTORS AND MARKET PERFORMANCE IN SPAIN

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ABSTRACT

Environmental, Social and Governance ("ESG") reporting has gained significant prominence across global markets in the last decade. Public interest, scientific studies and regulatory initiatives have all impacted how corporations approach their operations and manage their business models. However, there is a lack of conclusive evidence that would suggest ESG-related initiatives create positive value for firms. This paper evaluates the potential relationships between factors related to ESG reporting and corporate market performance within the Spanish market using multiple linear regression models. The findings show mixed results, with social variables showing a positive relationship with market performance and governance variables showing a negative relationship. Negative relationships between ESG factors and market performance suggest investors are not convinced by ESG initiatives. Insufficient results within environmental variables resulted in an inability to determine a relationship with market performance. Investment trends will shape the future of ESG, whether driven by shareholder values or pressure from all stakeholders.

Keywords: ESG; CSR; Stock Performance; Spain

Paper Type: Research paper

JEL Codes: G32, M14

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1. INTRODUCTION

Over recent decades, there has been a fundamental shift in the environment of corporate management. In what has become a relevant aspect for corporations, many have adjusted their corporate philosophies towards business principles that prioritize all stakeholders rather than only shareholders (Gawęda, 2021). There are various external factors that have driven this change in managerial culture, with the most prominent being regulatory standards. In the European Union, UN Agenda 2030 and Directive 2014/95/EU are two examples of significant regulatory initiatives that have affected business operations across the continent (Cupertino et al., 2021; Gutiérrez-Ponce et al., 2022). These specific regulations are directly related to meeting sustainability and social responsibility requirements.

While implemented by governments and regulatory agencies, the aforementioned regulations have been driven by public initiatives (Rau & Yu, 2023). Demand from citizens is often reflected by the way in which political circumstances shift, and more importantly, how stock markets react. Thus, regulations reflect the concerns of stakeholders regarding how corporations should be tackling sustainability and social responsibility issues (Muñoz et al., 2015). This transition of financial markets from prioritizing shareholder views to stakeholder views cannot be understated.

At the forefront of stakeholder concerns are the sustainability measures imposed by governments, ultimately affecting the day-to-day operations of firms (Gawęda, 2021). The transition to cleaner energy, management of waste disposal and the utilization of limited resources are examples of prominent concerns for all corporations. However, stakeholders have expressed that the responsibilities of corporations are not limited to sustainability and environmental concerns. The manner in which corporations manage social matters is under increasing scrutiny (Neace, 2007). This includes matters such as diversity, human rights, and community involvement and engagement. Additionally, the governance of corporations has become a topic of contention for which both shareholders and stakeholders have great interest (Rau & Yu, 2023). At any moment, corporations must be conscious to avoid potential controversies which include unethical behaviour and illegal actions. Controversies can directly affect the financial performance of a firm and thus indirectly affect all stakeholders of the corporation (Nirino et al., 2021).

In order to address these concerns, corporations have established internal initiatives to actively safeguards the interests of all stakeholders. Initially, this began through Corporate Social Responsibility ("CSR") measures. CSR is defined as "an organisation's commitment to a discretionary behaviour that leads to economic development and contributes to the welfare of its employees, local community and society at large" (World Business Council for Sustainable Development, 1999). The fundamental principles of CSR can be derived from stakeholder theory, outlining that corporations should consider the perspectives of multiple stakeholders when making business decisions (Freeman, 1984). CSR is primarily focused on

shaping the business model of firms, without requiring specific criteria to be evaluated and measured (Rau & Yu, 2023).

Environmental, Social and Governance ("ESG") reporting has risen in prominence over the last decade as a similar method of measuring the impact of corporations on the topics bearing the name (Polley, 2022). The main differentiator of ESG from CSR is that ESG directly measures quantitative criteria upon which firms are evaluated on (Rau & Yu, 2023). Furthermore, ESG incorporates corporate governance factors to be evaluated. Overall, CSR and ESG have become the main methods of understanding how firms behave and compare when evaluating topics related to social responsibility and sustainability.

The main research objective of this master's thesis is to contribute to the existing research on ESG-related factors and the potential relationship with corporate financial performance. While many incentives and reasons may exist for a corporation to engage in ESG-related initiatives, the associated financial benefits and costs can tend to be the most significant consideration for the priorities of both shareholders and stakeholders. Utilizing variables directly related to the ESG framework, the market performance of corporations can be analyzed to understand whether a relationship exists, and if so, the type of relationship that exists.

There are two primary research questions that will be evaluated throughout this paper and highlighted within the hypotheses posed as part of the research:

> *RQ_1: Does a relationship exist between ESG-related initiatives and corporate market performance?*

> *RQ_2: Is there enough evidence to suggest a complete switch in the European managerial philosophy from shareholder theory to stakeholder theory?*

The first research question will be directly answered by the findings of a statistical regression analysis. This is accomplished by way of thorough primary research and hypothesis testing by utilizing regression techniques. However, the answer to the second research question is indirectly answered through the findings of the analysis. The paper evaluates a possible relationship between ESG-related initiatives and market performance. If there is a positive relationship between the two, this could imply that stakeholder theory has significant prominence in the current Spanish market, and potentially the European market as a whole.

As part of the UN Agenda 2030, the United Nations Sustainable Development Goals were created to provide a framework for nations around the globe to promote sustainable development (UN, 2015). Within this framework, countries are evaluated based on criteria that is to be met by the year 2030. This initiative follows upon the principles found within CSR and ESG, in building more incentives for countries and respective corporations to work towards stakeholder interests. This paper addresses and integrates the propositions of various United Nations Sustainable Development Goals, such as:

8 - Decent Work and Economic Growth: This goal is met through the analysis of the environmental and social pillars. The environmental pillar is addressed through the understanding of targets set out by corporations to meet environmental standards as it relates to a green economy. The social pillar is addressed by the provision of decent work for all which provides social protection to citizens.

12 - Responsible Consumption and Production: ESG as a concept directly addresses responsible consumption and production. Corporations are expected to reduce emissions and ensure there is responsible production mechanisms within their respective operations, and these are evaluated through ESG metrics.

13 - Climate Action: The environmental pillar directly addresses climate action and provides insight into the climate goals targeted by firms, as well as their impact on market performance. Furthermore, the synergies created by improved climate action are overseen by the environmental pillar through direct planning and goal setting.

The following work is a research paper which seeks to answer the research questions provided above, as well as provide wider applications to the findings.

2. LITERATURE REVIEW

2.1. CSR and ESG

An extensive literature review was conducted utilizing the databases of the University of Barcelona (UB) library. The two databases used for the literature review were Scopus and Web of Science. Using advanced search mechanisms, the keywords 'ESG; CSR; Stock Performance; Spain' were utilized both individually and in combination. The main focus of results was on scientific articles and journals of academic and professional experts in the fields of stock markets, ESG and CSR.

Traditionally, CSR is a term used by corporations to demonstrate a firm's impact on societal issues. In contrast with ESG, the concepts behind CSR predate ESG and have been used by corporations to address environmental and social issues to appease stakeholders. CSR is seen as a general sustainability framework and as a business model led by individual companies (Polley, 2022; Rau & Yu, 2023). Conversely, ESG operates as a measurable sustainability assessment tool utilizing specific criteria for evaluation (Polley, 2022). Furthermore, CSR does not address the governance factors which are tackled within ESG-related frameworks.

Existing reports that discuss the impact of CSR and ESG have found the origins of their concepts within in stakeholder theory (Rau & Yu, 2023; Saygili et al., 2022; Nirino et al., 2021). Proposed by R. Edward Freeman, the theory defines stakeholders as "any group or individual who is affected by or can affect the achievement of an organization's objectives" (Freeman, 1984). This differs from shareholder theory, according to which the primary responsibility of a business is to prioritize the maximization of profits for shareholders, as proposed by Milton

Friedman (1970). The core principles of stakeholder theory align with the goals of ESG and CSR in addressing concerns that lie beyond the primary interests of shareholders of the firm.

Yet, there are examples where CSR reporting has been utilized as a form of corporate "greenwashing", that is, when corporations mislead stakeholders as to how their environmentally related initiatives operate. Conversely, ESG factors are measurable and are considered to provide a higher level of accuracy of corporate performance in these areas (Haji et al., 2022). Thus, ESG practices have gained significant cultural importance in recent decades as they contain quantifiable goals to measure the impact of firms on all stakeholders and are less prone to "greenwashing" (Rau & Yu, 2023). However, CSR remains highly relevant in modern corporate practices and cannot be ignored in the context of stakeholder impact.

Recent social movements aimed at improving equality and mounting pressure to meet climate targets have heightened the importance of ESG performance for corporations. In response, companies are investing more resources into improving their ESG-related metrics. However, these efforts bring increased costs, which can potentially impact finances and consequently market performance. Despite this, studies examining the impact of ESG and CSR factors on market performance have yielded varying results. Some studies have found a positive relationship between ESG-related factors and market performance (Shirasu & Kawakita, 2021; Barko et al., 2021; Shanaev & Ghimire, 2022), while others have found a mixed or negative relationship between ESG-related factors and corporate financial performance (Saygili et al., 2022; Nirino et al., 2020). Thus, there is currently no consensus regarding the relationship between ESG and market performance, highlighting the need for further research that can provide additional insights.

A review of investor perceptions of ESG and CSR provides additional context for understanding how investment decisions are made, and thus how markets react to firms and their ESG-related decisions. In the case of Spain, investors have expressed a desire to improve their understanding of socially responsible investing ("SRI") through educational resources before investing in firms with an ESG-related strategic focus. Much of this sentiment stems from a lack of education on SRI within Spain. Thus, survey results of Spanish investors found that investors with higher levels of education were more aware of SRI products and ESG ratings (Escrig-Olmedo et al., 2013). Despite a deficiency in SRI-related education within Spain, the quality of sustainability reporting has been found to improve the reputation of Spanish firms. Indeed, an improvement in public reputations and perceptions in relation to ESG has been interpreted as creating more interest from potential investors and has improved performance targets. (Odriozola & Baraibar-Dies, 2017).

Investors across the world utilize calculated ESG rating scores to engage in SRI. Such ratings and scoring criteria provide valuable information to potential investors on how firms meet ESG criteria, as well as firms' exposure to ESG-related risks. Quantifiable ESG ratings of companies from around the globe are widely available from financial institutions, including Morgan Stanley Capital International ("MSCI") and Morningstar Sustainalytics. An example of the

MSCI ESG ratings and information available online is provided in **Error! Reference source not found.**. Changes in ESG ratings can have an impact on stock performance, as downgrades have been found to have a detrimental impact on stock performance (Shanaev & Ghimire, 2022). Ratings are considered to be reliable indicators of performance in ESG-related factors; yet, a gap in sustainability reporting exists with some companies failing to provide enough information for a completely accurate ESG rating, despite the implementation of Directive 2014/95/EU (Gawęda, 2021). Therefore, ESG ratings and changes in these scores over time can be used to engage in SRI, but investors should be aware of the lack of complete accuracy in the ratings.
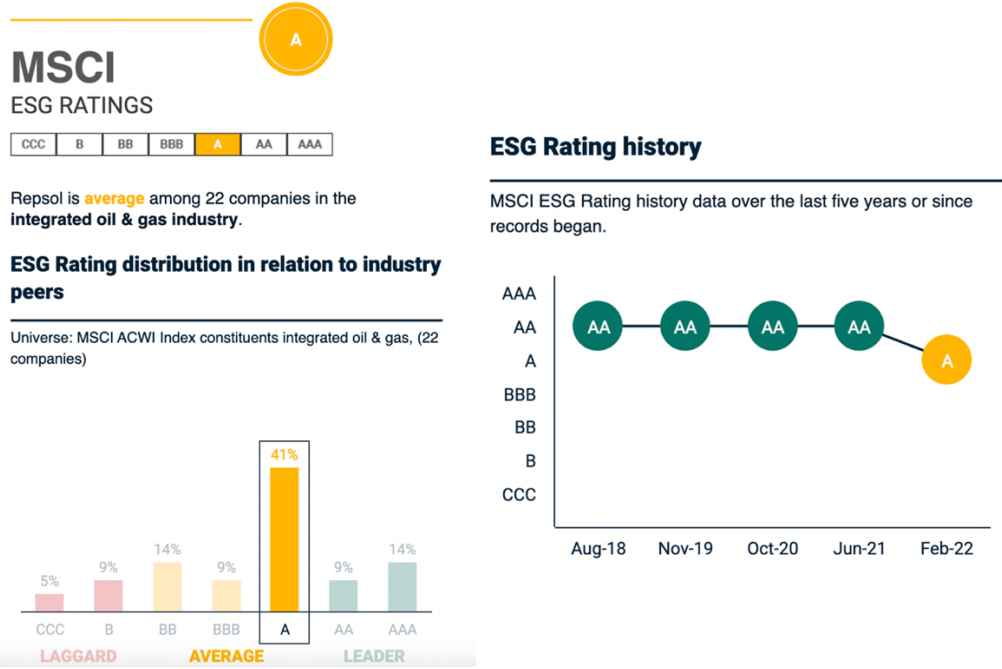
Figure 1: Example of MSCI ESG Ratings, Repsol. Source: (MSCI Website, 2023)

2.2. Theoretical Framework

The three pillars of ESG ratings – that is Environmental, Social and Governance – comprise a range of topics. The CFA Institute identifies subtopics within the ESG framework to further understand the nuances of each pillar, as outlined in **Error! Reference source not found.** (Rau & Yu, 2023). The Environmental pillar concerns itself with the conservation of the natural world, dealing with areas such as climate change, carbon emissions, waste management, pollution, deforestation, and water management. The Social pillar concerns itself with the impact of companies on people and relationships, such as diversity standards, data privacy, community relations, and human and labor rights. Finally, the Governance pillar concerns itself with standards for running and operating a company, including board composition, compensation, and areas related to ethics such as bribery and corruption as well as political contributions.

Figure 2: Key ESG Factors. Source: (CFA Institute, 2023)

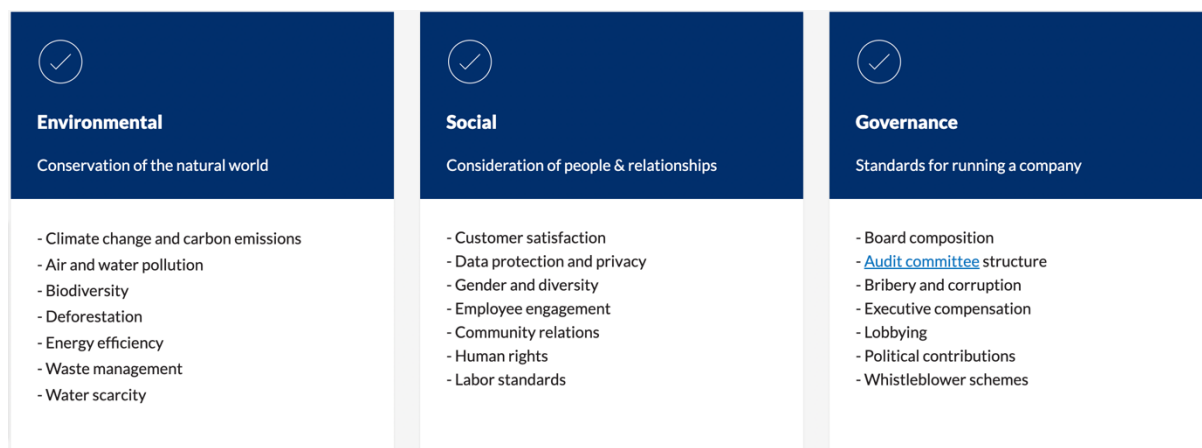These concerns are not time-bound within the framework provided, but governments have imposed separate timeframes to meet certain targets as they relate to individual initiatives. Thus, corporations will have varying priorities depending on which industry they operate within. For example, traditional oil and gas companies will need to invest more funds to meet carbon emissions targets, while working to maintain their performance within all three ESG pillars.

2.2.1. Environmental Pillar

The primary purpose of the environmental pillar is to reduce a firm's impact on the Earth's natural resources. Many of the determinants of high-risk ESG ratings pertain to the Environmental pillar, including carbon risks, emissions, effluents and waste, and resource use (Chase, 2022). Globally, it has become common for companies to implement an environmental or "green" strategy to manage their impact on environmental factors (Miroshnychenko et al., 2017). Increased demand from customers for companies to act more sustainably has encouraged firms to leverage green products and services to drive demand, and thus improve financial performance. A positive relationship has been found between Corporate Environmental Performance ("CEP") and Corporate Financial Performance ("CFP"), with better financial performance shown when environmental strategies are proactive rather than reactive (Endrikat et al.., 2013).

As discussed earlier, a significant concern within the environmental pillar is its manipulation for greenwashing purposes. Consumer preferences have created competitive limitations for companies that have been unable to improve environmental performance at the same pace as demand wills it. Thus, certain companies engage in creating an image of improved environmental practices without fulfilling the required responsibilities, known as greenwashing (Rau & Yu, 2023). Thus, ESG scoring is often favoured over CSR-related scoring by investors, as ESG factors provide a higher degree of accountability with advanced measurable criteria and publicly available scoring.

2.2.2. Social Pillar

The Social pillar of ESG focuses on matters which affect people and relationships as it pertains to stakeholders of corporations. Issues such as human rights, working conditions, and career development and training have been found to improve corporate performance, specifically within the success of mergers and acquisitions (Huang et al., 2023). Larger firms that look for growth through acquisitions can ensure that synergy exists through improved social capital within their firm.

With respect to human rights, firms that uphold and maintain human rights are rewarded with improved financial performance (Marslev, 2020; IHRB, 2013). Furthermore, improvement of employee rights and labor rights has a positive association with financial performance (Lee et al., 2012). Stakeholders are likewise concerned with the protection of individual data and privacy. In 2018, the EU introduced the General Data Protection Regulation policy which would enforce higher levels of customer data protection, as outlined in Figure 3. Firms with exposure to the regulations saw a reduction in market performance, due to higher costs to meet requirements (Presidente & Frey, 2022). This outlines the importance of a proactive approach to ESG factors, in the reduction of potential costs related to matters such as data privacy.
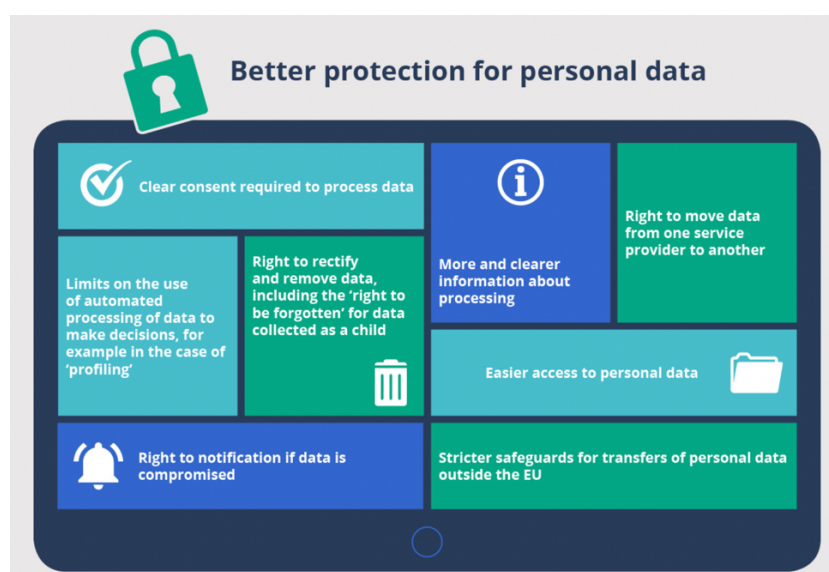
Figure 3: General Data Protection Regulation Policy Infographic. Source: (Council of the European Union, 2020)

The aforementioned topics within the social pillar outline that market performance tends to improve in conjunction with better social performance. Yet, negatively perceived events such as downsizing and the layoff of employees can improve market performance despite their adverse social impacts (Love & Kraatz, 2009). Many shareholders tend to react positively to cost-cutting measures within a firm, no matter the effect on ESG-related matters. The conclusions of this report will review this sentiment based on the findings outlined.

Diversity within an organization is another focal point, especially within the composition of the board of directors of a firm. Evidence shows that gender and genetic diversity within a board can reduce financial distress risk and improve financial performance (Guizani & Abdalkrim, 2022; Kizys et al., 2023; Gattai et al., 2023).

2.2.3. Governance Pillar

Within the Governance pillar, there is an evaluation of the standards upon which a corporation is managed by its leadership. This includes a corporation's executives, the board of directors, and upper levels of management, all of whom have an obligation to protect the interests of shareholders and other stakeholders. All public corporations must be wary of the agency problem, whereby there are conflicting interests between principals and agents. Agency costs can thus develop, creating increased costs and potential liabilities for the company (Jensen & Meckling, 1976). Moreover, companies with increased agency costs are shown to have worse financial performance. Increased agency costs are the product of poor governance structures within a firm, which can allow for unnecessary costs such as disproportionate executive compensation (Core et al., 1998).

Agency costs can lead to criminal liabilities within a firm including actions of the unethical nature such as bribery and corruption (Tran, 2020). Firms with poor governance structures have a higher susceptibility to these liabilities, which bear significant costs, create poor publicity and lead to negative market reactions. Furthermore, when actions within a company lead to prosecutions, firm value and market performance decline due to the associated costs and negative publicity from criminal actions. The publicity of prosecutions causes more losses from market performance than direct fines from judiciaries (Pierce, 2018). Ethical codes and standards within a firm can improve governance, but a system of checks and balances that ensures the ethical standards are upheld is much more effective to protect firm market performance (Verschoor, 1998).

2.3. Hypothesis Development

The current state of research on ESG-related factors and the effects on market performance shows uncertainty when it comes to a conclusive relationship. Given the prominence of the topics within ESG in modern times, there exists an opportunity to provide further research. As more data becomes increasingly available, it becomes more important to conduct analyses to understand whether ESG factors affect CFP, and if so, to what extent. Spain is utilized as the country of focus in this research study as there is a high level of awareness of ESG-related issues in society, but the country has fallen behind its neighbouring European countries in meeting the required standards (Gutiérrez-Ponce et al., 2022).

Each of the three pillars has its own set of variables that underline possible relationships with market performance, thus each pillar should be analyzed. The objective of this thesis is to provide further analysis within the area, specifically as it relates to large public corporations

based in Spain. In accordance with the stated objectives and the literature review, the following hypotheses have been formulated:

> *H1: Environmentally related actions have a significant positive impact on the market performance of IBEX35 companies.*

> *H2: Socially related actions have a significant positive impact on the market performance of IBEX35 companies.*

> *H3: Governance-related actions have a significant positive impact on the market performance of IBEX35 companies.*

A statistical analysis has been conducted to measure the hypotheses, utilizing dependent, independent and control variables to measure the companies in the sample against various factors within each of the ESG pillars. IBM SPSS software has been used to conduct the statistical analysis, utilizing public financial information from companies in the IBEX35 index. These factors are outlined in the Methodology section of the report.

Directly, the hypotheses will seek to explain the effect of ESG-related actions on firm market performance. From an indirect point of view, the goal is to understand to what extent market performance prescribes to stakeholder theory in contrast with shareholder theory. ESG practices are ingrained by the principles of stakeholder theory. Therefore, if the hypotheses are found to be accepted, it would create further reasoning to the argument that stakeholder theory is dominant in the current Spanish market. While other factors are understandably affecting market performance in conjunction with ESG-factors, the idea that stakeholder theory has significant bearing on market performance cannot be overlooked.

The impact of ESG ratings (e.g., MSCI ESG ratings) has been shown to be valuable to investors, with a clear impact on performance when ratings change (Shanaev & Ghimire, 2022). In preparation of this thesis, ESG ratings for IBEX35 companies were reviewed and preliminary tests were conducted to understand potential relationships. However, the current data sample of ESG ratings for IBEX35 companies is not extensive enough to confidently conduct statistical tests in order to determine a relationship. Nevertheless, ESG ratings are important to understand within the context of this study.

3. METHODOLOGY

3.1. Data Gathering

The methodology of this statistical analysis has utilized influences from a similar report conducted on Turkish companies (Saygili et al., 2021) and a report containing a review of CSR factors and Spanish firms (Muñoz et al., 2015). The first step in the analysis was to review the selected reports and understand how a similar statistical analysis could be conducted. This thesis

differs in that it focuses on ESG-related factors of IBEX35 firms. The sample size of corporations provides insight into the best performing public Spanish corporations and the effects of their ESG practices on market performance.

The companies to be analyzed were selected based on their inclusion in the IBEX35 at the time of the analysis in March 2023, as outlined in *Table 1*. The IBEX35 is considered to be the benchmark stock index for Spain, as operated by Bolsas y Mercados Españoles (BME, 2022). As the domestic and international benchmark for the Spanish stock market, the IBEX35 can serve as the best method of gauging the reactions to ESG factors for the Spanish market as a whole. Due to data availability limitations for Corporacion Acciona Energias Renovables S.A. (ANE), the company was excluded from the sample. Therefore, a total of 34 companies were utilized as part of the sample.

Table 1: List of Corporations Used in Sample from IBEX35

CORPORATION	STOCK ABBREVIATION
REPSOL S.A	REP
ARCELORMITTAL SA	MT
TELEFONICA SA	TEF
BANCO SANTANDER SA	SAN
IBERDROLA SA	IBE
ACS ACTIVIDADES DE CONSTRUCCION Y SERVICIOS, S.A.	ACS
INDUSTRIA DE DISENO TEXTIL S.A.	ITX
BANCO BILBAO VIZCAYA ARGENTARIA SA	BBVA
NATURGY ENERGY GROUP, S.A.	NTGY
MAPFRE SA	MAP
ENDESA, S.A. (SPAIN)	ELE
CAIXABANK, S.A.	CABK
COMPANIA DE DISTRIBUCION INTEGRAL LOGISTA HOLDINGS, S.A.	LOG
ACCIONA SA	ANA
INTERNATIONAL CONSOLIDATED AIRLINES GROUP S.A	IAG
FERROVIAL SA	FER
ACERINOX SA	ACX
BANCO DE SABADELL SA	SAB
GRIFOLS S.A.	GRF
SACYR S.A.	SCYR
INDRA SISTEMAS S.A.	IDR
CORPORACION ACCIONA ENERGIAS RENOVABLES S.A. [1]	ANE
AMADEUS IT GROUP, S.A.	AMS

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[1] Excluded due to lack of available data over the sample time period.

CELLNEX TELECOM S.A.	CLNX
AENA S.M.E, S.A.[2]	AENA
FLUIDRA S.A.	FDR
BANKINTER SA	BKT
RED ELECTRICA CORPORACION SA	REE
UNICAJA BANCO SA	UNI
ENAGAS SA	ENG
MELIA HOTELS INTERNATIONAL, S.A.	MEL
LABORATORIOS FARMACEUTICOS ROVI S.A.	ROVI
MERLIN PROPERTIES SOCIMI , SA	MRL
INMOBILIARIA COLONIAL SOCIMI, S.A.	COL
SOLARIA ENERGIA Y MEDIO AMBIENTE S.A.	SLR

Source: Orbis Europe (2023)

The statistical analysis utilized various dependent, independent and control variables, as outlined in *Table 2*. Five dependent variables have been tested within the statistical studies to understand the effects of various independent variables while utilizing control variables for controlling for other effects. The dependent variables are directly related to market performance and are used as common measures of financial performance by both institutional and retail investors.

Tobin's Q ("TQ") is a financial performance indicator that evaluates at the market value of a company as a means to understand whether the company is overvalued or undervalued (Hayes, 2021). When the TQ of a firm is compared to the TQ of a market, an investor can determine whether or not to invest in a stock. This is a common measure of market performance used by investors and is therefore considered valuable as a dependent variable in the context of this study.

$$Tobin's\ Q\ (TQ) = \frac{Market\ Capitalization}{Total\ Assets}$$

The Return on Assets ("ROA") ratio seeks to understand how a company is converting its assets into income. For example, if a company is efficient in its asset management, they will have a higher ROA. ROA is commonly utilized by investors in research and investment decisions and is thus included in this analysis. However, there are various inconsistencies in utilizing ROA to compare companies across different industries (Hargrave, 2022). As pointed out by Mauboussin & Callahan (2015), ROA has additional inconsistencies in that changes in debt can affect the numerator but there will not always be proportionate changes to the denominator, being the assets. Thus, in the context of this study which evaluates companies across industries, there is a factor of unreliability with ROA which must be accounted for.

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[2] FY2014 excluded due to lack of available data in 2014.

$$Return\ on\ Assets\ (ROA) = \frac{Net\ Income}{Total\ Assets}$$

Earnings per Share ("EPS") has been considered to be the most popular financial benchmark for investors (de Wet, 2013). EPS evaluates net profits compared to the shares outstanding of the firm. This metric can be useful in evaluating various firms across an index, as all firms will have publicly available information on shares outstanding. Therefore, EPS has been included as an additional dependent variable in the study.

$$Earnings\ per\ Share\ (EPS) = \frac{Net\ Income}{Weighted\ Average\ Shares\ Outstanding}$$

Operating Revenue (Turnover) per Share ("TPS") is another financial metric used by investors in researching companies. The formula for TPS is very similar to EPS, but both metrics measure corporations in a different manner. While EPS measures net income on a per share basis, TPS measures the amount of revenue generated only by primary business operations. TPS focuses on revenues generated by the primary business and does not account for business costs and secondary revenue streams. Understanding revenue generation on its own is important in evaluating business growth and thus valuable to investors.

$$Operating\ Revenue\ (Turnover)\ per\ Share\ (TPS) = \frac{Operating\ Revenue}{Shares\ Outstanding}$$

Book value per share ("BVPS") is an alternative method for understanding whether a company is undervalued or overvalued in the stock market (Damodaran, 2004). Investors will look at the book value of a firm relative to price to determine whether to invest in the company or not. BVPS is thus another common metric utilized by investors and has been included in this study.

$$Book\ Value\ per\ Share\ (BVPS) = \frac{Common\ Equity}{Shares\ Outstanding}$$

The dependent variables for each company were sourced using the Orbis Europe database, with a time frame of 2014 to 2021. The length of the time frame used spans 8 years to ensure that the sample size covers a sufficient period before the COVID-19 pandemic and the subsequent market reaction. 2014 was used as the first year of the sample due to data limitations with the gathering of data for the independent variables in preceding years. 2021 was used as the final year of the sample due to data limitations with the gathering of data for the fiscal year 2022 for all IBEX35 companies in the Orbis Europe database.

Nine independent variables were selected to test both their respective and collective effects on each dependent variable. The independent variables were determined based on numerous factors. The framework for the variables originated from similar studies conducted by Saygili et al. (2021) and Muñoz et al. (2015), where similar independent variables were utilized.

There were various limitations to the data gathering of independent variables which were accounted for. First, the time constraints in this research meant that data gathering could not be extensive, in order to avoid established deadlines. The study of Saygili et al. (2021) utilized eighteen independent variables, most of which contained multiple sub-items. For each of the companies in the sample, research was required into whether the company met the criteria for each year in the time period. An extensive number of independent variables would thus create a difficult time constraint within the data gathering phase of this report. Therefore, the number of independent variables to be researched as part of this study was reduced to a total number of nine. In addition, the gathering of data for independent variables required careful reading into multiple annual reports for each company and within each year of the sample. This was a greater constraint in contrast to the data gathering for the dependent variables, where data was readily available through the Orbis Europe database.

The process of gathering data for independent variables included the review of Annual Reports, Non-Financial Reports, Sustainability Reports, Management Reports and Annual Corporate Governance Reports for the 34 companies in the sample, from 2014 to 2021. The outlined reports are publicly available on either corporate websites or through the Comisión Nacional del Mercado de Valores ("CNMV") website. Only data available accessible through these means was utilized to measure the independent variables.

The independent variables proposed various questions which ascertain how a company measures within ESG-related factors. Each of the nine independent variables was measured on a binary basis, given a score of one (1) as a "Yes" to the proposed question, and a score of zero (0) as a "No" to the proposed question.

Independent variables related to Environmental factors for each year in the data sample include:

I.   Did the company have a climate-specific or climate-related annual report available online?
II. Was the company listed on the FTSE4Good IBEX Index?
III. Were there quantifiable carbon emission targets outlined for the corporation to work towards within published reports?

The question of the availability of a climate-specific or climate-related report is directly related to Directive 2014/95/EU, which requires non-financial disclosure from public companies in the European Union (Cupertino et al., 2021). Companies are required to publish annual non-financial information, which is intended to include measures and goals related to sustainability and CSR or ESG factors. There is a question as to whether companies perform better if they are actively creating a separate report related to these factors. This would demonstrate a higher level of intent related to dealing with ESG factors. Furthermore, the directive only became active in 2018. There is an additional question of whether proactive companies which published climate-related reports prior to 2018 performed better in that time frame. Within this variable,

years where companies did not publish separate reports such as Integrated, Sustainability or Non-Financial reports would receive a "No" to the question.

The FTSE4Good Index is operated by FTSE Russell and intended to measure the financial performance of companies demonstrating ESG practices (FTSE Russell, 2023). Through a partnership with Bolsas y Mercados Españoles, the FTSE4Good IBEX Index was created to outline Spanish firms demonstrating ESG practices. Inclusion in the IBEX35 does not guarantee inclusion in the FTSE4Good Index, therefore firm inclusion and the date of inclusion into the FTSE4Good Index can be measured against market performance to measure whether there are related effects to inclusion in both indices.

Quantifiable emissions targets can provide evidence to both institutions and to investors that the company is working towards meeting government-led emission reduction requirements. Yet, companies often publish statements discussing emission targets without quantifiable evidence to support their claims. This can be considered a common greenwashing practice, which does not truly demonstrate a commitment to the reduction of emissions (Haji et al., 2022). Therefore, emissions targets with numerical values and established timeframes are assessed a "Yes" within this category. Saygili et al. (2022) outline three different sub-items within the Environmental Disclosure section based on the Global Reporting Initiative ("GRI") Reporting Guidelines that are directly related to emissions and the reduction of emissions, used as a basis for this question (GRI, 2022). Quantifiable emissions targets can be mentioned within the publicly available reports for corporations, all of which were reviewed for the purpose of this question.

Independent variables related to Social factors for each year in the data sample include:

I.   Did the company outline a public commitment to the United Nations Global Compact?
II.   Did the company obtain ISO27001 Certification?
III.   Were more than 25% of the company's board members females?

The UN Global Compact ("UNGC") was founded in 2000 by the United Nations ("UN") as a call for companies around the world to adhere to sustainable development standards. An acceptance of the UNGC principles can create a triple bottom line approach, also seen as a win-win-win model (Neace, 2007). A commitment to the ten principles of the UNGC is not considered to be a form of greenwashing, as the UNGC requires evidence of organizations meeting standards to be considered a part of the compact. Therefore, this commitment proves to investors that a company is working towards social and sustainability goals.

ISO27001 outlines standards for companies to manage security risks related to information management systems (Stoica & Candoi-Savu, 2020). The protection of information is prevalent in the current digital age, with companies relying on customer data primarily though technological means. A commitment to the ISO27001 standards by a company would be a social commitment to data protection for both internal stakeholders and customers. The

potential financial harm that a serious data leak or hack to a firm would be substantial, thus affecting financial and market performance. The increased use of technology in all business functions is a relatively new phenomenon. Therefore, limitations may exist in the understanding of the impact that ISO27001 may have on market performance due to the novelty of the concept.

The number of females on a company's board of directors is one of the sub-topics included as part of the GRI reporting guidelines (Saygili et al., 2022). The effects of female directors on market performance have been studied, finding mixed results on whether market performance improves or declines based on the number of female board members (Chen et al., 2018; Singh et al., 2001; Pucheta-Martínez, 2018). Further research is required in the area, as trends indicate there is increasingly more female board representation. To further understand the effect of increased female directors on Spanish firms, this question has been included as an independent variable as part of the Social pillar.

Independent variables related to Governance factors for each year in the data sample include:

    I.   Were more than 33% of the company's board members classified as independent members?

    II.   Were the majority (>50%) of the company's board members classified as non-executive members?

    III.   Was there a separation of the Chief Executive Officer ("CEO") and Chairperson of the Board of Directors positions?

Independence amongst board members allows for firms to be more aligned to stakeholder interests, especially when related to social and environmental factors (Benjamin et al., 2020). Thus, increased board independence provides companies with an improved level of governance that is aligned with all stakeholders and not only with shareholder interests. The proportion factor utilized in this question is derived from the GRI reporting guidelines (Saygili et al., 2022).

Moreover, a board composed with a majority of non-executive chairpersons further increases governance standards. Non-executive chairpersons have been found to be more likely to improve CSR reporting (Guping et al., 2020). Therefore, the presence of non-executive chairpersons can improve accountability for the board and firm itself, thus improving governance standards. It is valuable to then understand the effect of improved governance on market performance. Similar to the previous question, the proportion factor utilized is derived from the GRI reporting guidelines (Saygili et al., 2022).

CEO duality exists when the chairperson of the board and CEO positions are held by the same person (Rechner & Dalton, 1991). Various studies outlining the effects of CEO duality on market performance show variability across results, with trends towards negative relationships between duality and market performance (Hsu et al., 2021; Tran et al., 2016; Cabrera-Suarez & Martin-Santana, 2015). Understanding the effect of whether the CEO and Chairperson positions are separated or not can provide more insight into governance factors as they relate to market performance.

Various control variables are included in the statistical analysis to account for the effects of other variables on the dependent and independent variables' relationship (Cohen et al., 2003). Gross Margin ratio, Gearing, Net Assets Turnover, and Enterprise Value / EBITDA are all control variables for every company. The banks included in the sample have higher levels of missing values amongst the control variables. Therefore, two additional control variables have been included to account for the lower levels of data for the banks. This includes the Equity / Liabilities ratio and Net Internal Revenue / Average Assets ratio. All control variable data was sourced from the Orbis Europe database for the years 2014 to 2021.

Table 2: Definitions of the Variables

Type of Variable	Variable	Definition
Dependent	TQ	Tobin's Q
	ROA	Return on Assets
	EPS	Earnings per Share
	TPS	Operating Revenue (Turnover) per Share
	BVPS	Book Value per Share
Independent	REP	Climate-specific or related report available online
	FTSE	FTSE4Good IBEX Index
	CBN	Carbon emissions reduction targets outlined (quantifiable)
	UNGC	Commitment to UN Global Compact
	ISO	ISO27001 Certification
	FEM	More than 25% of board members are female
	IND	More than 33% of board members are independent
	NONEX	Majority of board members are non-executive
	NODUAL	Separation of CEO and chairman
Control	GM	Gross Margin
	GEAR	Gearing
	ATO	Net Assets Turnover
	EV / EBITDA	Enterprise Value / EBITDA
	EQ / L	Equity / Liabilities
	NIR / AA	Net Internal Revenue / Average Assets

Source: Own Elaboration

3.2. Data Analysis

Following the data gathering phase of all variables, the data was transposed onto an IBM SPSS Version 27 dataset. This was followed by a data cleaning phase, where all data was reviewed

for outliers and missing values. Missing values were replaced by the series mean for TQ, GM, GEAR, ATO, EV/EBITDA. This was done as each of these series had nearly complete information, and only required a small number of replacements.

Once the data cleaning was complete, a descriptive statistical analysis was run for all of the variables, as outlined in *Table 3*. This ensured there was sufficient variance across all variables to continue with the statistical testing. The goal of the following analysis is to understand the trends in market performance alongside ESG performance and apply reason to the observations.

Table 3: Descriptive Statistics

	n	Mean	Median	Mode	Std. Dev	Kurtosis	SE Kurtosis	Min	Max
TQ	272	0.7143	0.4100	0.7143	0.9491	9.0350	0.2940	0.0080	5.6480
ROA	272	2.7917	2.3190	0.2780	4.6815	7.2510	0.2940	-22.8750	20.8930
EPS	272	0.9617	0.6080	0.9617	2.0264	17.1470	0.2940	-13.1480	13.4360
TPS	272	19.3350	7.6305	19.3350	31.2470	6.0860	0.2940	0.1650	158.0020
BVPS	272	10.8916	6.7220	10.8916	13.9058	12.5330	0.2940	0.1696	101.3060
GM	272	60.7786	60.5551	60.5551	21.7348	-0.1390	0.2940	6.3710	99.5760
GEAR	272	171.7683	171.7683	171.7683	114.7055	13.7490	0.2940	10.8700	984.8590
ATO	272	1.1217	0.8470	1.1217	1.8894	24.9100	0.2940	0.0240	12.2380
EV/ EBITDA	272	13.9330	13.4585	13.9330	9.0953	6.4380	0.2940	1.5320	66.1410
EQ / L	48	7.0059	6.8952	4.8023	1.0778	-0.9170	0.6740	4.8023	9.1144
NIR / AA	48	1.6775	1.4926	0.8063	0.5472	-1.3150	0.6740	0.8063	2.6468
REP	272	0.5735	1.0000	1.0000	0.4955	-1.9250	0.2940	0.0000	1.0000
FTSE	272	0.7243	1.0000	1.0000	0.4477	-0.9890	0.2940	0.0000	1.0000
CBN	272	0.7059	1.0000	1.0000	0.4565	-1.1830	0.2940	0.0000	1.0000
UNGC	272	0.6434	1.0000	1.0000	0.4799	-1.6500	0.2940	0.0000	1.0000
ISO	272	0.5993	1.0000	1.0000	0.4910	-1.8480	0.2940	0.0000	1.0000
FEM	272	0.4522	0.0000	0.0000	0.4986	-1.9770	0.2940	0.0000	1.0000
IND	272	0.9007	1.0000	1.0000	0.2996	5.3030	0.2940	0.0000	1.0000
NONEX	272	0.9853	1.0000	1.0000	0.1206	64.2110	0.2940	0.0000	1.0000
NODUAL	272	0.6801	1.0000	1.0000	0.4673	-1.4070	0.2940	0.0000	1.0000

Source: Own Elaboration

Key findings of the descriptive statistical analysis for the dependent variables include TQ having a relatively high mean and ROA exhibiting a wide range with negative minimum and maximum values. Additionally, EPS showed moderate variability with a mode equal to the mean, a high mean and substantial standard deviation for TPS, and BVPS displaying a wide dispersion of values with a mode equal to the mean. For the independent variables, REP, FTSE, CBN, UNGC, ISO, and NODUAL have means close to or below 0.7, while IND and NONEX have higher means. FEM stands out with a lower mean than the rest of the variables, indicating a lower number of companies meeting the FEM variable requirements.

4. RESULTS

4.1. Statistical Results

For each dependent variable, a multiple linear regression was performed with SPSS software to determine the relationship with the independent variables. Control variables were included to control for other effects that may impact the dependent variable. Multiple linear regression was the best model fit for this study since the dependent variables fall within a determined range and the independent variables are binary variables. Diagnostic tests were run for each regression model with various residual statistics to test the robustness of the models. This included testing for predicted values, residuals, Mahalanobis' distance, Cook's distance, and Centered Leverage Value.

Table 4, Table 5, and Table 6 outline the TQ regression estimation results and subsequent diagnostic tests. The TQ model passes the overall significance test at the 0.05 level. However, only two of the independent variables pass their individual significance tests at the 0.05 level. FEM shows a negative relationship with TQ, and NONEX shows a negative relationship with TQ as well.

Table 4: TQ Model Summary

MODEL SUMMARY

	R	R Square	Adjusted R Square	Std. Error of the Estimate
TQ	0.6040	0.3650	0.3280	0.7780

Table 5: ANOVA (TQ)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	89.195	15	5.946	9.825	.000b
	Residual	154.935	256	0.605		
	Total	244.129	271			

a Dependent Variable: SMEAN(TQ)

Source: Own Elaboration

Table 6: Regression Model (TQ)

COEFFICIENTS					
	B	Std. Error	Beta	t	Sig.
(CONSTANT)	1.452	0.453		3.203	0.002
REP	0.210	0.116	0.110	1.815	0.071
FTSE	0.180	0.138	0.085	1.303	0.194
CBN	0.122	0.148	0.059	0.825	0.410
UNGC	-0.323	0.183	-0.163	-1.758	0.080
ISO	-0.100	0.178	-0.052	-0.563	0.574
FEM	-0.397	0.107	-0.209	-3.729	0.000
IND	0.274	0.186	0.087	1.471	0.143
NONEX	-1.170	0.421	-0.149	-2.780	0.006
NODUAL	-0.193	0.118	-0.095	-1.634	0.103
GM	0.011	0.003	0.261	3.853	0.000
GEAR	-0.003	0.000	-0.356	-6.155	0.000
ATO	0.002	0.031	0.004	0.065	0.948
EV/EBITDA	0.022	0.006	0.207	3.509	0.001
EQ/L	-0.063	0.077	-0.181	-0.819	0.414
NIR/AA	-0.013	0.298	-0.009	-0.044	0.965
Dependent Variable: TQ					
Source: Own Elaboration					

Based on the diagnostic testing in Annex A, there are several findings on the statistical tests. The mean residual is equal to zero, indicating that the findings of the model are accurate. There are no extremely influential data points affecting the model predictions since the value of Cook's distance is low. The t-values of the residuals range from -2.311 to 4.801, with the majority falling between -2 and 2, thus indicating that the residuals are normally distributed around zero. Finally, the leverage values range from 0.014 to 0.317, with the majority being less than 0.1, indicating that there are no extreme values of the independent variables that are significantly affecting the model. Annex B outlines the Histogram for returns of the TQ model and the complete diagnostic test results.

Table 7, Table 8, and Table 9 outline the ROA regression estimation results and subsequent diagnostic tests. The ROA model passes the overall significance test at the 0.05 level. Only one of the independent variables passes the individual significance tests at the 0.05 level, as NONEX shows a negative relationship with ROA.

Table 7: ROA Model Summary

MODEL SUMMARY

	R	R Square	Adjusted R Square	Std. Error of the Estimate
ROA	0.4940	0.2440	0.2000	4.1880

Source: Own Elaboration

Table 8: ANOVA (ROA)

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1449.208	15	96.614	5.508	.000b
	Residual	4490.163	256	17.540		
	Total	5939.370	271			

a Dependent Variable: ROA 2021

b Predictors: (Constant), Net Int. Rev. / Avg Assets 2021, SMEAN(EV), SMEAN(Gearing), NONEX, FEM, REP, SMEAN(ATO), NODUAL, FTSE, IND, ISO, CBN, SMEAN(GM), UNGC, EQ/L 2021

Source: Own Elaboration

Table 9: Regression Model (ROA)

COEFFICIENTS

	B	Std. Error	Beta	t	Sig.
(CONSTANT)	11.151	2.440		4.570	0.000
REP	-1.022	0.624	-0.108	-1.639	0.103
FTSE	-0.613	0.744	-0.059	-0.824	0.411
CBN	1.130	0.796	0.110	1.419	0.157
UNGC	-0.267	0.988	-0.027	-0.270	0.787
ISO	-0.825	0.958	-0.087	-0.861	0.390
FEM	-0.473	0.573	-0.050	-0.825	0.410
IND	-1.144	1.004	-0.073	-1.140	0.255
NONEX	-4.490	2.266	-0.116	-1.982	0.049
NODUAL	-0.316	0.637	-0.032	-0.496	0.620
GM	0.049	0.016	0.229	3.091	0.002
GEAR	-0.018	0.003	-0.448	-7.096	0.000
ATO	-0.053	0.167	-0.022	-0.321	0.749
EV/EBITDA	-0.075	0.033	-0.147	-2.272	0.024
EQ/L	-0.327	0.417	-0.189	-0.784	0.434
NIR/AA	0.278	1.607	0.040	0.173	0.863

Dependent Variable: ROA

Source: Own Elaboration

Diagnostic testing in Annex A outlines several takeaways on the statistical tests. The standard deviation of the residuals is low, meaning that predicted values are close to actual values. Moreover, the standard error of predicted values is close to zero, showing that the predicted values have a high level of accuracy. Similar to TQ, the Cook's distance is low, meaning there

are very few extremely influential data points affecting the model predictions. Most importantly, the minimum and maximum predicted values are far from the mean. This means that there is difficulty for the model to predict extreme values of the dependent variable. As mentioned earlier, a limitation of ROA as a dependent variable is the challenge to compare values across industries (Hargrave, 2022). Annex B outlines the Histogram for returns of the ROA model and the complete diagnostic test results.

Table 10, Table 11, and Table 12 outline the EPS regression estimation results and subsequent diagnostic tests. The EPS model passes the overall significance test at the 0.05 level. Two of the independent variables pass the individual significance tests at the 0.05 level. UNGC has a positive relationship with EPS, and IND shows a negative relationship with EPS.

Table 10: EPS Model Summary

MODEL SUMMARY

	R	R Square	Adjusted R Square	Std. Error of the Estimate
EPS	0.4040	0.1630	0.1140	1.9069

Source: Own Elaboration

Table 11: ANOVA (EPS)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	181.920	15	12.128	3.335	.000b
	Residual	930.927	256	3.636		
	Total	1112.846	271			

a Dependent Variable: SMEAN(EPS)

b Predictors: (Constant), Net Int. Rev. / Avg Assets 2021, SMEAN(EV), SMEAN(Gearing), NONEX, FEM, REP, SMEAN(ATO), NODUAL, FTSE, IND, ISO, CBN, SMEAN(GM), UNGC, EQ/L 2021

Source: Own Elaboration

Table 12: Regression Model (EPS)

COEFFICIENTS

	B	Std. Error	Beta	t	Sig.
(CONSTANT)	0.937	1.111		0.844	0.400
REP	-0.386	0.284	-0.094	-1.358	0.176
FTSE	-0.318	0.339	-0.070	-0.938	0.349
CBN	0.606	0.362	0.136	1.670	0.096
UNGC	1.259	0.450	0.298	2.799	0.006
ISO	-0.813	0.436	-0.197	-1.864	0.063
FEM	0.378	0.261	0.093	1.446	0.149
IND	-1.318	0.457	-0.195	-2.884	0.004

NONEX	0.562	1.032	0.033	0.545	0.586
NODUAL	-0.384	0.290	-0.089	-1.326	0.186
GM	0.029	0.007	0.316	4.054	0.000
GEAR	-0.004	0.001	-0.235	-3.537	0.000
ATO	0.134	0.076	0.125	1.760	0.080
EV/EBITDA	-0.047	0.015	-0.212	-3.119	0.002
EQ/L	-0.192	0.190	-0.257	-1.012	0.312
NIR/AA	0.402	0.732	0.135	0.549	0.583
Dependent Variable: EPS					
Source: Own Elaboration					

Diagnostic testing in Annex A outlines further findings within the statistical tests. The standard deviation of the predicted values is 0.82, suggesting that the model's predictions are relatively tightly clustered around the mean. The mean residual is 0, suggesting that the model is making unbiased predictions on average. The leverage values range from 0.014 to 0.317, with a mean of 0.055. This suggests that there are no extreme outliers in the data that are unduly influencing the model's predictions. Finally, the Cook's distance is relatively small, with a mean of 0.004, indicating that there are no observations with a particularly significant influence on the model's predictions. Annex B outlines the Histogram for returns of the EPS model and the complete diagnostic test results.

Table 13, Table 14, and Table 15 outline the TPS regression estimation results and subsequent diagnostic tests. The TPS model passes the overall significance test at the 0.05 level. Six of the independent variables pass the individual significance tests at the 0.05 level. FTSE and UNGC have a positive relationship with TPS. REP, ISO, IND, NODUAL have a negative relationship with TPS.

Table 13: TPS Model Summary

MODEL SUMMARY

	R	R Square	Adjusted R Square	Std. Error of the Estimate
TPS	0.6630	0.4400	0.4070	24.0589

Source: Own Elaboration

Table 14: ANOVA (TPS)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	116417.153	15	7761.144	13.408	.000b
	Residual	148180.940	256	578.832		
	Total	264598.093	271			
a Dependent Variable: SMEAN(TPS)						

Table 15: Regression Model (TPS)

COEFFICIENTS

	B	Std. Error	Beta	t	Sig.
(CONSTANT)	40.413	14.017		2.883	0.004
REP	-7.937	3.584	-0.126	-2.214	0.028
FTSE	11.504	4.275	0.165	2.691	0.008
CBN	-5.161	4.573	-0.075	-1.128	0.260
UNGC	24.051	5.673	0.369	4.239	0.000
ISO	-17.412	5.506	-0.274	-3.162	0.002
FEM	6.402	3.294	0.102	1.943	0.053
IND	-26.435	5.766	-0.253	-4.585	0.000
NONEX	17.776	13.015	0.069	1.366	0.173
NODUAL	-10.534	3.659	-0.158	-2.879	0.004
GM	-0.179	0.092	-0.124	-1.952	0.052
GEAR	0.015	0.015	0.054	1.000	0.318
ATO	5.236	0.959	0.317	5.463	0.000
EV/EBITDA	-0.674	0.191	-0.196	-3.535	0.000
EQ/L	-5.474	2.395	-0.475	-2.285	0.023
NIR/AA	9.896	9.230	0.215	1.072	0.285

Dependent Variable: TPS

Source: Own Elaboration

Based on the diagnostic testing in Annex A, there are several findings on the statistical tests. The mean standard error is 5.576 with a standard deviation of 1.722. These values indicate that the regression line has some degree of variability around the mean predicted value, but the line provides a good fit to the data. The Cook's distance is low, indicating that no individual observation has a disproportionate impact on the overall regression model. However, the residuals have a mean of 0 with a standard deviation of 23.38, indicating that the model has relatively high variability in its predictions. Annex B outlines the Histogram for returns of the TPS model and the complete diagnostic test results.

Table 16, Table 17, and

Table *18* outline the BVPS regression estimation results and subsequent diagnostic tests. The BVPS model passes the overall significance test at the 0.05 level. Five of the independent variables pass the individual significance tests at the 0.05 level. FTSE, UNGC and FEM all have a positive relationship with BVPS. ISO and NODUAL have a negative relationship with BVPS.

Table 16: BVPS Model Summary

MODEL SUMMARY

	R	R Square	Adjusted R Square	Std. Error of the Estimate
BVPS	0.5210	0.2710	0.2280	12.2153

Source: Own Elaboration

Table 17: ANOVA (BVPS)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14205.075	15	947.005	6.347	.000b
	Residual	38198.618	256	149.213		
	Total	52403.693	271			

a Dependent Variable: SMEAN(BVPS)

b Predictors: (Constant), Net Int. Rev. / Avg Assets 2021, SMEAN(EV), SMEAN(Gearing), NONEX, FEM, REP, SMEAN(ATO), NODUAL, FTSE, IND, ISO, CBN, SMEAN(GM), UNGC, EQ/L 2021

Source: Own Elaboration

Table 18: Regression Model (BVPS)

COEFFICIENTS

	B	Std. Error	Beta	t	Sig.
(CONSTANT)	17.265	7.117		2.426	0.016
REP	-3.559	1.820	-0.127	-1.956	0.052
FTSE	5.125	2.171	0.165	2.361	0.019
CBN	-3.139	2.322	-0.103	-1.352	0.178
UNGC	12.698	2.880	0.438	4.408	0.000
ISO	-11.178	2.795	-0.395	-3.999	0.000
FEM	5.438	1.673	0.195	3.251	0.001
IND	-1.802	2.927	-0.039	-0.616	0.539
NONEX	4.657	6.608	0.040	0.705	0.482
NODUAL	-6.776	1.858	-0.228	-3.647	0.000
GM	-0.031	0.046	-0.049	-0.677	0.499
GEAR	-0.011	0.008	-0.087	-1.409	0.160
ATO	-0.923	0.487	-0.125	-1.897	0.059
EV/EBITDA	-0.137	0.097	-0.089	-1.411	0.160
EQ/L	-2.973	1.216	-0.580	-2.445	0.015
NIR/AA	7.536	4.686	0.369	1.608	0.109

Dependent Variable: BVPS

Source: Own Elaboration

Diagnostic testing in Annex A explains the findings within the statistical tests. The mean studentized residual value is close to zero, indicating that there are no major outliers in the

residual values. The standard deviation for the studentized residual value is 0.996 which indicates that the values are close to normally distributed. The average Cook's distance value is close to zero, indicating that there are no major influential observations in the data. Finally, the mean centered leverage value is close to zero, which suggests that there may be some influential observations in the data, but they do not have a strong influence on the model. Annex B outlines the Histogram for returns of the BVPS model and the complete diagnostic test results.

For all of the independent variables in each test, the Variance Inflation Factor ("VIF") and Tolerance were tested to find if there were effects of multicollinearity. As outlined in Annex 3, there were no concerns with multicollinearity for any of the independent variables. Values of VIF greater than 10 indicate the existence of multicollinearity, and values less than five indicate an acceptable result. Furthermore, Tolerance values less than 0.1 indicate multicollinearity as well (O'Brien, 2007). In each regression test, none of the independent variables show signs of multicollinearity. The control variables EQ/L and NIR/AA show signs of collinearity. However, this can be explained by the fact that there are a lower number of observations for these variables as they are included as control variables for corporations in the sample that operate within the banking industry (Saygili et al., 2022). As this collinearity only exists for control variables, it will not harm the overall findings of the study.

4.2. Interpretation of Results

Table 19 outlines the empirical findings of the statistical tests conducted. A plus (+) symbol indicates a positive relationship between the dependent and independent variables, and a minus (-) symbol indicates a negative relationship between the dependent and independent variables.

Table 19: Empirical Findings

	TQ	ROA	EPS	TPS	BVPS
REP				-	
FTSE				+	+
CBN					
UNGC			+	+	+
ISO				-	-
FEM	-				+
IND			-	-	

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NONEX	-	-		
NODUAL			-	-

Source: Own Elaboration

Within the environmental pillar, there are very few statistically significant findings. Inclusion in the FTSE4Good IBEX Index shows a positive relationship with the dependent variables. There is also the finding that having a climate-specific or related report available has a negative effect on TPS. With the lack of conclusive findings, it would not be appropriate to reject or fail to reject H1. Further research or an increased sample size would help to find more conclusive results to H1 were it to be conducted again in a new study.

The social pillar provides mixed results based on the statistical studies. Inclusion into the UNGC shows a clear positive relationship with market performance, and having ISO27001 standards shows a negative relationship with market performance. Increased female directors in a company shows a mixed relationship with market performance. The null hypothesis of H2 is rejected due to the significant positive effects of social factors on market performance.

Within the governance pillar, statistically significant results outline a negative relationship between the dependent and independent variables. Therefore, we fail to reject the null hypothesis of H3 as there is evidence of a negative relationship rather than a positive one between ESG factors and market performance. This shows that governance factors have a negative effect on the market performance of the Spanish companies in the sample.

The mixed results display a similar pattern to the comparable studies discussed in the literature review of this report. There are various similarities and differences between the related studies and this report. Shirasu & Kawakita's study showed a positive relationship between CSR-related factors and the market performance of Japanese firms (2021). This study differed in its utilization of a 10-year sample and its focus on the sentiment of Japanese investors in their market.

Shanaev & Ghimire found a positive relationship between ESG rating changes and market performance for companies operating in the United States (2022). The use of ESG ratings was the key differentiator compared to this report. ESG ratings reflect the outcomes of corporate actions related to ESG, encompassed in a rating rather than split into individual actions.

Additionally, the study by Muñoz et al. in the Spanish market displayed a positive relationship between CSR factors and the market performance of firms (2015). This study utilized CSR-related variables as opposed to ESG-related variables. Furthermore, the time frame of Muñoz et al.'s study utilized older information compared to what is currently available at the time of this report.

The study by Saygili et al. found that environmental factors have a negative effect on market performance, but social and governance factors have a positive relationship with market

performance (2022). Saygili et al.'s study was conducted with a larger sample size and within the Turkish market but was the most similar in its framework and results to this study. Its mixed results were also hampered by the limitation of data availability. Overall, as a basis of comparison to this report, the findings of Saygili et al.'s study show that the results of this report are not uncommon.

This report was conducted with a similar goal to the comparable studies, being to improve the understanding between ESG or ESG-related factors and market performance. However, none of the studies above utilize the same framework for the statistical analysis, and there are various differences in the utilized samples. Therefore, it is not surprising that there are differences within the results.

5. CONCLUSIONS

5.1. Results

This study examines the impact of ESG-related factors on the market performance of Spanish companies listed on the IBEX35 index. Overall, the findings of the study show various relationships between market performance and ESG-related variables. The three hypotheses have been tested and their resulting decisions are evaluated in the following section. Furthermore, wider applications related to the findings of this study are discussed in greater detail.

H1, which examined the impact of environmental factors on market performance, failed to provide sufficient findings to conclude a result. Thus, it was not possible to either reject or fail to reject the null hypothesis. An interesting result of the independent variables related to the environmental pillar is that the CBN variable did not produce a single statistically significant finding. Corporations are expected to set and meet carbon emission related targets, as outlined by European regulatory standards and home country regulations. However, the disclosure of stated targets by corporations is shown to have no relationship to any of the dependent variables. Similarly, the publishing of climate-related reports on public websites has only produced a negative relationship with one of the dependent variables tested.

The null hypothesis of H2 was rejected, showing that there is a positive relationship between the dependent variables and the independent variables related to the social pillar. The significant positive relationship between corporations joining the UNGC and market performance outlines the value of the social pillar to performance. Yet, meeting ISO27001 standards showed a negative relationship with market performance. This is a very interesting trend to follow for future studies, as consumer data protection becomes a more prominent topic with the advancement of digitalization. As of now, there is a negative relationship between meeting these standards and market performance.

The outcome of the study led to the failure to reject the null hypothesis of H3, meaning that there is a negative relationship between governance factors and market performance. An

interesting result of this pillar's findings is that there was not a single positive relationship between the dependent variables and independent variables. This result could be explained by suggesting that investors interpret stricter governance measures as a hindrance on firm performance. Thus, there is a negative relationship in the sample between increased governance measures and market performance.

As the hypotheses provide mixed findings, it is not possible to find an overarching conclusion that explains the relationship between ESG factors as a whole on market performance. As outlined earlier in the report, the goal of this study is to understand to what extent market performance prescribes to stakeholder theory in contrast with shareholder theory. Based on the findings, it is not possible to confidently conclude whether market performance prescribes to shareholder theory or stakeholder theory. Despite increased pressure on matters affecting all stakeholders, it is clear that shareholder theory has maintained a significant influence on market trends and market performance. The findings of negative relationships between ESG factors and market performance metrics signal that investors are not entirely convinced by ESG initiatives at this moment. Furthermore, this would also suggest that the primary goal of many investors remains to be prioritizing increases in share value as opposed to stakeholder initiatives.

5.2. Limitations

Overall, the study contributes to the existing literature on the connection between ESG factors and market performance. However, there are various limitations to the research for this study. The sample size of the study is not extensive enough to provide conclusions to a confidence of the highest extent. This includes the number of companies, the number of independent variables, and the number of years used in the study.

There are various reasons as to why there are many limitations in this study. As with any study of this nature, the number of companies in the sample could always be increased. The companies in the IBEX35 were selected as they are the best performing public corporations in Spain. The sample size could be increased to include a larger number of firms in Spain, or firms of a similar size from neighbouring countries could be included as well. Furthermore, the number of independent variables measures could be increased as well, in order to test the effect of an increased number of ESG-related factors on performance. Due to time constraints with the research gathering phase, this study was limited to the sample size and variables utilized. However, the level of the findings could be improved if these limitations were to be addressed. Additionally, more robustness tests could be conducted through cross-validation, however the sample size of this study restricted the ability to conduct cross-validation tests. For example, having an increased number of firms as part of the sample size could allow for cross-validation based on examples such as industry type, number of employees (e.g., large companies in size versus small companies), and market capitalization.

The number of years used in the sample was limited from 2014 to 2021. This was a limitation that could not be easily addressed, as many corporations evaluated in the study only began to publish ESG-related reports and details in recent years. In determining the years to be used as part of the sample, reports were studied prior to 2014 for many of the IBEX35 firms. However, there was not a suitable amount of information available to be able to include years prior to 2014 without skewing the data set. Directive 2014/95/EU only became active within Spain in 2018, therefore corporations in the country have only been required to publish non-financial statements in the last 5 years. With time, there will be more complete information available for studies of this nature to be conducted and result in conclusive findings. Yet for the time being, this is a significant limitation of ESG-related studies.

It is important to discuss the effects on greenwashing on market performance, and how the independent variables could be construed as a form of greenwashing. The effects of Directive 2014/95/EU are not yet definitive, yet the question will exist as to how much of what is published through the Directive's requirements will be done to appease shareholders. This has been defined as greenwashing and does not represent significant action towards ESG goals but rather done to improve public image and meet minimum requirements (Rau & Yu, 2023). The independent variables utilized were selected as they would be difficult for corporations to manipulate for greenwashing purposes. Yet, there was a lack of conclusive findings across several independent variables. Thus, therein exists the limitation of a lack of available data that is both relevant and is not considered as greenwashing. If CSR-related metrics were to be used, the amount of available data would increase. However, the advantage of ESG factors is the improvement in measurable metrics and the deviation from CSR which is commonly used for greenwashing purposes. Overall, the benefit of utilizing ESG over CSR remains in the ability to utilize quantifiable and measurable metrics, as well as to avoid greenwashing. However, the data limitations have created a significant lag in the understanding of the impacts of ESG on market performance.

5.3. Practical Implications

As this study primarily focused on Spanish firms, it is relevant to discuss the implications for the neighbouring countries in the European Union. As outlined within the literature review, many studies exist across Europe and the rest of the world that outline the impact of ESG-related measures on market performance. One of the foundational pieces of literature upon which this research sought guidance from was a similar study on Turkish firms (Saygili et al., 2021). It was determined that the existing reports on ESG impacts on market performance resulted in mixed conclusions, with no definitive relationship between the two. Similarly, this study provides a combination of positive and negative relationships between ESG pillars and performance. Similarly, the literature review provided further examples of comparable studies that resulted in mixed conclusions.

It is clear that continuous research will be required across the world over the long-term to truly understand the impact of both ESG factors and regulatory measures, such as Directive

2014/95/EU, on market performance. Within the European context, there should be continuous research conducted on public firms within individual countries, as well as testing across regions (e.g., Iberia, Scandinavia) and within the EU as a whole. This will provide investors and regulators with a better outlook on trends and progress being made by the private sector, which would indicate whether regulations are effective or not. The goal of Directive 2014/95/EU was to ensure that firms publish their ESG-related initiatives, so as to increase the level of accountability. However, this does not guarantee that firms will live up to their initiatives or meet their stated goals. Governments and regulatory councils such as the EU will surely hold firms accountable for not meeting sustainability goals. Thus, it will be important to understand the relationship between firm performance on ESG-related goals and market performance. This will provide additional context to the true effect of ESG factors, as well as the influence of stakeholder theory on European markets.

EU regulations are ultimately implemented to help achieve the United Nations Sustainable Development Goals as soon as possible. While the regulations imposed by the EU are applicable to all member states and corporations within those states, countries perform differently on the Sustainable Development Goals. The UN publishes rankings for all member states to show progress on the goals, as well as how countries compare in total and on each goal. Further research into ESG factors and market performance can also shed light on progress on the Sustainable Development Goals. It may be beneficial to compare a country's performance across the goals to the relationship between ESG factors and market performance for corporations within the stated country. Overall, a positive relationship can truly emphasize the importance of private corporations improving their ESG performance to the country's progress on the goals.

ESG and its measurement will continue to have an impact on the performance of firms across the globe over the long-term future. The effects of globalization are continuous and always evolving, but the world has never been as easily connected as it currently is. Firms are able to reach customers all over the world with ease, which leads to an integration of business principles across the globe. Furthermore, investors are able to hold an interest in corporations across the globe, meaning their influence does not have limits. ESG-related measures vary across global markets, but the core principles of sustainability, social responsibility and ethical governance are widespread. Therefore, understanding how different global markets react to the core principles of ESG will provide further context to theories surrounding stakeholder primacy. Investment trends will ultimately shape the future of ESG, the question is whether this will happen due to shareholder values or pressure from all stakeholders.

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ANNEXES

Annex A   Diagnostic Residual Statistics for Regression Models

TQ	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.2567	3.1313	0.7143	0.5737	272
Std. Predicted Value	-3.4360	4.2130	0.0000	1.0000	272
Standard Error of Predicted Value	0.1020	0.4410	0.1800	0.0560	272
Adjusted Predicted Value	-1.8231	2.6328	0.7120	0.5812	272
Residual	-1.7057	3.6431	0.0000	0.7561	272
Std. Residual	-2.1930	4.6830	0.0000	0.9720	272
Stud. Residual	-2.3110	4.8010	0.0010	1.0130	272
Deleted Residual	-1.8946	3.8285	0.0022	0.8245	272
Stud. Deleted Residual	-2.3310	5.0230	0.0050	1.0280	272
Mahal. Distance	3.6910	86.0150	14.9450	11.7110	272
Cook's Distance	0.0000	0.4560	0.0060	0.0310	272
Centered Leverage Value	0.0140	0.3170	0.0550	0.0430	272

ROA	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-10.7356	12.6101	2.7917	2.3125	272
Std. Predicted Value	-5.8500	4.2460	0.0000	1.0000	272
Standard Error of Predicted Value	0.5510	2.3730	0.9710	0.3000	272
Adjusted Predicted Value	-12.9554	13.8665	2.7923	2.3854	272
Residual	-27.3199	11.5793	0.0000	4.0705	272
Std. Residual	-6.5230	2.7650	0.0000	0.9720	272
Stud. Residual	-6.6700	2.8280	0.0000	1.0040	272
Deleted Residual	-28.5592	14.3353	-0.0006	4.3551	272
Stud. Deleted Residual	-7.3230	2.8680	-0.0030	1.0290	272
Mahal. Distance	3.6910	86.0150	14.9450	11.7110	272
Cook's Distance	0.0000	0.2350	0.0050	0.0180	272
Centered Leverage Value	0.0140	0.3170	0.0550	0.0430	272

EPS	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-2.7374	2.7860	0.9617	0.8193	272
Std. Predicted Value	-4.5150	2.2270	0.0000	1.0000	272
Standard Error of Predicted Value	0.2510	1.0810	0.4420	0.1360	272
Adjusted Predicted Value	-3.4089	2.9740	0.9591	0.8492	272
Residual	-13.1091	12.5200	0.0000	1.8534	272
Std. Residual	-6.8740	6.5650	0.0000	0.9720	272
Stud. Residual	-7.1300	6.7150	0.0010	1.0010	272
Deleted Residual	-14.1035	13.0981	0.0026	1.9682	272
Stud. Deleted Residual	-7.9490	7.3840	0.0020	1.0470	272
Mahal. Distance	3.6910	86.0150	14.9450	11.7110	272
Cook's Distance	0.0000	0.2410	0.0040	0.0180	272
Centered Leverage Value	0.0140	0.3170	0.0550	0.0430	272

TPS	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-17.6368	104.0392	19.3350	20.7264	272
Std. Predicted Value	-1.7840	4.0870	0.0000	1.0000	272
Standard Error of Predicted Value	3.1640	13.6330	5.5760	1.7220	272
Adjusted Predicted Value	-30.3788	110.8862	19.2990	20.9621	272
Residual	-40.2064	129.3478	0.0000	23.3836	272
Std. Residual	-1.6710	5.3760	0.0000	0.9720	272
Stud. Residual	-1.7310	5.4480	0.0010	1.0000	272
Deleted Residual	-45.9054	132.8320	0.0359	24.7854	272
Stud. Deleted Residual	-1.7370	5.7830	0.0050	1.0190	272
Mahal. Distance	3.6910	86.0150	14.9450	11.7110	272
Cook's Distance	0.0000	0.0610	0.0040	0.0100	272
Centered Leverage Value	0.0140	0.3170	0.0550	0.0430	272

BVPS	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-6.7460	36.9989	10.8916	7.2400	272
Std. Predicted Value	-2.4360	3.6060	0.0000	1.0000	272
Standard Error of Predicted Value	1.6060	6.9220	2.8310	0.8740	272
Adjusted Predicted Value	-9.7111	34.1342	10.8344	7.2651	272
Residual	-22.7432	81.5379	0.0000	11.8724	272
Std. Residual	-1.8620	6.6750	0.0000	0.9720	272
Stud. Residual	-1.9080	6.7640	0.0020	0.9960	272
Deleted Residual	-23.8812	83.7343	0.0572	12.4707	272
Stud. Deleted Residual	-1.9180	7.4500	0.0070	1.0230	272
Mahal. Distance	3.6910	86.0150	14.9450	11.7110	272
Cook's Distance	0.0000	0.0770	0.0030	0.0090	272
Centered Leverage Value	0.0140	0.3170	0.0550	0.0430	272

Source: Own Elaboration

Annex B   Histograms for Regression Models

Histogram

Dependent Variable: SMEAN(TQ)

Mean = −6.17E−16
Std. Dev. = 0.972
N = 272

Histogram

Dependent Variable: ROA 2021

Mean = −7.08E−16
Std. Dev. = 0.972
N = 272

Histogram
Dependent Variable: SMEAN(EPS)

Mean = 1.55E−17
Std. Dev. = 0.972
N = 272

Frequency

Regression Standardized Residual

Histogram
Dependent Variable: SMEAN(TPS)

Mean = 1.43E−15
Std. Dev. = 0.972
N = 272

Frequency

Regression Standardized Residual

Histogram
Dependent Variable: SMEAN(BVpS)

Mean = −3.47E−16
Std. Dev. = 0.972
N = 272

Frequency

Regression Standardized Residual

Source: Own Elaboration

Annex 3　　　Colinearity Models

TQ	Tolerance	VIF
(Constant)		
REP	0.677	1.477
FTSE	0.583	1.715
CBN	0.49	2.041
UNGC	0.288	3.47
ISO	0.292	3.421
FEM	0.792	1.263
IND	0.716	1.397
NONEX	0.867	1.153
NODUAL	0.731	1.369
GM	0.539	1.855
GEAR	0.742	1.349
ATO	0.651	1.535
EV/EBITDA	0.709	1.41
EQ/L	0.051	19.768
NIR/AA	0.054	18.443

ROA	Tolerance	VIF
(Constant)		
REP	0.677	1.477
FTSE	0.583	1.715
CBN	0.49	2.041
UNGC	0.288	3.47
ISO	0.292	3.421
FEM	0.792	1.263
IND	0.716	1.397
NONEX	0.867	1.153
NODUAL	0.731	1.369
GM	0.539	1.855
GEAR	0.742	1.349
ATO	0.651	1.535
EV/EBITDA	0.709	1.41
EQ/L	0.051	19.768
NIR/AA	0.054	18.443

EPS	Tolerance	VIF
(Constant)		
REP	0.677	1.477
FTSE	0.583	1.715
CBN	0.49	2.041
UNGC	0.288	3.47
ISO	0.292	3.421
FEM	0.792	1.263
IND	0.716	1.397
NONEX	0.867	1.153
NODUAL	0.731	1.369
GM	0.539	1.855
GEAR	0.742	1.349
ATO	0.651	1.535
EV/EBITDA	0.709	1.41
EQ/L	0.051	19.768
NIR/AA	0.054	18.443

TPS	Tolerance	VIF
(Constant)		
REP	0.677	1.477
FTSE	0.583	1.715
CBN	0.49	2.041
UNGC	0.288	3.47
ISO	0.292	3.421
FEM	0.792	1.263
IND	0.716	1.397
NONEX	0.867	1.153
NODUAL	0.731	1.369
GM	0.539	1.855
GEAR	0.742	1.349
ATO	0.651	1.535
EV/EBITDA	0.709	1.41
EQ/L	0.051	19.768
NIR/AA	0.054	18.443

BVPS	Tolerance	VIF
(Constant)		
REP	0.677	1.477
FTSE	0.583	1.715
CBN	0.49	2.041
UNGC	0.288	3.47
ISO	0.292	3.421
FEM	0.792	1.263
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EQ/L	0.051	19.768
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Source: Own Elaboration