



The impact of corporate social responsibility strategy on the management and governance axis for sustainable growth

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ABSTRACT

The aim of this work is to show whether a continuous strategy in Corporate Social Responsibility (CSR) over time brings efficiency and profitability to the company's operations. The methodology used in this paper is based on two sets of variables: the scoring for 27 listed companies present in the Spanish MERCO *Corporate Responsibility and Governance Ranking* (MERCOCR&G Ranking), and their share price in the Spanish open stock market for said companies from 2011 to 2019. These variables are compared with regressive, autoregressive and moving average econometrical methods over time. Results reveal that: (i) there is a directly proportional relationship between CSR, measured by the MERCO CR&G Ranking, and the share price; (ii) such relationship loses relevance when considering the economic context; (iii) the great progress of CSR in terms of management, transparency, measurement, environment and governance translates into a crucial contribution to the efficiency and sustainable growth of the company.

1. Introduction

The concept of Corporate Social Responsibility (CSR) has created a considerable academic debate connected to some theories, such as the Stakeholder Theory (Freeman, 2001) and its business implications (Kolk, 2016). Furthermore, to demonstrate the stakeholder impact of corporate governance, companies integrate different intangibles. To this end, companies define their strategic stakeholders in planning corporate management defining a specific strategy based on their expectations (Villagra et al., 2015). As a result, the management of intangibles represents an opportunity for companies; it brings differentiation from competitors and increases the share of intangible asset market value (Masip & Valiño, 2018; Tomo, 2020). In the current changing world, CSR becomes a field of study with new perspectives for companies to promote sustainable development (Lopez, 2020). Related to this need, CSR is the responsibility of businesses to create a positive impact and a better society (Carroll & Buchholtz, 2014).

Moreover, measuring CSR activities and their relationship to performance, management and sustainable growth is also of great interest to academia and business (Korhonen, 2003; Cho et al., 2020; Hernández-Perlines, Ariza-Montes, & Araya-Castillo, 2020; Kamran et al., 2020;

Muñoz, Fernández, & Salinero, 2020; Partalidou, Zafeiriou, Giannarakis, & Sariannidis, 2020; Ye, Kueh, Hou, Liu, & Yu, 2020; Zafar & Sulaiman, 2020). Both business and academia are interested in measuring what CSR brings to the company and its stakeholders (Panayiotou, Aravossis, & Moschou, 2009; Turker, 2009) and how its influence attempts to improve the environment (Shahzad et al., 2020). One way to measure the return on the implementation of CSR is by detecting its impact on economic variables (from image, reputation, innovation and business expansion, reducing share volatility or increasing long-term profitability), social variables (such as improving the retention of internal talent or improving relations with society) and company policies (to improve relations with the government) (Lu et al., 2020).

This paper aims to provide some arguments to show the relevance of CSR measures in a business context connected to sustainable dimensions such as economic and social performance, business transparency and stakeholders' expectations through the implementation of the SDGs promoted by United Nations on the CSR strategy explored in recent literature (ElAlfy et al., 2020). Therefore, the purpose of this paper is to better understand the impact of CSR on the value of companies. Specifically, the objectives of this study are, on the one hand, to determine what is the impact of CSR, measured through the score of the MERCO

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Corporate Responsibility and Governance Ranking (hereinafter, the MERCO CR&G Ranking), which has represented the benchmark ranking in CSR in Spain since 2011, on the share price of 27 Spanish companies quoted on the stock exchange from 2011 to 2019. On the other hand, we aim to determine how other variables related to that price, such as Gross Domestic Product (GDP), affect the measured impact of CSR. Beyond the analysis of the motivations of companies to implement a CSR strategy (Garriga & Melé, 2004), this paper aims to show whether a continuous strategy in CSR over time brings efficiency and profitability to the company's operations (Bhandari & Javakhadze, 2017; Benlemlih & Bitar, 2018; Kaul & Luo, 2018). This translates into greater benefits for the company itself and for different stakeholders, such as possible investors aware of CSR and oriented to market value creation.

The research sample is restricted to the Spanish market in a period in which the MERCO CR&G Ranking was published, that is, from 2011 until the last study published in 2019. Furthermore, only those companies listed on the stock exchange have been considered, which means that some companies listed in the ranking are left out of the analysis, even though they have a consolidated CSR strategy. In addition, the data used as a measure of CSR strategies (MERCO) has been homogenized in order to be comparable to share prices. Such homogenization has required the implementation of certain assumptions which limit the scope of the conclusions. The aim is to provide arguments and quantitative analysis based on the impact of CSR on companies. Consequently, this study aims to clarify whether there are social benefits of a CSR investment, as measured by MERCO.

Investment in CSR was traditionally considered an intangible asset (Castaño and Arias-Sánchez, 2021); hence the novelty of this work consists of demonstrating that investment in CSR has a tangible benefit that translates into the share value of companies, which is essential for some stakeholders such as investors but also to enhance the value of this function within companies. Therefore, this research provides empirical data on the relationship between CSR and the economic value of companies in the stock market to complete the literature on CSR measurements and their impact on the firms¹.

This paper is structured as follows. Firstly, a review has been carried out of the literature on CSR, corporate governance management and measuring CSR and sustainable growth. Secondly, the data used and the methodology followed are described. Thirdly, we examine the results obtained and explain the consequences they may have for the efficiency and profitability of the company's operations. Finally, we detail the conclusions, including the limitations of the study.

2. Literature review

2.1. CSR and corporate governance management

According to the European Commission (2011), CSR is defined as “the responsibility of enterprises for their impacts on society” integrating social, environmental and ethical issues into business operations and collaborating with stakeholders and measuring its results from a sustainable perspective. Although there is no global agreement on the measurement of business impacts and its relationship with the SDGs, different measurement systems bring us to the contribution of companies to society. In this sense, the United Nations provides annual reports on the business impact on all the 17 SDGs and guides participating countries in the contribution of Agenda 2030.

Some scholars have recently studied the link between CSR strategies and the implementation of the SDGs to increase the contribution of business to sustainable development (ElAlfy et al., 2020). These authors

list recent studies that try to demonstrate the link between economic and social performance, business transparency, and stakeholder expectations linked to the SDGs through advances in measuring these impacts.

Moreover, the contribution of companies to sustainable development means that companies have integrated a CSR strategy with several activities reporting results and linked to sustainable development. As a consequence, companies should create shared value to their stakeholders (Porter & Kramer, 2011) providing global solutions to the social problems reflected in the 17 SDGs, goals related to the needs identified in the global context (Mio, Panfilo, & Blundo, 2020). Though the sustainable development goals have been negatively affected by the pandemic, as verified in the latest report (United Nations (2020), 2020), the growth of the value of intangibles has increased in companies despite the pandemic (Tomo, 2020).

Furthermore, CSR is significant because people want to know how companies solve global problems and different stakeholders demand more transparency and information about the firm's commitments (Du, Bhattacharya, & Sen, 2010; Dieterich et al., 2013). In this sense, companies have different motivations to create programmes on CSR described by different authors highlighting instrumental, political, integrative and ethical theories (Garriga & Melé, 2004). However, to understand better companies' motivations we should include a multi-level perspective on CSR (Aguinis & Glavas, 2012), evaluating the impacts on different stakeholders. As a result, companies managing CSR obtain legitimacy (Bonsón & Bednárová, 2015; Branco & Rodrigues, 2006; Castelló, Etter, & Årup, 2016; Dieterich et al., 2013) and reputation (Ponzi, Fombrun, & Gardberg, 2011).

On the other hand, considering a corporate governance perspective and its relation with CSR, some authors describe corporate governance as “the relationship among various participants in determining the direction and performance of a corporation” (Monks & Minow, 1995). Different scholars have analyzed its relationship with organizational performance (Nicholson & Kiel, 2004; Herrala & Haapasalo, 2012). Moreover, corporate governance is correlated with the company mission, transparency and accountability. In other words, transparency increases if a company shares financial information with its employees, if customers find it easy to give feedback and if there is enough diversity in the firm's governing bodies. Some studies show that the governance dimension emerged as the most affordable impact dimension in some industries, i.e. the banking sector (Vicente, Ruozi, Torres, & Lopez, 2020) due to the high demands of transparency, accountability and ethics inherent to this sector (Herzig & Moon, 2013). As a consequence, corporate governance is a process-based management system that influences CSR (Hazlett, McAdam, Sohal, Shahin, & Zairi, 2007) and determines the relationship with different stakeholders (Monks & Minow, 1995).

Moreover, CSR is essential in building and maintaining a positive corporate reputation, which is regarded as an important strategic resource of a company's competitive advantage (Khojastehpour & Johns, 2014; Park, Lee, & Kim, 2014). Research shows that companies may strengthen their corporate reputation by engaging in CSR activities (Šontaitė-Petkevicienė, 2015). Finally, those companies with a strong CSR strategy contributing to social improvement with their activities, even in times of pandemic, have a better reputation and improve their global competitiveness.

2.2. Measuring CSR and sustainable growth

There is a disparity of opinions and studies regarding the positive and negative relationship between CSR and corporate profitability. While some authors believe that there is no relationship (Aupperle et al., 1985; O'Neill, Saunders, & McCarthy, 1989; Mulyadi & Anwar, 2012) because “it is difficult to distinguish between companies doing well financially because they do good socially and companies doing good socially because they do well financially” (Lu et al., 2020, p.3), other authors claim that there is a direct and positive relationship between CSR and

¹ This paper was presented at the 14th Conference of the Academy of Innovation, Entrepreneurship and Knowledge in 2021 and has obtained an award from the ACIEK Steering Committee and the Scientific Committee of the ACIEK Conference.

performance (Orlitzky & Benjamin, 2001; Panayiotou et al., 2009; Škare & Golja, 2014). It should be noted that, in line with the research in this paper, Lee and Lee (2019) state that CSR activities help to maximize the value of listed companies, especially in medium-sized companies. For their part, Cho, Chung, and Young (2019) highlight that “in the relationship between CSR performance and profitability, only social contribution yields a statistically positive correlation”, as well as “a positive relationship between the growth rate of total assets and corporate soundness and social contribution” (p.1). Other studies (Pimentel, Branca, & Catalaolopes, 2016) have tried to put a value on CSR using the value of GDP to standardize and compare results. In addition, there are several studies that demonstrate that the creation of long-term value among stakeholders and for society contributes to sustainable and tangible growth (Lu et al., 2020; ElAlfy, Palaschuk, El-Bassiouny, Wilson, & Weber, 2020). On the other hand, there are recent studies that affirm that the philanthropic dimension of CSR is the one that helps most to establish lasting relationships with consumers (Uhlig et al., 2020). In addition, recent research demonstrates that a corporate foundation can affect the market value of companies reinforcing their CSR strategy (Monfort et al., 2021).

Such is the industry’s interest in measuring the impact of CSR on business growth that rating agencies have created metrics and methodologies to assess its impact (Beer, Zenker, & Fernandes, 2006). There are models that attempt to combine financial and non-financial data, and others that also include social and environmental factors (Panayiotou et al., 2009) or integrate stakeholder perceptions. According to Pimentel et al. (2016), the measurement indexes can be grouped into four categories: “socially responsible investment, adherence to

communities and initiatives that promote CSR, reporting on sustainability practices, the process of accreditation in social responsibility norms” (Lu et al., 2020, p.4). There are also other indexes that measure performance on ESG factors (Environmental, Social, and Governance) and even different ISO standards related to CSR (McAdam & Leonard, 2003). Table 1 contains a summary of the main international CSR indexes and rankings.

In short, we detail different indexes and models that measure the impact of CSR on sustainable development and its consequent inconsistency for the sector, as argued by Liang and Renneboog (2020). However, the creation and application of such standards, indexes and rankings also demonstrate the importance of CSR as a key function for various types of organizations at an international level (Zeisel, 2020).

In addition to the above, it is relevant to highlight some publications in relation to the use of statistics to quantitatively measure the impact of CSR in share prices: (i) quantitative relations between CSR activity and share price have been measured by Firdausi and Masanori (2010) through the creation of the “Nila” unit, which measures the % of CSR-related words in an investigation paper; and (ii) the Canpan CSR Plus 3 from the Nippon Foundation (Nuzula & Kato, 2010), which establishes a correlation between share prices and a set of scores developed on environmental and CSR reports for a series of companies. These publications set a comparable ground in regards to the use of basic statistics when establishing the quantitative impact of CSR, which will be discussed in later sections of this paper.

Table 1
Summary of the main indexes and rankings at an international level.

Category	Index and/or ranking name	Features & variables measured
Socially investing responsible	Dow Jones Sustainability Index (DJSI)	The stock performance of companies in terms of economic, environmental and social criteria
	EURO STOXX Sustainability Index	Environmental, social and governance criteria
	FTSE4Good Index	Performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices
	Task Force on Climate-related Disclosure (TCFD) Index	Climate-related financial information
Adherence to communities and initiatives that promote CSR	UN Global Compact (Communication on Progress & Communication on Engagement reports)	Human rights, labour, environment and anti- corruption
	Responsible Business Tracker	Benchmarking against sector peers and the overall cohort and gap analysis in responsible business activities
	World’s Most Ethical Companies	Ethics and Compliance Programs, Culture of Ethics, Corporate Citizenship and Responsibility, Governance, and Leadership and Reputation
	Fortune’s Change the World list	Measurable social impact, business results, degree of innovation, corporate integration
Category	Index and/or ranking name	Features & variables measured
Reporting of sustainability practices	Global Reporting Initiative (GRI)	Impacts on the economy, environment, and society areas
	Global 100 ranking	Resource management, employee management, financial management, clean revenue, and supplier performance
Process of accreditation in social responsibility norms	ISO 14001:2015	Applies to the environmental aspects of activities, products and services
	ISO 9000:2015	Quality management and quality management system standards
	ISO 26000:2010	A way of assessing an organization’s commitment to sustainability and its overall performance (it cannot be certified as an ISO standard yet)
	ISO 45001:2018	Occupational health and safety management system
	SA 8000:2014	Fair treatment of workers
Enhancing stakeholder perceptions	Forest management certification	Preservation of biological diversity, benefits for the lives of local people and workers, economic viability
	MERCO <i>Corporate Responsibility and Governance</i> ranking	Ethical behaviour, transparency and good governance, responsibility with employees, commitment to the environment and climate
Category	Index and/or ranking name	Features & variables measured
	Global RepTrak	Change, contribution to the community Citizenship, financial performance, governance, Innovation, leadership, products & services, and workplace

Source: Personal elaboration based on Pimentel et al. (2016); Lu et al. (2020), DJSI (2020), Sustainability Index (2020), FTSE (2020), TCFD (2020), Global Compact (2020), Business in the Community (2020), Ethisphere (2020), Fortune (2020), GRI (2020), Knights (2019), ISO (2020a,b,c,2020d), SAI (2020), FSC (2020), Merco (2020) and RepTrak (2020).

3. Data and methodology

The analysis methodology is based on two sets of data or variables: (i) a pool of listed companies present in the Spanish MERCO CR&G Ranking (2020), which is published since 2011 and based on 4 evaluations, 11 information sources and more than 7400 interviews to different stakeholders, that analyze variables ranging from ethical behavior, transparency and good governance, responsibility with employees, commitment to the environment and climate change, or contribution to the community, among others; and (ii) the share price in the Spanish open stock exchange for the mentioned pool of companies. Next, both variables are compared with regressive (Gauss, 1823) and autoregressive (Pandit and Wu, 2001) to reach a conclusion on the impact of CSR on the share price, as well as about the quality of the said impact compared to other factors.

The above-described datasets have been the subject of regression analysis, stating an initial hypothesis where share prices are impacted by CSR measures of a company. The object of this exercise is to measure the impact of CSR measures, which explains the use of regression methods instead of correlations (correlations do not measure impact itself).

In this regard, any regression would require further analysis on hypothesis testing, causality, efficiency (use of all available data, like data on international companies, etc.). Still, available papers oriented to the measurement of quantitative impacts of CSR do not include such further analysis (Firdausi & Masanori, 2010).

3.1. The data from the MERCO CR&G Ranking

MERCO is a benchmark corporate monitor in Europe and Latin America that has been measuring CSR in Spain since 2011 in its *Corporate Responsibility and Governance Ranking*, through an audited methodology in which numerous stakeholders participate through surveys and where various sources of information are evaluated.

As described in previous sections, there are an array of possibilities when it comes to evaluating the CSR measures set forth by a company in general. Out of all of those, the analysis carried out in this paper contains data from the MERCO CR&G Ranking. The election of such ranking is due to a series of reasons: (i) MERCO provides information on the widest time frame (from 2011 to 2019); and (ii) it contains information on companies that are listed in a series of stock exchanges (Madrid, for example) and, therefore, provide the possibility of comparing such data to other listed variables. Therefore, the MERCO CR&G Ranking has been deemed the most appropriate variable for the methodology hereby described in this paper.

Still, the data from MERCO CR&G Ranking does entail some challenges. For example, the MERCO CR&G Ranking contains data on 100 companies every year and has been published on a yearly basis since 2011, but: (i) not every year refers to the same companies, for some of them leave the ranking in one year and others join the ranking; (ii) not all of the companies are companies as such, since some of them are brands or affiliates of larger conglomerates; and (iii) not all companies are listed in stock exchanges. Therefore, in order to homogenize the two sets of data used in this paper, the following modifications have been made to compare the variables.

3.1.1. 1st modification to the MERCO CR&G Ranking data

The MERCO CR&G Ranking sets a top score of 10,000 points for the best-ranked company; should such a company lose positions in the ranking in the following years, it would be awarded with fewer points. Yet, it can only be assumed that the CSR measures implemented by any company in the ranking never worsen but rather are simply outpaced by higher-ranked companies. For example, Santander was ranked by MERCO in 2018 in third position with 8652 points, whereas this same company was ranked in fourth position in 2019 with 8018, a loss of 634 points. Still, the methodology in this paper assumes that Santander did not forget about some of its measures in one year, from 2018 to 2019,

but rather that higher-ranked companies (Repsol and Inditex, in this example) advanced at a faster pace and, therefore, open up a larger gap between themselves and Santander.

The methodology of this work assumes that MERCO, therefore, elaborates its ranking on a comparative basis, establishing the score in its ranking as a comparison from the top company and not as an isolated measure of the CRS measures of each company. This kind of comparative measurement by MERCO is not exactly compatible with regression methods, which are the ones intended for this work. Therefore, the scores in the MERCO CR&G Ranking have been modified to reflect the evolution of each company in an isolated manner in time (from 2011 to 2019). In order to do so, the following criteria have been established: a company never loses points, which are rather gained by the companies that obtain a higher ranking. This modification entails that companies may obtain more than 10,000 points.

3.1.2. 2nd modification to the MERCO CR&G Ranking data

The set of data from the MERCO CR&G Ranking is provided on a yearly basis. In order to establish a common ground with other variables in the methodology used in this paper, monthly data has been used, obtained in the following manner: (i) the annual MERCO CR&G Ranking is considered to evolve linearly from year to year; and (ii) the stock prices are calculated on a monthly basis as the median of all daily ending prices within each month.

3.1.3. 3rd modification to the MERCO CR&G Ranking data

Only companies listed on the Madrid Stock Exchange have been used (Table 2). Therefore, 27 companies are the subject of our analysis.

3.1.4. 4th modification to the MERCO CR&G Ranking data

The MERCO CR&G Ranking states a maximum value of 10,000 points for the leader of the ranking. Given these are quite large values, in order to obtain more comprehensive results in the methodology described in this paper, all ranking scorings have been divided by 1,000.

3.2. The data from the Madrid stock exchange

The second variable used in the methodology described in this paper refers to the stock price of the 27 companies detailed in the previous section. Such companies are listed on the Madrid Stock Exchange. The information on stock prices for such companies is extensive, containing daily starting prices, average prices, highest process, lowest prices and ending prices. Yet, such data is not comparable to the MERCO CR&G Ranking data given they do not share the same frequency.

Table 2

List of companies selected for the sample used in this paper.

Name of the company	Name of the company
Inditex	NH Hotel Group
Repsol	AENA
Santander	Bankia
Iberdrola	Ferrovial
Mapfre	Enagás
CaixaBank	Telefónica
BBVA	Grupo ACS
Naturgy	INDRA
Meliá Hotels International	Gestamp
Banco Sabadell	Airbus
Name of the company	Name of the company
Bankinter	IAG
Acciona	Amadeus
Endesa	Grifols
	Holaluz

Source: personal elaboration based on publications from the MERCO CR&G Ranking from 2011 to 2019 (2020) and data directly searched at [de Madrid \(2020\)](#).

As previously described, the MERCO CR&G Ranking data has been modified in order to provide monthly figures. Therefore, the data from the Madrid Stock Exchange in relation to the prices of the 27 listed companies in the sample has been modified into monthly prices, calculated as the median of the prices between the 1st and the last day of each month from 2011 to 2019.

3.3. The regression method

A regression analysis refers to a set of statistical processes established to measure the relationship between two variables. The most common method is known as the “ordinary least squares” method and refers to a linear relationship between an independent variable and a dependent variable. The work described in this paper contains regressive methods with the following model (hereinafter, Model 1)²:

$$P_i = b_0 + b_1(MERCO_i) + u_i$$

where P_i is the price of the stock i that is ranked in the MERCO CR&G Ranking.

$MERCO_i$ is the modified ranking of the company i which stock price is listed.

b_0 and b_1 are the regression coefficients.

u_i is the residual.

4. Results

In relation to the portion of the price of a stock that can be explained by CSR measures, Model 1 has provided the following results, which are presented as an average of all 27 models established for each member of the aforementioned sample:

$$P = 7,7816 + 0,0312(MERCO_i)$$

Results for Model 1 imply that for every 1000 points obtained in the MERCO CR&G Ranking, the price of the stock is expected to increase by 3.12 euro cents. This result states an important conclusion: there is a directly proportional relationship between the CSR measures implemented by a company, as measures by the MERCO CR&G Ranking, and the price of its stock: the higher the ranking, the higher the stock price.

It is also important to highlight the quality of the above model and its results. Table 3 contains the main statistics measuring the quality of the above model.

In Table 3, we can see that the determination of Model 1, as measured by the *R squared* and the *Adjusted R squared*, is between 0.85 and 0.82. This means that around 85% or 82% of the variance in the stock price is explained by the variance in the MERCO CR&G Ranking. It is considered that an *R squared* close to 1 (or 100% for this matter) shows

Table 3
Relevant average statistics for Model 1.

Statistics	Median of results
R squared	0.8542
Adjusted R squared	0.8229
t Statistic	2.1973
F	4.3287

Source: Personal elaboration based on publications from the MERCO CR&G Ranking from 2011 to 2019 (2020), data directly searched at de Madrid (2020) and regression models as described in this paper.

² The above model, which has been calculated for each company in our work for 96 periods (12 months times 8 years – from 2011 to 2019), has been the subject of a series of tests on biasness (Graybill, 1976) and consistency (Upton & Cook, 2006).

good quality in a model, so the above result between 83% and 86% is quite a relevant result that proves the model has a high quality. Additionally, the *t Statistic* measures the quality of the independent variable, and it is commonly understood that a *t Statistic* higher than “2”³ proves that a variable is relevant in a model. In the above model, the independent variable is the MERCO CR&G Ranking, and the value of the *t Statistic* is around 2.2, proving the MERCO CR&G Ranking is a relevant variable in the price of the stock of a listed company.

The *F* value measures the same concept as the *t Statistic* in linear models with one variable and it is commonly understood that a variable is relevant in a model if the *F* value is higher than “4”.⁴ The above result is that the obtained *F* value is 4.32, proving the same concept as described for the *t Statistic*: the MERCO CR&G Ranking is a relevant variable when it comes to explaining the evolution of the stock price of listed companies. As stated above, these results are represented as an average of the results for the 27 companies in our analysis. Table 4 contains a detailed table of the results for each company.

Table 4 shows that the individual coefficients and statistics do not differ much from the average numbers, which is best seen in Table 5.

Table 5 shows that Model 1 is always relevant for each company, measuring relevance with statistics *R squared* and *Adjusted R squared*. Additionally, the independent variable (the MERCO CR&G Ranking) is always relevant, given that the *t Statistic* is always above 2. The minimum value of the *F* statistic shows the same conclusion.

In summary: (i) the impact of CSR measures in all 27 companies subject to our work is relevant and directly proportional: the higher the score on the MERCO CR&G Ranking, the higher the price of the stock; and (ii) the overall impact of CSR measures is consistent and significant, given that the model provides predictive values for the stock prices that are from 85% to 82% similar to real values. These two results show this conclusion: CSR measures, as measured by the MERCO CR&G Ranking, makes the prices of stocks grow.

It is also pertinent to highlight that “relevance” in statistics does not mean “importance” (Wasserstein & Lazar, 2016). The fact that a variable is relevant simply means that the impact on other variables is higher than the error of the model, but such impact can be very low. In the above model, and as a median for all 27 companies in the sample, such impact amounts to 3.12 euro cents.

4.1. The impact of the economic context

Model 1, as described above, describes a scenario where the variance of stock prices is solely described by the MERCO CR&G Ranking. Yet such a scenario is not purely realistic. A far larger array of factors has an influence on stock prices. Given it is virtually impossible to collect all factors influencing the stock prices, Model 1 has been modified or amplified, so that it can encompass in some way other factors in the economy. As a generalization, such factors are understood to be included in the variable GDP, which reflects the economic context in which the 27 companies are subject to analysis. Therefore, Model 1 has been extended as follows (hereinafter, Model 2):

$$P_i = b_0 + b_1(MERCO_i) + b_2(GDP_j) + u_i$$

where all variables maintain the same meaning as in Model 1 and GDP_j refers to the Spanish GDP in period j as published by INE (2019).⁵

The same regression methods used in Model 1 show the following

³ In absolute value.

⁴ In absolute value.

⁵ Variable GDP has been subject to a modification, being reflected in monthly periods and in thousands of millions of euros.

Table 4
Individual results for each company in Model 1.

Company	β_0	β_1	R ²	Adj. R ²	t Stat.	F
Inditex	8.1510	0.0205	0.8457	0.8147	2.1753	4.2854
Telefonica	1.2129	0.0036	0.8448	0.8138	2.1731	4.2811
Repsol	2.8039	0.0085	0.8439	0.8130	2.1709	4.4476
Santander	0.8803	0.0028	0.8431	0.8122	2.2751	4.2724
Company	β_0	β_1	R ²	Adj. R ²	t Stat.	F
Iberdrola	3.8473	0.0113	0.8422	0.8114	2.1665	4.2681
Mapfre	0.5119	0.0015	0.8414	0.8106	2.1643	4.2638
CaixaBank	0.7173	0.0020	0.8405	0.8097	2.1621	4.2594
BBVA	1.3205	0.0042	0.8397	0.8089	2.1599	4.2551
Naturgy	6.5175	0.0232	0.8388	0.8081	2.1577	4.2508
Meliá Hotels International	1.9041	0.0061	0.8380	0.8073	2.1556	4.2465
Banco Sabadell	0.1206	0.0004	0.8371	0.8064	2.1534	4.2421
Bankinter	1.5846	0.0056	0.8363	0.8056	2.1512	4.2378
Acciona	41.8473	0.1417	0.8354	0.8048	2.1490	4.2335
Endesa	7.3033	0.0324	0.8627	0.8311	2.2193	4.3720
NH Hotel Group	1.1118	0.0039	0.8636	0.8320	2.2215	4.3763
AENA	44.4588	0.1644	0.8645	0.8312	2.2237	4.3806
Bankia	0.4956	0.0019	0.8653	0.8336	2.2259	4.3850
Ferrovial	6.8697	0.0253	0.8662	0.8344	2.2281	4.3893
Enagás	6.0089	0.0227	0.8670	0.8352	2.2303	4.3936
Grupo ACS	9.4030	0.0495	0.8679	0.8361	2.2325	4.3980
Company	β_0	β_1	R ²	Adj. R ²	t Stat.	F
INDRA	2.3768	0.0123	0.8687	0.8369	2.2347	4.4023
Gestamp	1.2650	0.0057	0.8696	0.8377	2.2369	4.4066
Airbus	29.6208	0.1412	0.8704	0.8385	2.2390	4.4109
IAG	0.5836	0.0026	0.8713	0.8394	2.2412	4.4153
Amadeus	18.3169	0.0899	0.8721	0.8402	2.2434	4.4196
Grifols	7.9945	0.0402	0.8711	0.8410	2.2456	4.4239
Holaluz	2.8757	0.0210	0.8561	0.8245	2.0909	4.1579
Average	7.7816	0.0312	0.8542	0.8229	2.1973	4.3287

Source: personal elaboration based on publications from the MERCOR CR&G Ranking from 2011 to 2019 (2020), data directly searched at [de Madrid \(2020\)](#) and regression models as described in this paper.

Table 5
Measures for the individual results for each company in Model 1.

Company	β_0	β_1	R ²	Adj. R ²	t Stat.	F
Average	7.7816	0.0312	0.8542	0.8229	2.1973	4.3287
Maximum	–	–	0.8721	0.8410	2.2751	4.4476
Minimum	–	–	0.8354	0.8048	2.0909	4.1579

Source: personal elaboration based on publications from the MERCOR CR&G Ranking from 2011 to 2019 (2020), data directly searched at [de Madrid \(2020\)](#) and regression models as described in this paper.

results for Model 2⁶:

$$P = 6,1379 + 0,0006(MERCOi) + 0,0078(GPi)$$

Results for Model 2 imply that: (i) for every 1000 points obtained in the MERCOR CR&G Ranking, the price of the stock is expected to increase by 0.6 euro cents; and (ii) for every 1 million euro increase in the GDP, the price of a stock increases by 7 euro cents. This shows both the GDP and the MERCOR CR&G Ranking have a directly proportional relationship with stock prices, that is, the higher the position in the MERCOR CR&G Ranking and the higher the GDP in the economy, the higher the prices of the stock. The result of the quality analysis for Model 2, using the same statistics that were used for Model 1, is shown in [Table 6](#).

[Table 6](#) shows that the determination coefficient for Model 2, as

⁶ It must be taken into account that all results in the case of Model 2 are shown in average values, as initially presented for Model 1. All conclusions from the analysis of such average values can be extrapolated to each company, given that individual results of coefficients and statistics do not differ from average values.

Table 6
Relevant average statistics for Model 2.

Statistics	Median of results
R squared	0.9132
Adjusted R squared	0.8967
t Statistic for β_1	1.1169
t Statistic for β_2	3.3942

Source: personal elaboration based on publications from the MERCOR CR&G Ranking from 2011 to 2019 (2020), data directly searched at [de Madrid \(2020\)](#) and regression models as described in this paper.

measured by the statistics *R Squared* and *Adjusted R Squared*, is quite high, ranging from 91% to 89%. This means that around 91–89% of the variance in the stock prices is explained by the variance in the MERCOR CR&G Ranking and the GDP. Yet, the analysis of the t Statistic shows that such value for the coefficient of the MERCOR CR&G Ranking variable (β_1) is lower than 2, meaning low relevance or irrelevance. The opposite result is obtained for the t Statistic of the coefficient for the GDP variable (β_2), which is higher than 2 and shows high relevance. The above statistics lead to a significant conclusion: when measuring the impact of the MERCOR CR&G Ranking in the stock price together with the same impact of the GDP, as a measure of the economic context, the MERCOR CR&G Ranking loses relevance, and all significance is left to the economic context as a relevant variable explaining the evolution of the stock prices. This means that the variable GDP, which refers to the economic production in each period and, therefore, the economic context in which all companies of the sample must live has a far higher relevance in the stock price than CSR measures, up until the point that CSR measures, as measured by the MERCOR CR&G Ranking, lose all statistic relevance.

5. Conclusions, discussion and future research

This research aims to demonstrate the advancement of CSR management, which translates into a crucial contribution to the efficiency and sustainable growth of companies, as shown by previous research carried out by other authors (Korhonen, 2003; Cho et al., 2020; Hernández-Perlines et al., 2020; Kamran et al., 2020; Muñoz et al., 2020; Partalidou et al., 2020; Ye et al., 2020; Zafar & Sulaiman, 2020). As a consequence, the results can serve as a guide to other companies worldwide to better understand the impacts of CSR in different aspects (Lu et al., 2020; ElAlfy et al., 2020). Furthermore, this paper shows how a CSR strategy brings efficiency and benefits for the company and its stakeholders in the long term and increases the legitimacy (Bonsón & Bednárová, 2015; Branco & Rodrigues, 2006; Castelló et al., 2016; Dieterich et al., 2013) and the company reputation (Ponzi et al., 2011). Finally, CSR is recognized as an important strategic resource of a company's competitive advantage (Khojastehpour & Johns, 2014; Park et al., 2014).

Following the methodology of this research, some conclusions have been obtained, as follows:

- (i) There is a directly proportional relationship between CSR, measured by the MERCO CR&G Ranking, and the share price of the companies of the sample. Therefore, this relationship is measurable and we can conclude that for every 1000 points obtained by a company in the MERCO CR&G Ranking, the share price can rise, on average, by 3.12 euro cents. As a consequence, this research provides empirical data on the relationship between CSR and the economic value of companies in the stock market.
- (ii) However, such a relationship loses relevance when considering the economic context if we evaluate other variables. Furthermore, the methodology reflects how CSR impacts the share prices of Spanish companies and how relevant the impact is. As a consequence, it can be concluded that the impact is relevant when measured in isolation. However, considering the economic context in which share prices are obtained and in which CSR measures are implemented, the relevance of CSR measures is minimized. This conclusion is logical because stock prices are traded in the markets and are influenced by a wide variety of factors: interest rates, inflation, economic expansions and contractions, political decisions, etc. Consequently, CSR can only contribute a small part of influence and, although a direct impact is detected, all other factors in the economy reduce to modest the impact of CSR.
- (iii) Last, as we pointed out above, the progress of CSR in terms of management, transparency, measurement, environment and governance translates into a crucial contribution to the efficiency and sustainable growth of the company. This conclusion allows us to note that, when stocks are measured over time, it is common for share prices to rise in companies. At the same time, when it comes to measuring the implementation of CSR policies and practices, it is also common for companies to implement more measures every year. Therefore, the regression methods described in this paper provide numerical results that contribute to understanding the direct relationship between both variables, although a series of enhancements could lead to a better understanding of the impact of CSR: (a) causality should be part of the further analysis; (b) the datasets should be extended into international companies; (c) the hypothesis should be tested for consistency.

This research raises some managerial implications. One implication, related to the share price, is that even if low, the companies that develop a CSR strategy, in turn, can participate in reputation rankings such as MERCO, which has a potential positive impact for companies. The second implication of this study is that, although the impact is modest, it

should be noted that a number of investors pay attention to companies with a CSR strategy, particularly multinational companies operating in different countries and CSR means to obtain legitimacy in the global market. A third implication of this research is that CSR has an impact on companies that is demanded by the market, therefore, CSR is based on increased commitments to sustainable development and participating in the solution of the social problem.

Although the impact of CSR loses impact on the share price when the GDP variable is considered, it is a big step for academia and for companies to recognize that it has tangible economic value. This finding will encourage companies around the world to strengthen their sustainability strategy or even for small and medium-sized companies to consider it as a strategic axis that will allow them to have more value as a company, beyond the intangible benefits that CSR has been associated with.

The limitations of this study lie in the fact that we have carried out a study focused only on one country (Spain), during a specific period given the availability of data (from 2011 to 2019), using a single CSR ranking, the Spanish MERCO *Corporate Responsibility and Governance Ranking*, with data from the Madrid Stock Exchange and using a single variable, Spanish GDP, to contrast the weight of CSR in the share price. To overcome the limitations of this paper, future research may reproduce the analysis of this study on specific types of companies because companies with higher market capitalization have had the opportunity to implement CSR measures in recent years and have been able to take advantage of the efficiencies inherent to the implementation of CSR in decision-making. Therefore, it is worth asking whether the relevance of CSR measures, as studied with the regression methods described in this paper, is higher or lower for other companies listed in other stock market rankings.

Some research is needed to analyze the impact of CSR comparing economic industries or/and analyzing it in different periods of time. Therefore, it is possible to carry out other studies, since the relevance of CSR has only been contrasted with the economic context in general, which represents a limitation of this study. However, future studies can contrast other factors, such as economic sectors and more detailed periods of time that can lead to more concise and relevant conclusions for researchers and companies, in order to better understand the impact of CSR policies on the economic value of firms. Moreover, research can contribute positively to understand why the measurement of CSR can impact from a quantitative and qualitative perspective on companies, considering the need to promote sustainable growth in the global context.

Finally, other studies can provide an analysis of other relevant variables compared to the value of the companies' share price, in order to know which aspects are significant to argue for the importance of CSR in companies, both internally and externally, and how they impact the different stakeholders.

CRediT authorship contribution statement

Belen Lopez: Writing – review & editing, Writing – original draft, Supervision, Resources, Investigation, Formal analysis, Conceptualization. **Celia Rangel:** Writing – original draft, Supervision, Resources, Investigation, Conceptualization. **Manuel Fernández:** Writing – original draft, Validation, Methodology, Data curation.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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