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Are Firms that Contribute to Sustainable Development Valued by Investors?

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ABSTRACT
Sustainability reporting contributes to making sustainable development a higher priority for companies, increases the social responsibility of their managers, and reinforces the credibility and trust of their stakeholders. However, prior research about the value relevance of sustainability disclosure for financial stakeholders provides inconclusive results. In this context, the aim of our research is to analyse whether sustainability disclosure provides relevant information and incremental value for investors in the European setting where this practice has been steadily increasing in the period 2001–2013. Our overall results support the belief that conducting business in accordance with ethical norms is value relevant for European investors. However, our results also reveal that there is no homogeneity among markets, even for the periods before and after the global financial crisis. These findings could have several implications for internal and external stakeholders such as managers, shareholders, and policymakers. Copyright © 2016 John Wiley & Sons, Ltd and ERP Environment

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Introduction

ENVIRONMENTAL AND SOCIAL CONCERNS HAVE CONTINUOUSLY BEEN ON THE RISE IN THE LAST 20 YEARS. ACCORDINGLY, stakeholders have started to demand that companies take responsibility for the impact of their activities on the environment and society by disclosing information on how they are managing this impact (Bowerman & Sharman, 2016). Therefore, many companies have started to use sustainability reports that enable them to exhibit their sustainability and social responsibility initiatives.

This practice is especially relevant for companies quoted on stock markets. By providing this additional information, firms can reduce the information asymmetries between managers and financial stakeholders. More information would attenuate the financial stakeholders' uncertainty about the future economic benefits and the risks of the company could be reduced. Analysts and investors can use this information to make better estimates of the

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company's shares (Healy and Palepu, 2001). We can therefore expect a positive association between corporate social responsibility (CSR) disclosure and the market value of companies that provide this kind of information.

However, previous empirical evidence in this research field provides mixed results. There are some reasons for these inconclusive findings: the use of data from different countries and time periods that makes the comparison across studies unbearable and even the use of different measures of CSR disclosure. This is because CSR disclosure is still a voluntary reporting practice in several countries and is performed in a non-default format.

In this sense, not only investors but also analysts and other financial stakeholders usually request for harmonisation, standardisation, and objective reports worldwide to facilitate comparison across companies (Alonso-Almeida *et al.,* 2014). The Global Reporting Initiative (GRI) was created for that purpose. Thus, the GRI is the most widely used global standard for sustainability reporting according to several researchers (Brown *et al.,* 2009; Prado-Lorenzo *et al.,* 2009; Rasche, 2009; Skouloudis *et al.,* 2009; Tsang *et al.,* 2009; Levy *et al.,* 2010; Marimon *et al.*, 2012; Roca and Searcy, 2012).

In this context, the aim of this study is to examine whether CSR disclosure following GRI guidelines provides relevant information and incremental value to investors on the European stock markets of Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, and the United Kingdom over the 2001–2013 period, considering the singularities of each market as well as the impact of the international financial crisis.

The contribution of this research to prior literature is two-fold. First, we focus on the European setting where CSR disclosure has been continuously increasing over the sample period under the influence of the economic policies defined by the European Commission (2011). However, there still exist cultural and legislative differences among countries. For that reason, we not only analyse the European markets as a whole, but we also provide evidence from each market individually despite current research which focuses on a specific industry (Carnevale *et al.,* 2012), a particular market (De Klerk *et al.,* 2015; Bowerman and Sharman, 2016) or even exclusively on the largest firms (Kaspereit and Lopatta, 2016). Secondly, we provide evidence before and after the global financial crisis which could supposedly change the preferences of financial stakeholders about this kind of information.

Our overall results reveal that European investors as a whole value this type of information, especially in the years prior to the international financial crisis. It supports the belief that conducting business in compliance with ethical norms is a value-increasing business strategy for investors. However, we also observe differences among markets. It seems that only investors in the German and UK markets consider CSR disclosure information in the total information set used for their investment decision-making. Investors in the remainder markets do not appear to find that CSR disclosure provides incremental value to their valuations of the firms, except in the case of the Swedish market in which we observe a negative influence on the share value of firms that disclose sustainability information. Finally, our results indicate that the behaviour of investors before the economic crisis was not maintained and there are significant changes in share appreciation for the companies that publish sustainability reports.

These findings could have several implications for internal and external stakeholders: for managers when considering their disclosure decisions; for financial stakeholders such as shareholders, potential investors, and analysts when making their investment decisions or preparing their investment advice; for policymakers when implementing new regulations about sustainability disclosure; and other non-financial stakeholders such as clients or citizens interested in companies' reports related to social and environmental issues.

The remainder of the paper is organized as follows. We present previous empirical evidence about this field. We then outline the methodology employed for our empirical research. Next we define the database employed about sustainability reports and European stock markets. We then show the results obtained and finally provide the conclusions of our study.

Literature Review

Sustainability reporting has received a great deal of attention from academics. Previous research has focused on the disclosure and credibility of CSR information (Kolk, 2003; McMurtrie, 2005; Alonso-Almeida *et al.,* 2014; Fernández-Feijoo *et al.,* 2014; Romolini *et al.,* 2014; Martínez-Ferrero *et al.,* 2015); the motives for managers to compile sustainable reports (Brown and Fraser, 2006; Kolk, 2008; Spence, 2009; Baumgartner, 2014; Frias-Aceituno *et al.,* 2014; Lozano, 2015); the links between CSR disclosures and business characteristics (Secchi, 2006; Brammer and Pavelin, 2008; Garcia-Sanchez, 2008; Haddock-Fraser and Fraser, 2008; Mio, 2010; Miras-Rodriguez *et al.,*

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2015; Perez-Lopez and Moreno-Romero, 2015); and how stakeholders react to CSR disclosures (Collison *et al.*, 2003; Hassel *et al.*, 2005; Cormier and Magnan, 2007; Wahba, 2008; Moneva and Cuellar, 2009; Prado-Lorenzo *et al.*, 2009; Schadewitz and Niskala, 2010; Berthelot *et al.*, 2012; Cardamone *et al.*, 2012; Carnevale *et al.*, 2012; De Klerk and De Villiers, 2012; Carnevale and Mazzuca, 2014; Dobele *et al.*, 2014; De Klerk *et al.*, 2015; Bowerman and Sharman, 2016; Kaspereit and Lopatta, 2016).

However, despite numerous studies in this field, we believe that the value that financial stakeholders assign to sustainability reports is not yet clear (Wahba, 2008; Carnevale *et al.*, 2012). Some authors document that CSR information is regarded as value relevant for investors employing surveys (De Villiers and Van Staden, 2010, 2012; Beare *et al.*, 2014) or analysing the impact of this kind of information on share returns (Murray *et al.*, 2006; Jones *et al.*, 2007). Nevertheless, the majority of researchers have employed the valuation model proposed by Ohlson (1995) in which the share value of equity is explained by the mandatory financial accounting information provided by the company, combined with other non-accounting information such as CSR disclosures. As Bowerman and Sharman (2016) indicate, if analysts or investors combine CSR disclosure with the financial information they use in their investment decision-making process, then these two types of information together should better explain market valuations. However, previous research examining the association between CSR disclosures and the share value of equity employing this methodology provides inconclusive results, suggesting the need for further investigation.

The first studies, such as those of Hassel *et al.* (2005), Cormier and Magnan (2007), and Moneva and Cuellar (2009), focused on the value relevance of environmental information with different results. In particular, Hassel *et al.* (2005) found that the environmental information disclosed by Swedish companies in the 1990s was associated with a decrease in the market value of equity. Their findings were supported by the cost-concerned perspective, which attributes a decrease in market value to increased costs associated with the increase in disclosure. For the same period, Cormier and Magnan (2007) analysed the impact of voluntary environmental reporting on the market value of Canadian, French, and German listed firms and only found a positive impact on the German stock market. Later, Moneva and Cuellar (2009) found financial environmental disclosure by Spanish companies to be associated with an increase in share prices during the period 1996–2004.

The first studies that analysed the value relevance of social and environmental reports were those of Schadewitz and Niskala (2010) and De Klerk and De Villiers (2012), who followed the GRI guidelines, and those of Berthelot *et al.* (2012), Cardamone *et al.* (2012), Carnevale *et al.* (2012) and Carnevale and Mazzuca (2014), who employed hand-collected CSR data without considering any broadly applicable or reliable set of standards.

Schadewitz and Niskala (2010) analysed the behaviour of a very small number of socially responsible companies in the Finnish market. Having started the study with only 7 companies in 2002, and reaching 15 in 2005, the results were conclusive in demonstrating that the information made available by the GRI has a positive influence on the value of the companies quoted on the stock market. Moreover, De Klerk and De Villiers' (2012) results indicated that the combined effect of CSR disclosure and financial accounting information explained South African market attributes better than an exclusive focus on financial accounting information.

Meanwhile, Cardamone *et al.* (2012) analysed 178 companies listed on the Italian stock market over the 2002–2008 period and concluded that the relationship between financial and sustainability information was negative, showing that the investors did not value the non-financial information. On the contrary, Berthelot *et al.* (2012) investigated 146 companies listed on the Canadian stock market, 28 of which published sustainability reports in 2007. Their results showed that investors valued companies that adopted CSR practices and, in turn, the companies benefited financially for adopting such practices.

In this line of research are the works of Carnevale *et al.* (2012) and Carnevale and Mazzuca (2014) for the banking sector. On the one hand, Carnevale *et al.* (2012) analysed all European-listed banks in the Euro-12 zone over the 2002–2008 period. The analysis for the entire sample does not provide evidence that investors attribute value relevance to social reporting. However, the cross-country analysis shows that in some countries the social report positively affects the stock price and in others negatively affects the stock price. On the other hand, Carnevale and Mazzuca (2014) analysed 14 countries with a total of 113 banks considered socially responsible over the 2002–2011 period. The authors concluded that, even though the economic crisis had a negative effect on all banks, socially responsible or not, European banks that published sustainability reports fared better during the crisis.

The most recent studies are those of De Klerk *et al.* (2015), Bowerman and Sharman (2016), and Kaspereit and Lopatta (2016). All of them have in common analysis of the largest companies and the use of alternative criteria

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to measure CSR practice and disclosure. De Klerk *et al.* (2015) studied the 69 of the largest companies quoted on the British market in 2008. By applying the GRI criteria, as well as the information extracted from the KPMG report, they concluded that British investors valued the socially responsible companies analysed in that particular year. Subsequently, Bowerman and Sharman (2016) analysed the UK and Japan markets and observed that only investors in the UK consider CSR disclosure information in their total information set for their investment decision making. Whereas investors in Japanese firms do not appear to find that CSR disclosure provides incremental value to their valuations of the firms.

Finally, we highlight the work of Kaspereit and Lopatta (2016). These authors analyse whether relative corporate sustainability as measured by the Sustainable Asset Management (SAM) ranking and sustainability reporting in terms of GRI application levels are associated with a higher market valuation for a sample comprised by the 600 largest European companies over the 2001–2011 period. Their results show that membership of the Dow Jones Sustainability Index (DJSI), which is based on the SAM sustainability ranking, is associated with a higher market valuation over the sample period. Meanwhile, the empirical evidence is less conclusive when GRI sustainability reporting is analysed. In addition, the research of Kaspereit and Lopatta (2016) does not provide a cross-country comparison. In this context, our study aims to provide further research that improves on these limitations.

Methodology

To analyse whether investors value the social responsibility information provided by companies, we employ the valuation model developed by Ohlson (1995, 2001). This model is based on the premise that market value of equity is a function of book value and accounting earnings (i.e., financial accounting information) as well as of other non-financial information which can be regarded as relevant to the increased value of a company.

In this study, we consider the information provided by companies in their sustainability reports in compliance with the GRI criteria which are the most widely used for CSR disclosure. In this sense, we consider that companies which adopt the GRI framework are more likely to have higher-quality CSR disclosure which could be value relevant for investors. Thus, the proposed model is given by the following equation:

$$MV_{i,t} = \alpha_0 + \alpha_1 BV_{i,t} + \alpha_2 E_{i,t} + \alpha_3 GRI_{i,t} + \varepsilon_{i,t} \quad (1)$$

where $MV_{i,t}$ is the market value of company i in year t, $BV_{i,t}$ is the book value of company i in year t, $E_{i,t}$ represents the earnings of company i for the year t, $GRI_{i,t}$ is a dummy variable, which takes the value 1 if the company i publishes its sustainability report in accordance with the GRI criteria in year t, and zero otherwise; and finally, $\varepsilon_{i,t}$ is the error of the company i in year t. We expect α_3, the coefficient for GRI disclosure, to be positively and significantly associated with the market value of equity, thus indicating that this information is value relevant for investors.

We employ a panel data methodology for our empirical research which consists of a combination of time-series and cross-sectional data in a joint test and allows us to control for individual heterogeneity – or unobservable company effects – as well as for the endogeneity of the explanatory variables. Thus, we consider all companies quoted on the ten major European stock markets over the period 2001–2013 in the preliminary regression model. However, we must highlight that our sample period includes the global financial crisis that began in the USA in mid-2007 with the sub-prime mortgage crisis and continued some months later with the default of Lehman Brothers, one of the largest banks in the USA. These events were the beginning of a recession period in developed countries with negative consequences in all economies including intense falls in the European stock markets. In this context, we consider it is essential to analyse to what extent the economic context may influence the initial results obtained for the entire sample. For that reason, we also provide evidence for two sub-sample periods: a first sub-sample period from 2001 to 2007, prior to the global financial crisis; and a second sub-sample period from 2008 to 2013 of economic recession.

Moreover, we highlight that the singularities of each country should be considered in this broad analysis of the European markets. As Jackson and Apostolakou (2010) indicate, the characteristic of each European market, such as the number of quoted firms, the legislation, as well as the social and environmental policies adopted by each government may influence the market value of socially responsible companies. Therefore, we include a cross-country comparison analysis not only for the entire sample but also for the two sub-samples.

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Finally, we note that the goodness of fit of the panel data regression model previously proposed is provided showing the F statistic which analyses the joint significance of the explanatory variables as well as the adjusted R^2 that represents the proportion of variability of the dependent variable that is explained by the explanatory variables.

Database

The database employed in this study is composed of two types of relevant information: social responsibility information based on companies' sustainability reports and financial information usually employed by investors in their investment decision-making process. We describe in this section these two types of information.

Information about Social Responsibility

Recent years have been characterised by a substantial increase worldwide in the number of firms that have started to publish sustainability reports. This trend has accelerated the need to provide credibility and to create legislation that supports the information provided. Thus, the GRI was created with the aim of helping organisations to provide information about sustainability, as well as to assist stakeholders in interpreting it. Therefore, every year since 1999, the GRI prepares and publishes a list of firms that publish sustainability reports worldwide in accordance with its globally recognised criteria, which are used in the present study.

The number of companies that are socially responsible according to these criteria has increased over the last decade predominantly in Europe. Among other reasons, this may be due to the European Union recommendations as well as the individual member states legislation. In this sense, we must highlight the publication of the COM 2001 366 (Green Paper) by the European Commission in , 2001, and the COM 2002 347 in 2002, where a strategy for CSR was presented, inviting companies to voluntarily adopt social, environmental, and economic objectives in their relations with the stakeholders, with the aim of directing investors to companies that publish sustainability reports.

Following the EU recommendations, the Spanish government introduced the mandatory presentation of environmental reports (BOE, 2002). After that, the UK government elaborated the UK Companies Act (2006) urging companies to publish sustainability reports. Moreover, in the wake of the economic crisis of 2008, the Danish government understood that in times of economic crisis it is advantageous for companies to adopt socially responsible practices which act as a strategic defence mechanism in the corporate world, and elaborated the Action Plan for Corporate Social Responsibility (Danish Government, 2008). More recently, in 2013, the Swedish government introduced a new legal requirement, making it mandatory for companies to incorporate into their policies aspects such as respect for human rights, and the reduction of their impact on climate change.

In this context, we analyse the sustainability reports provided by 1650 companies quoted on the stock markets of ten European countries – Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, and the UK – over the 2001–2013 period.[1] It is a wide sample not only because of the number of firms considered but also because it covers 13 years of analysis. According to the information presented herein, 2001 marked an increase in the number of companies in Europe that started to publish sustainability reports in compliance with GRI criteria, and for that reason, it was selected as the initial year of our empirical research. Meanwhile, we should highlight that our study exclusively considers non-financial firms. We decided to exclude financial firms because they have a specific accounting system which is different from the other sectors of activity.[2]

Table 1 shows the structure of our sample in each of the ten European stock markets considered during the 2001–2013 period and after the exclusion of the financial firms. Moreover, we display the number of listed firms that publish sustainability reports in accordance with the GRI criteria, as well as the percentage that this selected group represents among all listed firms.

As we can see in Table 1, France, the UK, and Germany are the major European stock markets, with 403, 402, and 363 listed firms in their respective stock markets, Germany being the leader in terms of CSR disclosure with 58 companies that publish sustainability reports following the GRI guidelines (which represent the 15.9% of the market), followed by the UK with 48, and France with 44. Meanwhile, the Nordic countries have the largest

[1]The remainder of European stock markets were excluded from the study because the number of listed firms with CSR disclosure practices in compliance with the GRI guidelines was limited.
[2]Following previous empirical studies such as those of Hassel *et al.* (2005) and Moneva and Cuellar (2009) among others.

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Market	Number of quoted firms	GRI reports	
		Number	%
Denmark	23	6	26,0
Finland	103	37	35,9
France	403	44	10,9
Germany	363	58	15,9
Italy	112	27	24,1
Netherlands	83	26	31,3
Norway	32	8	25,0
Spain	78	26	33,3
Sweden	51	26	50,9
United Kingdom	402	48	12,5

Table 1. Structure of the sample
This table shows the structure of the sample in each of the 10 European stock markets considered, during the period of 2001 to 2013, after the exclusion of the financial sector and the extraction of outliers. The number of selected companies according to the GRI criteria, as well as the percentage of listed companies in their respective markets, is also shown.

percentage of listed firms that publish sustainability reports. More precisely, Sweden has a 50.9% followed by Finland with a 35.9%. Finally, within the Mediterranean markets, Spain and Italy are the leaders with 33.3% and 24.1%, respectively.

Financial Information

The financial information required to apply the Ohlson (1995) valuation model described in the methodology section, in particular the market value and book value of equity at the end of each calendar year, as well as the annual earnings of each company, were taken from the Thomson Reuters DataStream database.

Table 2 provides the descriptive statistics (mean, maximum, minimum, and standard deviation) of these variables as well as the number of observations of the sample. We employ a share price specification of the Ohlson (1995) model as recommended by Barth and Clinch (2009) to mitigate any scale effects present in the sample. For that reason, the information in Table 2 is provided in per share rates. As we can see, the average share price of the sample companies is 17.95 with a standard deviation of 29.57, the mean book value per share is 12.80 with a standard deviation of 30.59 and the average earnings per share is 1.21 with 2.6 of the standard deviation. Moreover, we highlight that observations with a negative book value were removed from the sample, in accordance with Lourenço *et al.* (2012; 2014). Additionally, to make sure that the sample outliers did not influence the regression results, we sorted the market value in ascending order and the companies of each country in the top and bottom 2.5% were removed.[3] As a result, we have a total of 18,694 observations in the sample.

Empirical Results

Empirical Results for the Ten European Markets

We initially present the results obtained applying the Ohlson (1995) valuation model considering the ten European markets as a whole. Results are reported in Table 3 for the entire sample as well as for the two sub-samples.

For the entire sample, we observe that, as expected, the coefficients for book value per share and earnings per share are positively and significantly associated with share price. Moreover, the coefficient for GRI disclosure is positive and statistically significant at a 1% level. It indicates that the European markets as a whole value the socially responsible companies included in the list published by the GRI during the 2001–2013 period. These overall results are similar to those obtained by Kaspereit and Lopatta (2016) for the largest European companies and indicate that conducting business in accordance with ethical norms is value relevant for European investors.

[3]This procedure is in accordance with prior literature, where it is discussed and studied by Curto *et al.* (2011).

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	Market value	Book value	Earnings
Mean	17.957	12.800	1.211
Maximum	426.649	886.792	47.680
Minimum	0.013	0.000	0.000
Standard deviation	29.573	30.598	2.674
Number of observations	18,694		

Table 2. Descriptive statistics
This table shows the descriptive statistics (mean, maximum, minimum, and standard deviation) of the market value, book value and earnings per share variables of the ten European markets as a whole during the 2001–2013 period. Finally, the number of observations is provided.

	2001–2013	2001–2007	2008–2013
Intercept	7.051***	4.645***	3.696***
	(0.00)	(0.00)	(0.00)
Book value	0.576***	0.802***	0.601***
	(0.00)	(0.00)	(0.00)
Earnings	1.895***	1.959***	0.861***
	(0.00)	(0.00)	(0.00)
GRI reports	1.283***	1.494*	0.588
GRI	(0.00)	(0.06)	(0.33)
Adjusted R^2	0.835	0.869	0.903
F-test	58.309***	41.792***	54.705***
	(0.00)	(0.00)	(0.00)
Hausman test	408.342***	413.051***	479.997***
	(0.00)	(0.00)	(0.00)
Number of observations	18,746	9,389	9,357

Table 3. Empirical results for the ten European markets
This table shows the results of the Ohlson (1995) valuation model in Europe during the 2001–2013 period, and over the sub-periods of 2001–2007 and 2008–2013. The explanatory variables are the book value and earning per share as well as a dummy variable that takes the value 1 if a company is included in the GRI list in the respective year, and zero otherwise. The values of the adjusted R^2 and F statistics as well as the Hausman test and their respective p-value are presented in the table, as well as the number of observations.
***, ** and *represent significance levels of 1%, 5%, and 10%, respectively.

These findings are especially relevant for managers because they reveal they have adequately disclosed sustainability information to the investment community. In this sense, we must note that investors are critical stakeholders and can wield considerable influence on the sustainability strategy of the companies they own. For that reason, companies must provide high quality information as well as drive investors to this information. Consequently, the credibility and trust of investors in this kind of information is associated with an increase in the share value of equity.

Meanwhile, we take into account that the Ohlson (1995) valuation model is based on a predicted positive and significant association between the market value of equity and its explanatory variables. However, this association might be different for recession periods such as the last one initiated in mid-2007 in the USA and expanded all over the world in the subsequent months, especially affecting European countries. For that reason, we divide our sample period in two sub-samples – from 2001 to 2007 and from 2008 to 2013 – to provide evidence in two different economic states. As we can see in Table 3, although the mandatory financial information is value relevant for investors in both subsamples, when we analyse the value relevance of sustainability information we observe that during the

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2001–2007 period, investors value socially responsible companies that comply with GRI while for the 2008–2013 period, the results are not statistically relevant.

There could be diverse explanations for these results. On the one hand, it is expected that during turbulent periods in the stock markets, investors are more concerned about the level of risk they are assuming than other issues such as sustainability. On the other hand, these results could be caused by the specific practices of the companies in recession periods, such as the reduction of the CSR developments or the quality of their sustainability reports. These facts in which the reports are not adequate or are less informative could produce distrust among financial stakeholders.

Empirical Results for Each European Market

As we indicated in the methodology section, it is essential to consider the singularities of each country in this broad analysis of the European setting. For that reason, we provide in this sub-section evidence from each market individually not only for the entire sample but also for the two sub-samples.

The results of the regression model applied to each European market in the period from 2001 to 2013 are presented in Table 4. We observe that the coefficients associated with the book value and earnings per share are positive and significant for almost all markets. However, we also observe that the coefficient associated with the GRI variable is only positive and significant for the German and British markets, with a 1% and 10% significance level respectively. These results are similar to those obtained by Cormier and Magnan (2007) for the German market, and by De Klerk *et al.* (2015) for the British one. In contrast, the Swedish market is the only one that penalizes CSR disclosure practices. However, these results are in accordance with those obtained previously by Hassel *et al.* (2005). The rest of the markets do not have statistically significant values.

These results corroborate the existence of great differences among markets, documented by previous empirical studies. Accordingly, our findings contribute to public policy debates at the country and European Union levels (Albareda *et al.,* 2008; Prado-Lorenzo *et al.,* 2009; Galani *et al.*, 2012; Sierra *et al.,* 2013; Beare *et al.,* 2014; Romolini *et al.,* 2014), especially in relation to whether or not to regulate CSR disclosure and, more precisely, whether sustainability reporting should be mandatory. As we expressed before, the UK government has already adopted a national law on CSR reporting, while Germany has just resisted this commitment. However, many large German companies are internationally recognised for their CSR practices, and they are quite advanced on environmental performance, as well as social dialogue and stakeholder engagement (Beier, 2012). As we document in this research, all these facts are positively valued by investors in the German and British stock markets.

In contrast, investors in the Swedish stock market negatively value these practices. In this sense, we must consider the cost-concern explanation provided by Hassel *et al.* (2005) as well as the considerations of Tagesson *et al.* (2009), who determine that Swedish CSR public policy should be subtler and adapted to cultural norms to reduce the gap between Swedish private companies and state-owned corporations in which there exists a higher tradition for transparency in terms of CSR information.

Before drawing some overall conclusions, we present in Tables 5 and 6 the results of the regression model applied to each European market in the sub-periods 2011–2007 and 2008–2013 respectively, to provide evidence in two different economic states.

As we can see in Table 5, in the period prior to 2008 the coefficient associated with the GRI variable is positive at a 1% significance level in the German and Spanish stock markets while for the remaining European markets the results are not statistically significant. However, Table 6 shows that the coefficient associated with the GRI variable is positive only in the Italian market, at a 10% significance level, and is negative on the stock markets of the Netherlands and Sweden, with a 10% and 1% level, respectively, obtaining non-significant results for the remainder markets. These overall results indicate not only that there was a change in the behaviour of investors in each market in terms of CSR disclosure considerations, but also that stock markets did not react to this fact in the same way.

Finally, these findings reveal some implications in the European setting to reduce differences among countries and economic states. In this sense, we agree with Steurer *et al.* (2012) who indicate that the spread and harmonisation of CSR disclosure across Europe depends not only on political leadership and respective public policies on CSR but also on societal learning. Thus, there should be joint efforts by national governments, international organisations, and listed companies to commit to sustainability to gain in quality, visibility, and credibility for the investment community.

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	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom
Intercept	4.486	0.790*	15.388***	3.669 ***	2.411***	8.400***	2.890***	5.079***	3.813***	1.341***
	(0.21)	(0.10)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
Book value	1.107***	0.825***	0.421***	1.058 ***	0.847***	0.755***	0.611***	0.593***	0.593***	0.849***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Earnings	0.727	3.460 ***	1.821**	1.290***	2.261***	1.915***	1.655***	2.208***	3.390***	4.433***
	(0.21)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
GRI reports	-4.369	0.299	1.605	3.304***	0.840	0.773	-0.313	1.014	-2.276***	0.624*
GRI	(0.29)	(0.46)	(0.37)	(0.00)	(0.17)	(0.66)	(0.73)	(0.26)	(0.00)	(0.06)
Adj. R^2	0.553	0.500	0.800	0.872	0.799	0.772	0.494	0.388	0.602	0.825
F-test	23.613***	83.201***	46.239***	73.179***	39.894***	36.242***	23.264***	38.445***	63.060***	51.975***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Hausman test	0.000	0.000	137.644***	50.200***	56.503***	22.975*	0.000	0.000	0.000	32.387***
	(1.00)	(1.00)	(0.00)	(0.00)	(0.00)	(0.08)	(1.00)	(1.00)	(1.00)	(0.00)
No. obs.	275	1,234	4,713	3,960	1,227	1,005	343	884	614	4,491

Table 4. Empirical results for each European market over the 2001–2013 period

This table shows the results of the Ohlson (1995) valuation model for each European market over the 2001–2013 period. The explanatory variables are the book value and earning per share as well as a dummy variable that takes the value 1 if a company is included in the GRI list in the respective year, and zero otherwise. The values of the adjusted R^2 and F statistics as well as the Hausman test and their respective p-value are presented in the table, as well as the number of observations.
***, ** and *represent significance levels of 1%, 5% and 10%, respectively.

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	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom
Intercept	-0.756	0.211	9.366***	-0.463	3.124***	15.976***	2.317**	2.722***	2.954***	1.417***
	(0.85)	(0.71)	(0.00)	(0.63)	(0.00)	(0.00)	(0.03)	(0.00)	(0.00)	(0.00)
Book value	1.742***	0.980***	0.700***	1.341***	0.891***	0.265***	0.633***	1.339***	0.740***	0.748***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Earnings	0.011	2.928***	2.096***	1.732***	0.269	1.177***	3.571***	0.012	3.967***	4.964***
	(0.99)	(0.00)	(0.00)	(0.00)	(0.25)	(0.00)	(0.00)	(0.95)	(0.00)	(0.00)
GRI reports	-3.779	0.964	-3.397	6.377***	0.415	-3.762	-1.287	5.497***	-0.836	0.693
GRI	(0.61)	(0.24)	(0.24)	(0.00)	(0.59)	(0.24)	(0.26)	(0.00)	(0.32)	(0.14)
Adj. R^2	0.621	0.552	0.864	0.863	0.903	0.848	0.636	0.877	0.605	0.487
F-test	26.679***	86.999***	40.298***	38.922***	50.683***	34.869***	31.771***	41.201***	54.123***	234.779***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Hausman test	0.000	49.170***	201.216***	23.686***	25.196***	102.938***	0.000	52.844***	13.999	10.592
	(1.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(1.00)	(0.00)	(0.12)	(0.30)
No. obs.	142	628	2,394	1,997	587	526	159	433	313	2,210

Table 5. Empirical results for each European market over the 2001–2007 period

This table shows the results of the Ohlson (1995) valuation model for each European market over the 2001–2007 period. The explanatory variables are the book value and earning per share as well as a dummy variable that takes the value 1 if a company is included in the GRI list in the respective year, and zero otherwise. The values of the adjusted R^2 and F statistics as well as the Hausman test and their respective p-value are presented in the table, as well as the number of observations.
***, ** and *represent significance levels of 1%, 5% and 10%, respectively.

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	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom
Intercept	3.695	-1.781**	7.624***	2.234***	1.010**	1.921	0.576	2.893***	1.974**	0.755***
	(0.29)	(0.04)	(0.00)	(0.01)	(0.04)	(0.13)	(0.62)	(0.01)	(0.02)	(0.00)
Book value	1.028***	1.322***	0.481***	0.969***	0.538***	0.698***	0.819***	0.617***	0.533***	0.469***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Earnings	0.972	1.266***	0.750***	0.611***	1.271***	1.150***	-0.285	2.426***	2.255***	4.545***
	(0.11)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.54)	(0.00)	(0.00)	(0.00)
GRI reports	-6.276	-0.419	2.594	2.364	1.731*	-2.754*	-0.072	0.517	-2.146***	-0.756*
GRI	(0.12)	(0.49)	(0.22)	(0.13)	(0.09)	(0.07)	(0.95)	(0.63)	(0.00)	(0.10)
Adj. R^2	0.555	0.842	0.870	0.928	0.835	0.911	0.482	0.372	0.562	0.875
F-test	21.607***	30.453***	39.487***	72.110***	28.367***	56.301***	22.315***	34.357***	49.296***	40.368***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Hausman test	0.000	99.519***	80.572***	93.467***	53.802***	15.949**	0.000	0.000	0.000	69.202***
	(1.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.04)	(1.00)	(1.00)	(1.00)	(0.00)
No. obs.	133	606	2,319	1,963	640	479	184	451	301	2,281

Table 6. Empirical results for each European market over the 2008–2013 period

This table shows the results of the Ohlson (1995) valuation model for each European market over the 2008–2013 period. The explanatory variables are the book value and earning per share as well as a dummy variable that takes the value 1 if a company is included in the GRI list in the respective year, and zero otherwise. The values of the adjusted R^2 and F statistics as well as the Hausman test and their respective p-value are presented in the table, as well as the number of observations

***, ** and *represent significance levels of 1%, 5% and 10%, respectively.

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Conclusions

The investment in socially responsible companies has grown substantially worldwide and especially in Europe in the last decades. In this context, and under the influence of the economic policies defined by the European Commission over these years, as well as the policies and legislation of each European country, many companies quoted on European stock markets consider it advantageous to publish sustainability reports, thus providing that information to their financial stakeholders. Meanwhile, analysts and investors usually request a broadly applicable and reliable set of standards for comparison across companies. In this sense, the GRI criteria are the standards most widely used by companies to provide high-quality CSR information which can be value relevant for investors.

In this context, the aim of this study has been to analyse whether investors in the European stock market of Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, and the UK value the CSR information published by listed companies in compliance with the GRI standards over the 2001–2013 period, considering the peculiarities of each market and the impact of the global financial crisis.

The results from the firm valuation analysis reveal that, although European investors as a whole value this type of information in the total information set used for their investment decision making, there exists several differences across markets and between expansion and recession stages. More precisely, we document that only investors in the German and UK markets value CSR reports positively and significantly, whereas investors in the remainder markets do not appear to find that CSR disclosure provides incremental value to their valuations of the firms, except in the case of the Swedish market in which we observe a negative influence on the share value of firms that disclose CSR reports. Meanwhile, we observe that the valuation of CSR disclosure by investors change substantially in each market before and after the global financial crisis.

These findings have important implications for managers, shareholders, and policymakers if they want to reduce these differences. On the one hand, companies should provide higher-quality sustainability reports as well as make greater strides to increase sustainability-related communication and direct engagement with the investment community. On the other hand, investors should request companies for improved sustainability performance and harmonization in directing this information to the investment community. Finally, policymakers also have a relevant role in this field. To continue the spread and harmonisation of CSR disclosure across Europe, there should be joint efforts by national governments to encourage sustainability and develop common and robust public policies which contribute to reducing differences among them.

Further research should focus on addressing cultural and national differences across Europe related to CSR disclosure at specific sectors. It should be particularly interesting to analyse the energy and banking sectors in which GRI has turned into a global reference and where its adoption rate is growing every year.

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