

SUSTAINABILITY REPORTING IN EUROPE: DIFFERENCES IN TERMS OF LEGISLATION AND VALUATION

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Abstract

Over the past few years, the number of socially responsible companies has been increasing significantly throughout the world and predominantly in Europe. This trend has accelerated the need to provide credibility, and also to create legislation that supports the information provided. As a result, the Global Reporting Initiative (GRI) was created with the aim of helping organisations to provide information about sustainability, as well as to assist stakeholders in interpreting it. However, the publication of social responsibility reports represents an additional cost and effort for the companies since it is necessary to provide extra resources and, for this reason, not all companies adopt this measure. Moreover, social responsibility can be a mandatory or voluntary requirement, depending on the country and the rules imposed by the government where the companies operate. In this context, the aim of this study is two-fold. Firstly, we provide a deep analysis about the evolution as well as the similarities and differences among European countries in terms of sustainability reporting over the 2001-2013 period following the GRI criteria. Secondly, we provide evidence about the value relevance of this practice for European firms.

Keywords: Europe, Firm valuation, Legislation, Sustainability reports.

1. INTRODUCTION

The investment in socially responsible companies has grown substantially in the last decade (KPMG, 2011). In this context, and under the influence of the economic policies defined by the European Commission (2011), as well as the policies and legislation of each European country, companies quoted on the stock market consider it advantageous to publish social responsibility reports, thus providing that information for investors. The scope of this study is relevant for European investors in as much as it provides pertinent information on how to manage their investments, taking into account the social responsibility practiced by the companies, even in times of economic recession.

The first studies in this area for the European markets as a whole, focused mainly on the environmental sector during the period preceding the financial crisis of 2008 (Hassel *et al.*, 2005; Cormier and Magnan 2007; Moneva and Cuellar, 2009). After this period, the only analysis were carried out by Carnevale and Mazzuca (2014), focusing on the banking sector, and by Kaspereit and Lopatta (2015), focusing on the quality of the social responsibility reports presented by large companies quoted on the European markets.

In this context, the aim of this study is to analyze whether the information about social responsibility, provided by the Global Reporting Initiative (GRI), influences the market value of companies quoted on the stock markets of Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, and the United Kingdom during the period from 2001 to 2013, taking into account the singularities of each market, as well as the impact of the international financial crisis.

The applied methodology is in accordance with previous literature where the base model considered is the Ohlson (1995) model. The regression equations are estimated by applying panel data, thus allowing an analysis of the capital appreciation of each asset individually.

The results are conclusive, showing that in all European markets, during the period under study, investors valued socially responsible companies that comply with the GRI. However, the analysis carried out for each of the individual stock markets studied, reveals that only the markets in Germany and the United Kingdom value positively the companies that publish sustainability reports that follow the GRI criteria, unlike the Swedish market that values them negatively. In the other markets, the share value of this class of firms is not influenced by the sustainability information.

However, 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 and are included in the GRI. Thus, we have proved that, during the period prior to 2008, the stock markets in Germany and Spain valued positively these companies. However, during the period of economic recession, from 2008 to 2013, the Italian market is the only one where GRI listed companies have their quotation valued positively, while the markets in the Netherlands and Sweden were significantly penalized.

This research contributes to the financial literature because it is one of the first studies to analyse each European stock market regarding the impact of social responsibility information published by companies, in compliance with the criteria of the GRI. We determine if this information is reflected in the share value in the period from 2001 to 2013, as well as in the periods of expansion and recession caused by the financial crisis of 2008.

The study is organized as follows. Section 2 presents a review of the literature. Section 3 we describe the evolution of sustainability reporting in Europe as well as the differences in terms of legislation among European countries. In section 4 we present an empirical analysis in order to investigate the influence of that sustainability information on the market value of the companies. Finally, in section 5 we present the conclusions of our study.

2. LITERATURE REVIEW

Over the past few years, the number of socially responsible companies has been increasing significantly throughout the world and in Europe, particularly in the last decade (KPMG, 2011). This fact is proven by organisations, such as the GRI, that assess and rate the firms according to their social responsibility performance. The publication of social responsibility reports represents an additional cost and effort for the companies since it is necessary to provide extra resources and, for this reason, not all companies adopt this measure. However, social responsibility can be a mandatory or voluntary requirement, depending on the country and the rules imposed by the government where the companies operate.

The only previous study that analyses the relevance of social responsibility information on the quoted stocks of a European market, using exclusively the information provided by the GRI, was done by Schadewitz and Niskala (2010). In this context, the authors 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, influences positively the value of the companies quoted on the stock market.

There are other studies that have used non-financial information made available by various entities, such as the work carried out by Kaspereit and Lopatta (2015), who have analysed the impact on the market value of socially responsible companies included in the Dow Jones Sustainability Index (DJSI), and in the GRI. The sample analysed by the authors is comprised of the 600 largest companies in accordance with the annual list published by the Sustainable Asset Management Group (SAM), during the period from 2001 to 2011. In addition to these criteria, the sample also included companies considered socially responsible based on additional information provided by the companies themselves. In this analysis, the authors applied the Feltham and Ohlson (1995) model for the period under study, and also for the periods before and after 2007, showing that they are

relevant to the market value. The companies included in the DJSI reveal a higher market value, but the same cannot be said about the companies included in the GRI.

The UK market has been analysed by Klerk *et al.* (2015) who studied the sixty nine largest quoted companies 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, thus rewarding those that showed a higher level of social responsibility.

Cardamone *et al.* (2012) analysed only 178 quoted companies that published sustainability reports, even though they had not been rated by any private rating agency, in the Italian market over the period of 2002 to 2008. They concluded that the relationship between financial information and sustainability is negative, showing that the investors did not value the non-financial information.

The banking sector in Europe has been analysed by Carnevale and Mazzuca (2014) in 14 countries with a total of 113 banks considered socially responsible, according to the social responsibility reports they provided. The study started in 2002 with 77 banks and finished in 2011 with 113 banks. The coefficient associated with the social responsibility variable is positive, and statistically significant, indicating that the stock market considerably values banks that publish sustainability reports. The authors conclude that the results are not determined by the size of the bank and, despite the fact that the economic crisis has had a negative effect on all banks, socially responsible or not, the European banks that published sustainability reports fared better during the crisis. The authors conclude that the relationship between the financial and the non-financial information is not consistent for Europe, and depends on the regulations of each country and its governance.

Worldwide, Lopatta and Kaspereit (2014) investigated companies from 26 countries encompassing all sectors of activity that are included in the MSCI World Index. The information about social responsibility was taken from the Global Ethical Services (GES) rating

agency for the period between 2003 and 2011. The results obtained show that before the financial crisis caused by Lehman Brothers in September 2008, the value of a company on the global market did not depend on it being socially responsible or not, whereas after this date the opposite is true. In a period of economic recession, investors tend to value companies that adopt a socially responsible management.

Berthelot *et al.* (2012) investigated 146 companies quoted on the Canadian stock market, 28 of which published sustainability reports in 2007 – the information was provided by the companies themselves. The base model applied was the Ohlson (1995) model where a dummy variable was created containing the sustainability information. The results obtained show that investors value companies that adopt socially responsible practices and, in turn, the companies benefited financially for adopting such practices.

The inclusion or exclusion of companies in the DJSI index in the United States and Canada was analysed for the period between 2007 and 2010 by Lourenço *et al.* (2012), and between 2008 and 2010 by Lourenço *et al.* (2014), in order to determine if it was relevant to their market value. The results indicate that the inclusion of a company in the DJSI index creates value for that company, causing an increase in its market value, meaning that the investors value companies that adopt socially responsible policies.

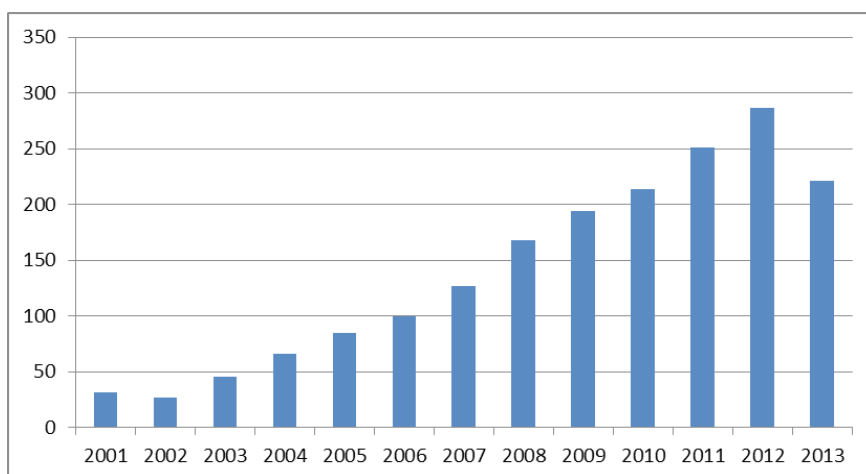
In this context, our study aims to examine whether the market value of quoted companies, in ten European countries, is influenced by the social responsibility information provided by the GRI, and also how that value is affected by the financial crisis. Furthermore, the same analysis is performed for each of the countries considered.

3. THE EVOLUTION OF SUSTAINABILITY REPORTS IN EUROPE

Recent years have been characterized by a substantial increase in the number of companies worldwide that started publishing sustainability reports. This trend has accelerated the need to provide credibility, and also to create legislation that supports the information provided.

As a result, 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 international firms that produce sustainability reports in accordance with its globally recognised criteria, which are used in the present study.

Figure 1: Evolution of the number of GRI companies from 2001 to 2013 in Europe



Source: *Global Reporting Initiative*

The number of companies that are socially responsible according to the above criteria has increased over the time period studied, as we can see in Figure 1. Among other factors, this may be due to legislation published by the European Union and the individual member states.

During the period under study, some relevant facts occurred that influenced the policies and the legislation in the European Union (EU) regarding social responsibility, namely 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 Corporate Social Responsibility (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.

Specifically, Spain sees the introduction of the mandatory presentation of environmental reports following the EU Recommendation in the Resolution 25 March 2002 (BOE, April 4 2002). In Denmark, the 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 subsequently issued the Action Plan for Corporate Social Responsibility (2008). In the wake of the economic crisis of 2008, the UK government introduced legislation that reinforced the previous UK Companies Act (2006) urging companies to publish sustainability reports. In 2013, the government introduced a further requirement, forcing companies to adopt social and environmental policies in order to reduce their climate impact, which should be included in the reports. In Sweden, in 2013, a new legal requirement was introduced, making it mandatory for companies to incorporate into their policies aspects such as respect for human rights, and the reduction of their climate impact.

4. HOW DO STOCK MARKETS VALUE THIS INFORMATION?

To analyse the extent to which stock markets place value on that social responsibility information, we applied the accounting model developed by Ohlson (1995). This model considers the financial information and introduces the concept of “other information”, which can be regarded as relevant to the increased value of a company. In our study, we considered the social responsibility information provided by the GRI.

Therefore, we considered in our model a binary variable that indicates whether a company is included in the GRI in each of the years of the period covered by our study. The model is given by:

$$M_{i,t} = \alpha_0 + \alpha_1 B_{i,t} + \alpha_2 E_{i,t} + \alpha_3 GRI_{i,t} + \varepsilon_{i,t}$$

(1)

where $M_{i,t}$ is the market value of company i in year t , $B_{i,t}$ is the book value of company i in year t , $E_{i,t}$ is the price earning of company i in year t , $GRI_{i,t}$ is a dummy variable, which assumes the value of 1 if the company i publishes its social responsibility report in accordance with the GRI criteria in year t , and zero otherwise; and finally, $\varepsilon_{i,t}$ is the error of company i in year t . We hope that the coefficient α_3 will be positive and statistically significant, thus indicating that investors value the fact that a company is included in the GRI index, and that the non-financial information affects positively the share value on the stock market.

The financial information, in particular the market value, price-to-book value, and earnings per share, were taken from the Thomson Reuters Datastream database. The market value and price-to-book value were considered on the last day of December of each year of the study period, while the earnings per share are an annualized value.

For the analysis of market appreciation we used the econometric method of panel data. This method is a combination of the time-series model and the cross-section model. The Hausman test is used to determine which model is the most adequate: fixed effects or random effects. The null hypothesis of the test is that there is exogeneity between the end of the individual effect and the model variables, meaning that the model is of the random effects type. The rejection of the hypothesis implies the adoption of the fixed effects model.

The multiple regression model previously proposed was tested for their suitability by the F test of significance, showing the corresponding p -value. The adjusted coefficient of determination R^2 was determined and represents the proportion of variability in the market value dependent variable that is explained by the regressive variables. This way, the closer R^2 is to the unit, the greater is the explanation of the dependent variable by the adjusted model.

The singularities of each country have been taken into account in this analysis. The characteristics of each European market, such as the

number of quoted companies, the legislation in force throughout the period under study, as well as the social and environmental policies adopted by each government – as mentioned by Jackson and Apostolakou (2010) – influence the market value of socially responsible companies.

The sample of our study, for the period between January 2001 and December 2013, includes 1,650 companies quoted on the stock markets of ten European countries: Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, and the United Kingdom, and it includes all sectors of activity, except the financial sector. We started the study in 2001 because that marks an increase in the number of socially responsible companies susceptible to analysis, whereas before that period the number of companies was limited in some countries.

More precisely, our study considers the companies quoted on the stock market for each of the ten countries mentioned above, excluding firms in the financial sector as they have a specific accounting system, which is different from other sectors of activity. This procedure was taken into account in previous literature (Moneva and Cuellar 2009). The observations that presented a negative book value were removed from the sample, in accordance with the Lourenço *et al.* (2012 and 2014) approach. To make sure that the regression results were not influenced by the sample outliers, we sorted the market value in ascending order and the companies of each country in the top and bottom 2.5% were removed. This procedure is in accordance with prior literature, where it is discussed and studied by Curto *et al.* (2011). The final sample comprises a total of 1,650 companies.

Table 1: Structure of the sample

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
Swden	51	26	50,9
United Kingdom	402	48	12,5

Table 1 shows the number of quoted companies in ten European countries, after the exclusion of the financial sector and the extraction of outliers, as well as the number of companies selected in accordance with the GRI criteria. The fourth column of the table displays the percentage of companies that have sustainability reports based on the quoted companies of each of the 10 stock markets, during the period from 2001 to 2013.

France, the United Kingdom and Germany are the major European stock markets, with 403, 402, and 363 companies respectively. Germany is the leader with 58 companies that publish social responsibility reports, representing 15.9% of the quoted companies on the market, followed by the United Kingdom with 48, and France with 44. However, it is the Nordic countries that have the largest percentage of companies that publish social responsibility reports, Sweden with 50.9 %, followed by Finland with 35.9%, and the Netherlands with 31.3 %. In the stock markets of Mediterranean Europe, Spain and Italy are the leaders with 33.3% and 24.1 %, respectively.

Table 2: Results of the Ohlson (1995) model with panel data in each European market in 2001-2013

	Denmark	Finland	France	Germany	Italy	Netherlan	Norway	Spain	Sweden	United Kingdom
Intercept	4.486 (0.21)	0.790 [*] (0.10)	15.388 ^{***} (0.00)	3.669 ^{***} (0.00)	2.411 ^{***} (0.00)	8.400 ^{***} (0.00)	2.890 ^{***} (0.01)	5.079 ^{***} (0.00)	3.813 ^{***} (0.00)	1.341 ^{***} (0.00)
Book value	1.107 ^{***} (0.00)	0.825 ^{***} (0.00)	0.421 ^{***} (0.00)	1.058 ^{***} (0.00)	0.847 ^{***} (0.00)	0.755 ^{***} (0.00)	0.611 ^{***} (0.00)	0.593 ^{***} (0.00)	0.593 ^{***} (0.00)	0.849 ^{***} (0.00)
Earnings	0.727 (0.21)	3.460 ^{***} (0.00)	1.821 ^{**} (0.00)	1.290 ^{***} (0.00)	2.261 ^{***} (0.00)	1.915 ^{***} (0.00)	1.655 ^{***} (0.00)	2.208 ^{***} (0.00)	3.390 ^{***} (0.00)	4.433 ^{***} (0.00)
GRI reports	-4.369 (0.29)	0.299 (0.46)	1.605 (0.37)	3.304 ^{***} (0.00)	0.840 (0.17)	0.773 (0.66)	-0.313 (0.73)	1.014 (0.26)	-2.276 ^{***} (0.00)	0.624 [*] (0.06)
Adjusted 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 ^{***} (0.00)	83.201 ^{***} (0.00)	46.239 ^{***} (0.00)	73.179 ^{***} (0.00)	39.894 ^{***} (0.00)	36.242 ^{***} (0.00)	23.264 ^{***} (0.00)	38.445 ^{***} (0.00)	63.060 ^{***} (0.00)	51.975 ^{***} (0.00)
Hausman test	0.000 (1.00)	0.000 (1.00)	137.644 ^{***} (0.00)	50.200 ^{***} (0.00)	56.503 ^{***} (0.00)	22.975 [*] (0.08)	0.000 (1.00)	0.000 (1.00)	0.000 (1.00)	32.387 ^{***} (0.00)
	Random	Random	Fixed	Fixed	Fixed	Fixed	Random	Random	Random	Fixed

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

The results of the regression model applied to each European market in the period from 2001 to 2013 are presented in Table 2. We observed that the coefficient estimator value associated with the GRI variable is positive and significant in the German and British markets, with a 1% and 10% significance level respectively. The results obtained are similar to those found by Cormier *et al.* (2007) for the environmental sector, using the non-financial information included in the reports provided by the companies in the German market, and by Klerk *et al.* (2015), when they studied the sixty nine largest companies in the United Kingdom in 2008. The only market that penalizes GRI listed companies is Sweden, which shows a negative value with a 1% significance level. The result obtained is in agreement with the environmental studies done by Hassel *et al.* (2005) in a study of 71 companies quoted on the market from 1998 to 2000, and by Semenova *et al.* (2010) in the period from 2005 to 2008. The rest of the markets do not have statistically significant values.

5. CONCLUSIONS

The aim of this study has been to present the evolution observed in Europe in terms of sustainability reporting over the last years as well as to analyse whether the European stock markets value that information published by the companies rated by the GRI, and whether this information is reflected in the share price, taking into account the peculiarities of each market.

The results show that the German and British stock markets value this class of information, while the Swedish market penalizes them. The present study is relevant because it is a pioneer study of its kind in Europe. Meanwhile, we have to follow this kind of research in order to provide additional evidence about differences among European countries and most especially in European stock markets. It will help us to construct a common legislation and provide stakeholders the same kind of information.

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