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Research paper

The value relevance of GRI reporting in European banks

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Abstract

Purpose: The aim of this study is to analyse whether sustainability reports published by listed banks following the Global Reporting Initiative (GRI) guidelines provide incremental value to investors on the ten major European stock markets taking into account the international financial crisis and the legislative differences that still exist in Europe.

Design / Methodology / Approach: We employ the Ohlson's valuation mode that is based on the premise that the market value of a firm is a function of its book value and its annual earnings, as well as other non-accounting information that may be considered relevant and increase the value of a company.

Findings: Our overall results show that the stock markets positively and significantly value this type of information. Moreover, our findings reveal that the financial crisis has not changed the preferences of investors for this type of information.

Originality / Value: Banks have an enormous impact on the economy, but also on society and, therefore, on different stakeholders. However, the value relevance for shareholders of sustainability disclosure has not been sufficiently researched. Previous studies analyse the social responsibility information published by financial institutions on their websites providing mixed results. By contrast, we take into account a set of standards which are widely applicable and reliable and provide conclusive results.

Keywords: Banks; sustainability reports; investor engagement; financial crisis.

1. Introduction

Banks play an essential role in the economy as financial intermediaries. As a result of this role, banks have an enormous impact on society and, therefore, on sustainable development understood as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Levine, 2004; Scholtens, 2006, 2009; Beck *et al*., 2010).

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Currently, banks are increasing their social responsibility practices, reinforcing their credibility and the trust their stakeholders have in them. Consequently, the concept of a socially responsible bank is increasingly common in the financial services industry. Nowadays, almost all banks publish sustainability reports, adopt the Equator Principles and the Global Compact, and include some type of environmental risk assessment in their loan policies, among other socially responsible practices. However, it must also be noted that the evolution of this sector in terms of social responsibility has been slow in comparison to that of other business sectors (Belu, 2009), especially when compared with the energy sector which was a pioneer in introducing social responsibility principles into its management. In this sense, the international financial crisis has played an important role in making the banking sector aware of the social and environmental impact of its activity (Coulson, 2009).

However, prior research on the role of banks in sustainable development is scarce. These limited studies have focused on assessing the efforts of financial institutions to promote sustainable development (Jeucken, 2001; Scholtens, 2009, 2011; Hu and Scholtens, 2014; Weber *et al*., 2014); analysing the relationship between social responsibility policies and the financial performance of banks (Wu and Shen, 2013; Shen *et al*., 2016); as well as studying the reaction of the stock markets to social and environmental disclosures (Carnevale *et al*., 2012; Carnevale and Mazzuca, 2014).

In these studies, information on social responsibility was hand-gathered from the sustainability reports prepared and disclosed by the banks themselves without considering any broadly applicable or reliable set of standards. However, this fact may hinder the comparison between companies because these companies generally follow their own formats when disclosing this type of information and, most importantly, may lead to the results from empirical studies possibly suffering from the so-called self-reporting bias, as outlined by Scholtens (2009).

In this sense, the Global Reporting Initiative (GRI) was founded in 1999 in order to provide information guidelines on how to present a clearer view of a company's social and environmental impact. For that reason, nowadays the GRI is the most widely used standard for sustainability reports throughout the world (Skouloudis *et al*., 2009; Tsang *et al*., 2009; Brown *et al*., 2009; Levy *et al*., 2010; Roca and Saercy, 2012; Marimon *et al*., 2012; Rodríguez-Gutiérrez, 2013). The GRI also produces supplements aimed at different business sectors, including one for financial service companies since they face specific sustainability problems. Specifically, as outlined by Alonso-Almeida *et al*. (2014), the presentation of GRI reports could help these institutions to build a new identity, defined by legitimate conduct and an improved image, one that distances them from the image given during the worst years of the global financial crisis.

The aim of this study is therefore to examine whether the disclosure of sustainability by the listed banks following the GRI guidelines provides relevant information and an incremental value to shareholders in the European stock markets of Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden and the United Kingdom during the 2001-2013 period, taking into account the international financial crisis and the legislative differences that still exist in Europe.

Specifically, in terms of the contribution of this research to the existing literature, we provide conclusive results for Europe on the valuation in the stock markets of sustainable information and disclosure in accordance with the GRI standards. This is important because the sustainability reporting has been continuously increasing in European banks over the sample period analysed. This practice is especially relevant for

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the commercial banks quoted on the stock markets. By providing sustainability information in an objective and reliable manner, these institutions may reduce the information asymmetries between managers and shareholders and, therefore, alleviate the uncertainty that shareholders may feel over the future profits of the institution in which they have invested (Healy and Palepu, 2001). However, in addition to shareholders, financial analysts and other stakeholders also generally request for harmonization, standardization and objective sustainability reports in order to make appropriate financial decisions.

Our overall results show that the stock markets positively and significantly value this type of information. We also provide evidence of the incremental value for investors of the GRI reports before and after the global financial crisis, showing that this crisis has not changed the preferences of these stakeholders for this type of information. However, the results obtained for all ten European markets analysed change when we carry out the analysis on the basis of legislative differences between them. It is only in the markets of continental Europe where a positive and significant valuation of GRI reports is obtained, while this valuation is negative for the Anglo-Saxon market and not significant in the Scandinavian markets.

These findings could have significant implications, not only for investors but also for all other stakeholders: employees, customers, market regulators and policymakers. We also believe that this study contributes to the literature on the role of investors in promoting social responsibility (Sjöström, 2008), as well as creating a theoretical foundation for the role of banks in sustainable development.

The remainder of the paper is organised as follow. In section 2 we present the existing empirical evidence on the disclosure of sustainable information by commercial banks. In section 3 we describe the methodology used in this study to analyse the value relevance of this type of information for investors. In section 4 we discuss the database employed. In section 5 we present the empirical results obtained. Finally, in section 6 we set out the conclusions drawn from the paper as a whole.

2. Literature review

Sustainability reports have received a great deal of attention from academics (Aguilera, *et al*., 2007; Skouloudis *et al*., 2009; Tsang *et al*., 2009; Brown *et al*., 2009; Levy *et al*., 2010; Roca and Saercy, 2012; Marimon *et al*., 2012; Alonso-Almeida *et al*., 2014; Kaspereit and Lopatta, 2016; Miralles-Quiros *et al*., 2017), but the analysis of the banking sector is still very limited.

As discussed in the introduction section, prior research in this area can be divided into three specific fields: i) papers analysing the evolution of sustainability information disclosure in order to assess the efforts of the financial institutions in promoting sustainable development; ii) papers analysing the relationship between social responsibility policies and the financial performance of banks; iii) papers analysing the valuation by stock markets of the sustainability information prepared and disclosed by listed banks.

Among the first set of papers are those by Jeucken (2001), Scholtens (2009), Hu and Scholtens (2014), Weber *et al*. (2014) and Alonso-Almeida *et al*. (2014). Specifically, Jeucken (2001) was the first to prepare a sustainability ranking for the main commercial banks in Germany, the United States, the Netherlands, Switzerland and the United Kingdom. Scholtens (2009) then expanded the study by providing a general framework

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for assessing the social responsibility practices of the large commercial banks in North America, Europe and Asia-Pacific.

Specifically, the results obtained by Scholtens (2009) for the years 2000 and 2005 indicate that the banks in Germany, France, the Netherlands and the United Kingdom have a higher score in terms of social responsibility, while the banks in Sweden obtain the lowest score out of all those analysed. Subsequent studies in this area include those by Scholtens (2011) on the insurance industry and Hu and Scholtens (2014) on the major commercial banks in developing countries.

In this area we should also highlight the works of Weber *et al.* (2014) and Alonso-Almeida *et al*. (2014). Both papers compare the financial sector with other business sectors in terms of social responsibility practices. Specifically, Weber *et al*. (2014) analyse the content of the sustainability reports prepared and disclosed by the banks analysed. In contrast, Alonso-Almeida *et al*. (2014) analyse the worldwide dissemination of the sustainability reports prepared by companies following the GRI guidelines. Both studies reveal that the performance of the financial sector in terms of social responsibility is relatively poor compared to other business sectors. However, they also argue that the contribution of the financial sector to sustainable development increased as a result of the international financial crisis, partly due to the great pressure from its external stakeholders.

Meanwhile, the aforementioned second field of research includes the studies of Wu and Shen (2013), Shen *et al.* (2016), Esteban-Sanchez *et al.* (2017) and Forcadell and Aracil (2017). Although they apply different econometric methodologies, these papers analyse whether social responsibility practices are associated with higher business profits. The results obtained in these studies reveal that socially responsible banks have a financial performance, in terms of the return on assets and return on equity, which is significantly better than that of the banks not considered socially responsible.

Finally, in the third research field are the studies focused on analysing the value relevance for investors of social and environmental reports prepared by the banks themselves. Carnevale *et al.* (2012) analysed the European listed banks in the Euro-12 zone during the period 2002-2008. The analysis of the entire sample does not provide evidence that investors attribute value relevance to social reporting. However, cross-country analysis shows that in some countries the social report positively affects the stock price while in others it negatively affects this. Moreover, Carnevale and Mazzuca (2014) analysed 14 countries with a total of 113 financial institutions during the period 2002-2011, including both commercial banks and credit unions. The authors concluded that, despite the economic crisis having a negative effect on all the banks, socially responsible or not, the European banks that published sustainability reports fared better during the crisis.

However, both papers analysed the social responsibility information published by the financial institutions on their websites. They therefore did not take into account a set of standards such as those provided by the GRI, which are widely applicable and reliable. We consider that the value of social responsibility practices and their disclosure in the banking sector have not been sufficiently researched and there is still room for new research.

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3. Methodology

In order to analyse whether investors value the information provided by the social responsibility of the listed commercial banks, we use the valuation model developed by Ohlson (1995, 2001). This model is based on the premise that the market value of a listed firm is a function of its book value and its annual earnings (i.e., accounting information), as well as other non-accounting information that may be considered relevant and increase the value of a company.

In this study we look at the information provided by the banks in their sustainability reports in accordance with the GRI principles, which are those most widely used for CSR reporting. We believe that companies adopting the GRI framework are more likely to have higher quality CSR reporting that could be a relevant value for shareholders. Therefore, the proposed model is given by the following equation:

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

where $MV_{i,t}$ is the market value of bank i in year t, $BV_{i,t}$ is the book value of bank i in year t, $E_{i,t}$ represents the earnings of bank i in year t, $GRI_{i,t}$ is a dummy variable that takes the value 1 if bank i publishes its sustainability report in accordance with the GRI principles in year t, and zero otherwise; and finally, $\varepsilon_{i,t}$ is the error term of bank i in year t. We expect the α_3 coefficient referring to the disclosure of GRI reports to be positive and significantly correlated with the market value of the listed banks, which would indicate that this information is relevant for shareholders.

We use a panel data methodology for our empirical research that consists of a combination of time series and cross-sectional data in a joint test and allows us to control individual unobservable heterogeneity (firm effect) as well as the endogenous nature of the explanatory variables. We therefore include all the banks listed in the ten major European stock markets during the years 2001-2013 in a single regression model. However, it must be noted that our sample period covers the global financial crisis that began in the United States in mid-2007 with the so-called 'sub-prime' mortgage crisis and continued a few months later with the bankruptcy of Lehman Brothers, one of the biggest banks in the United States. These events were the beginning of a period of recession in the developed countries with negative consequences for all economies, including sharp falls in the European securities markets in general and in the shares of the commercial banks in particular.

In this context, we believe it essential to analyse to what extent the economic context may influence the initial results obtained for the full sample. For that reason, we also carried out tests for two sub-periods: a first sub-period from 2001 to 2007, before the global financial crisis; and a second sub-period from 2008 to 2013, covering the economic recession.

Moreover, we also believe it important to highlight the legislative differences existing in Europe. As outlined by La Porta *et al.* (1999) and La Porta *et al*. (2000), differences in the legal systems affect economic institutions, their governance structures and, consequently, the profits of these institutions. We therefore believe it necessary to take into account that the countries with a legal system based on common law, such as the United Kingdom, tend to have more formal institutions and stronger mechanisms for

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applying the law. They also have more developed laws with regard to shareholder protection and government intervention in the market is rare. By contrast, countries such as Germany, France, Spain, Italy and the Netherlands have a legal system based on civil law which is characterised by a significant government involvement in corporate structures. Moreover, the market structures are not as active and robust as in countries with common law and the banks play a dominant role in corporate ownership. Meanwhile, the Scandinavian countries have their own legal system based on ancient Germanic law, with little or no influence from the common or civil law systems.

Aguilera *et al*. (2007) found that these institutional differences have an impact on disclosure practices. Specifically, they observed that companies in common law countries have a greater responsibility to their stakeholders and, therefore, will be more interested in informing them. By contrast, in civil law countries, with a concentrated ownership structure, the attention paid to the information demands of stakeholders is more limited.

However, Adelopo and Moure (2010), when looking at these distinctive characteristics, analysed the disclosure of sustainability information by the banks belonging to these three legal systems and found that although a positive and significant relationship between sustainable disclosure and bank profits is observed as a whole, the banks with their head offices in civil law countries are more likely to disclose sustainability information than the banks in common law or Scandinavian countries.

Thus, following these authors, we consider it highly relevant to analyse whether these legislative differences are also observed in relation to the value relevance in the stock markets of the sustainability reports of European commercial banks. The aforementioned analysis is therefore carried out for each of the three groups of countries based on the prevailing legislative system in each. In order to examine the differences before and after the crisis, this analysis is carried out not only for the entire sample period but also for the two sub-periods.

4. Database

The database employed in this study is comprised of two types of relevant information: the sustainability reports produced by the banks following GRI guidelines and the financial information of those banks listed in the ten stock markets considered in this study. We describe in this section these two types of information.

4.1. GRI sustainability reports

In recent years we have seen a substantial increase in the number of banks publishing sustainability reports. This trend has accelerated the need to add credibility to the information provided. GRI not only helps financial institutions to properly provide information on their social responsibility practices, but also helps those interested in the interpretation of this information.

Each year GRI prepares a list showing the organisations around the world publishing sustainability reports following it globally recognised criteria and these are used in this study. Based on this list we can observe that the number of socially responsible financial institutions in Europe in accordance with the aforementioned criteria has increased in recent years. This is due, among other reasons, to the European Union's recommendations and to the legislation of each member state. Here we should mention

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the reports from the European Commission (2001, 2002, 2011). Specifically, in its 2011 directive, the European Commission urged companies to integrate social, environmental and ethical concerns into their basic management strategy in order to maximise the creation of shared value for their owners or shareholders, for all other stakeholders and for society in general. To this we must also add the recommendations on preparing reports produced by the European Central Bank, which specify the sustainability practices of European banking (EBF, 2008).

In this work we analyse the sustainability reports prepared by the commercial banks listed on the stock markets of ten European countries - Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden and the United Kingdom during the period 2001-2013. All other European securities markets were excluded from the study due to the fact that the number of banks listed on them preparing sustainability reports following the GRI guidelines were non-existent in some of the years in the sample. It is also worth noting that, unlike Carnevale *et al.* (2012) and Carnevale and Mazzuca (2014), in this research we have only considered the listed commercial banks and not other financial institutions such as saving banks or credit unions since, these are not-for-profit institutions, it is presumed that they include social responsibility practices in their management, something which is not presumed for commercial banking.

Table 1: Sample structure

Markets	Listed banks	GRI	
		Number	Percentage
Denmark	3	1	33%
Finland	3	1	33%
France	9	3	33%
Germany	9	5	55%
Italy	18	3	16%
Netherlands	5	3	60%
Norway	3	1	33%
Spain	8	6	75%
Sweden	3	3	100%
United Kingdom	14	6	42%

This table shows the sample structure in each of the 10 European stock markets considered in the period from 2001 to 2013, the number of banks selected according to the GRI principles, as well as the percentage they represent in their respective markets. Source: Authors elaboration.

In Table 1 we present the structure of the sample in each of the ten European securities markets examined during the sample period. Specifically, we present the number of commercial banks listed in each market and, from among these, the number of commercial banks preparing sustainability reports following the GRI guidelines, as well as the percentage of the total set of listed commercial banks accounted for by this group.

As we can see from Table 1, the Italian market has the largest number of listed commercial banks. This is due to the Italian financial system consisting of a large number of small banks, unlike in the other countries where the financial systems are characterised by being concentrated into a small number of large institutions. We can also see that the markets of the United Kingdom, Spain and Germany have the highest number of socially responsible banks. Here we should also note the case of the Swedish market which only has three listed banks, all of which submit sustainability reports recognised by GRI.

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4.2. Financial information

The financial information needed to apply the Ohlson (1995, 2001) valuation model described in the methodological section, particularly the market value and book value of each institution at each year end, as well as its annual income, were taken from the Thomson Reuters Datastream database. In Table 2 we present the descriptive statistics (mean, maximum, minimum and standard deviation) of each variable for both the total sample and the sub-groups of the continental, Anglo-Saxon and Scandinavian institutions.

Table 2: Descriptive statistics

	Mean	Maximum	Minimum	Standard deviation
Total sample				
Market Value	18.34	236.65	0.26	25.49
Book Value	20.85	366.94	0.40	35.11
Earnings	13.23	441.97	0.00	35.23
Civil law				
Market Value	22.6	236.65	0.26	30.43
Book Value	28.16	366.94	0.40	49.39
Earnings	2,282	441.97	0.00	3.51
Common law				
Market Value	10.54	82.56	0.31	13.47
Book Value	6.17	60.26	0.69	8.37
Earnings	86.68	83.87	0.00	13.57
Scandinavian law				
Market Value	13.36	50.1	2.04	9.43
Book Value	15.07	110.61	2.28	15.85
Earnings	1.04	4.18	0.00	0.78

This table shows the descriptive statistics (mean, maximum, minimum and standard deviation) of the market value, book value and earnings per share variables for the total sample, as well as for each group of banks depending on the applicable legal system. Source: Authors elaboration.

It is important to note that, following Barth and Clinch (2009), in order to mitigate the scale effects present in the sample we use a specification of the Ohlson (1995, 2001) model based on the share price. For this reason, all the variables are divided by the number of shares of each company. Thus, in Table 2 we can see that for the total sample the mean share price of the companies is 18.34, the average book value per share is 20.85 and the average profit per share is 13.23. However, these figures differ for each group of banks. We can particularly highlight the descriptive statistics for the British banks, to which common law is applicable, which have a much higher average profit per share than all the other banks and whose mean market value (10.54) is much higher than their book value (6.17), unlike all the other banks in the sample.

5. Empirical results

We first present the results obtained from applying the Ohlson (1995, 2001) model to the valuation of the commercial banks listed in the ten European markets as a whole. The results presented in Table 3 are for the entire sample, as well as for the two sub-samples corresponding to the years 2001-2007 and 2008-2013 respectively.

It is important to outline that following Kaspereit and Lopatta (2016) we have employed the Generalised Method of Moments (GMM) to estimate the parameters. This is the

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most appropriate econometric panel data method as it prevents problems of unobservable endogeneity and heterogeneity. The overall significance of the model is tested using the F test. We also provide the Sargan test to test the validity of the instruments used in the GMM estimations, while the Arellano and Bond (1991) m_2 statistical tests demonstrate the absence of second order serial correlation in the model's residuals.

Table 3: Results for the ten European markets

	2001-2013	**2001-2007**	**2008-2013**
BV	0.486***	0.347***	0.540***
	(0.00)	(0.00)	(0.00)
E	0.026***	0.028	-0.014***
	(0.00)	(0.36)	(0.00)
GRI	1.154***	4.758***	3.853***
GRI	(0.00)	(0.00)	(0.00)
F-*Statistic*	218848.7***	3760.126***	93304.12***
(*p- value*)	(0.00)	(0.00)	(0.00)
Sargan Test	68.804	31.293**	71.234*
m_2	-0.016	0.822	-1.591
No. obsv.	703	303	398

This table shows the results of the Ohlson (1995, 2001) variation model in Europe during the period 2001-2013 and in the sub-periods 2001-2007 and 2008-2013. The explanatory variables are the book value and earnings per share, as well as a dummy variable that takes the value of 1 if the bank is included in the GRI list in the respective year, and zero otherwise. The overall significance of the model is tested using the F test. We also provide the Sargan test to test the validity of the instruments used in the GMM estimations, while the Arellano and Bond (1991) m_2 statistical tests demonstrate the absence of second order serial correlation in the model's residuals. Finally, we provide the number of observations for each regression analysis. ***, ** and * represent significance levels of 1%, 5% and 10% respectively. Source: Authors elaboration.

As we can see in Table 3, our results indicate, as we expected, that the book value per share and earnings per share coefficients are positively and significantly associated with share prices. Moreover, the GRI disclosure coefficient is positive and statistically significant. This indicates that the European markets as a whole value the socially responsible banks included in the list published by GRI during the period 2001-2013. These general results indicate that conducting commercial banks in accordance with ethical norms is value relevant for European shareholders.

These results also support those obtained by Carnevale and Mazzuca (2014) which, in contrast to those previously provided by Carnevale *et al.* (2012), corroborate that shareholders appreciate the information disclosed in sustainability reports by the European banks and that these disclosure practices have a positive effect on share prices.

These results are especially relevant for the managers of the banks analysed because they reveal that they have suitably communicated the sustainability information to the investment community. Here it should be noted that shareholders are critical stakeholders and may exert considerable influence over the sustainability strategy of the companies they own (Sjöström, 2008). For that reason, financial institutions must provide high quality information, but shareholders must also demand that this information be suitably disclosed. As a result, the credibility of this type of information and the confidence shareholders have in it are associated with an increase in the value of shares.

It must be taken into account that the Ohlson (1995, 2001) valuation model is based on a positive and significant correlation between the company's market value and its explanatory variables. However, this association could be different in periods of

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recession, such as the last one that began in the United States in mid-2007 and spread across the world in the following months, especially affecting European countries. For that reason, we divide the total sample into two sub-samples -from 2001 to 2007 and from 2008 to 2013- in order to provide evidence in two different economic states. As we can see in Table 3, sustainable information has a relevant value for shareholders in both sub-samples. These results therefore show that the crisis has not affected the value relevance of sustainability disclosure.

As we have also indicated in the methodology section, it is essential to take into account the legislative differences in this broad analysis of the European environment. For this reason, in Table 4 we present the results of the regression model applied to each group of banks depending on the legal system in each country -common law, civil law or Scandinavian law- for the period between 2001 and 2013. As we can see in Table 4, the coefficients associated with the book value and earnings per share are positive and significant for the three groups of banks. However, we can also see that the coefficient associated with the GRI variable is only positive and significant for banks in continental Europe, whereas this relationship is negative and significant for British and Scandinavian banks.

These results support those previously obtained by Adelopo and Moure (2010). As these authors point out, it is likely that banks in civil law countries have a greater incentive to disclose their social and environmental practices due to pressure from their different stakeholders, so this disclosure practice has a positive effect on stock prices. In particular, these countries have more advanced labour protection laws. Therefore, sustainability reports must include the social responsibility practices developed with regard to their employees. This distinctive characteristic may be a reason why the content of the sustainability reports is more relevant in this group of markets.

Table 4: Results by group of banks

	Civil law	**Common law**	**Scandinavian law**
BV	0.342***	0.791***	0.183***
	(0.00)	(0.00)	(0.00)
E	1.851***	0.042***	3.773***
	(0.00)	(0.00)	(0.00)
GRI	1.873***	-3.255***	-2.684***
GRI	(0.00)	(0.00)	(0.00)
F-*Statistic*	36650.2***	80.799***	60.063***
(*p- value*)	(0.00)	(0.00)	(0.00)
Sargan Test	44.501	77.448	74.360
m_2	-2.567	1.464	-3.744
Nº. obsv.	445	134	132

This table shows the results of the Ohlson (1995, 2001) variation model in countries with civil law, common law and Scandinavian law, respectively, during the period 2001-2013. The explanatory variables are the book value and earnings per share, as well as a dummy variable that takes the value of 1 if the bank is included in the GRI list in the respective year, and zero otherwise. The overall significance of the model is tested using the F test. We also provide the Sargan test to test the validity of the instruments used in the GMM estimations, while the Arellano and Bond (1991) m_2 statistical tests demonstrate the absence of second order serial correlation in the model's residuals. Finally, we provide the number of observations for each regression analysis. ***, ** and * represent significance levels of 1%, 5% and 10% respectively. Source: Authors elaboration.

Before drawing any general conclusions, in Table 5 we present the results of the regression model applied to each set of banks in the 2001-2007 and 2008-2013 sub-periods respectively, in order to provide evidence in two different economic states.

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As we can see from Table 5, for civil law banks the coefficient associated with the GRI variable is negative and significant for the first sub-period analysed, and positive and significant for the second sub-period between the years 2008-2013. These results indicate that there has been a change in the valuation by shareholders of sustainability information. More precisely, from 2008 the disclosure of sustainability has a positive and significant effect on stock prices.

This may be due to the measures adopted by European institutions such as the European Central Bank aimed at encouraging the banks to behave in a legitimate way, distance them from their image in the crisis years, and be accountable for the social and environmental impact of their activity.

Table 5: Results by group of banks and sub-periods

	Civil law		**Common law**		**Scandinavian law**	
	2001-2007	**2008-2013**	**2001-2007**	**2008-2013**	**2001-2007**	**2008-2013**
BV	0.298***	0.221***	-0.215	0.864***	0.349***	0.188***
	(0.00)	(0.00)	(0.14)	(0.00)	(0.00)	(0.00)
E	2.687***	2.624***	0.038**	0.002	9.504***	9.144***
	(0.00)	(0.00)	(0.03)	(0.83)	(0.00)	(0.00)
GRI	-4.598***	4.777***	-4.735	-1.874*	7.413	-0.502
GRI	(0.00)	(0.00)	(0.32)	(0.07)	(0.71)	(0.83)
F-*Statistic*	7010***	234880***	34.36***	4799***	8.690***	17.327***
(*p- value*)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Sargan Test	20.700	47.429	2.113	4.169	2.588	0.947
m_2	-1.883	-2.734	-0.092	-1.244	2.102	0.016
No. obsv.	190	254	58	75	60	72

This table shows the results of the Ohlson (1995, 2001) variation model in countries with civil law, common law and Scandinavian law, respectively, during the 2001-2007 and 2008-2013 sub-periods. The explanatory variables are the book value and earnings per share, as well as a dummy variable that takes the value of 1 if the bank is included in the GRI list in the respective year, and zero otherwise. The overall significance of the model is tested using the F test. We also provide the Sargan test to test the validity of the instruments used in the GMM estimations, while the Arellano and Bond (1991) m2 statistical tests demonstrate the absence of second order serial correlation in the model's residuals. Finally, we provide the number of observations for each regression analysis.
***, ** and * represent significance levels of 1%, 5% and 10% respectively. Source: Authors elaboration.

However, as we can see from Table 5, in the case of British banks the coefficient associated with the GRI variable is not significant for the years 2001-2007 and is negative and significant for the years 2008-2013. These results are surprising if we compare them with the studies carried out on non-financial companies, where a positive and significant effect of sustainability disclosure on stock prices is observed (De Klerk *et al*., 2015; Bowerman and Sharman, 2016).

For the Scandinavian banks, Table 5 shows that the disclosure of sustainability does not have a significant effect on stock prices in either of the two sub-periods analysed. One possible explanation for these results may be, as indicated by Tagesson *et al.* (2009), the gap that exists between private companies and state owned companies which have a greater tradition of transparency in terms of social responsibility information.

These findings demonstrate the need for the banking sector to continue progressing with its commitment to sustainability. In this regard, we agree with Steurer *at al.* (2012) that there should be join efforts by financial institutions, national governments and international organisations to commit to sustainability in order to gain in quality, visibility and credibility for the investment community.

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6. Conclusions

Our motivation for researching the banking industry in Europe and its relationship with social responsibility arises from the great importance of this sector in the economy and the need for its management to include ethical principles that ensure sustainable development in this region of the world. Moreover, it is especially relevant to analyse the commitment of commercial banks to sustainable development, rather than saving banks or credit unions for which, due to their founding characteristics, socially responsible issues are taken into account.

Nowadays a growing number of commercial banks consider it advantageous to publish sustainability reports, thus providing that information to their shareholders. Meanwhile, analysts and investors tend to request a widely applicable and reliable set of rules so that they can compare companies. The GRI principles are the standards most commonly used by companies to provide high quality social responsibility information that may be relevant for them.

The purpose of this study has been to analyse whether shareholders in the stock markets of Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden and the United Kingdom value the sustainability information published by the commercial banks following the GRI standards during the period 2001-2013.

The study is conclusive in terms of the disclosure of social responsibility reports by the banks, demonstrating that this is important information that must be made available to stakeholders and, in this particular case, to shareholders of the European banks. Our overall results indicate that non-financial information complements the information provided by accounting variables, which helps financial stakeholders to properly make their investment decisions. These results are also maintained in periods of both expansion and economic recession. The results only differ when we distinguish according to the applicable legislative system. In this case we see that the value relevance of disclosing sustainability is only positive and significant for banks in continental Europe, where civil law is applied, characterised by having more advanced employee protection laws.

These results have significant implications for managers, shareholders and policymakers. First, the banks must provide higher quality sustainability reports and make more of an effort to increase reporting on sustainability and the direct commitment to the investment community. Second, shareholders and other stakeholders must ask the banks to improve their sustainability and harmonisation performance when it comes to directing this information at the investment community. Finally, policymakers also play a relevant role in this area. In order to continue with the dissemination and harmonisation of CSR reporting in Europe, governments must make a joint effort to promote sustainability and the development of common and robust public policies that contribute to reducing the differences between them.

However, before concluding, we consider it essential to note that this research present some limitations related to the database employed that should be taken into consideration. The research sample is confined to 75 banks listed on various European markets. Therefore, it is recommended that future research in this field considers a broader sample of banks not only from Europe but also from other geographical areas such as North-America and Asia-Pacific. Moreover, future research should focus on addressing the value relevance for shareholders of the specific content of the

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sustainability reports prepared and disclosed by banks in order to explain some of the results reported in this study.

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