THE VALUE RELEVANCE OF THE ASSURANCE OF SUSTAINABILITY REPORTS: EVIDENCE FROM THE BANKING INDUSTRY

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Keywords: Assurance; Banking Industry; Market Valuation; Sustainability reporting..

ÁREA TEMÁTICA: B) VALORACIÓN Y FINANZAS

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Abstract

The aim of this article is to analyse whether financial stakeholders valued positively the sustainability information disclosed and verified by 135 banks listed on 22 stock markets during the period 2012-2017. The overall results reveal that sustainability reporting is a practice that does not provide additional value to financial stakeholders during the period analysed. However, when these banks secure the information they disclose, this practice has a significant impact on the value of these assets in the stock markets. These findings have important implications for the managers of these companies because these results legitimise the additional costs incurred when these banks seek external assurance for their sustainability reports to achieve greater stakeholder confidence. In addition, this research contributes to the paucity of literature on stakeholder reaction to sustainability reporting assurance and especially in socially sensitive sectors such as the financial industry.

1. Introduction

In recent decades, the number of sustainability reports prepared and published by firms to inform stakeholders of their environmental, social and corporate governance activities has increased significantly. This may be due to the pressure placed on firms by the different stakeholders to prepare and publish this type of information. Therefore, the issue today is not whether firms publish sustainability reports or not, but rather the approach they take to communicate sustainability. This approach can reflect a true commitment to report back to stakeholders or it can simply be a marketing tool to meet external demands, with the risk that the reported information will not reflect the actual situation (Adams and Frost, 2008).

This is why, despite the significant increase in published reports and the existence of globally recognised standards such as the guide provided by the Global Reporting Initiative (GRI)—which allow for the standardisation and subsequent comparison of sustainability information—, many stakeholders question the reliability—and therefore the credibility—of the information included in these reports (Owen *et al*., 2000; Dando and Swift, 2003; Movena *et al*., 2006; Michelon *et al*., 2015; Lock *et al*., 2016).

This issue is especially relevant in socially sensitive industries such as the banking industry, which has a great influence not only on financial wellbeing but also on the social footprint (Seguí-Mas *et al*., 2018). Consequently, stakeholders are extremely interested in their social activities. However, after the global financial crisis, this industry has been characterised by a loss of confidence due to a lack of transparency. More precisely, the banking industry has been accused of being responsible for the global financial crisis and its negative social consequences. Thus, these companies have found themselves in the situation of having to boost the confidence of their stakeholders in the credibility of the sustainability information prepared and disclosed by them.

In this context wherein sustainability information is questionable or lacks credibility, some of these companies—particularly in the banking industry—voluntarily began a process to verify sustainable information. They started sending these reports to undergo external quality assurance processes conducted by independent experts, auditors or consultants, who had to draft a statement giving their opinion. However, this verification service leads to additional costs for reporting sustainability information, which firms will only be willing to pay if they can see that this will turn a profit.

As Simnet (2012) stated, providing an external guarantee of the content and structure of sustainability reports should improve their significance, reliability and comparability. Therefore, it should build credibility and confidence among stakeholders about the quality of the information supplied, serving as a control for managers and thus reducing issues with uncertainty and asymmetric information.

The role of financial stakeholders (shareholders, analysts, professional portfolio managers and potential individual investors) is worth noting because they require a large amount of reliable and comparable information for them to make financial decisions. These market participants subject listed firms to pressures for greater information disclosure while demanding higher credibility of the published information. Therefore, they can use the assurance of sustainability information as indicators for future investment decisions. This in turn may have an impact on stock market prices if stakeholders positively value these disclosure practices by listed financial companies.

In this context, the aim of this study is to analyse whether financial stakeholders positively valued these communication activities by 135 banks listed on 22 stock markets during the 2012-2017 period. To this end, we employed the accounting-based valuation model used by Cormier and Magnam (2007), as well as Fazzini and Dal Maso (2016), among others, which is similar to the one developed by Ohlson (1995, 2001). The latter was based on the premise that the market value of equity is a function of financial accounting information, as well as other non-financial information that can be regarded as relevant by financial actors to the increased value of the company.

We consider that this research contributes to the paucity of literature on the value relevance of sustainability information provided by financial institutions, as most of the literature focuses on non-financial companies for the years before the global financial crisis. Furthermore, we consider it especially relevant to not only examine the value relevance of this kind of information for a sample period after the global financial crisis but also to examine the value relevance of the assurance of this information by external experts. This empirical research therefore provides us the opportunity to evaluate whether market participants take into account the additional communication efforts by these institutions in an attempt to increase their credibility and trust among their stakeholders.

The remainder of the paper is organised as follows. The second section includes the review of the literature on the value relevance of sustainability reports, as well as the assurance of sustainability information and the development of the hypotheses. In the third section, we present the methodology employed. Section four describes the database. In section five, we provide the empirical results obtained. Finally, in section six, we discuss the conclusions drawn from the research as a whole.

2. Literature review

2.1. The value relevance of sustainability reports

CSR disclosure has received a great deal of attention from the academia since the early findings of Ingram and Frazier (1980) and Wiseman (1982), among others. These initial investigations focused exclusively on whether companies published CSR information or not without considering the content and reliability of these reports. Thus, there were numerous published studies centred on analysing the motives for managers to disclose CSR information (Belkaoui and Karpik, 1989; Brown and Fraser, 2006; Kolk, 2008; Spence, 2009; Baumgartner, 2014) or the characteristics of companies that compile CSR reports (Secchi, 2006; Brammer and Pavelin, 2008; Haddock-Fraser and Fraser, 2008; Mio, 2010; Gamerschlag *et al*., 2011). These previous studies supported the view of managers that CSR disclosure contributes to increasing the credibility and trust in their companies. Moreover, previous empirical evidence showed that larger, more profitable and listed firms were the ones that began introducing the practice of preparing and disclosing information on their socially responsible activities into their corporate strategy.

More precisely, the practice of CSR disclosure is especially common among listed companies due to the pressure exerted by financial stakeholders that demand reliable and comparable information in order to help them make their investment decisions or prepare their investment advice. Theoretically, by disclosing this information, listed companies can reduce the information asymmetries between managers and financial stakeholders (Healy and Palepu, 2001), as well as their adverse selection costs (Diamond and Verrecchia, 1991; Kim and Verrecchia, 1994). Besides, financial analysts can reduce their forecasting errors because this information can attenuate the stakeholders' uncertainty about the firms' future economic benefits and their associated risks (Lang and Lundholm, 2000; Lang and Maffett, 2011). Thus, all these aspects have direct positive effects such as increasing the number of potential investors, raising more equity capital or attracting greater analyst coverage (Merton, 1987). Elliott *et al*. (2014) and Cahan *et al*. (2016) also argued that CSR disclosures can produce indirect effects. This information, for instance, can contribute to providing legitimacy to the company or mitigating negative impacts when the firm or others in the same industry reveal controversial activities. As a consequence, it can alter investors' perceptions of firm value. We can therefore expect a positive association between CSR disclosure and the market value of companies that provide such information.

However, previous empirical evidence in this field provides inconclusive results, and therefore, the value that market participants assign to this kind of information is not yet clear. By employing an accounting-based valuation model for companies listed on stock markets, there have been initial studies reporting a positive and significant relationship between CSR disclosure and firm value, such as those of Moneva and Cuellar (2009) for the Spanish stock market during the 1996-2004 period, Schadewitz and Niskala (2010) for the Finnish stock market during the 2002-2005 period and Berthelot *et al.* (2012) for the Canadian stock market in 2007. All these studies employed a similar methodology based on estimating a value relevance model that only considers accounting variables. After that, they also tested a second model in which a dummy variable that indicated whether the firm published a sustainability report or not was added. The comparison of these two estimates made it possible to test the premise developed by Ohlson (1995, 2001) that the accounting variables alone failed to explain firms' market value and additional non-financial information relevant for financial stakeholders was needed, such as sustainable information provided in CSR reports.

Meanwhile, other studies have concluded that there is a mixed or a non-significant relationship between the information provided in CSR reports and firm value, such as those of Cormier and Magnan (2007), Bowerman and Sharman (2016), and Kaspereit and Lopatta (2016). More precisely, Cormier and Magnan (2007) analysed the value relevance of environmental disclosure by firms listed on the Canadian, French and German markets. Their results revealed that this kind of information had a moderating impact on German firms' value while there was no significant impact for firms listed on the Canadian and French stock markets. Consequently, they suggested that national institutional contexts should be taken into account in these empirical research studies. More recently, Bowerman and Sharman (2016) analysed the UK and Japan markets in 2008 and found that Japanese investors did not significantly value CSR disclosure information while UK investors positively valued this information. Moreover, Kaspereit and Lopatta (2016) analysed a sample of large European firms during the 2001-2011 period. They showed that sustainability reporting was not significantly associated with a higher market valuation. However, they did not perform a cross-country comparison in order to take into account the reaction of each stock market to this information.

On the contrary, Miralles-Quirós *et al*. (2017) analysed not only the overall impact of CSR disclosure on the stock prices of ten European markets between 2001-2013 but also the effect on each market. Their results revealed for the entire sample that conducting businesses in accordance with sustainability standards was value relevant for financial stakeholders. However, when they provided the results for each market, they noticed the absence of homogeneity among them. More interestingly, they provided evidence before and after the global financial crisis. Their results revealed that before the global financial crisis, there was a significant and positive relationship between CSR disclosure practices and firm value for almost all markets. However, this relationship changed to being non-significant or negative after the global financial crisis. This evidence supports the belief that after the global financial crisis, financial stakeholders no longer trusted the CSR information provided by the companies themselves and nowadays, listed firms have to expend greater effort to increase the credibility and trust of such information. Their results are supported by more recent evidence such as that provided by Camodeca *et al*. (2018) for a sample of large listed European firms between December 2013 and June 2018, as well as Kolsi and Attayah (2018), who analysed firms listed on an emerging stock market such as the ADX during the 2010-2014 period and found that CSR disclosure had no impact on firm value.

However, we have to point out that financial institutions were excluded from these empirical investigations due to their special characteristics in comparison with non-financial firms. As Finger *et al*. (2018) and Miralles-Quirós *et al*. (2019a) point out, banks have different accounting requirements, reporting incentives and risk exposures. For these reasons, there are fewer studies about the value relevance of sustainability reports in the banking industry. Two of these works are by Carnevale *et al*. (2012) and Carnevale and Mazzuca (2014a, 2014b).

More precisely, the work of Carnevale *et al*. (2012) was the first one that analysed the specific case of the European banking industry during the 2002-2008 period. However, their results did not provide evidence that financial stakeholders that operate on stock markets attribute a significant value to CSR disclosure. Later, Carnevale and Mazzuca (2014a) analysed a sample of listed European banks during the 2002-2011 period and observed that the value relevance of sustainability reports varied across countries. Carnevale and Mazzuca (2014b) took things a step further, and analysed the value relevance of sustainability reports prepared by listed European banks in accordance with the GRI criteria during the 2005-2011 period. Their results indicated that there was no homogeneity across markets when they are grouped according to varieties of capitalism or the origin of their legal systems.

Nevertheless, these previous studies have two relevant limitations: i) they are exclusively centred on the analysis of European financial institutions; ii) their sample periods cover the period before the global financial crisis almost exclusively. Consequently, to our knowledge, there is no evidence on the value relevance of sustainability reports in the banking industry for a global setting and for an extensive period of time after the global financial crisis. Thus, this research covers this gap in the literature.

Finally, although previous empirical evidence for financial and non-financial firms provides inconclusive results, according to the aforementioned theoretical literature, CSR disclosure is expected to provide additional value-relevant information for market participants. Thus, we expect the existence of a positive correlation between CSR disclosure and firm market value. As a result, we formulate the following hypothesis:

H1. CSR disclosure is value-relevant information that enhances banks' market value.

2.2. The value relevance of the assurance of sustainability reports

Studying sustainability report assurance services responds to calls by Kolk and Perego (2010) and Cohen and Simnett (2015), among others, to examine not only the adoption of sustainability reporting, but also its quality and reliability. This is a prominent area of research, especially after the global financial crisis, which caused the loss of credibility and confidence in CSR information disclosed by the companies themselves (Seguí-Mas et al., 2018).

Most studies on the assurance of sustainability reports focus on analysing the factors that influence the decision to begin the process for the external verification of this information. Within this group of studies, we have to highlight those of Kolk and Perego (2010), Mock *et al*. (2013) and Seguí-Mas *et al*. (2018). More precisely, Kolk and Perego (2010) and Mock *et al*. (2013) examined whether country-level and firm-specific factors influenced the demand for assuring CSR reports. Both of them observed that a stakeholder orientation at the country level was the most relevant factor in explaining the decision to engage an external assurance service, although firm size and industry affiliation were also found to play a significant role. More precisely, Kolk and Perego (2010) concluded that companies belonging to the financial sector have a greater necessity for CSR reporting assurance. These arguments were corroborated by Seguí-Mas *et al*. (2018), who assessed assurance practices in the global financial services sector, as well as the factors associated with engaging an assurance service for their sustainability reports. They argued that stakeholders were extremely interested in the sustainable activities of this sector because of its size and the role it plays in the economy in general and other companies and individuals in particular. In addition, they considered this sector one of the most sensitive in terms of sustainability issues. In this context, their overall results indicated that these companies were more likely to adopt assurance than companies from other sectors. Moreover, they also observed that the adoption of assurance depended on company size and the use of the GRI Financial Services Sector Supplement.

Meanwhile, the works of Cho *et al*. (2014) and Fazzini and Dal Maso (2016) are also especially relevant because, to our knowledge, they are the only ones that analysed the impact of the assurance of sustainability information on stock prices. More precisely, Cho *et al*. (2014) examined which factors appeared to have led the US companies that did obtain assurance on their sustainability reports to do so, as well as whether this additional service was valued by financial stakeholders. Specifically, they analysed publicly traded US companies included in the 2010 Fortune 500 list, among which 217 had disclosed a standalone sustainability report that year and only 26 of them included an assurance statement. Their overall results indicated that the assurance statement was not a significant factor for the firms' market value. However, this should be taken with caution due to the fact that the sample period of this study was limited to a single year and the number of firms that adopted assurance was extremely limited. Meanwhile, they suggested that, in order to have a significant impact on the US stock market, greater effort from the assurance community to better identify the potential benefits of this service for market participants was necessary.

Later, Fazzini and Dal Maso (2016) investigated the importance of the voluntary environmental information disclosed by 48 listed Italian firms and the influence of the assurance of environmental policies during the 2008-2013 period. Additionally, this study also analysed how the disclosure of this environmental information and its assurance were reflected in the market value of the listed Italian firms. Their results indicated that the voluntary environmental disclosure represented an important explanatory factor for the firm's market value. However, they also observed that, although approximately half of the firms analysed engaged an assurance service during the sample period, there was no incremental benefit that resulted from the assurance practice. Consequently, they considered that their results corroborated the argument of Doidge *et al*. (2007), who considered that an improvement in the governance structures in countries with weak institutions was low due to poor credibility. However, as we mentioned before with regard to the work of Cho *et al*. (2014), these results should also be taken with caution because of the limitation of the sample employed. Moreover, we also consider that the argument provided in relation to the low legal enforcement of Italian firms is weak due to the fact that Cho *et al*. (2014) tested the impact of CSR assurance on stock market prices in a country with high legal enforcement and obtained non-significant results. More recently, we have the works of Reverte (2021) and Miralles-Quirós et al. (2021) that provide significant positive effects of some aspects of the assurance of sustainability reports for the firms listed on the Spanish stock market.

Finally, we consider that research on the value relevance of the assurance of sustainability reports is extremely limited and it is essential to provide additional evidence in order to obtain convincing and conclusive results. In this sense, we consider it essential to focus our attention on a specific industry such as the banking industry, for which the relevance of this practice is documented (Kolk and Perego, 2010; Mock *et al*., 2013; Seguí-Mas *et al*., 2018).

What's more, we have to highlight that the inconclusive results provided by previous empirical evidence in relation to the value relevance of sustainability reports could be due to the difficulty of market participants in understanding whether CSR disclosure is simply a masquerade or not. CSR disclosure is so widespread among listed firms.

However, it does not imply a true commitment to reporting back to stakeholders. It could just be a marketing tool to meet external social demands. In this context, the assurance of these reports by an external verification professional could be a valuable tool to address these concerns (Beets and Souther, 1999; Simnett *et al*., 2009; Holder-Webb *et al*., 2009). Consequently, it should provide market participants credibility and trust and they should therefore positively value this incremental information. Finally, we expect the existence of a positive correlation between the assurance practice and banks' market value. As a result, we formulate the following hypothesis:

H2. The assurance of sustainability reports is value-relevant information that enhances banks' market value.

3. Methodology

In stock market practice, it can be seen that the market value of all shares outstanding is a suitable indicator of the value of a company. This is why Ohlson (1995, 2001) developed a valuation model for stock market firms on the basis that the value of all the shares outstanding is a function of two types of information: i) financial information, reflected by the book value and income variables; ii) non-financial information relevant to the agents in the stock market.

This model has typically been used in research into the impact of CSR information on stock markets. Thus, following previous empirical evidence, we applied the model by Ohlson (1995, 2001) in this study to estimate whether CSR disclosure and assurance practices provide added value in an international banking industry setting.

Specifically, we tested the version employed by Cormier and Magnan (2007) and Fazzini and Dal Maso (2016), among others, which consisted in scaling the variables of the model by Ohlson (1995, 2001) using the book value of equity. This procedure mitigates any scale effects more effectively than other procedures while maintaining the financial significance of the variables being studied. This implies that the dependent variable is the market to book ratio. We considered that this ratio was the most appropriate for this type of study as—like sustainability information—it is a variable based not only on historical data but also on future expectations. Therefore, it is widely used by analysts. Moreover, we employed the market to book ratio at the end of the fiscal year. We followed Habib and Azim (2008) and Fazzini and Dal Maso (2016), who considered that post-year events could add noise to the regression results. Consequently, in order to test *Hypothesis 1*, we employed the following model:

$$MtB_{i,t} = \beta_0 + \beta_1 \; 1/Equity_{i,t} + \beta_2 \; Earnings_{i,t}/Equity_{i,t} + \beta_3 \; CSR \; disclosure_{i,t} + \varepsilon_{i,t}$$

where $MtB_{i,t}$ is market value divided by the book value of the equity of company *i* in year *t*, $1/Equity_{i,t}$ is the inverse ratio of the book value of the equity of company *i* in year *t*, $Earnings_{i,t}/Equity_{i,t}$ represents earnings divided by the book value of the equity of company *i* in year *t*, $CSR \; disclosure_{i,t}$ is a dummy variable that takes value 1 if company *i* publishes a sustainability report and 0 if otherwise in year *t* according to the information provided in the GRI website, which is widely employed by all kind of stakeholders. Based on the above, we expect the coefficient β_3 to be positive and significant. This would indicate that this information is positively valued by market participants.

Furthermore, in order to test Hypothesis 2, we employed the subsequent model:

$$MtB_{i,t} = \beta_0 + \beta_1 \; 1/Equity_{i,t} + \beta_2 \; Earnings_{i,t}/Equity_{i,t} + \beta_3 \; Assurance_{i,t} + \varepsilon_{i,t}$$

where $Assurance_{i,t}$ is a dummy variable that takes value 1 if company *i* verifies the sustainability information by sending it out for an external assurance process conducted by independent experts and 0 if otherwise in year *t*. Based on the above, we expect the coefficient β_3 to be positive and significant. This would indicate that this additional information is positively valued by market participants.

4. Database

The sample of this empirical research consists of 135 banks which were listed on 22 different stock markets during the 2012-2017 period. All these banks are members of the index created by DataStream for the banking industry in developed markets. The reasons for selecting this index for our empirical research are twofold. Firstly, being a member of this benchmark index could be equated with being a leading company in the industry. Consequently, it gives banks visibility among market participants as well as provides them with higher levels of liquidity in the stock markets where they are listed. Secondly, this index does not include banks listed on emerging or transition markets because, as Miralles-Quirós *et al*. (2019b) pointed out, these banks present different challenges and should be examined separately.

Table 1 presents the number of firms that are included in our sample divided by the stock markets where they are listed. Moreover, we present the percentages of banks that publish CSR reports as well as the percentage of them that assure such sustainability information. As we can see, the sample consists of 44 banks from the Asia-Pacific region that includes banks listed on the stocks markets of Australia, Hong Kong, Israel, Japan, Singapore and South Korea. In addition, the sample includes 49 banks from Europe—among which are banks from Austria, Belgium, France, Germany, Ireland, Italy, Netherlands, Portugal and Spain, which are part of the Eurozone, as well as banks from Denmark, Norway, Sweden, United Kingdom and Switzerland. Lastly, there are also 42 banks listed on the Canadian and US stock markets in our sample.

As we can see from the entire sample, only 60.25% of banks published a CSR report between 2012-2017 and only 38.8% presented an assurance of such CSR reports. This means that CSR disclosure is not yet a practice that is well entrenched. However, these percentages are not homogeneous across geographical areas. In some European countries, all their listed banks provided CSR reports for all the years of the sample period. Such was the case for Austria, France, Germany, Netherlands, Norway, Spain, Sweden and the UK. On the contrary, there were other countries such as Japan, Singapore and the US where the number of listed banks that published CSR reports was very limited. If we look at the level of assurance of the sustainability information, the percentages are even lower. Although the level of assurance is 62.2% for all the European banks included in the sample, the percentages for Asia-Pacific (36.0%) and North America (12.7%) are still quite low.

Moreover, in order to analyse the value relevance of these communication practices on the stock markets, we also collected additional information from the Thomson Reuters Eikon Database. More precisely, we collected the stock market and accounting variables described in the methodology section. These are the market to book ratio, the inverse of the book value of equity and the ratio earnings to equity. We used and presented these variables in US dollars in order to avoid possible distortion in the results due to currency differences.

As we can see in Table 2, the mean value of the market to book ratio is 1.037 with a standard deviation of 0.536. Meanwhile, the mean values of $1/Equity_{i,t}$ and $Earnings_{i,t}/Equity_{i,t}$ are 0.118 and 0.065, respectively, with standard deviations of 0.210 and 0.053, respectively. These statistics indicate that there are no outliers introducing noise in the empirical tests. Moreover, the correlation matrix also presents the usual correlation coefficients among these variables under study.

Table 1: Banks by country and percentage of CSR disclosure and assurance

Area	Country	Number of banks	% CSR disclosure	% Assurance
Asia-Pacific	Australia	6	77.8	66.7
	Hong Kong	4	100.0	50.0
	Israel	4	87.5	83.3
	Japan	22	29.5	11.4
	Singapore	3	33.3	5.6
	South Korea	5	83.3	76.7
Europe	Austria	2	100.0	83.3
	Belgium	2	50.0	16.7
	France	4	55.6	27.8
	Germany	2	100.0	100.0
	Ireland	3	100.0	83.3
	Italy	10	44.4	22.2
	Netherlands	1	71.7	38.3
	Portugal	1	100.0	100.0
	Spain	5	100.0	100.0
	Denmark	3	83.3	83.3
	Norway	1	100.0	96.7
	Sweden	3	100.0	88.9
	United Kingdom	6	83.38	36.1
	Switzerland	6	100.0	83.3
North America	Canada	8	91.7	31.3
	United States	34	27.0	8.3
Total Sample		**135**	**60.25**	**38.3**

This table presents the number of banks that are included in our sample divided by the stock markets where they are quoted. Moreover, this table presents the percentages of banks that disclose CSR reports over the sample period (2012-2017) as well as the percentage of them that assure that sustainable information.

Table 2: Summary statistics

	MtB	1/Equity	Earnings/Equity
Panel A: Descriptive statistics			
Mean	1.037	0.118	0.065
Max	3.560	1.969	0.399
Min	0.200	0.001	0.000
Std. Dev.	0.536	0.210	0.053
Panel B: Correlation matrix			
	MtB	1/Equity	Earnings/Equity
MtB	1.000		
1/Equity	0.178	1.000	
Earnings/Equity	0.476	0.054	1.000

This table shows the descriptive statistics (mean, maximum, minimum and standard deviation) and the correlation matrix of the financial variables employed in the empirical research: the market to book ratio, the inverse ratio of book value of equity and earnings divided by the book value of equity.

5. Empirical results

Table 3 shows the results obtained from testing the regression models proposed in the methodology section with the aim of analysing whether a significant positive impact on the market value of banks exists as a consequence of publishing sustainability reports and even assuring such non-financial information. The tests were carried out using fixed effect models, as indicated by the Haussman Test. The goodness of fit of the models is expressed by the adjusted R^2. In addition, we present the F test, which analyses the joint significance of the variables included in each model in each case.

Table 3: The value relevance of CSR disclosure and assurance

Intercept	0.754^{***} (18.42)	0.800^{***} (13.02)
1/Equity	0.590^{***} (3.89)	0.269^{**} (2.29)
Earnings/Equity	3.654^{***} (9.73)	1.595^{***} (5.28)
CSR disclosure	0.006 (0.132)	
Assurance		0.154^{*} (1.82)
Adjusted R^2	0.7288	0.8612
F value	16.310	29.014
p-value	(0.00)	(0.00)

This table shows the results of testing the accounting-based valuation model employed in this empirical research in a sample of 135 banks listed on 22 develop markets over the 2012-2017 period. The last rows include the adjusted R^2 and *F* test statistics. In brackets is the *p*-value, indicative of the significance of each coefficient and of the *F* test.
***, ** and * represent the 1%, 5% and 10% significance levels respectively.

As we can see in Table 3, the CSR disclosure variable is non-significant. This means that the information provided by banks in their sustainability reports is not value relevant for market participants. It may be due to the substantial increase of sustainability reports prepared and published by banks all over the world. As we indicated in the introduction section, nowadays, whether banks publish sustainability reports or not is not quite as relevant as the approach the banks use to communicate sustainability. Therefore, we also analysed whether market participants value the additional cost borne by banks when they voluntarily send out their sustainability reports to undergo an external verification process. We observe in Table 3 that the Assurance variable has a positive and significant influence on the market to book ratio of banks with a 90% significance level. As expected, this result reveals that market participants positively value the communication commitment of banks as endorsed by the assurance of their sustainability reports. This result also reveals that the assurance of sustainability information boosts the significance and reliability of such information, gaining credibility and confidence among financial stakeholders. Moreover, upon examining the financial variables included in the valuation model, we observe that they are positive and statistically significant as expected. Finally, we observe that the F test is statistically significant and the adjusted R^2 is higher than 80%, indicating that the model adequately adjusts the dependent variable.

Although our initial empirical results corroborate those previously obtained by Carnevale *et al.* (2012) for a sample of European banks during the 2002-2008 period, we also have to take into account the evidence reported by Carnevale and Mazzuca (2014a, 2014b), who indicated that the value relevance of sustainability reports varied across countries depending on the origin of the legal system of the country where the bank had its headquarters.

6. Conclusions

Publishing non-financial information has been a growing trend among listed firms in recent decades. This results in the need to add credibility to the information through verification by an independent professional. However, the practice of seeking external assurance of the reliability of sustainability information is not as well entrenched as it is for the processes involved in auditing financial information. Nowadays, the verification of non-financial information through external experts is a voluntary practice that leads to additional communication costs for companies. For this reason, this practice could be interpreted as a true commitment by the company to report back to its stakeholders. However, empirical research on how stakeholders value this voluntary process is scarce.

The aim of this research has been to contribute to the literature in this field. Also, we have centred on the banking industry, which has been the focus of stakeholders after the global financial crisis not only because of its great influence on financial wellbeing but also on the social footprint. The social activities of banks have been called into question of late by stakeholders. For all these reasons, we considered it particularly important to analyse whether the assurance of non-financial information was value relevant for financial stakeholders in this specific industry.

This article analysed whether the verification of sustainability reports influenced the market value of banks listed on several developed stock markets during the 2012-2017 period. The results obtained provide empirical evidence on the positive and significant influence of the verification of sustainability reports on the stock market value of banks. These findings hold true even when we divide the entire sample into different geographical regions or when taking into account the legislative differences among countries. Moreover, we observed that there were banks that published sustainability reports without including any external verification of the information provided. However, this disclosure practice was not significantly valued in the stock markets analysed. The overall results imply that providing an external guarantee of the information provided in sustainability reports boosts their significance and reliability in the stock markets. Therefore, we can affirm that the external assurance of sustainability reports builds credibility and confidence among financial stakeholders.

These results may be of interest not only for the managers of these financial institutions, because these results legitimise the additional costs incurred as part of banks' true commitment to report back to their stakeholders, but also for the different financial stakeholders (shareholders, analysts, professional portfolio managers and potential individual investors), other stakeholders of listed firms, and citizens involved in adopting social corporate responsibility and assurance measures. Finally, from an academic point of view, this article contributes to enriching the existing literature on the verification of sustainability information through an emerging line of research consisting in analysing the reaction of the different stakeholders to the verification of sustainability reports.

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