Sustainability disclosure in the European regulatory framework and financial analysts' accuracy

Abstract

Over the last few years, evidence has emerged of a positive interaction between sustainability and financial performance. The usefulness of sustainability disclosure mechanisms is a matter of controversy, however, due to their diversity and lack of comparability. These reasons motivated the enforcement of directive 2014/95/UE on sustainability disclosure. European countries therefore adjusted their local legal frameworks to this new regulation, which would enhance sustainability disclosure mechanisms and integration among stakeholders. Financial analysts, as requesters of sustainability reports, should produce more accurate forecasts as a result of these improvements.The aim of this study is to analyse whether the adoption of the directive has contributed to more truthful reporting to financial analysts in terms of risks and performance. The results show that EPS forecast accuracy has increased due to higher levels both of disclosure and reporting quality.

Keywords: Financial analysts, sustainability, disclosure, directive.

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1.- INTRODUCTION

Over the last few years, corporate sustainability has emerged as a new paradigm for value-creation (Bansan & Song, 2017). This has resulted in new non-financial information disclosure requirements (COM 2011), particularly on social and environmental sustainability issues, with a view to identifying sustainability risks and increasing investor and consumer trust (RES 2013). Sustainability disclosure enables the measuring, monitoring and managing of the performance of long-term organizational undertakings and their impact on society (RES 2013, p.I). These reasons have motivated the reform of the previous regulation on financial statements, under which non-financial disclosure requirements were low, particularly, with respect to sustainability (Directive 2013/34/UE). With this aim in mind, the European Parliament called on the Commission to bring forward a legislative proposal on sustainability disclosure by organizational undertakings, which would allow more flexibility of action, in order to accommodate the multidimensional nature of corporate sustainability (Directive 2014/95/UE, note 3). The result of this action was the enforcement of directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending directive 2013/34/EU as regards sustainability disclosure and diversity information by certain large undertakings and groups. Investors and other stakeholders demand access to non-financial information on sustainability issues (Directive 2014/95/EU, note 12).Financial markets are therefore placing growing demands on businesses to commit to sustainable practices, which have actually been shown to improve financial performance (Cowton & Sandber, 2012; Gallego-Alvarez et al., 2018) and enhance corporate legitimacy (Criado et al, 2007, p.246). Companies are thus required to develop specific sustainability disclosure mechanisms for reporting their business practices to their stakeholders.

Among the main users of information, including sustainability reports, are financial analysts, who use the information to prepare their forecasts and provide markets with recommendations and company coverage (Luo et al, 2015). Despite the increasing availability of information, its poor quality makes it hard for financial analysts to make accurate company assessments. The new directive is aimed at promoting sustainability disclosure, increasing reporting quality, and obtaining a more reliable picture of organizational politics, results and risks. The enforcement of this directive should improve analyst forecast accuracy, particularly because of the above-mentioned advantages relating to sustainability disclosure. The impact of sustainability disclosure on financial analysts' forecast accuracy has been studied by various authors, such as Dhaliwal et al. (2012), Pascual et al. (2016), Muslu et al (2017) and Bernardi & Stark (2018b). However, these studies are based on findings for countries such as South Africa, China, Denmark, Malaysia, Brazil, Hong Kong, and India, where mandatory regulatory action, including laws, acts and regulations, has been taken. Directive 2014/95/EU is a different type of regulatory instrument with its own singularities. In general terms, a directive is "a legislative act that sets out a goal that all European member countries must achieve. However, it is up to the individual countries to devise their own laws on how to reach these goals" (European Commission, 2019). In the specific case of Directive 2014/95/EU, the European member states had a two-year transposition period to reach

the regulatory goal, which was to promote higher levels of comparability, flexibility and transparency to meet the informational needs of investors and other stakeholders on sustainability issues. This gives the directive a singularity and flexibility which place it somewhere between a soft-law regulation and a mandatory instrument. Despite the singularity of the directive 2014/95/EU as a regulatory instrument, its impact on analyst forecasts has not been evaluated in the European context since the end of the directive 2014/95/EU transposition period in 2017.

The aim of this study, therefore, is to analyse whether the adoption of this directive has contributed to promote more truthful reporting to financial analysts in terms of risks and performance, through higher levels of sustainability disclosure and better quality reporting. Such developments should simplify the company assessment process, and thus contribute towards higher analyst forecast accuracy. Our study will show whether the directive has resulted in better reporting quality than under the previous regime. We address this objective, by analysing a sample of European listed companies operating in countries subject to the directive, using earnings per share (EPS) forecasts as a proxy for improvement in the information provided to financial markets, over a period running from 2008 to 2017. This choice of study period enables us to test the effectiveness of this regulatory instrument over time, and to discover that the information provided to financial markets, as measured by the EPS forecast accuracy, has increased in quality as a result of the directive. This study contributes to the existing literature in various ways. Firstly, it reveals that the enforcement of this directive enables a more accurate assessment of sustainability disclosure levels and increases the reliability of analysts' forecasts. Thus, the directive is shown to be a flexible instrument with the capacity to bring about progressive change in financial analysts' corporate sustainability assessments. The gap between academics and practitioners is also addressed by examining a specific field in the implementation of sustainability disclosure. In this respect, this study confirms the development of sustainable reporting standards as a valid instrument for improving the information provided to the financial markets. Finally, implications can also be drawn for regulators and law makers. The enforcement of a directive as a flexible regulatory mechanism significantly contributes to improving the quality of sustainability reporting by European companies. This mechanism presents some advantages over laws, acts and other mandatory regulatory actions that might be explored by regulators in other contexts.

The remainder of this paper is structured as follows. The following section provides a review of the literature and presents our working hypotheses. Section three introduces the data, study variables, and research design for testing the proposed hypotheses. Section four presents the main findings, which are discussed in section five, and our final section provides some conclusions.

2.- LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Several papers have evidenced a positive interaction between sustainability practices and economic performance (Margolis & Walsh, 2001; Orlitzky, Schmidt, & Rynes, 2003;

Nieto & Fernández, 2004; Van Beurden & Gössling, 2008). This has awakened the interest of financial agents, who are increasing their demands for access to corporate information that will reveal the level of sustainability achieved by an organization. This demand can only be satisfied through transparency mechanisms such as sustainability disclosure (López-Arceiz et al, 2018). Bushman, Piotroski, & Smith (2004) and Gandía (2008) associate this term with the provision of accessible, complete and reliable information about sustainable (economic, governance, social and environmental) practices.

Sustainability disclosure has thus emerged as an innovation to combat the criticisms and overcome the alleged limitations of corporate reports and render them more meaningful to users (Dumay et al., 2016; Abhayawansa et al, 2019, p.1615). As sophisticated users of corporate information, financial analysts employ specialized financial software and databases such as Reuters and Bloomberg, among others, to collect information about firms (Rowbottom & Lymer, 2009; Saleh & Roberts, 2017, p.60), which they use in their expert analysis of companies operating in financial markets. After obtaining and assessing financial and non-financial information about an organization, they make predictions about its future evolution (Nichols 1989; Schipper 1991; Bercel 1994; Walther 1997) which are then disclosed to financial markets as recommendations for buying, holding or selling shares and other financial instruments, and constitute a key factor in investors' decision-making processes (Asquith et al., 2005; Barron et al., 2002; Palmon & Yezegel, 2012). Thus, analysts play a mediating role between organizations and investors, whose main source of assessment information is the financial and non-financial information provided by the entities.

Traditionally, financial analysts have assessed only financial reporting, tending to be wary of investments not aimed purely at profit maximization (Statman & Glushkov, 2009, p.34; Barnea& Rubin 2006, 2010). In recent years, however, they have begun to assess non-financial information relating to business organizations' (environmental, social and governance) sustainability performances. Thus, there is recognition of the need for them to consider both types of information, in order to provide more accurate recommendations about companies that achieve a high level of corporate sustainability due to fuller disclosure. Directive 2014/95/EU has driven key reforms in terms of sustainability disclosure within the European context. It targets large undertakings which are public-interest entities exceeding on their balance sheet dates the criterion of the average number of 500 employees during the financial year. According to this regulation, these entities shall include in the management report a non-financial statement containing information to the extent necessary for an understanding of the undertaking's development, performance, position and impact of its activity, relating to, as a minimum, environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters. Moreover, as required by the directive, the Commission has published guidelines to help companies disclose relevant non-financial information (COM 2017/4234).

Previous studies have focused on the capacity of the new regulation to improve sustainability disclosure levels. Loprevite et al (2018), for instance, compare the

European case with respect to the volume of information disclosed before and after the regulatory reform, while ignoring the quality and its effects. Their conclusions show that the new regime has positive mid-term and irrelevant short-term effects on sustainability disclosure levels. Aureli et al (2018) analyse the transposition of Directive 2014/95/EU in the United Kingdom, France and Italy from a normative viewpoint, finding minimal uniformity of regimes and significant cross-country differences in sustainability disclosure practices. These studies offer a common conclusion; namely, improvement in terms of sustainability disclosure as a result of the enforcement of the directive. However, the quantity and quality of its impact on financial analysts' forecast accuracy has not yet been analysed in this specific context. Our study addresses this gap in this research in terms of the limitations detected by Flores et al (2019).This regulatory instrument could have positive consequences for financial analysts' activity, particularly because of its flexibility.

Regulatory initiatives aimed in this direction have been introduced in other areas of the world, such as South Africa, China, Denmark, Malaysia, Brazil, Hong Kong, and India (Ioannou & Serafeim, 2017). However, they are based on mandatory regulatory instruments offering no measure of flexibility. There is controversy as to the impact of these new regulations on financial analysts' accuracy in the areas mentioned. In South Africa, for instance, where reform of the local Corporate Governance Code has introduced sustainability disclosure as a necessary condition for market participation, Zhou, Simnett& Green (2017) find evidence of a negative association between sustainability disclosure and dispersion in earnings per share (EPS) forecasts, suggesting that this type of non-financial information is useful to financial analysts when assessing company performance. Similar results were obtained in this same context by Bernardi & Stark (2018b), Zhou et al (2017) and Lee & Yeo (2016), which might suggest sustainability disclosure through mandatory regulatory mechanisms as the better option. This same conclusion has been reached by Luque (2018) who evidence that the introduction of a mandatory regime in Denmark increased the number of reports and the quality of sustainable disclosure. However, other authors identify that mandatory regulatory instruments is of little help to financial analysts, since compulsory reports do not provide the degree of detail or use the type of format they require (Abhayawansa et al, 2019). Consequently, this type of regulation was not suitable to adequately report in terms of quantity and quality about sustainability aspects in those countries that adopted mandatory regimes prior to the directive. Mandatory sustainability disclosure, therefore, appears to be a double-edged sword, in the sense that it promotes sustainability disclosure, but limits the information provided to stakeholders, financial analysts included. In the EU, this limitation is overcome by using the directive as a progressive regulatory instrument with two-step compliance. Member countries first adopt the content of the directive and then transpose its content into national laws, thus enabling minimum harmonization and allowing sustainability disclosure to develop simultaneously but at different rates across all member states. This instrument, moreover, is a reference for other countries within the EU borders trying to orient their local regulations towards the content of the directive. Such flexibility would improve not only the quality of

sustainability reporting but also the information disclosed to financial markets and the level of analyst forecast accuracy. To test this assertion, we propose the following working hypotheses,

> H_1: The information provided to financial markets following enforcement of the directive improves significantly thanks to higher levels of sustainability disclosure.
>
> H_2: The information provided to financial markets following enforcement of the directive improves significantly as a result of better-quality sustainability reporting.

The non-rejection of H_1 would indicate that the minimum content imposed by the directive is enough to improve the information provided to financial markets, as measured by the accuracy of EPS forecasts. Therefore, there would be no difference between this and traditional regulatory instruments based on laws and acts. Both would improve sustainability disclosure levels, thus enabling a full view of companies and their results. The non-rejection of H_2, meanwhile, would reveal that the directive has also contributed to improving the quality of sustainability disclosure. The rejection of both hypotheses, on the other hand, would reveal that this regulatory instrument had failed to increase the information provided to financial markets. Should this be the case, the European authorities would need to promote other regulatory mechanisms, because minimum regulatory content would not be satisfying the information requirements of the financial markets and, more particularly, those of financial analysts. Figure 1 shows the proposed theoretical model.

INSERT FIGURE 1

3.-EMPIRICAL ANALYSIS

3.1.-Sample

Our particular analysis focuses on an international sample of firms currently or previously listed on the stock exchange indexes of fifteen European countries (Austria, Belgium, Denmark, Finland, France, Germany, Italy, Luxemburg, Netherland, Norway, Portugal, the UK, Spain, Sweden and Switzerland[1]) all of which have adopted sustainability disclosure initiatives (Directives 2014/95/EU and 2013/34/EU for the EU countries and the Responsible Business Initiative for Switzerland). Our sample companies are all subject to this regulation due to their size as defined by the number of employees.

[1] Bueno (2018) highlights that Switzerland's standards incorporate the content of the European Directive despite non-membership of the European Union.

The data for our analysis includes financial analysts' earnings per share (EPS) forecasts from 2008 to 2017, which enables us to span the period of adoption of the directive, and thus consider both the transposition period and the enforcement of the directive in each country. The analyst activity data were retrieved from the database FACTSET[2].

Thus, the final sample is made up of 434 companies, 241 of which are classified as low-sustainability companies. The total number of observations is 4,710. Table 1 reports the number of firms and observations per country.

INSERT TABLE 1

3.2.- Main variables

3.2.1. Dependent variables

EPS forecasting accuracy, as a measure of financial analyst performance, is constructed from analyst consensus (median) EPS forecasts and annual EPS data, drawn, as already stated, from the FACTSET database. Mansi et al. (2011) define EPS forecasting accuracy as the negative absolute value of EPS forecasting errors calculated as the difference between actual EPS for fiscal year y and firm i, minus the median[3]consensus forecast for fiscal year y and firm i, scaled by the absolute value of the EPS consensus forecast. A coefficient of the analyst accuracy (ACC) index close to 0 indicates higher accuracy; the greater its difference from 0, the further it deviates from the consensus. The specification of this variable is given by expression [1].

$$\mathrm{ACCi,t,y} = -1 * \mathrm{abs}\left(\frac{\mathrm{ActualEPSi,y-EPSi,t,y}}{\mathrm{Abs(EPS_{i,t,y})}}\right) \qquad [1]$$

We also consider incremental analyst accuracy *(*$\Delta\mathrm{ACC_{i,t}}$), defined as in [2],

$$\Delta\mathrm{ACC_{i,t}} = \frac{\mathrm{ACC_{i,t}-ACC_{i,t-1}}}{\mathrm{ACC_{i,t-1}}} \qquad [2]$$

This variable allows us to monitor the increase in analyst accuracy due to the increase in sustainability disclosure brought about through implementation of the directive.

3.2.2. Independent variables

Carini et al (2018, p. 9) identify Directive 2014/95/EU as the starting point in the development of sustainability disclosure and describe its structure. We measure the enforcement of this ruling as a categorical variable (Dir_{14}) denoting progress in the implementation of the directive, where a value of 0 indicates the pre-directive period (2008-2013), 1 indicates the transposition period (2014-2016) and 2 indicates the end of the transposition period (2017).This variable provides the basis for testing Hypothesis 1 (H_1).

[2]The reason for this choice of database is that it provides fuller coverage in Europe than the I/B/E/S, as noted by Balboa, et al. (2008).
[3]To reduce the EPS skewness effect, we consider median rather than mean consensus.

Hypothesis 2 (H_2) states that the directive improves the quality of sustainability reporting. We test this assertion by splitting the firm sample into high and low sustainability reporters (Eccles et al., 2014; Nicolăescu et al., 2015; Leleux & Van Der Kaaij, 2019). Low sustainability reporters are firms where the quality of sustainability reporting was poor prior to the directive and high ones are those where it was already good. The data for this variable are from the RobecoSAM Sustainability Yearbook. According to the methodological document, released by RobecoSAM, this classification provides "an evaluation of the quality of a company's reporting on environmental, social and governance issues" (RobecoSAM, 2019, p.7). Consequently, the dummy variable (*RQ*) takes the value 1 for the group of low sustainability reporters and 0 otherwise.

Finally, in order to make our analysis more robust, we have also taken into account the implementation of GRI standards. This sustainability framework, being one of the key references on sustainability disclosure (Luque, 2018) is specifically mentioned by directive 2014/95/EU. We control for its effect by considering a dummy variable (*GRI)*, which takes the value 1 if the company's sustainability reporting in the pre-directive period did not comply with the GRI and 0, otherwise. The data for this variable was drawn from the Thomson Reuters ESG Scores database). We then classify the countries into three groups based on their transposition scores which appear in the report "Member State Implementation of Directive 2014/95/EU" (CSR Europe and GRI, 2017). This study uses nine transposition performance indicators[4] which enable us to divide the member states into three groups. Those in the first group have gone beyond the directive's requirements; those in the second have achieved full transposition; and those in the third only partial transposition. This enables the creation of a categorical variable (*Env*) that takes the value 0 for countries that have performed beyond requirements (Denmark, Germany, Italy, Sweden, Austria), 1 for those that have performed strictly to requirements (Belgium, Finland, Luxembourg and Portugal) and 2 for those that have failed to transpose the original content of the directive (Spain, the United Kingdom, Netherlands, Norway and France). We include Switzerland in this last group.

3.2.3. Control variables

Since we also need to control for other, firm-level, characteristics potentially affecting analyst forecasting accuracy, all our model estimates include firm size (*Size*) as the natural logarithm of total assets at the end of the previous year. *Lossebit* is a dummy variable that takes the value 1 for firms with negative earnings and 0 otherwise. We also include asset tangibility (*Tang*), computed as the ratio of tangible assets to total assets; leverage (*Lev*), computed as the ratio of long-term liabilities to total liabilities; and *Sales_Growth,* estimated as sales in period t minus sales in period t-1, divided by sales in period t-1. To control for financial analyst factors, we also include $Follow_{t-1}$and $Sigma_{t-1}$, to represent the number of forecasts used to compute the consensus and dispersion of the forecasts forming the consensus, respectively. We take into account the quality of account reporting

[4] These nine indicators are: a) Definition of a large undertaking, b) Definition of a public interest entity, c) Report topics and content, d) Reporting framework, e) Disclosure format, f) Auditor's involvement, g) Noncompliance penalties, h) Safe harbour principle and i) Diversity reporting required.

(Piot and Missonier-Piera, 2007; Kim et al., 2013), by estimating *Big4*, a variable which takes the value 1 if the company is audited by one of the big four auditing firms and 0 otherwise[5]. The required data were drawn from the OSIRIS BvD database. Finally, we include the dummy variable *Constituent*, which takes the value 1 if the company was part of a constituent index in a specific year and 0, otherwise. The data for this variable were obtained from the Thomson Reuters (Datastream) database.

3.3.- Research Design

To detect a possible increase in EPS forecast accuracy after enforcement of the directive, we perform an analysis based on panel regressions specification, where the dependent variable is analyst accuracy for firm i, in industry j, and country k, at period t. The following are the specifications [3-6] for our set of hypotheses:

H1:

$$ACC_{ijkt} = \alpha + \beta_1 Dir_{14} + \sum_{r=1}^{s} \beta_{r+1} Ctvar_{rijkt-1} + \delta_{kt} + \varphi_{jt} + \gamma_{kj} + \varepsilon_{ijkt} \quad [3]$$

H2:

$$ACC_{ijkt} = \alpha + \beta_1 Dir_{14} + \beta_2 Dir_{14} * RQ + \sum_{r=1}^{s} \beta_{r+1} Ctvar_{rijkt-1} + \delta_{kt} + \varphi_{jt} + \gamma_{kj} + \varepsilon_{ijkt} \quad [4]$$

Robustness:

$$ACC_{ijkt} = \alpha + \beta_1 Dir_{14} + \beta_2 Dir_{14} * RQ + \beta_3 Dir_{14} * RQ * GRI + \sum_{r=3}^{s} \beta_{r+1} Ctvar_{rijkt-1} + \delta_{kt} + \varphi_{jt} + \gamma_{kj} + \varepsilon_{ijkt} \quad [5]$$

$$ACC_{ijkt} = \alpha + \beta_1 Dir_{14} + \beta_2 Dir_{14} * Env * RQ + \beta_3 Dir_{14} * Env * GRI + \sum_{r=3}^{s} \beta_{r+1} Ctvar_{rijkt-1} + \delta_{kt} + \varphi_{jt} + \gamma_{kj} + \varepsilon_{ijkt} \quad [6]$$

where Dir_{14} is a variable that takes a value of 0 for the pre-directive period (2008-2013), 1 for the transposition period (2014-2016) and 2 for the end of the transposition period (2017).; *RQ* indicates the level of sustainability reporting quality, and the term *GRI* represents the Global Reporting Initiative sustainability framework. The variable *Env,* which measures transposition performance, has three categories based on the stage reached in the transposition process. The moderating effect on accuracy is given by the interaction of the different variables with Dir_{14}. All estimates include k control variables ($Ctvar_{rijkt-1}$) potentially affecting analyst accuracy.These same models have been estimated using ΔACC_{ijkt}considering as the dependent variable to assess the increase in analyst forecasting accuracy resulting from the improvement in sustainability reporting following enforcement of the directive.

In order to check for potential endogeneity, the firm-level control variables in all our estimates are lagged by one year to avoid simultaneity with analyst forecasting accuracy. Finally, the basic estimation includes various alternative combinations of specific effects:

[5]For France, the variable Big4 takes the value 1if the company is performing one of the two mandatory auditing processes.

country-year (δkt), industry-year (φjt) and country-industry (γkj) fixed effects, which allow us to account for potential misspecification of the model and control for any shocks that might affect analyst accuracy and are not covered by our set of explanatory variables. Our basic results are obtained using an industry-year cluster to capture correlations between different firms in the same country across time. We therefore apply the more general framework used in Petersen (2009), which avoids the need for assumptions regarding the dependence structure of the standard errors by employing a simultaneous two-level (industry/year) clustering approach. The symbol *εijkt* is the white noise error term.The models were estimated using Stata v.16.0.

4.-RESULTS

Table 2 shows the descriptive statistics for the implementation of the directive (Dir_{14})in terms of accuracy and incremental accuracy, sustainability reporting quality (*RQ*), the sustainability framework (*GRI)*and progress in the transposition process (*Env*), including the mean, standard deviation and the results of an ANOVA test in all cases.

INSERT TABLE 2

The results show that the directive led to an increase in accuracy ($ACC_{2008\text{-}2013}$: -0.229; $ACC_{2014\text{-}2016}$: -0.198; $ACC_{2016\text{-}2017}$: -0.149), although this effect is not consistent in terms of incremental accuracy ($\Delta ACC_{2008\text{-}2013}$: -3.812; $\Delta ACC_{2014\text{-}2016}$: -2.791; $\Delta ACC_{2016\text{-}2017}$: -3.020). It is also possible to observe a decrease in dispersion ($ACC_{2008\text{-}2013}$: 0.373; $ACC_{2016\text{-}2017}$: 0.257; $\Delta ACC_{2008\text{-}2013}$: 25.569; $\Delta ACC_{2016\text{-}2017}$: 11.593). This effect was intense for both high- and low-quality sustainability reporters ($ACC_{Low\_RQ\ 2008\text{-}2013}$: -0.257; $ACC_{Low\_RQ\ 2016\text{-}2017}$: -0.181; $ACC_{High\_RQ\ 2016\text{-}2017}$: -0.195; $ACC_{High\_RQ2016\text{-}2017}$: -0.109). Compliance with GRI standards has a progressive positive effect in terms of financial analyst accuracy, which is more pronounced in the case of companies whose sustainability reporting practices were of poor quality prior to the enforcement of the directive ($ACC_{GRI\ 2008\text{-}2013}$: -0.265; $ACC_{GRI\ 2016\text{-}2017}$: -0.138). Finally, progress in the transposition of the directive is also shown to have an impact on accuracy in companies with low sustainability reporting quality prior to the directive ($ACC_{Env1\ 2008\text{-}2013:}$ -0.305; $ACC_{Env1\ 2016\text{-}2017}$: -0.140). A similar result can be observed for Env2 ($ACC_{Env2\ 2008\text{-}2013:}$ -0.250; $ACC_{Env2\ 2016\text{-}2017}$: -0.183). The ANOVA test also reveals differences in sustainability disclosure and levels of sustainability reporting quality due to enforcement of the directive.

The information provided to financial markets, measured by EPS forecast accuracy, is expected to have improved as a result of the enforcement of the directive. Table 3 shows a comparative analysis of the directive adoption process (*Dir14*) including the estimates from model [3]. Columns (1) and (2) report the results for ACC and columns (3) and (4) those for ΔACC.

INSERT TABLE 3

The above results show that the directive has had a positive and significant impact, as evidenced by a gradual improvement in financial analysts' accuracy (ACC: 0.0424-0.0471; p-value<0.01). However, this effect is not observed when incremental accuracy is considered (ΔACC: 0.8119-1.0481; p-value>0.10). We are also able to highlight that significantly lower accuracy is observed for companies with high levels of negative earnings (Lossebit:-0.2011-0.2018; p-value<0.01) and leverage (Leverage: -0.1788-0.1787; p-value<0.01). While these two variables somewhat hinder the assessment process, Constituent Index Membership status can increase financial analyst forecast accuracy for a company (Constituent: 0.0844-0.0847; p-value<0.01). These results do not enable us to reject H_1, because the additional information provided to financial markets after the enforcement of the directive is significantly improved by the higher levels of sustainability disclosure.

However, the enforcement of the directive can also imply an improvement in terms of sustainability reporting quality. Descriptive statistics (*RQ*) have revealed considerable differences in analyst accuracy when this factor is considered. Table 4 shows the results from model [4], where columns (1) and (2) report the results for ACC and columns (3) and (4) those for ΔACC.

INSERT TABLE 4

In all the reported estimates for ACC, we obtain negative and significant coefficients on the interaction terms between the 2014 directive and the level of sustainability reporting quality (ACC: -0.0206—0.0208; p-value<0.10). Despite the negative coefficients, the overall effect of the directive is positive, judging by the improvements observed during this period, which would enable financial analysts to provide more accurate forecasts for these companies. Thus, analysts appear to have improved the accuracy of their forecasts for companies with previously low levels of sustainability reporting quality, as evidenced by the increase in accuracy values with respect to the baseline across the entire sample. Nevertheless, the group of companies with low sustainability reporting quality levels continues to show lower accuracy than their high sustainability reporting counterparts. The results for the variable ΔACC show a similar pattern, albeit without statistical significance. This result prevents us from rejecting hypothesis 2 (H_2) because the information provided to financial markets after the enforcement of the directive improves significantly due to higher levels of sustainability reporting quality.

Tables 5 and 6 show the results for the robustness analysis estimated by models [5] and [6]. Table 5 shows the results for the level of sustainability reporting quality based on

GRI standards. Columns (1) to (3) show the results for ACC and columns (4) to (6) provide the results for ΔACC.

INSERT TABLE 5

As can be observed in the above table, the directive has a positive and significant impact on analyst accuracy (ACC: 0.0493-0.0599; p-value<0.01). The interaction effect between the variable Dir_{14}, sustainability reporting quality (RQ) and GRI standards is positive and significant (ACC: 0.1586-0.1632; p-value<0.10), showing that the adoption of GRI standards has encouraged these companies to improve their sustainability reporting quality, thereby enabling analysts to provide more accurate forecasts and demonstrating the effectiveness of the directive. The same finding emerges from the incremental accuracy (ΔACC) assessment, which reveals that this kind of standard has some potential as a reference for financial analysts (ΔACC: 2.0071-2.1653; p-value<0.10).This result is consistent with the findings for H_2 regarding the ability of the directive to improve the quality of sustainability reporting.

Finally, table 6 shows the results for the joint effect of the directive and the stage of transposition reached by each country. Columns (1) to (3) show the results for ACC and columns (4) to (6) provide those for ΔACC.

INSERT TABLE 6

The impact of the directive is observed in an increase in analyst forecast accuracy during the post-directive period (2014-2017). The moderating effect of the stage reached in the transposition process (Dir14*Env) is significant (ACC: 0.0137-0.0187; p-value<0.05), suggesting that the degree of transposition plays a decisive role in explaining the increases in financial analyst forecast accuracy. Thus, the directive tolerates cross-country differences in the degree of implementation beyond the minimum required to improve the information provided to financial markets and EPS forecast accuracy levels.

5.- CONCLUSIONS

Sustainability disclosure has traditionally been a voluntary option for EU firms. Under the previous legal regime, private companies were left to decide their own level of implementation and disclosure of sustainable practices. However, although this proposal was consistent with the assumption of free will in modern economies, it was not enough to promote genuine sustainability commitment. The EU therefore promoted legislation compelling public companies to report their sustainability practices. This included various legal initiatives (Directives 2014/95/EU and 2013/34/EU for European Union countries and the Responsible Business Initiative for Switzerland).The results of this

study reveal a further increase in the reporting of non-financial information as a result of the implementation of the directive. This positive effect operates through two channels; an improvement in terms of sustainability disclosure together with an increase in the quality of sustainability reporting; and GRI standards emerge as a useful reporting framework, especially in the opinion of financial analysts. Moreover, the directive allows cross-country differences in transposition rates as long as minimum content is met.

The adoption of this regulatory framework has had key implications for financial analysts, who, as already stated, request increasingly higher levels of sustainability disclosure when making their forecasts, motivated by the observed positive correlation between financial performance and sustainable practices. The directive has enabled low-sustainability reporting quality companies, whose results were difficult to forecast before the enforcement of the directive, to obtain more positive performance evaluations and has thereby encouraged them to develop sustainability reporting mechanisms. Despite the potential benefits in terms of forecast accuracy, however, sustainability reports are not widely accepted and considered by financial analysts (Krasodomska& Cho, 2017). This, therefore, is one of the key remaining challenges in this context. Finally, it is important to note that the enforcement of this directive is a further step towards Europe's harmonization, having reduced regulatory disparity between member states and enabled an increase in the comparability and accuracy of financial analyst forecasts.

This study provides practitioners with useful insights for financial decision-making. Thanks to the directive, analysts are able to make a more accurate assessment of firms' sustainability performance, and thus produce more reliable forecasts. Another contribution of this research is to address the gap between academics and practitioners by examining a specific field of application in the development of sustainable practices. Although the positive interaction between sustainability and financial performance has already been analysed, this study examines the impact and its consequences for investment decisions in a specific context. The findings can also be applied by regulators and law makers. Thus, the implementation of this type of regulatory instrument, as well as having a positive effect on already sustainable companies, has a special capacity to convince formerly non-committed companies to practise sustainability reporting.

Some limitations of this study must be acknowledged. The data used for the identification of sustainable companies refer only to listed companies, for whom the directive's requirements were mandatory from the start. The results may therefore vary across samples and settings. Similarly, the effects of the directive require long-term analysis in order to contextualize its impact on accounting harmonization processes. Finally, the newly-emerging concepts of planetary and social boundaries are changing the perception of sustainability, and legal reform may be needed to adjust the law to the new reality. These limitations could be addressed in future research in order to gain further insights into sustainability disclosure.

REFERENCES

Abhayawansa, S., Elijido-Ten, E., Dumay, J. (2019). A practice theoretical analysis of the irrelevance of integrated reporting to mainstream sell-side analysts. Accounting and Finance, 59(3), 1615-1647.

Asquith, P., Mikhail, M.B., Au. A.S. (2005). Information content of equity analyst reports. Journal of Financial Economics, 75(2), 245-282.

Aureli, S., Magnaghi, E., Salvatori, F. (2018). The transposition of the non-financial reporting directive in the UK, France and Italy. Emerging Issues in Management, 1, 48-67.

Balboa, M., Gómez-Sala, J.C., Lopez-Espinosa, G. (2008). Does the value of recommendations depend on the level of optimism? A country-based analysis. Journal of Multinational Financial Management, 18, 405-426.

Bansal, P., Song, H.C. (2017). Similar but not the same: Differentiating corporate sustainability from corporate responsibility. Academy of Management Annals, 11(1), 105-149.

Barnea, A.; Rubin, A. (2010) Corporate social responsibility as a conflict between shareholders. Journal of Business Ethics, 97(1), 71–86.

Barron, O.E., Byard, D., Kim, O. (2002). Changes in analysts' information around earnings announcements. The Accounting Review, 77(4), 821-846.

Bercel, A. (1994). Consensus expectations and international equity returns. Financial Analysts Journal, 50, 76–80.

Bernardi, C., Stark. A.W. (2018). Environmental, social and governance disclosure, integrated reporting, and the accuracy of analyst forecasts. The British Accounting Review, 50(1), 16-31.

Bueno, N. (2019). The Swiss popular initiative on responsible business: From responsibility to liabilitiy. In: Enneking, L., Giesen, I., Schaap, A. J., Ryngaert, C., Kristen, F., & Roorda, L. (eds.) *Accountability, International Business Operations and the Law: Providing Justice for Corporate Human Rights Violations in Global Value Chains*, Routledge, London (pp. 1-20).

Bushman, R., Piotroski, J., Smith, A. (2004). What determines corporate transparency? Journal of Accounting Research, 42(2), 207-252.

Carini, C., Rocca, L., Veneziani, M., Teodori, C. (2018). Ex-ante impact assessment of sustainability information–The directive 2014/95. Sustainability, 10(2), 560.

COM (2011). Single Market Act Twelve levers to boost growth and strengthen confidence "Working together to create new growth". https://eur-lex.europa.eu/legal-content/ES/ALL/?uri=CELEX%3A52011DC0206 [Accessed 06th February 2020]

COM (2017). Guidelines on non-financial reporting (methodology for reporting non-financial information) https://op.europa.eu/en/publication-detail/-/publication/845ab879-6182-11e7-9dbe-01aa75ed71a1 [Accessed 06th February 2020]

Cowton, C.J., Sandberg, J. (2012). Socially responsible investment. Encyclopedia of Applied Ethics, 2nd ed. Academic Press: London.

Dhaliwal; D., Radhakrishnan, S., Tsang, A., Yang, Y.G. (2012). Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. Accounting Review, 87(3), 723-759.

Directive (2014). As regards disclosure of non-financial and diversity information by certain large undertakings and groups https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0095 [Accessed 06th February 2020]

Dumay, J.C., Bernardi, C., Guthrie, J., Demartini, P. (2016). Integrated reporting: A structured literature review. Accounting Forum, 40, 66–185.

Eccles, R.G., Ioannou, I., Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. Management Science, 6(11), 2381-2617.

Flores, E., Fasan, M., Mendes-da-Silva, W., Sampaio, J. O. (2019). Integrated reporting and capital markets in an international setting: The role of financial analysts. Business Strategy and the Environment, *28*(7), 1465-1480.

Gallego-Alvarez, I., Lozano, M.B., Rodríguez-Rosa, M. (2018). An analysis of the environmental information in international companies according to the new GRI standards. Journal of Cleaner Production, 182, 57-66.

Gandía, J. L. (2008). Determinants of internet-based corporate governance disclosure by Spanish listed companies. Online Information Review, 32(6), 791-817.

GRI (2012) Global Reporting Initiative. https://www.globalreporting.org/information/news-and-press-center/newsarchive/Pages/2012.aspx [Accessed 06th February 2020]

GRI (2015) Global Reporting Initiative. https://www.globalreporting.org/information/news-and-press-center/newsarchive/Pages/2015.aspx [Accessed 06th February 2020]

Ioannou, I., Serafeim, G. (2017). The consequences of mandatory corporate sustainability reporting. Harvard Business School Research Working Paper No. 11-100.

Kim, J-B; Song, B; Tsui, J. (2013). Auditor size, tenure, and bank loan pricing. Review of Quantitative Finance and Accounting, 40(1), 75-99.

Lee, K.W., Yeo, G.H. (2016). The association between integrated reporting and firm valuation. Review of Quantitative Finance and Accounting, 47, 1221-1250.

Leleux, B., Van Der Kaaij, J. (2019). Winning sustainability strategies: Finding purpose, driving innovation and executing change. Springer, Switzerland.

López-Arceiz, F. J., Bellostas, A. J., Moneva, J. M. (2018). Evaluation of the cultural environment's impact on the performance of the socially responsible investment funds. Journal of Business Ethics, 150(1), 259-278.

Loprevite, S., Ricca, B., Rupo, D. (2018). Performance sustainability and integrated reporting: Empirical evidence from mandatory and voluntary adoption contexts. Sustainability, 10(5), 1050.

Luque, M. (2018). The constitution of non-financial reporting: agency and structure. Doctoral Disssertation, Universidad of Burgos, Spain.

Luo, X., Wang, H., Raithel, S., Zheng, Q. (2015). Corporate social performance, analyst stock recommendations, and firm future returns. Strategic Management Journal, 36(1), 123-136.

Mansi, S.A., Maxwell, W.F., Miller, D.P. (2011). Analyst forecasts characteristics and the cost of debt. Review of Accounting Studies, 16, 116-142.

Margolis, J. D., Walsh, J. P. (2001), People and profits? The search for a link between a company's social and financial performance. Mahwah, Erlbaum.

Muslu,V., Mutlu, S., Radhakrishnan, S., Tsang, A. (2017). Corporate social responsibility report narratives and analyst forecast accuracy. Journal of Business Ethics, 140, 1-24.

Nicolăescu, E., Alpopi, C., Zaharia, C. (2015). Measuring corporate sustainability performance. Sustainability 7(1), 851-865.

Nieto, M., Fernández. R. (2004). Corporate social responsibility: The last management innovation. Universia Business Review, 1, 28-39.

Orlitzky, M., Schmidt. F,L., Rynes, S.L. (2003). Corporate social and financial performance: A meta-analysis. Organization Studies, 24(3), 403-441.

Palmon, D., Yezegel. A. (2012). R&D intensity and the value of analysts' recommendations. Accounting Research, 29(2), 621–654.

Piot, C., Missonier-Piera, F. (2007). Corporate governance reform and the cost of debt financing of listed French companies. Working Paper. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=960681 [Accessed 06th February 2020]

Resolution (2013). Corporate social responsibility: accountable, transparent and responsible business behaviour and sustainable growth https://eur-lex.europa.eu/legal-content/En/TXT/PDF/?uri=CELEX:52013IP0049&from=ES [Accessed 06th February 2020]

Rowbottom, R., Lymer, A. (2009). Exploring the use of online corporate sustainability information. Accounting Forum, 33(2), 176-186

Saleh, A., Roberts, C. (2017). The impact of online corporate reporting quality on analyst following and properties of their EPS forecasts. Journal of Accounting and Management Information Systems, 1, 59-88.

Statman, M., Glushkov, D., 2009. The wages of social responsibility. Financial Analysts Journal. 65(4), 33–46.

Van Beurden, P., Gössling, T. (2008). Worth of values – A literature review on the relation between corporate social and financial performance. Journal of Business Ethics, 82(2), 407-424.

Walther, B. (1997). Investor sophistication and market earnings expectations. Journal of Accounting Research, 35(2), 157–179.

Zhou, S., Simnett, R., Green, W. (2017). Does integrated reporting matter to the capital market? Abacus A Journal Accounting, Finance and Business Studies, 53(1), 94-132.

***Table 1*:Sample**

Variable	%	Total # Firms	# Observations
High reporting quality	43.09%	187	2030
Low reporting quality	56.91%	247	2680
GRI	91.19%	396	4295
Env0	25.27%	110	1190
Austria	5.10%	22	240
Denmark	4.25%	20	200
Germany	6.16%	28	290
Italy	5.31%	22	250
Sweden	4.46%	20	210
Env1	17.20%	74	810
Belgium	4.88%	21	230
Finland	5.94%	28	280
Luxembourg	1.06%	2	50
Portugal	5.31%	22	250
Env2	57.54%	250	2710
France	8.70%	39	410
Netherlands	5.31%	22	250
Norway	8.07%	30	380
Spain	7.22%	32	340
Switzerland	3.40%	15	160
United Kingdom	24.84%	111	1170

***Table 2*: Descriptive Statistics**

		2008-2013		2014-2016		2016-2017		ANOVA
		Accuracy	Δaccuracy	Accuracy	Δaccuracy	Accuracy	Δaccuracy	
Dir14	Mean	-0.229	-3.812	-0.198	-2.791	-0.149	-3.020	***
	Std. dev	0.373	25.569	0.354	13.581	0.257	11.593	
Low reporting quality	Mean	-0.257	-4.038	-0.245	-3.334	-0.181	-2.793	**
	Std. dev	0.394	29.470	0.404	16.433	0.300	9.696	
GRI	Mean	-0.265	-3.820	-0.229	-3.205	-0.138	2.671	**
	Std. dev	0.397	27.734	0.396	15.481	0.233	9.453	
No GRI	Mean	-0.113	-2.313	-0.353	0.813	-0.019	-0.040	-
	Std. dev	0.196	13.764	0.524	0.181	-	-	
ENV0	Mean	-0.231	-3.818	-0.213	-2.132	-0.206	-2.891	-
	Std. dev	0.358	31.927	0.353	7.465	0.341	8.827	
ENV1	Mean	-0.305	-2.191	-0.168	-4.488	-0.140	-3.916	***
	Std. dev	0.410	8.295	0.272	20.776	0.228	12.922	
ENV2	Mean	-0.250	-4.876	-0.291	-3.517	-0.183	-2.289	**
	Std. dev	0.401	33.379	0.462	17.882	0.301	8.724	
High reporting quality	Mean	-0.195	-3.547	-0.139	-2.132	-0.109	-3.304	***
	Std. dev	0.345	20.039	0.270	8.961	0.182	13.621	
GRI	Mean	-0.197	-3.615	-0.146	-2.105	-0.121	-3.841	***
	Std. dev	0.346	20.987	0.283	9.163	0.199	15.170	
No GRI	Mean	-0.137	-3.659	-0.031	-1.227	-0.028	-0.371	-
	Std. dev	0.285	18.675	0.021	3.528	-	-	
ENV0	Mean	-0.149	-3.607	-0.149	-3.607	-0.104	-1.227	***
	Std. dev	0.262	15.730	0.262	14.922	0.153	4.404	
ENV1	Mean	-0.168	-7.012	-0.168	-1.540	-0.212	2.579	**
	Std. dev	0.264	31.737	0.264	4.844	0.340	7.325	
ENV2	Mean	-0.131	-3.517	-0.131	-1.628	-0.091	-4.428	**
	Std. dev	0.275	17.882	0.275	5.575	0.144	16.973	

*** p-value<0.01; **p-value<0.05; *p-value<0.10

Table 3: **Directive 2014 and analyst accuracy**

	ACC	ACC	ΔACC	ΔACC
Dir_14	0.0424***	0.0471***	0.8119	1.0481
	-4.45	-3.75	-1.39	-1.3
$SIZE_{t-1}$	0.0069	0.0069	0.3077	0.3034
	-0.32	-0.39	-0.46	-0.39
$LOSSEBIT_{t-1}$	-0.2011***	-0.2018***	0.3894	0.3904
	(-7.08)	(-10.15)	-0.26	-0.32
$TANG_{t-1}$	-0.0548	-0.0572	-2.3361	-2.3829
	(-1.17)	(-1.34)	(-1.20)	(-1.27)
$LEVERAGE_{t-1}$	-0.1788***	-0.1787***	1.0512	1.0606
	(-3.08)	(-3.39)	-0.65	-0.42
$SALES\_GROWTH_{t-1}$	0.0237	0.0236	0.5157	0.519
	-0.65	-0.91	-0.26	-0.32
$SIGMA_{t-1}$	0.0016	0.001	0.9179	0.9019
	-0.07	-0.07	-1.39	-1.02
$FOLLOW_{t-1}$	0.0795	0.0801*	-0.2391	-0.2259
	-1.55	-1.9	(-0.19)	(-0.11)
BIG4	0.004	0.0024	-0.6925	-0.7371
	-0.17	-0.1	(-1.21)	(-0.81)
CONSTITUENT	0.0844***	0.0847***	1.0394	1.0503
	-4.79	-5.16	-0.81	-1.14
Intercept	-0.3835***	-0.3806***	-5.9615	-5.8057
	(-2.87)	(-3.64)	(-1.50)	(-1.32)
Country –Year	Yes	Yes	Yes	Yes
Country –Industry	Yes	Yes	Yes	Yes
Industry - Year	No	Yes	No	No
Cluster Industry-Year	Yes	No	Yes	Yes
R^2	0.1252	0.1259	0.0028	0.0029
Wald Test (p-value)	0	0	0.3349	0.7227
#Observations	3,430	3,430	3,429	3,429

*** p-value<0.01; **p-value<0.05; *p-value<0.10

Table 4: **Directive 2014, analyst accuracy and sustainability reporting quality**

	ACC	ACC	ΔACC	ΔACC
Dir_14	0.0538***	0.0589***	0.8354	1.0763
	-5.03	-3.99	-1.53	-1.15
*Dir_14*RQ*	-0.0206*	-0.0208*	-0.041	-0.0492
	(-1.62)	(-1.52)	(-0.08)	(-0.06)
$SIZE_{t-1}$	0.0037	0.0036	0.301	0.2952
	-0.17	-0.2	-0.44	-0.37
$LOSSEBIT_{t-1}$	-0.1997***	-0.2005***	0.3957	0.3969
	(-7.02)	(-10.08)	-0.26	-0.33
$TANG_{t-1}$	-0.0528	-0.0554	-2.3322	-2.3788
	(-1.13)	(-1.29)	(-1.19)	(-1.26)
$LEVERAGE_{t-1}$	-0.1781***	-0.1780***	1.0535	1.0629
	(-3.07)	(-3.37)	-0.65	-0.42
$SALES\_GROWTH_{t-1}$	0.0254	0.0254	0.5238	0.5279
	-0.7	-0.98	-0.26	-0.32
$SIGMA_{t-1}$	0.0019	0.0013	0.9189	0.9031
	-0.08	-0.09	-1.39	-1.02
$FOLLOW_{t-1}$	0.0771	0.0777*	-0.2483	-0.2364
	-1.5	-1.84	(-0.19)	(-0.11)
BIG4	0.0047	0.003	-0.6911	-0.7355
	-0.2	-0.13	(-1.20)	(-0.81)
CONSTITUENT	0.0835***	0.0839***	1.0405	1.051
	-4.76	-5.11	-0.81	-1.14
Intercept	-0.3581***	-0.3546**	-5.9062	-5.7385
	(-2.67)	(-3.35)	(-1.40)	(-1.26)
Country –Year	Yes	Yes	Yes	Yes
Country –Industry	Yes	Yes	Yes	Yes
Industry - Year	No	No	No	Yes
Cluster Industry-Year	Yes	Yes	Yes	No
R^2	0.1255	0.1262	0.0028	0.0029
Wald Test (p-value)	0	0	0.2666	0.7878
#Observations	3,430	3,430	3,429	3,429
#Firms	434	434	434	434

*** p-value<0.01; **p-value<0.05; *p-value<0.10

Table 5: **Directive 2014, analyst accuracy, sustainability reporting quality and GRI**

	ACC	ACC	ACC	ΔACC	ΔACC	ΔACC
Dir_14	0.0493***	0.0554***	0.0599***	0.4588	0.7894	0.9512*
	-3.28	-4.14	-4.08	-0.6	-1.31	-1.64
*Dir_14*RQ*	0.0065	-0.0019	-0.0095	0.5472	0.1542	-0.1329
	-0.43	(-0.13)	(-0.70)	-0.72	-0.25	(-0.23)
*Dir_14*GRI*RQ*	0.1586*	0.1605*	0.1632*	2.0071*	2.0691*	2.1653*
	-1.48	-1.5	-1.53	-1.58	-1.63	-1.7
$SIZE_{t-1}$	0.0187	0.0179	0.0168	0.2281	0.2088	0.17
	-0.81	-0.77	-0.73	-0.29	-0.27	-0.22
$LOSSEBIT_{t-1}$	-0.2178***	-0.2178***	-0.2173***	0.7461	0.7363	0.7451
	(-5.99)	(-5.98)	(-5.95)	-0.46	-0.46	-0.46
$TANG_{t-1}$	-0.0836	-0.0833	-0.083	-1.4996	-1.4934	-1.4919
	(-1.27)	(-1.27)	(-1.26)	(-0.67)	(-0.67)	(-0.66)
$LEVERAGE_{t-1}$	-0.1781**	-0.1782**	-0.1785**	1.0196	1.0316	1.0223
	(-2.48)	(-2.48)	(-2.49)	-0.6	-0.6	-0.59
$SALES\_GROWTH_{t-1}$	0.0447	0.0449	0.0454	2.2522	2.2577	2.2786
	-0.9	-0.91	-0.92	-0.98	-0.98	-0.99
$SIGMA_{t-1}$	-0.011	-0.0109	-0.0108	1.3943	1.4001	1.4067
	(-0.31)	(-0.31)	(-0.31)	-1.39	-1.39	-1.4
$FOLLOW_{t-1}$	-0.0336	-0.0348	-0.0347	0.5947	0.5018	0.4446
	(-0.44)	(-0.46)	(-0.46)	-0.31	-0.26	-0.23
BIG4	0.0101	0.0098	0.0095	-0.7567	-0.775	-0.7838
	-0.4	-0.38	-0.37	(-1.18)	(-1.19)	(-1.21)
CONSTITUENT	0.08739***	0.0870***	0.0869***	1.5144	1.4989	1.4878
	-3.54	-3.53	-3.51	-0.83	-0.82	-0.82
Intercept	-0.3179**	-0.3097**	-0.3010**	-7.5416	-7.2562	-6.8789
	(-2.38)	(-2.30)	(-2.22)	(-1.49)	(-1.40)	(-1.35)
Country –Year	Yes	Yes	Yes	Yes	Yes	Yes
Country –Industry	Yes	Yes	Yes	Yes	Yes	Yes
Industry - Year	No	No	No	No	No	No
Cluster Industry-Year	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.121	0.1214	0.121	0.0041	0.0041	0.0041
Wald Test (p-value)	0	0	0	0.3115	0.2449	0.2002
#Observations	2,215	2,215	2,215	2,215	2,215	2,215
#Firms	342	342	342	342	342	342

*** p-value<0.01; **p-value<0.05; *p-value<0.10

Table 6: **Directive 2014, analyst accuracy, sustainability reporting quality, GRI and countries**

	ACC	ACC	ACC	ΔACC	ΔACC	ΔACC
*Dir_14*ENV*	0.0137**	0.0181**	0.0187**	0.399	0.3893	0.3079
	-2.09	-2.52	-2.05	-1.14	-1.13	-0.83
*Dir_14*ENV*RQT*		-0.0092	0.0036		0.0206	-0.3214
		(-1.06)	-0.35		-0.06	(-0.57)
*Dir_14*ENV* GRI*			0.0215*			0.9343***
			-1.86			-2.88
$SIZE_{t-1}$	0.0084	0.0068	0.0169	0.268	0.2906	0.078
	-0.39	-0.31	-0.73	-0.42	-0.43	-0.1
$LOSSEBIT_{t-1}$	-0.2024***	-0.2016***	-0.2186***	0.3486	0.3519	0.7345
	(-7.14)	(-7.10)	(-5.96)	-0.23	-0.23	-0.45
$TANG_{t-1}$	-0.057	-0.0549	-0.0875	-2.367	-2.3692	-1.5194
	(-1.21)	(-1.17)	(-1.35)	(-1.22)	(-1.20)	(-0.66)
$LEVERAGE_{t-1}$	-0.1808***	-0.1811***	-0.1780**	1.0318	1.0341	1.1157
	(-3.11)	(-3.11)	(-2.47)	-0.64	-0.63	-0.65
$SALES\_GROWTH_{t-1}$	0.0141	0.0148	0.0303	0.3301	0.331	1.9534
	-0.38	-0.41	-0.61	-0.17	-0.17	-0.86
$SIGMA_{t-1}$	0.0017	0.0016	-0.0125	0.9138	0.9136	1.3687
	-0.07	-0.06	(-0.35)	-1.39	-1.39	-1.35
$FOLLOW_{t-1}$	0.0652	0.0639	-0.0488	-0.3573	-0.3568	0.3844
	-1.26	-1.24	(-0.63)	(-0.28)	(-0.27)	-0.21
BIG4	-0.0013	-0.0005	0.003	-0.7572	-0.7589	-0.8424
	(-0.05)	(-0.02)	-0.12	(-1.30)	(-1.29)	(-1.22)
CONSTITUENT	0.0858***	0.0849***	0.0913***	1.1038	1.1088	1.518
	-4.89	-4.84	-3.59	-0.86	-0.86	-0.79
Intercept	-0.3674***	-0.3552***	-0.2743**	-5.4444	-5.4805	-5.9405
	(-2.71)	(-2.65)	(-2.03)	(-1.41)	(-1.37)	(-1.17)
Country –Year	Yes	Yes	Yes	Yes	Yes	Yes
Country –Industry	Yes	Yes	Yes	Yes	Yes	Yes
Industry - Year	No	No	No	No	No	No
Cluster Industry-Year	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.1222	0.1229	0.1149	0.0027	0.0027	0.0036
Wald Test (p-value)	0.0000	0.0000	0.0000	0.1935	0.0758	0.0000
#Observations	3,430	3,430	2,215	3,429	3,429	2,215
#Firms	434	434	342	434	434	342

*** p-value<0.01; **p-value<0.05; *p-value<0.10