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Integrated Reporting quality and negative media coverage: empirical evidence

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Abstract

This study investigates the influence of negative media coverage around environmental, social and governance (ESG) issues on the quality of Integrated Reporting (IR) drawing upon legitimacy and media agenda setting theories. We specifically examine the top 100 South African companies listed on JSE in the 2013-2018 timeframe (342 firm-year observations). Our results reveal that IR quality is positively related both to peaks in ESG negative media coverage and to cumulative ESG negative media coverage, suggesting that companies adapt IR disclosure to respond to pressures – in terms of increased scrutiny and potential reputational damages – deriving from negative media coverage. Our findings extend previous knowledge on the determinants of IR quality in a context where integrated reporting is mandatory, and on the effects of ESG media coverage on reporting. Moreover, we add new evidence to the continuing debate on the role of media coverage in capital markets.

Keywords: negative media coverage; integrated reporting; environmental, social and governance issues; accountability; reputational risk

JEL Classifications: M14, M40, M41

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1. Introduction

Over the past few decades, the role of media has become increasingly important in respect of companies' accountability, as they act as an additional external monitor to companies' actions (Islam and Deegan, 2010). The media have a crucial impact on shaping the image and reputation of a company, which – in turn – inevitably influence market values and financial performance (Chen et al., 2020; Burke et al., 2019). Furthermore, as media spread specific information according to the relevance of an issue – such as environmental, social and governance (ESG) practices – they could generate incentives for companies to hide information for opportunistic purposes (Yekini et al., 2019) and pressures eventually affecting financial reporting quality. Indeed, the pressure generated by media on companies can influence earnings management (Chen et al., 2020) as well as the auditors' approach when clients suffer from a high level of negative media coverage (Burke et al., 2019).

Thus far, studies have mainly focused on the news influence on public opinion and their impact on companies' responses, namely an incremental use of disclosure (Brown and Deegan, 1998; Islam and Deegan, 2010; Yekini et al., 2017). This literature specifically privileged the analysis of the instrumental role of voluntary disclosure in annual reports in the case of increase (decrease) of negative (positive) media coverage.

However, with the intensification of scandals related to ESG issues, the integration of financial and non-financial information has received great attention. In this respect, the Integrated Reporting (<IR>) Framework (IIRC, 2013) represents the standard for corporate communication that introduced integrated reporting (IR) as a tool to communicate both types of information in order to include ESG issues in the annual report (Landau et al., 2020; Girella et al., 2019; Mervelskemper, and Streit, 2017; Eccles and Krzus, 2010; De Villiers et al., 2014). Although IR has the potential to represent a best practice for accounting communication, it is practical to be implemented by companies without significant actual investments and several scholars criticized the scope and substance of the IR agenda (Abdifatah and Mutalib, 2016). Moreover, integrated reports sometimes present rhetorical disclosures and they are biased towards reporting only positive outcomes (Solomon and Maroun, 2012). Thus, against this background, the academic debate has recently shifted to the quality of integrated reporting and its determinants (Barth et al., 2017; Pistoni et al., 2018; Vitolla et al., 2019).

Nevertheless, to the best of our knowledge, there is no study on the influence of negative media coverage on the quality of corporate reporting in a context where the specific disclosure of financial and non-financial information is mandatory and, in particular, when it should be integrated into one document such as the Integrated Reporting.

Hence, this study tackles the issue of the influence of negative media coverage on the quality of Integrated Reporting drawing upon both legitimacy and media agenda setting theories. Specifically,

arguments based on media agenda setting theory are related to the role of media impacting on the image and reputation of each company (Brown and Deegan, 1998; Deegan et al., 2000; Elijido-Ten et al., 2011; Kent and Zunker, 2013). According to legitimacy theory, we consider the company´s intention of legitimizing itself within the community through a social contract with the community, based on the instrument of corporate disclosure (Brown and Deegan, 1998; Islam and Deegan, 2010; Lai et al., 2016). By relying on these theories, we consider that companies could be likely to improve their IR to face the reputational risk arising from ESG negative media coverage and related pressures on the information environment. Consequently, this paper aims to answer the following question:

RQ: Do companies improve the quality of their integrated reports in response to ESG negative media coverage?

To answer this question, we examine companies listed at the Johannesburg Stock Exchange (JSE) in South Africa. This research setting is particularly suitable for our purposes as (i) South Africa is the first country where IR has been required by the law, and (ii) an official IR quality ranking issued by Ernst & Young (EY) is available for the companies listed at the JSE (Barth et al., 2017; Wang et al., 2019). We specifically examine the quality of IRs of companies from the top 100 JSE firms in terms of the market value of equity, by considering the EY rating in the period between 2013 and 2018 (342 firm-year observations). We resort to the RepRisk database to measure the impact of negative media coverage around ESG issues as RepRisk captures different ESG issues, along with the prominence and severity of each issue and the target of the media outlet.

Our results reveal that companies are particularly committed to increasing disclosure quality when they need to face the potential reputational drawbacks of ESG negative media coverage, as companies seem to adapt their IR to respond to pressures deriving from the negative media coverage. In fact, we find that IR quality is positively related both to peaks in ESG negative media coverage and to cumulative ESG negative media coverage. In addition, we find that riskier companies and companies that operate in environmentally sensitive industries tend to issue higher-quality IRs, hence confirming that companies might strategically exploit IR to gain legitimacy in the eyes of stakeholders.

These findings extend previous knowledge on the determinants of IR quality in a context where integrated reporting is mandatory, thus also considering media coverage within ESG issues and its impact on reporting responses. Furthermore, we add new evidence to the continuing debate on the role of media coverage in capital markets and we suggest improving the debate on the instrumental role of disclosure by introducing alternative theoretical lenses (such as media agenda setting theory).

The remainder of this paper is organized as follows. The next section discusses the literature on negative media coverage, on how companies respond to that and on the role and quality of IR. Section 3 outlines the theoretical framework and hypotheses development, while Section 4 presents the

methodology and empirical models. Section 5 reports the results and the final section deals with discussions and conclusions.

2. Related literature

2.1. Negative media coverage and non-financial disclosure

Over the past few years, media have become one of the most crucial information distributors for several categories of stakeholders (Burke et al., 2019). The media define the importance and relevance of an issue or debate, thus spreading specific information regarding company actions that would otherwise go neglected or hidden for opportunistic purposes (Yekini et al., 2019). However, it should be worth noting that the media usually report news to attract the readership without sometimes considering the financial and economic impact of such advertising (Chen et al., 2020). Thus, the media can play a fundamental role in shaping the image of a company by either damaging corporate reputation and creating litigation risks that inevitably impact on the market values and financial performance or by positively enhancing firm actions within the environmental, social and governance practices (Chen et al., 2020; Burke et al., 2019).

Negative media coverage has attracted the attention of scholars monitoring the effect on earnings management (Chen et al., 2020) suggesting that the news spread by the media is negatively associated with accrual-based and real earning management and that it can become an external monitor when the auditors and other intermediaries do not have a strong control over the firm financial reporting practices. Related to that, Burke et al. (2019) have examined the auditor´s response to media coverage related to environmental, social and governance (ESG) issues, finding that auditors are likely to resign if the company has a high negative media coverage because it impact on the company´s reputational risk.

Investors and other stakeholders have increased their attention on ESG practices because of scandals related to environmental and social responsibility issues (see Volkswagen and Chipotle). ESG issues may indicate poor managerial integrity and they require companies to adopt the necessary actions to mitigate the risk of a reputational loss.

In the accounting literature, studies have found that when media raise the community's social and environmental concern, firms usually respond by increasing the extent and quality of their disclosures through either annual reports (Brown and Deegan, 1998; Deegan et al., 2000; Elijido-Ten et al., 2011; Kent and Zunker, 2013) or of their environmental press releases (Aerts and Cormier, 2009). Companies tend to disclose more information if their reputation decreases and negative media coverage increases (Brown and Deegan, 1998; Islam and Deegan, 2010; Rupley et al., 2012).

However, this incremental disclosure can be used either to provide additional relevant and useful information in order to improve decision making or as a means for managers to exploit information asymmetries with external users in an opportunistic way (i.e. impression management, Merkle-Davies et al., 2011; Merkl-Merkle-Davies and Brennan, 2007; Neu et al., 1998). Most of studies concentrate on the impact of media coverage on the extent of voluntary environmental and social disclosure (Brown and Deegan, 1998; Deegan et al., 2000; Elijido-Ten et al., 2011; Kent and Zunker, 2013; Corazza et al., 2020), thus confirming this instrumental use of corporate disclosure within large corporations.

Against this background, non-financial information has acquired a great importance and companies have started providing information according to several frameworks and regulations (e.g. Integrated Reporting, Companies Act in the UK, and EU Directive 95/2014).

Narrative reporting should represent a story about the main sources of value creation for a company, thus helping external users contextualize other information disclosed in the annual report (Holland, 2004). This disclosure should allow external users to see the company "in a manner which aligned with senior managers' (presumably) holistic view of the business" (Beattie and Smith, 2013, p. 10).

The Integrated Reporting (<IR>) Framework (IIRC, 2013) best represents this idea of integrating both financial and non-financial information as it requires companies to report on all types of capital, including environmental and social capital, thus emphasizing the linkages between a company's strategy, governance and financial performance and the social, environmental and economic context within which it operates (Beattie and Smith, 2013, Bini et al., 2018).

2.2. Integrated Reporting

Over the past two decades there have been moves to recombine ESG disclosures with financial disclosures in single reports (Lai et al., 2016; De Villiers et al., 2014; Dey et al., 2010; Hopwood et al., 2010). The resulting practice has come to be known as integrated reporting (IR) (De Villiers et al., 2014; Adams and Simnett, 2011).

The Integrated Reporting (<IR>) Framework (IIRC, 2013) is a standard for corporate communication that focuses on how an organization's strategy, governance, performance and prospects lead to the creation of value over the short, medium and long terms in the context of its external environment (IIRC, 2013). IR has become a tool used by large corporations to communicate information about financial and non-financial performance, in the attempt to include ESG aspects in the annual report (De Villiers et al., 2014; Bini and Bellucci, 2020). IR aims, indeed, to provide information that goes beyond financial measures and combining financial, social, environmental and

governance information in a single document representing how companies employ different types of capitals and how this use creates shared value for all stakeholders (IIRC, 2013).

The International Integrated Reporting Council (IIRC) has attracted considerable attention since its formation in 2010 (Busco et al., 2014; Eccles and Krzus, 2010; 2014; De Villiers et al., 2014; Girella et al., 2019). IIRC is a global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs. Together, this coalition developed The Integrated Reporting (<IR>) Framework (IIRC, 2013), which is able to provide a broader and more connected account of organizational performance than the one provided by traditional financial and/or sustainability-specific reporting (De Villiers et al., 2014). Since the release of the <IR> Framework, worldwide interest in integrated reporting continues to grow (Barth et al., 2017). According to the IIRC (2017), over 1,600 companies across 64 countries currently prepare an integrated report. There also has been strong support for IR from the large accounting firms and professional accounting bodies in various countries (Barth et al., 2017).

Companies are increasingly expected to report on ESG impacts (Brown and Dillard, 2014). The idea underneath integrated reporting is that combining financial and non-financial reports will encourage corporations to embed sustainability throughout the organization and its operations (Eccles and Krzus, 2010). Nevertheless, opinions are divided among academics, practitioners, public policymakers, and civil society groups about whether integrated reporting truly enhances sustainability (De Villiers et al., 2014). Some view IR as a potential tool for mainstreaming sustainability within companies and capital markets, while others see it as an overly narrow approach to enhancing sustainability, especially from the perspective of non-financial stakeholders (Brown and Dillard, 2014). Although IR has the potential to represent a win-win solution that, on the one hand, satisfies substantive organizational accountability measures, and, on the other hand, is cost-effective to organizations, numerous scholars are critical of the scope and substance of the IR agenda (Abdifatah and Mutalib, 2016). Although studies confirm an increase in the number of ESG disclosures following the adoption of IR (Landau et al., 2020; Setia et al., 2015; Solomon and Maroun, 2012), research also observes that integrated reports are sometimes permeated with rhetorical disclosures and are biased towards reporting only positive outcomes (Solomon and Maroun, 2012). In addition, empirical studies reveal that companies continue to follow the traditional, unintegrated method of "silo reporting" and provide limited disclosures of the organizational value-creation/destruction process in the context of multiple capitals (Abdifatah and Mutalib, 2016; Wild and van Staden, 2013). Another concern is the possibility that the focus on sustainability could be diluted too much between the other dimensions. For example, Milne (2013) and Brown and Dillard

(2014) criticized the emphasis on value to investors and the unceasing advocacy of the business case approach in IIRC proposals.

Thus, against the background of a growing diffusion of IR, the academic debate has recently shifted to the quality of integrated reporting and its determinants. Pistoni et al. (2018) aim to assess the quality of integrated reports issued by firms by developing a scoring model which were applied to a sample of integrated reports prepared in compliance with the IIRC framework; their findings show that IR quality is generally low, as firms follow the IR framework but provide limited information on aspects such as capital, the business model, strategic priorities, and the value creation process. Barth et al. (2017) find a positive association between IR quality and firm value using data from South Africa where IR is a requirement of the Johannesburg Stock Exchange (JSE). This is consistent with previous research (Lee and Yeo, 2016; Zhou et al., 2017). Specifically, Barth et al. (2017) find a positive relation between IR quality and liquidity and between IR quality and expected future cash flows attributable to improved internal decision making. Wang et al. (2019) also take advantage of the JSE's mandatory requirement for listed firms to provide an integrated report on an 'apply or explain' basis to explore the role of corporate governance mechanisms in ensuring the quality and integrity of IR; their study finds that traditional (e.g. audit committee) and innovative (e.g. sustainability committee) governance mechanisms are positively related to IR quality. Vitolla et al. (2019) aim to investigate the relationship between national culture and IR quality. Their results show that companies operating in less-hierarchical, more collectivistic, higher level of restraint, more feminine-oriented or with higher uncertainty avoidance provide higher-quality integrated reports. Bavagnoli et al. (2018), in line with previous literature (cf. Matten and Moon, 2008) highlight how the quality of IR is positively associated with assurance and is higher for firms located in Europe or in countries where IR is mandatory (e.g. South Africa and Brazil) and in Europe.

The literature shows the need for further empirical studies on the determinants of IR quality, which is still an underdeveloped discussion. In particular, there is no study looking at the impact of negative media coverage and ESG performance on the quality of IR. Therefore, the present study contributes to the literature on IR quality determinants and companies´ responses to negative media coverage (i.e. instrumental role of disclosure).

3. Theoretical framework and hypothesis development

Public expectations have changed in the last thirty years in such a way as to encourage companies to consider ESG performance besides profit (Deegan, 2002; Deegan et al., 2002; Thorne et al., 2014). Moreover, communities and society at large have come to be seen as increasingly important

stakeholders (Mitchell et al., 1997). Companies want to operate within the boundaries and norms of society to ensure that their activities are seen as legitimate. As a result, societal perceptions and public opinion can impact on the policies of organizations, as corporate entities are influenced by and often influence the society in which they operate (Manetti and Bellucci, 2018). Thus, companies and their corporate disclosure practices need to be analyzed within a specific social, environmental, and institutional context.

According to the legitimacy theory, companies disclose ESG information to reduce their external costs or diminish pressures that are being imposed by external stakeholders, regulators and media in particular (Tate et al., 2010; Caron and Turcotte, 2009; Manetti et al., 2019; Ballou et al., 2006; Adams, 2002). This means that companies often use sustainability and integrated reports to influence stakeholder perceptions of their ESG performance (Patten and Guidry, 2010; Coupland, 2007; Deegan, 2002). In other words, voluntary disclosure of ESG information could serve strategic reasons rather than underpin an assumption of responsibility towards the community.

According to Lindblom (1994), legitimacy is the condition or status which exists when an entity's value system is congruent with the value system of the larger social system of which the entity is a part. When a disparity, real or perceived, exists between the two value systems, there is a threat to the entity's legitimacy (Manetti and Bellucci, 2018; Lai et al., 2016). In other words, legitimacy can be viewed as a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within a socially constructed system of norms, values, beliefs, and definitions (Suchman, 1995).

As Buhr (1998) suggests, there are two dimensions in an organization's efforts to attain legitimacy: action (whether the organization's activities are congruent with social values) and presentation (whether the activities appear to be congruent with social values). Of course, the actions of an entity may deviate extensively from societal norms, but because the divergence goes unnoticed, the organization retains its legitimacy (Chen and Roberts, 2010). The manipulation of a company's image through disclosure and communication (i.e. presentation) is perceived as being easier to accomplish than improving the organization's levels of ESG performance or its value system (Dowling and Pfeffer, 1975). Legitimacy is also a dynamic concept, as expectations can change over time and particular events might occur that adversely affect the reputation of the company, its legitimacy, and perhaps even its very existence (Lindblom, 1994; Makela and Nasi, 2010).

However, if legitimacy theory suggests that managers seek to eliminate or minimize a legitimacy gap between the public perception of an organization's value system and the value system of the social systems by disclosing particular information (Islam and Deegan, 2010), there should be a focus on how and who may bring particular issues to the attention of the relevant stakeholders. Surely, news

spread by the media represent the influential factor that impacts on this legitimacy gap (Bowles, 1991; Deegan et al., 2000; Deegan, 2002; Deegan et al., 2002; Islam and Deegan, 2010).

The media shape the community concerns and expectations and media agenda setting theory helps further explain the potential they have to influence community expectations, and subsequently, corporate communications and disclosure (Carroll and McCombs, 2003; Deephouse, 2000; Fomburn and Shanley, 1990).

Media agenda setting theory posits that the media enhance public awareness, as the public needs to be told how important is an issue that they would never learn from available corporate actions and cues (McCombs and Shaw, 1972; Islam and Deegan, 2010). Furthermore, there is always a time lag between changes in media agenda and changes in the public agenda that varies according to the specific news spread (Ader, 1995; Wanta et al., 2004).

Against this backdrop, few accounting scholars employed both legitimacy theory and media agenda setting theory to study and explain the instrumental use of corporate reporting that reflects the quality and integrity of the information given to the public (Brown and Deegan, 1998; Islam and Deegan, 2010; Yekini et al., 2017). Islam and Deegan (2010) confirm the findings of Brown and Deegan (1998), thus underlining that the focus and extent of media coverage influence community expectations, which in turn affect voluntary corporate disclosure in a mechanistic way. However, this is a valid consideration only when the media turn their attention to a particular issue. In fact, in this study the lack of global media attention to labor practices is also reflected in the absence of pressure for a company. Yekini et al. (2017) state that companies treat their voluntary corporate disclosure strategically in order to take a conscious and calculated approach to respond to the community expectations. Therefore, the higher the community expectations towards corporate social responsibility issues, the higher the level of corporate disclosure on such specific topics.

According to the above-mentioned considerations and theories, our study is based on the following hypothesis:

H1: The quality of IR is positively related to ESG negative media coverage.

4. Methodology

4.1. Dataset

We focus on companies listed at the Johannesburg Stock Exchange (JSE). South Africa is particularly suitable to our research objectives because IR is mandatory for companies listed at the JSE (the country has been the first to regulate IR adoption in 2013) and due to the availability of an official ranking of IR quality for the top 100 listed companies provided by Ernst & Young (EY). The initial

sample was composed of the top 100 companies listed at the JSE from 2013 to 2018. Overall, these companies' value represents about 95% of total JSE market capitalization.

As some companies might be among the top 100 companies on the JSE only for some years, the panel sample is unbalanced. We removed companies with unavailable data on ESG negative media coverage and companies with missing data for control variables. The final sample features 75 companies and 342 firm-year observations.

4.2. Dependent variable

Following previous studies, we measure IR quality on the basis of the ranking of IR issuers listed at the JSE developed by EY, which offers information independently elaborated by a panel of experts (see also Barth et al., 2017; Wang et al., 2019). Rankings are drawn from the annual EY Excellence in Integrated Reporting Awards. The criteria adopted by EY reflect the adherence of IRs to the <IR> Framework developed by the IIRC and consider the description of the different capitals (financial, manufacturing, human, intellectual, social and relational, and natural) and their role in value creation, the connectivity of information and attributes such as consistency and conciseness.

Companies are assigned to one of the five categories that are built on the basis of the above-mentioned classification. The five categories are 'Top 10', 'Excellent', 'Good', 'Average', 'Progress to be made'. In line with Wang et al. (2019) and Zhou et al. (2019), we attribute a score equal to 1 to firm-years coded as 'Progress to be made', 2 to firm-years coded as 'Average', 3 to firm-years coded as 'Good', 4 to firm-years coded as 'Excellent' and 5 to firm-years coded as 'Top 10' (IRQ).

4.3. Independent variables

Following Burke et al. (2019), we use the RepRisk score to measure negative media coverage, built starting from a company's negative media coverage concerning ESG practices. RepRisk collects data from different media sources and uses artificial intelligence to search for information on ESG issues. A proprietary algorithm aggregates data into a composite score for each company. The higher the rating, the worse the reputation of the company. Besides its use for academic purposes, RepRisk has been widely used by Dow Jones Sustainability Indices, Newsweek Green Rankings and the Sustainability Standards Board (SASB).

We build two types of measures for negative media coverage extension. As RepRisk offers monthly data and companies might react to unusually high news during a period, we follow Burke et al. (2019) and build a score that takes into account the peak of negative media coverage in a period. Burke et al. (2019) investigate auditor resignation and focus on the period of preparation of financial statements. The focus of our work is the relationship between media coverage and integrated annual report. In this respect, not only a peak in the period immediately before the publication of the report,

but also a peak in negative media in another period of the year covered might influence preparers. We build three measures of peak in RepRisk: Rep_Peak_FY is the peak over the full year (FY). Rep_Peak_Q4 is the peak in the last quarter of the FY. Rep_Peak_Q4Q1$_{t+1}$ is the peak of RepRisk score in the period that encompass the last quarter of the FY and the first quarter of the following FY.

As companies might react not only to peaks in negative media coverage, but also to the pressure that derives from cumulative media coverage, we also consider the sum of monthly RepRisk scores in the same windows as alternative measures of negative media coverage. Rep_Sum_FY is the sum of monthly RepRisk scores in the FY. Rep_Sum_Q4 is the sum of monthly RepRisk scores in the fourth quarter of the year. Finally, Rep_Sum_Q4Q1$_{t+1}$ represents the sum of RepRisk scores of the last quarter of the FY and the first quarter of the subsequent year. All RepRisk measures are scaled by market value of equity. Scaling the measures increase the comparability of the scores and reduces biases related to dimensions or impact by company (Burke et al., 2019).

In line with previous research, we control for size, measured as the natural logarithm of total assets (Size) and leverage, measured as measured as the ratio between long-term debt and total assets (Leverage). Prior research suggests that the quality of IR might be influenced by several governance characteristics, like the role of ESG factors in executive compensation or board characteristics (Wang et al., 2019). In light of this, we control for board size, measured as the number of board members (Board_size). In order to control for executive compensation, we introduce a dummy variable that takes a value equal to 1 when executive remuneration is based on ESG factors, and 0 otherwise (ESG_compensation). We introduce a dummy variable that takes a value equal to 1 if the company has a CSR committee, and 0 otherwise (CSR_committee).

We control for industry by considering the environmental impact at the industry level, which might influence a company's disclosure practices (Patten, 2002; Simoni et al., 2020). Drawing from Patten (1991; 2002), we consider companies that operate in mining (SIC code: 10XX), oil exploration (SIC code: 13xx), paper (SIC code: 26xx), chemical and allied products (SIC code: 28xx), petroleum and refining (SIC code: 29xx), metals (SIC code: 33xx) and utilities (SIC code: 49xx) as environmentally sensitive. We build a dummy variable that takes a value of 1 for companies operating in those industries, and 0 otherwise (Industry_envimp). We also control for year fixed effects. Control variable data is obtained from Thomson Reuters Datastream.

4.4. Model

As our dependent variable assumes discrete values that range from 1 to 5, we use a panel ordered logit regression, modelled as follows:

$$IRQ_{it} = \alpha + \beta_1 RepRisk_{it} + \beta_2 Size_{it} + \beta_3 Leverage_{it} + \beta_4 Board\_size_{it} + \beta_5 ESG\_compensation_{it} + \beta_6 CSR\_committe_{it} + \beta_7 Industry\_envimp + Year\ fixed\ effect + \varepsilon \quad (1)$$

Where:

IRQ is the score obtained from EY ranking and it is an ordinal variable ranging between 1 and 5, which measures the quality of IR obtained from EY rankings (1 = 'Progress to be made', 5 = 'Top');

RepRisk represent the different measure for ESG negative media coverage;

Size is the natural logarithm of total assets;

Leverage is the ratio between long-term debt and total assets;

Board_size is the number of board members;

ESG_compensation is a dummy variable that takes a value equal to 1 when management compensation is related to ESG performance and 0 otherwise;

CSR_committee is a dummy variable that takes a value equal to 1 when a company has established a committee that supervises CSR activities and 0 otherwise;

Ind_env is a dummy variable that take a value equal to 1 when a company operates in an environmentally sensitive industry based on the classification of Patten (1991, 2002) and 0 otherwise.

In our estimations, we use robust standard errors clustered at the firm level and winsorize Size and Leverage at the 1st and 99th percentiles.

5. Results

Descriptive statistics show that sample companies show an average IR quality of 2.89 (on a 1-5 scale), with a median value of 3 (Table 1). The mean of the peak of ESG negative media coverage over the FY period is 10.959. As monthly RepRisk scores can range between 0 and 100, this value indicates a low level of negative media on ESG issues for sample companies. This value decreases – revealing improved media sentiment – considering either the last quarter only or the period encompassing the last quarter (current year) and the first quarter (subsequent year). These circumstances are confirmed by median values equal to 0 (also when considering the sum of RepRisk scores). However, this evidence is in line with prior studies employing RepRisk to measure ESG negative media coverage (e.g. Burke et al., 2019).

It is to note that most of the firms in our sample use compensation mechanisms that take ESG indicators into account (mean value of ESG_compensation .553 and median equal to 1) and have a committee devoted to CSR (mean value of .947 and median value of 1).

– TABLE 1 HERE –

Correlation matrix shows no collinearity issues, except for the various measures based on RepRisk, which are used alternatively in our models (Table 2).

– TABLE 2 HERE –

Table 3 provides results of the ordered logit regressions that use the measures built upon peaks in negative media coverage. First column shows that peaks recorded over the FY seem not influencing IR quality, as the coefficient of the variable *NegM_Peak_FY* is not statistically significant. Differently, the coefficient of the variable *NegM_Peak_Q4* – RepRisk peak score in the fourth quarter of the year – is positive and statistically significant (10%), thus suggesting that peaks in ESG negative media coverage lead to increased quality of the IR and validating our research hypothesis (second column). Evidence provided in the third column corroborate this finding. In fact, the coefficient of the variable $NegM\_Peak\_Q4Q1_{t+1}$ – RepRisk peak score in the window including the fourth quarter of the year and the first quarter of the subsequent year – is positive and statistically significant (5%), hence confirming that the variable is positively and significantly related to IR quality. Taken together, these results reveal that peaks in ESG negative media coverage lead to increased quality of the IR only in the windows that are closer to the preparation of the annual report.

Regarding control variables, the three estimations provided in Table 3 show that leverage has a positive association with the quality of IR. This confirms research showing that riskier companies seek to legitimate their actions by providing investors with higher quality information (Clarkson et al., 2008; Guidry and Patten, 2012). Further, in line with previous studies, industry environmental impact is positively and significantly associated with the quality of reporting (Reverte, 2009).

Overall, our results indicate that peaks in ESG media coverage spur companies to improve their non-financial reporting practices in response to pressures that derive from the media, but only when they are hit by negative media in the period of preparation of the annual report. This finding suggests that companies are particularly committed to increase disclosure quality when they need to face the potential reputational drawbacks of ESG negative media coverage. This is consistent with the idea that companies consciously employ disclosure to respond to the (negative) community expectations created by media (Brown and Deegan, 1998; Islam and Deegan, 2010; Yekini et al., 2017).

– TABLE 3 HERE –

Table 4 provides results of the ordered logit regressions that use the measures built upon the sum of monthly scores on ESG negative media coverage.

These results indicate that all the independent variables constructed using the sum of monthly scores on ESG are positively associated with the quality of integrated reporting. First column shows, indeed, that the coefficient of the variable *NegM_Sum_FY* – sum of monthly scores from RepRisk in the year – is positive and statistically significant (5%). Similarly, the coefficient of the variable *NegM_Sum_Q4* – sum of monthly scores from RepRisk in the fourth quarter of the year – is positive and statistically significant at the 1% level (second column) as well as the coefficient of $NegM\_Sum\_Q4Q1_{t+1}$ – sum of monthly scores from RepRisk in the fourth quarter of the year and the first quarter of the subsequent year – (third column). These results confirm evidence provided in Table 3, thus suggesting that ESG negative media coverage leads to increased quality of the IR, which is consciously used to respond to pressures arising from negative ESG issues diffused by media.

Similarly, control variables maintain the same association with the dependent variable. Leverage has a positive association with IR quality and industry environmental impact is positively and significantly associated with the quality of reporting.

– TABLE 4 HERE –

6. Conclusions

This study explores the relationship between ESG negative media coverage and the quality of companies' IRs by focusing on the South Africa setting, which is characterized by mandatory IR adoption for listed companies and the availability of official IR quality rankings issued by EY (Barth et al., 2017; Wang et al., 2019). We specifically investigated whether ESG negative media coverage influences IR quality by examining both the effect of peaks in negative media coverage and the cumulated negative media coverage on scores obtained from IR rankings for a sample of companies listed at the JSE.

Results of our multivariate analyses show that IR quality is positively related to peaks in ESG negative media coverage recorded in the final part of the year as well as to peaks recorded in the window encompassing both the final part of the year and in the first months of the subsequent period, when companies are in the phase of preparing their annual reports. In addition – and corroborating the previous – results indicate that cumulative ESG negative media coverage in the FY and in the months that are closer to annual report preparation is positively related to the quality of IR. Moreover,

we find that more risky companies and companies that operate in environmentally sensitive industries tend to issue higher-quality IRs, hence confirming that companies might strategically exploit IR to gain legitimacy in the eyes of stakeholders.

These findings suggest that companies are particularly committed to increase disclosure quality when they need to face the potential reputational drawbacks of negative media coverage. This is consistent with the idea that companies consciously employ disclosure to respond to the (negative) community scrutiny and expectations created by media (Brown & Deegan, 1998; Islam & Deegan, 2010; Yekini et al., 2017) and support prior research showing that companies make an instrumental use of social and environmental disclosures (Rupley et al., 2012).

Our findings extend previous knowledge on the determinants of IR quality in a context where integrated reporting is mandatory. In particular, this study considers media coverage within ESG issues and its influence, in terms of reputational risk, on reporting responses.

Besides, we provide novel evidence to the continuing debate on the role of media coverage in capital markets. In this respect, our findings suggest the need to fruitfully extend the debate on the instrumental role of disclosure by resorting to alternative theoretical lenses - such as media agenda setting theory - which offer the opportunity to shed light on overlooked issues also within a mandatory disclosure research setting.

In terms of policy implications, as an ongoing non-financial regulatory process is taking place, this study provides implications for regulators, professional bodies, and academics. As non-financial disclosures can be easily manipulated and may result in mere rhetoric if they are not contextualized and linked to value generation (Bini et al., 2018), policy-makers should consider developing guidelines to help companies prepare high-quality IR without offering vague or misleading information. This is especially needed in contexts where non-financial disclosure is mandatory, but its contents substantially dependent on companies' discretion.

Our study also provides avenues for further research. In this respect, future studies could fruitfully investigate whether improved IR quality is used opportunistically in order to mislead stakeholders about company operations and performances. This is particularly relevant as IR has become a popular framework for companies that have to report non-financial information in the annual report (Girella et al., 2019), such as large European companies, and as, in some cases, companies have to prepare an IR annually (Baboukardos and Rimmel, 2016; Barth et al., 2017).

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Table 1 – Descriptive statistics

Variable	N.	Mean	Median	St. Dev.
IRQ	342	2.8918	3	1.2479
NegM_Peak_FY (unscaled)	342	10.959	0	14.372
NegM_Peak_Q4 (unscaled)	342	9.5	0	13.390
NegM_Peak_Q4Q1$_{t+1}$ (unscaled)	342	8.073	0	12.462
NegM_Sum_FY (unscaled)	342	80.070	0	119.812
NegM_Sum_Q4 (unscaled)	342	42.035	0	63.213
NegM_Sum_Q4Q1$_{t+1}$ (unscaled)	342	20.953	0	32.789
Size^{w}	342	17.833	17.600	1.416
Leverage^{w}	342	.157	.127	.129
Board_size	342	12.225	12	2.935
ESG_compensation	342	.553	1	.498
CSR_committee	342	.947	1	.224
Industry_envimp	342	.281	0	.450

^{w} data winsorized at the 1st and 99th percentiles

Table 2 – Correlation matrix

	IRQ	NegM_Peak_FY	NegM_Peak_Q4	NegM_Peak_Q4Q1$_{t+1}$	NegM_Sum_FY	NegM_Sum_Q4	NegM_Sum_Q4Q1$_{t+1}$
NegM_Peak_FY	.0221						
	(.6836)						
NegM_Peak_Q4	.0384	.9800***					
	(.4796)	*(.0000)*					
NegM_Peak_Q4Q1$_{t+1}$	.0458	.9474***	.9643***				
	(.3980)	*(.0000)*	*(.0000)*				
NegM_Sum_FY	.0744	.9458***	.9156***	.8924***			
	(.1701)	*(.0000)*	*(.0000)*	*(.0000)*			
NegM_Sum_Q4	.0669	.9718***	.9733***	.9402***	.9669***		
	(.2173)	*(.0000)*	*(.0000)*	*(.0000)*	*(.0000)*		
NegM_Sum_Q4Q1$_{t+1}$	.0592	.9724***	.9830***	.9768***	.9496***	.9873***	
	(.2749)	*(.0000)*	*(.0000)*	*(.0000)*	*(.0000)*	*(.0000)*	
Size	.0226***	-.1251**	-.1001*	-.1223**	-.0743	-.0881	-.0964*
	(.0000)	*(.0207)*	*(.0645)*	*(.0237)*	*(.1703)*	*(.1040)*	*(.0750)*
Leverage	.1219**	-.0460	-.0515	-.0627	-.0544	-.0490	-.0580
	(.0241)	*(.3965)*	*(.3420)*	*(.2477)*	*(.3158)*	*(.3662)*	*(.2850)*
Board_size	.0435	-.0640	-.0449	-.0520	-.0489	-.0518	-.0474
	(.4226)	*(.2378)*	*(.4080)*	*(.3378)*	*(.3677)*	*(.3394)*	*(.3825)*
ESG_compensation	.2664***	.0854	.1162**	.1107**	.0802	.1002*	.1068**
	(.0000)	*(.1151)*	*(.0317)*	*(.0408)*	*(.1389)*	*(.0642)*	*(.0483)*
CSR_committee	.2212***	-.0276	-.0047	-.0148	.0028	-.0015	-.0053
	(.0000)	*(.6108)*	*(.9303)*	*(.7845)*	*(.9584)*	*(.9773)*	*(.9219)*
Industry_envimp	.3206***	.1555**	.1723***	.1442***	.1878***	.2003***	.1754***
	(.0000)	*(.0039)*	*(.0014)*	*(.0076)*	*(.0005)*	*(.0002)*	*(.0011)*

	Size	Leverage	Board_size	ESG_compensation	CSR_committee
Leverage	.0483				
	(.3731)				
Board_size	.3980***	-.2070***			
	(.0000)	*(.0001)*			
ESG_compensation	.2459***	.1115**	.0531		
	(.0000)	*(.0393)*	*(.3278)*		
CSR_committee	.1108**	-.0431	.1790***	.2620***	
	(.0405)	*(.4266)*	*(.0009)*	*(.0000)*	
Industry_envimp	.0827	.0974*	-.1523**	.3396***	.0890
	(.1270)	*(.0719)*	*(.0048)*	*(.0000)*	*(.1005)*

Table 3 – Ordered logistic regression results for peak in ESG negative media coverage

Dependent variable	IRQ	IRQ	IRQ
NegM_Peak_FY	166.943		
	(110.313)		
NegM_Peak_Q4		255.811*	
		(139.506)	
NegM_Peak_Q4Q1$_{t+1}$			226.823**
			(117.777)
Size	.473	.473	.492
	(.412)	*(.411)*	*(.412)*
Leverage	4.421*	4.474*	4.541*
	(2.413)	*(2.412)*	*(2.436)*
Board_size	-.063	-.067	-.068
	(.111)	*(.111)*	*(.112)*
ESG_compensation	-.539	-.545	-.546
	(.615)	*(.614)*	*(.615)*
CSR_committee	.971	.989	.988
	(1.086)	*(1.078)*	*(1.083)*
Industry_envimp	3.691**	3.675**	3.681**
	(1.536)	*(1.539)*	*(1.534)*
Year fixed effects	Yes	Yes	Yes
N.	342	342	342
Wald-Chi2	29.97**	32.62***	34.97***

*Robust standard errors in parentheses. Size and Leverage are winsorized at the 1st and 99th percentiles. ***denotes significance at the 0.01 level, **denotes significance at the 0.05 level, *denotes significance at the 0.10 level.*

Table 4 – Ordered logistic regression results for annual scores of ESG media coverage

Dependent variable	IRQ	IRQ	IRQ
NegM_Sum_FY	19.847**		
	(8.758)		
NegM_Sum_Q4		114.537***	
		(42.018)	
NegM_Sum_Q4Q1$_{t+1}$			52.367***
			(17.835)
Size	.472	.475	.482
	(.411)	*(.411)*	*(.412)*
Leverage	4.466*	4.481*	4.551*
	(2.420)	*(2.403)*	*(2.421)*
Board_size	-.060	-.064	-.066
	(.111)	*(.111)*	*(.112)*
ESG_compensation	-.532	-.537	-.544
	(.617)	*(.614)*	*(.614)*
CSR_committee	.953	1.006	1.000
	(1.101)	*(1.069)*	*(1.075)*
Industry_envimp	3.661**	3.638**	3.658**
	(1.533)	*(1.539)*	*(1.537)*
Year fixed effects	Yes	Yes	Yes
N.	342	342	342
Wald-Chi2	32.12**	39.33***	42.72***

*Robust standard errors in parentheses. Size and Leverage are winsorized at the 1st and 99th percentiles. ***denotes significance at the 0.01 level, **denotes significance at the 0.05 level, *denotes significance at the 0.10 level.*