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Revising non financial reporting directive and the role of board of directors: a lost opportunity?

Abstract

Purpose: The purpose of this paper is to shed light an important limit of the Non-Financial Reporting Directive (NFRD) in pursuit of its substantial purpose, which is to achieve sustainability and contribute to achieving the objectives of United Nation (UN) Agenda 2030; the paper also suggests how to overcome those limits.

Design/Methodology/Approach: The study used a survey of board members of listed and un-listed Italian companies. Data were analysed using an ordered probit model.

Findings: The results show that a greater involvement of a board member in the non-financial reporting process is associated to a stronger commitment towards sustainable development. Specifically, the involvement in materiality assessment is positively associated with more proactive behaviours towards sustainability.

Research limitations/implications: The use of self-reported assessments on beliefs and behaviours and the application of an online survey are methodology limitations of the study. Regarding theory, the study contributes to the literature on corporate governance and sustainability, integrating upper echelons theory, which focuses on how individual attributes influence a firm's strategies and governance, with research on how leadership practices can have a positive impact on corporate sustainability goals.

Practical implications: The paper underscores the opportunity for policymakers to increase the effectiveness of the NFRD through deeper involvement of the board members in the process of non-financial reporting. The results could also be of interest to governance bodies in terms of defining a board's tasks and practices to encourage the adoption of behaviours oriented towards a stronger engagement in sustainable issues.

Originality/value: This is the first study to provide evidence of the relationship between individual directors' tasks and behaviours, non-financial reporting and sustainable development goals. This study highlights some of the limits of the NFRD, even after the public consultation to revise it, and suggests how overcome these limits.

Keywords: Revising the Non-Financial Reporting Directive, non-financial information, board member, directors' engagement, leadership practices, sustainable development goals

Paper Type: Research paper

1. Introduction

Agenda 2030 (United Nations, 2015) requires the collaboration of companies in pursuing sustainability goals and to ensure major transparency in financial markets. The Non-Financial Reporting Directive (NFRD), Directive 2014/95/EU, is considered to be the most important action that European Union (EU) institutions have taken towards achieving these goals. Even if the NFRD does not explicitly declare how a company must contribute to achieving the sustainable development goals (SDGs) of Agenda 2030, the aim of the NFRD is to contribute to a greater transparency in the capital market and to contribute to achieving SDGs (European Parliament, 2014).

Non-financial reporting disclosure is also considered to be an effective response to several external challenges and pressures arising from stakeholders, regulators, investors and citizens (Mio et al., 2020; Lehner and Harrer, 2019, Venturelli et al., 2020). However, during the last several years, many studies have reported on the limited effects of the NFRD to achieve its real and substantial aims (Doni et al., 2019; Venturelli et al., 2018).

In particular, the need to revise the NFRD after a brief period of application has been guided by criticism about the lack of comparability (Venturelli et al., 2020), the business models' representation and the assurance of the quality of the non-financial disclosure (Dumay et al., 2019; Di Tullio et al., 2019; Garcia-Torea et al., 2019).

Moreover, the European Commission (EC) began to discuss the revision of the NFRD, and policymakers launched a public consultation to revise it. The consultation took place from 20 February 2020 to 11 June 2020.

With this background, even if the revision of the NFRD could provide a great opportunity to facilitate the correct approach and to achieve the NFRD's primary purpose, such as contributing to sustainable development and implementing a long-range strategy, in the public consultation no mention was made of the role that the board of directors (BoD) or single directors could play in the implementing the non-financial reporting process. However, the BoD has a primary role in formulating, implementing and endorsing sustainability policies, strategies and plans, and previous studies have highlighted the positive relationship between many board characteristics and sustainability issues. However, only a few studies have focused on the relationship between leadership tasks or practices and sustainability activities (Mazutis and Zintel, 2015).

Considering the previous aspects and the paucity of empirical studies on the relationship between the directors' tasks and sustainability issues, the present work aims to understand if the greater involvement of the BoD in the non-financial reporting process could be associated with a stronger commitment to the SDGs and, consequently, favour the actual achievement of the substantial purpose of the NFRD, which is to pursue sustainability and contribute to Agenda 2030. Thus, this paper investigates if the revision of the NFRD is a lost opportunity to give directors a greater role in the process of setting of the non-financial reporting process. Furthermore, given that materiality assessment is considered to be the most relevant aspect of the non-financial reporting process, the paper focuses on it.

The starting point of the conceptualisation is the upper echelons theory (Hambrick and Mason, 1984), which focuses on the way in which the individual characteristics of leaders influence the decision-making processes that lead to strategic choices (Finkelstein et al., 2009). From this perspective, this study extends the analysis of the individual attributes of leaders linked to sustainability outcomes by considering some of the tasks/practices that might influence the board members' behaviour towards the SDGs. The originality of the paper lies in the fact that, to the best

of our knowledge, this is the first study to provide evidence on the relationship between individual directors' tasks and behaviours, non-financial reporting and SDGs.

This study mainly addressed two research questions:

RQ1: Is the involvement of board members in the process of non-financial reporting associated to behaviours that are more oriented towards sustainable development goals?

RQ2: Is the involvement of board members in the process of materiality associated to behaviours that are more oriented towards sustainable development goals?

The results show that a greater involvement of a board member in the non-financial reporting process is associated with behaviours more oriented towards SDGs. Specifically, the involvement in materiality assessment seems to be positively associated to more proactive behaviours towards sustainability.

The paper is organised as follows. Section 2 explains the content and the aims of the NFRD, highlighting the phases of the reporting process of non-financial information (NFI). Section 3 briefly discusses the literature, showing the context within which the research framework was developed. Section 4 describes the structure of the sample and the methodology that was used. Section 5 presents and discusses the main findings, and Section 6 reports the final considerations.

2. Background

2.1 The NFRD and its revision

The NFRD is an amendment of the Accounting Directive (Directive 2013/34/EU). It requires large companies to disclose their NFI pertaining to four sustainability issues: environment, social and employee issues, human rights and bribery and corruption. With respect to these four issues, companies must disclose information about their business model, policies, outcomes, risk and risk management and key performance indicators relevant for each business.

The aim of the disclosure requirements arising from the NFRD is to achieve greater transparency and to contribute to achieving the SDGs. According to the textual reference of the NFRD, "the disclosure of non-financial information is vital for managing change towards a sustainable global economy by combining long-term profitability with social justice and environmental protection" (European Parliament, 2014). Moreover, the lack of transparency and accountability can hinder progress towards achieving the SDGs (Agarchand and Laishram, 2017; Anasi et al., 2018). Additionally, the Global Reporting Initiative (GRI) supports the idea that non-financial reports can lend themselves well to measuring, understanding, driving and communicating an organisation's SDGs efforts (GRI, 2018). Furthermore, in the European Green Deal project (EC, 2019), the EC initiated a public consultation effort to revise the NFRD and it was scheduled to adopt a proposal about it in the first quarter of 2021 (EC, 2020).

The consultation consisted of 45 questions divided into 8 sections: the quality and scope of the NFI to be disclosed, standardisation, materiality, assurance, digitalisation, location of the reported information, personal scope, simplification and the reduction of administrative burden for companies.

As previously noted, there was no mention of the role that the BoD or single directors could play in the process of reporting (Summary Report, 2020). However, in the process of consultation, interesting aspects about the relevance of governance emerged from the comments provided at the end of each section. Indeed, some respondents were aware of the crucial role that directors must

play in order to set clear strategic objectives and ensure transparency in the debates at the board level (for instance EcoDa). This is the starting point of the present paper.

Furthermore, a critical issue, particularly considered in the answers obtained during the consultation, is the concept of materiality. It was unanimously considered to be the core issue of the non-financial reporting process. Specifically, even if the current version of the NFRD requires companies to disclose information *to the extent necessary for an understanding of the development, performance, position and impact of [the company's] activities*, it is necessary to clarify the concept of double materiality, which aims at determining the impacts of value creation not only for shareholders but for all stakeholders, by considering the financial impacts from companies' internal perspectives and the impacts on value creation for other stakeholders. In this sense, the revision of the NFRD should be more precise.

In fact, in the current version of the NFRD, the definition of 'material information' comes from the Accounting Directive. As evidenced by most of the previous literature (Mio et al., 2020; Cosma et al., 2021b), it is not suitable for the scope of NFI reporting. In fact, the type of information reported by companies, pursuant to the Accounting Directive, would be strictly related to the financial performance, inflows and outflows of the monetary elements. Therefore, elements that cannot be measured in monetary terms are not recognised in compliance with certain principles, notably the principle of prudence or neutrality, and/or they do not correspond to an obligation and are ignored by financial reporting. From this perspective, the reporting would primarily address the needs of the investors' community rather than the broad stakeholders' groups that the NFI should target. Consequently, the revision of the NFRD should consider a revised definition that goes beyond strict financial aspects.

Therefore, the respondents of the consultations mostly agreed to support the concept of double materiality given by the non-binding guidelines on climate-related NFI, but to further clarify it. They argued that, in a future standard for NFI, it is necessary to include details on how to perform the materiality assessment in relation to each non-financial matter (Summary Report, 2020).

Nevertheless, in its current version, the NFRD has not introduced or required any specific standard or framework for companies to follow. However, empirical evidence confirms that GRI Standards are most often followed when reporting NFI (Deloitte, 2018). Thus, considering that NFI has to be disclosed following the standards and guidelines that already exist, companies that choose to use the GRI Standards also disclose the process of reporting, including the process of stakeholder engagement, following the principle of materiality (La Torre et al., 2020).

Based on the fundamental importance covered by the principle of materiality in the NFI, an important shift towards the substantial aim of the NFRD should be the provision to clarify the process of constructing the materiality matrix and choosing the material issues. In this sense, and according to literature on the issue (Mio and Fasan, 2016), materiality, and in general the reporting, is a process that must be followed, not just information to disclose (GRI, 2016, 2018; GRI and CSR Europe, 2017). Depending on how this process is followed and conducted, the results obviously change.

Thus, the directors' awareness of the development and management of the process of materiality and, in general of the process of stakeholder engagement, could be an effective way to approach these issues more deeply. This could be the starting point of a virtuous behaviour towards the SDGs by companies.

This process has to be considered to be very delicate since the NFRD states:

The undertakings which are subject to the Directive should provide adequate information in relation to the matters that stand out as being most likely to bring about the materialisation of principal risks of severe impacts, along with those that have already materialised.

Consequently, in this phase, these risks have to be judged by their scale and gravity, and the primary role of the BoD could be to identify and indicate the severity of such impacts and how effective the company is at managing those risks.

2.2 The NFRD and the role of the board

Under current trends, the EU and its Member States will not be able to achieve the SDGs by 2030 (Eurostat, 2020). The ability of companies to collaborate with governments in pursuing sustainability goals is critical; however, the task is not easy: internalising the SDGs requires adapting business models and strategies for aligning them with SDGs, setting measurable targets, monitoring the progress that is made and reporting transparently on them. In this perspective, the BoD has the central and primary role: BoDs are ultimately responsible for implementing their organisations' strategies, which include developing sustainability plans and allocating resources to sustainable practices (Jizi, 2017). Consequently, it is essential to promote corporate governance practices that contribute to achieving a company's sustainability and overcoming corporate short-termism (Eurostat, 2020). How a firm's governance structure plays a role in doing so is an emerging research question.

The EC's study on directors' duties and sustainable corporate governance highlights that non-financial reporting and disclosure are among the factors contributing to corporate short-termism. The EC recognises that developments in the area of sustainability disclosure and reporting are closely related to business sustainability and more sustainable corporate governance. However, consistent with the literature, the EC agrees that, in their current version, the non-financial reporting requirements have not been sufficient to drive companies to prioritise sustainability. Thus, as previously noted, the NFRD should be revised.

Companies that publish information on financial and non-financial results adopt a longer-term perspective in decision-making processes; they consider all aspects relevant to both the company and its stakeholders and they refine their strategic policies and strengthen their relationships with stakeholders. Therefore, NFI is a fundamental tool for managing the transition to sustainable development, combining long-term profitability, social justice and environmental protection. This consideration is particularly true if the NFI is correctly seen as being the result of a proactive process towards sustainable development more than as compliance with the requirement to disclose some information.

The NFRD does not require specific responsibility to the BoD. Indeed, according to the NFRD:

Member States should ensure that adequate and effective means exist to guarantee disclosure of non-financial information by undertakings in compliance with this Directive. To that end, Member States should ensure that effective national procedures are in place to enforce compliance with the obligations laid down by this Directive, and that those procedures are available to all persons and legal entities having a legitimate interest, in accordance with national law, in ensuring that the provisions of this Directive are respected.

Consistently, non-compliance penalties have been adapted to the context in most European countries. In Italy, the NFRD was transposed into Italian law by Decree no. 254 on 30 December 2016. According to the Decree, a company is responsible for ensuring that the non-financial

declaration is drawn up and published in compliance with the Decree, and this responsibility is reinforced by the severe sanctioning regime.

Thus, the role of “guarantor” in the drafting and publication requires the directors to oversee the process that leads to its drafting. The role of the BoD is not only to approve the NFI but to also supervise the drafting process from the moment in which the individual phases are established and implemented, according to the criteria of diligence and professionalism. The approval of the NFI is a non-delegatable act. In particular, the preparation of the declaration leads to careful reflection on the issues that internal and external stakeholders consider to be relevant and are subject to be disclosed. Consequently, the risks must to be carefully monitored. In view of the strategic objectives, it is the responsibility of the BoD to define the company’s risk appetite, which is the nature and level of risk compatible with the strategic objectives of the issuer and the organisational policies and models that allow for managing the risks.

As can be seen from these initial considerations, the role of the BoD is anything but formal. In addition to the directors’ awareness, it requires active involvement in the phases leading to the drafting of the NFI. In addition to being an obligation established by the decree, the involvement in the drafting phases of the NFI could prove to be a beneficial business practice, capable of sensitising directors to the issues of non-financial management and triggering proactive behaviour towards the achievement of sustainable development objectives. To this end, the involvement of board members in the materiality analysis phase could be particularly relevant. However, the directors’ level of involvement in the sub-phases of the preparation of the NFI still seems to be less than optimal (Consob 2018, 2019) according the results of a survey conducted by Nedcommunity (the Italian Association of Non-Executive Directors) and Consob.

Given this background, the present work aims to understand if the greater involvement of the BoD in the NFI process and, specifically, in materiality assessment, could support the pursuit of the NFRD’s substantial purpose.

3. Theoretical Framework

The starting point of the conceptualisation is the upper echelons theory (Hambrick and Mason, 1984), according to which the individual attributes of an organisation’s decision makers are important determinants of a company’s behaviours and actions (Hutzschenreuter and Kleindienst, 2006). If the beliefs and behaviours of powerful organisational actors are not aligned and are not consistent with the organisation’s sustainability strategies and stated goals, all sustainability-oriented activities can be “decoupled” or disconnected from a firm’s core business activities, and prove to be ineffective.

Upper echelons research focuses on the way in which the individual characteristics of leaders influence the decision-making processes that lead to strategic choices (Finkelstein et al., 2009). Over time, the upper echelons theory has amply demonstrated the importance of the demographic factors of organisational leaders on corporate sustainability outcomes. Many studies have shown how the gender (Brough et al, 2016; Bear et al., 2010; Boulouta, 2013; Galbreath, 2011; Hafsi and Turgut, 2013) and education (Lewis et al., 2014; Geletkanycz and Black, 2001; Godos-Diez et al., 2015; Bansal and Clelland, 2004, Post et al., 2011) of leaders can impact the sustainability choices they make at the organisational level. The literature provides conflicting evidence on the effect of age (Cucari et al., 2018; Post et al., 2011).

In addition to the demographic characteristics, leadership values (Cannella et al., 2009; Egri and Herman, 2000; Mazutis, 2013), leadership styles (Robertson and Barling, 2013, Egri and Herman, 2000), a leader’s personality (Nga and Shamuganathan, 2010; Boddy et al., 2010; Robertson and

Barling, 2013) and a leader's attitudes/beliefs (Stern, 2000; Dibrell et al., 2011; Roxas and Coetzer, 2012) were considered to be among the determinants that impact a firm's strategic choices. The research on the relationship between leadership behaviours and corporate social responsibility (CSR) at the organisational level, although less extensive, has shown a positive association between the pro-environmental behaviours of leaders and the aligned behaviours of their followers (Robertson and Barling, 2013) and between "negotiating" and "championing" behaviours and sustainability outcomes (David et al., 2007; Jenkins, 2006). Top management's commitment to environmental initiatives and other issues has also been shown to be an important predictor of a firm's overall commitment to corporate responsibility (Branzei et al., 2004). However, a few studies have investigated the influence of leadership tasks or leadership practices on sustainability activities (see Mazutis and Zintel, 2015). Although leadership has a significant influence on organisational actions (Finkelstein et al., 1996; Hambrick and Mason, 1984), within the field of sustainability, the precise actions taken by leaders to implement sustainability have not been addressed. We know very little about how leaders actually implement corporate responsibility initiatives (see Robertson and Barling, 2013; Andersson and Bateman, 2000; Quinn and Dalton, 2009; Ramus and Steger, 2000). At the individual level, research has demonstrated that managerial characteristics can explain why some executives are more likely to engage in CSR than others (Maak et al., 2016; Petrenko et al., 2016; Chin et al., 2013). However, the number of studies looking at individual attributes linked to sustainability practices is very limited (Aguinis and Glavas, 2012). Finally, most upper echelon research has focused on some categories of organisational leaders, such as chief executive officers (CEOs) and top managers, but only a few studies have focused on individual board members (Sarto et al., 2020; Rossignoli et al., 2021). Previous studies focusing on the BoD have investigated its impact as a collegial body on a company's sustainability performance. In the present study, we aim to fill the previous research gaps by investigating the tasks and activities affecting the behaviours towards sustainability of a board member in work settings in order to understanding how this reinforces sustainability-oriented behaviours. To the best of our knowledge, this is the first study to provide evidence of the relationship between individual directors' tasks and their behaviours toward SDGs.

Regarding the relationship between corporate governance and sustainability, many studies have focused on corporate social performance (Veltri et al., 2021; Zhang, 2012; Yasser et al., 2017; Yang et al., 2019). However, agency theory (Jensen and Meckling 1976), resource-based theory (Salancik and Pfeffer, 1978), institutional theory (Campbell, 2007) and stakeholder theory (Freeman, 1984) have inspired most studies (De Villiers et al., 2011; Hussain et al., 2018; Jizi, 2017; Dixon-Fowler et al., 2017; Post et al., 2011, Ibrahim et al., 2003; Zhang and Zu, 2019; Zhang et al., 2013; Sánchez et al., 2011).

In summary, the BoD's traits and the board's composition can influence its decisions and sustainability commitment (Cucari et al., 2018; Frias-Aceituno et al., 2013; Post et al., 2011; Gerged, 2021; Nadeem et al., 2020; Chen et al., 2020) and drive its environmental (De Villiers et al., 2011) and sustainability performance (Chams and García-Blandón, 2019). However, only a few studies have focused on the director's individual tasks and behaviours (Cosma et al., 2021b).

Finally, in light of the results reported in previous literature on the relationship between the characteristics of directors and sustainability issues, the paucity of studies that analyse the relationship between the directors' tasks and sustainability goals and the absence of studies that analyse the role of board directors in the non-financial reporting process, this study mainly addressed two research questions:

RQ1: Is the involvement of board members in the process of non-financial reporting associated to behaviours that are more oriented towards sustainable development goals?

RQ2: Is the involvement of board members in the process of materiality associated to behaviours that are more oriented towards sustainable development goals?

4. Sample and Method

4.1 Sample

The data used in this study were collected through a survey on 184 board members from Italian companies. We selected questions that were included in a larger questionnaire that was designed and submitted by Nedcommunity and the consultant company, Methodos, and was pre-tested by five directors who are members of Nedcommunity. The questionnaire was administered electronically by e-mail between May and June 2019. The questionnaire was uploaded onto a web-platform and sent as a link via e-mail, including detailed instructions for its completion. Reminder e-mails were sent every 15 days. We guaranteed the anonymity of the respondents. In the first phase, we collected 72 completed surveys from among 700 Nedcommunity associates. In the second phase, conducted between September and October 2019, we submitted a shorter form of the survey to a selected mailing list of directors; the revised form only contained the questions of interest for the purpose of the study. We collected an additional 112 completed surveys, with a total response rate of 26%. There were no missing values (all responses were mandatory). The sample composition is summarised in Table 1.

Tables 1: Sample description based on socio-demographic data provided by the respondents

Variable	Statistic methods	Frequency	%
Gender	Female	96	52,17
	Male	88	47,83
Age	0-60	105	57,07
	+60	79	42,93
Educational background	Business administration, finance and economics	104	56,52
	Other	80	43,48
Number of years of board work experience	> 0 and < 9	112	60,87
	> 9	72	39,13
Directorship type	Independent directors	104	56,52
	Other	80	43,48
Sector	Financial	93	50,54
	Non-financial	91	49,46
Note: n - 184			

Out of the 184 respondents, 47.83% are male and 52.17% are female. In terms of age, 57.05% are under the age of 60 and 42.93% are older than 60. Regarding the governance variables, 56.02% of the respondents are non-executive and independent directors.

4.2 Dependent variable

The dependent variable was the behaviour oriented to the achievement of the SDG of the respondents; it was measured using a simple statement in order to avoid, as much as possible, distortions arising from different interpretations. The statement was phrased as follows: On a scale of 1 to 7 (where 1 = “Not at all” and 7 = “Very”), please indicate the level of your involvement in the following activity: Proposal and monitoring of concrete actions to achieve one or more SDGs. The data that were collected constituted the dependent variable (Y), which was named “pro-SDG behaviour”.

4.3 Independent variables

The study considered two types of independent variables. The first is general and refers to the director’s level of involvement in the constructing NFI. It was measured using this statement: On a scale of 1 to 7 (where 1 = “Not at all” and 7 = “Very”), please indicate the level of your involvement in the following activity: Set-up of Non-financial Information. The data that were collected constituted the independent variable, which was named “SetupNFI_involvement”.

The second type of independent variable is the set of the main phases of the NFI set-up process, according to the most commonly adopted standards, principles and framework followed in the construction of NFI. They are measured using this statement: On a scale of 1 to 7 (where 1 = “Not at all” and 7 = “Very”), please indicate the level of your involvement in the following activities:

1. Preliminary benchmarking relative to the relevant issues (material) on comparable companies and other market players (named benchmarking);
2. Choice of the non-financial reporting standard (named standard_choice);
3. Link between the aspects considered to be material for the company’s business and the 17 Sustainable Development Goals (SDGs) of the United Nations’ Agenda 2030 (named Mat-SDGs_link);
4. Mapping and identification of “prioritised” stakeholders (named Stakeholders_id);
5. Evaluation of the material issues for stakeholders (named materiality).

4.4 Control variables

We used four sets of control variables to isolate the effect of the individual attributes of directors on their individual behaviour towards SDGs. The first set consists of socio-demographic variables and includes gender, age and educational background. The second set of variables consists of the role played in the boardroom, such as independence, and the experience linked to the number of years of experience as a board member. The third set of variables includes organisational variables, such as firm size (measured by the number of employees) and sector (financial versus non-financial). The fourth control variable refers to the directors’ beliefs in the company’s duty to achieving the SDGs. According to several previous theories (Ajzen, 1991, 2011; Hemingway and Maclagan 2004), beliefs are antecedents of behaviours. Therefore, we wanted to include this variable to better isolate the association between our independent variables and the commitment towards the SDGs. This variable was measured using this statement: On a scale of 1 to 7 (where 1 = “Completely disagree” and 7 = “Completely agree”), please indicate how much you agree with the statements below: Companies should contribute to reaching one or more sustainable development goals (SDGs), as described in Agenda 2030, also reducing, in the short-term, their profits. The answers were

provided on a seven-point scale. The control variables were recoded, as described in Table 2, to conduct a meaningful statistical analysis.

Table 2: Explanatory variables’ description

Control Variable	Description
gender	Binary variable assuming the value 1 to indicate female and 0 to indicate male
age	Binary variable assuming the value 1 to indicate the respondent is less than 60 years old, otherwise 0
background_bafe	Binary variable assuming the value 1 to indicate that the respondent had a business administration, finance and economics background , otherwise 0
experience	Binary variable assuming the value 1 to indicate if the respondent has less than 9 years of experience like as Board Directors, otherwise 0
independence	Binary variable assuming the value 1 to indicate that the respondent was non executive and independent director, otherwise 0
n_employees	Natural logarithm of number of employees
sector	Binary variable assuming the value 1 to indicate that the respondent serves on a board of a financial company and 0 to indicate that the respondent serves on a Board of a non-financial company
SDG_beliefs	Ordered variable assuming values from 1 to 7 on basis of the level of agreement with the statement: “Companies should contribute to reaching one or more sustainable development goals (SDG’s), as described in the Agenda 2030, also reducing, in the short time, their profits”.

4.5 Model specification

We performed bivariate Pearson correlations between the variables. Figure 1 in the Appendix displays the mean values and the standard deviation of the numerical variables. As expected, most of the independent variables are significantly and positively correlated with pro-SDG behaviour. The correlation analysis shows a positive, strong and significant correlation between the two independent variables, that is the two phases of the NFI set-up process: identification and mapping of the stakeholder and materiality assessment. We decided to only evaluate the materiality phase because, from a conceptual point of view, the materiality assessment requires and incorporates the choice of priority stakeholders. As evidenced above, stakeholder engagement is a key element in preparing NFI reporting and it supports the definition of the relevant information to be disclosed according to the principle of materiality (Cosma et al., 2021a). In particular, the concept of materiality in non-financial reporting is defined from a broader group of stakeholders that companies involve in a dialogue to identify material issues (Mio and Fasan, 2016) as well as stakeholders from the same organisation based on the economic, environmental and social impacts and influences on the stakeholders’ decisions.

The data were statistically analysed using an ordered probit regression model, as the dependent variable Y, relates to “pro-SDG behaviour”. The ordered probit regression is the most recommended statistical technique to appropriately analyse data when the dependent variable is ordinal (Franses and Paap, 2004). The ordinal nature of the dependent variable implies that the distances between the seven categories—namely, ranging from “Not at all” to “Very”—are not equal. This violates one of the assumptions of linear regression, which might have led to inaccurate estimates (Long and Freese, 2001). The analysis involved the estimation of three models, the results

of which are summarised in Table 3. In Model 1, the dependent variable was regressed on the control variables. In Model 2, it was regressed on both the control variables and the first independent variable, which is the director's level of involvement in the general set-up of NFI. In Model 3, the dependent variable was regressed on the control variables and the single four phases of the NFI set-up process. Overall, the models revealed statistically significant relationships between some of the independent variables and the dependent variable.

To verify that the above-mentioned phases identify the process of construction of the NFI, we tested the construct, "NFI process", with confirmatory factor analysis (CFA) (see Figure 2 in the Appendix). The model was tested for reliability, convergent validity and discriminant validity. The values obtained for Cronbach's α (0.874 > .7) and the average variance extracted (AVE) from the dependent variables (AVE 0.631 > .5) show, respectively, the internal consistency reliability and convergent validity (Fornell and Larcker, 1981) of the variables included in the survey. Due to the sensitivity of Cronbach's α to the number of measures in a construct, composite reliabilities ($.7 < CR > .9$) (Nunnally and Bernstein, 1994) of the variables are also included; these confirm the reliability of the survey items. The CFA results show a good fit of the model (Byrne, 2013). CFA: ($\chi^2 = 3.548$, $df = 2$, p value > .05, CFI = .989, GFI = .990, SRMR = .022, RMSEA = .065, TLI = .968, IFN = .977).

Finally, in Model 4, the construct ("NFI process), once validated, was inserted as a regressor within the ordered probit regression.

Table 3: Ordered probit regression: pro-SDG behaviour

CONTROL VARIABLES	Model (1) (n-184)	Model (2) (n-184)	Model (3) (n-184)	Model (4) (n-184)
Socio-demographic variables				
gender	0,155 (0.175)	0,146 (0.176)	0,187 (0.187)	0.180 (0.178)
age	0,569 (0.165)	0,203 (0.167)	-0.101 (0.173)	-0.0581 (0.168)
background_bafe	0.591*** (0.167)	0.585*** (0.168)	0.615*** (0.173)	0.596*** (0.170)
Governance variables				
experience	0,226 (0.167)	0,001 (0.168)	0,267 (0.176)	0.0974 (0.169)
independence	0.658*** (0.171)	0.692*** (0.173)	0.943*** (0.181)	0.899*** (0.178)
Organizational variables				
sector	-0.451*** (0.170)	-0.517*** (0.172)	-0.673*** (0.177)	-0.648*** (0.175)
n_employees	0.324*** (0.089)	0.230** (0.096)	0.196** (0.096)	0.258*** (0.091)
Psychological variable				
SDGbelief	0.189*** (0.052)	0.178*** (0.053)	0.160*** (0.056)	0.160*** (0.053)
INDEPENDENT VARIABLES				
NFI process				0.405*** (0.057)
setupNFI_involvement		0.206*** (0.0442)		

benchmarking			-0.0185 (0.069)	
Standard_choice			0,231 (0.068)	
Mat_SDGs_link			0,334 (0.076)	
Materiality			0.319*** (0.078)	
Intercept1	0,127 (0.404)	0,249 (0.411)	0,385 (0.438)	0.793* (0.425)
Intercept2	0.827** (0.396)	1.079*** (0.404)	1.371*** (0.436)	1.606*** (0.421)
Intercept3	1.634*** (0.408)	1.936*** (0.418)	2.354*** (0.457)	2.564*** (0.442)
Intercept4	2.250*** (0.419)	2.579*** (0.429)	3.066*** (0.470)	3.257*** (0.456)
Intercept5	3.116*** (0.434)	3.522*** (0.450)	4.136*** (0.497)	4.304*** (0.485)
Intercept6	4.026*** (0.452)	4.486*** (0.470)	5.205*** (0.519)	5.341*** (0.508)
LR χ^2	75,89***	97,73***	135,00***	126,66***
Pseudo R2	0,115	0,149	0,206	0,193

Notes: *** p<0.01, ** p<0.05, * p<0.1

Regarding the control variables, it should be noted that the estimated parameters remained unchanged even after the introduction of the required construct, and they remained consistent across the models. Therefore, the risk of a distortion due to omitted explanatory variables appears to be negligible.

5. Results and Discussion

The exploratory nature of the analysis and the paucity of previous studies on the specific unit of analysis (the individual board member), do not allow timely comparisons with results reported in previous studies in the literature.

With reference to the socio-demographic predictors, the results showed that, considering a confidence level of 95%, there is a positive and significant relationship between directors with a business administration, finance or economics (“bafé”) background and their pro-SDG behaviour ($b = 0.615$, $p < .01$). Consistent with Geletkanycz and Black (2001), Godos-Diez et al. (2015) and Lewis et al. (2014), directors with a business administration, finance or economics background would appear to be more likely to adopt more active behaviours in pursuit of the SDGs than those with different educational backgrounds.

These results could be due to the fact that adopting sustainable behaviours, in light of the pressure of several stakeholders, could represent a way to increase their firm’s value. Consistent with Geletkanycz and Black’s (2001) findings, directors with this type of background may be more competent in strategic decision-making and in seizing such opportunities. It is more likely that

directors with such an educational background would see the company's engagement toward SDGs as an opportunity to enhance their company's reputation and legitimacy (Bansal and Clelland, 2004; Lewis, 2014). Contrary to expectations and the findings reported in previous literature (Post, 2011; Barr, 2007; Brough et al., 2016; Boulouta, 2013; Galbreath, 2011), gender and age do not appear to influence the board members' pro-SDG behaviour.

The results for the out of governance variables showed a positive and significant effect of independence ($b = 0.943$, $p < .01$), suggesting that non-executive and independent directors could be more committed to achieving the SDGs. Consistent with the findings reported in previous studies, independent directors would seem to be associated with a stronger commitment towards SDGs, suggesting that they encourage the pursuit of long-term goals.

Contrary to the expectations reported in Salancik and Pfeffer (1978), the number of years of experience of a BoD does not seem to affect the behaviour toward SDGs. The organisational variables, sector ($b = -0.673$, $p < .01$) and size ($b = 0.196$, $p < .05$), showed a significant relationship with pro-SDG behaviour. Thus, consistent with institutional theory, a board member who serves on the BoD of a non-financial company or a large company is more likely to have a stronger commitment to achieving the SDGs. Consistent with Rosati and Faria's (2019) findings, larger and non-financial companies face greater stakeholder pressure and they are more likely to recognise environmental concerns as a management priority.

Regarding the psychological predictor, the obtained results showed a positive effect of beliefs about the duty of a company to achieve SDGs status ($b = 0.160$, $p < .01$) on the dependent variable. This suggests that a director with stronger beliefs about the duty of a company to achieve its SDGs is more committed to the SDGs. Consistent with previous literature (Ajzen, 1991, 2011; Hemingway and Maclagan 2004), beliefs about desirable conduct guide the selection or evaluation of behaviours.

With respect to the research questions, the analysis showed a significant and positive association between the involvement of a director in the NFI process and his/her pro-SDG behaviour, assessed by the level of involvement in the proposal and monitoring of concrete actions towards SDGs; thus, confirming RQ1. With regard to the specific phases of the "NFI set-up" process, the obtained results showed a positive effect of the director's involvement on the materiality assessment ($b = 0.319$, $p < .01$) on the dependent variable, confirming RQ2. These results suggest that directors who attend to the materiality assessment could be more committed to achieving the SDGs. In contrast, the analysis revealed a non-significant association between the directors' involvement in the preliminary benchmarking, choice of reporting standard and link between material issues and the SDGs and pro-SDG behaviour. The results highlight that materiality assessment is the only phase of the NFI drafting process that seems to be very important for raising awareness of and increasing the directors' engagement with the SDGs.

In this sense, participation in the construction of NFI by directors is confirmed to be a beneficial practice that encourages and facilitates the achievement of sustainable development objectives, and, consequentially, the substantial aim of the NFRD. Therefore, the present study confirms the primary and central role of the directors in addressing and implementing sustainability strategies, as evidenced by previous literature (Jizi, 2017) and in overcoming short-termism, as hoped for by the EC (Eurostat, 2020).

Consistent with Mio and Fasan (2016), the present paper confirms the importance of the materiality assessment; because that is a delicate phase in the process of reporting, the role of directors could be

essential in identifying stakeholders and compiling adequate information in relation to the risks and their impacts.

Therefore, in accordance with the comments suggested by the people that participated in the public consultation to revise the NFRD (Summary Report, 2020), the present study showed how directors could play a crucial role in establishing strategic objectives and ensuring transparency. Perhaps, the non-compliance penalties and the relative responsibilities for the directors strengthen the relevance of their role on the BoD. Unfortunately, this role has not been directly assigned in the NFRD.

6. Conclusions

The NFRD and the aim of ensuring transparency of the financial markets are very important actions that the EU institutions have taken towards achieving sustainable development and the SDGs required by Agenda 2030 (Venturelli et al., 2020). However, less than 3 years after the NFRD enactment, many studies have investigated and proved its limited effects, and the EC launched a public consultation to revise it.

Even if the public consultation did not mention that the role that the BoD or single directors could include the process of reporting, interesting and relevant elements have emerged from the comments provided at the end of each section of the questionnaire. These elements, together with previous studies on the relevance of leaders' behaviours, suggest that the revision of the NFRD could become a lost opportunity if the central role of the directors in the process of reporting is not adequately considered.

The study presented in this paper shows that some directors' tasks, and specifically the individual involvement of board members in the set-up of the NFI, are likely to be associated with stronger pro-SDG behaviours that are directly or indirectly linked to corporate responsibility processes. Specifically, the directors' involvement in the materiality assessment, which is the activity that systematises and aligns the decision-making process with the firm's strategy, is positively associated to more proactive behaviours towards sustainability.

The main findings of this study have theoretical and practical implications. Regarding theory, this study contributes to underscoring the limits of the NFRD's ability to pursue its substantial purpose. Furthermore, it contributes to the literature on corporate governance and sustainability, integrating upper echelons theory, which focuses on how individual attributes influence a firm's strategies and governance, with research on how leadership practices can have a positive impact on corporate sustainability goals.

Regarding the practical implications, the study emphasises the opportunity for policymakers to increase the effectiveness of the NFRD through a deeper involvement of the BoD in the process of NFI reporting. In this sense, in view of the revision of the NFRD, the opportunity to consider the importance of the phases of construction of reporting and, thus, valuing the process more than the disclosure, should be considered in order to shift the focus towards the primary aim of the NFRD. Accordingly, the involvement of the directors in these phases contributes to making this process more effective.

The results could also be of interest to governance bodies in terms of defining board tasks and practices to encourage the adoption of behaviours oriented towards a stronger engagement in sustainable issues. Establishing procedural rules for the board's tasks and practices, such as greater involvement in the materiality assessment, could increase the likelihood that the directors will acquire a growing awareness of non-financial issues and acknowledge the relevance of those issues, triggering the progression of the cultural transformation necessary for encouraging the spontaneous

adoption of sustainability-oriented behaviours. Nevertheless, it is important to acknowledge that, due to its exploratory nature, the study has some limitations. First, the self-reported assessment of the directors' involvement and behaviours are subject to some biases and limitations. Second, the online survey could be affected by a degree of self-selection bias because the decision to participate in the study is voluntary. Third, qualitative analyses conducted with a psychometric scale, such as the Likert scale, suffer from acquiescence (respondents have a tendency to select a positive response option) and social desirability (the tendency of some respondents to report an answer in a way they deem to be more socially acceptable than would be their "true" answer, to project a favourable image of themselves).

Future research could investigate other contexts, for instance European countries where non-compliance penalties are not as harsh and the sanctioning regime is not as severe as it is in Italy, in order to understand if the directors' responsibility plays a role in their involvement in the NFI process. Furthermore, the field would benefit from research on directors' behaviours from a cross-cultural perspective to ascertain if there are significant differences in the behaviours of directors due to different cultural values, rules and context variables. Finally, after this preliminary study aiming at monitor a general commitment towards SDGs, future research could investigate directors' behaviour towards single/specific SDGs, also to understand which are the most relevant ones in the agenda of the board members.

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Figure 1: Descriptive statistics and correlation coefficients

	Mean	Dev. Std.	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 gender	0,52	0,50	184	1															
2 age	0,57	0,50	184	,181*	1														
3 background_bafe	0,57	0,50	184	-,115	-,118	1													
4 experience	0,61	0,49	184	,302**	,069	-,052	1												
5 independence	0,57	0,50	184	,126	,059	,160*	,061	1											
6 n_employees	2,92	0,92	184	,195**	,170*	-,101	-,057	-,047	1										
7 sector	0,51	0,50	184	-,251**	-,177*	,273**	-,036	,185*	-,126	1									
8 SDGbelief	5,32	1,60	184	,138	,195**	,073	,036	,259**	,022	,076	1								
9 setupNFS_involvement	3,71	1,93	184	,105	,144	-,034	,030	,051	,279**	-,001	,142	1							
10 benchmarking	3,51	1,69	184	,226**	,061	-,085	-,074	,058	,179*	,042	,143	,535**	1						
11 Standard_choice	3,39	1,86	184	-,059	,080	,070	-,097	-,113	,142	,059	,030	,696**	,482**	1					
12 Mat_SDGs_link	3,51	1,86	184	,062	,237**	,020	,074	-,009	,082	,000	,285**	,710**	,527**	,707**	1				
13 Mapping_Stakeholder	3,80	1,92	184	-,055	,069	,074	-,073	,011	,210**	,117	,197**	,692**	,611**	,707**	,705**	1			
14 Materiality	3,82	1,91	184	,056	,181*	-,050	-,031	-,039	,293**	,041	,166*	,711**	,665**	,682**	,724**	,903**	1		
15 SDGactions_behaviour	4,73	1,54	184	,231**	,150*	,091	,064	,348**	,276**	-,108	,357**	,400**	,375**	,330**	,432**	,452**	,506**	1	
16 NFI process	3,55	1,56	184	,079	,166*	-,012	-,036	-,033	,205**	,042	,183*	,781**	,775**	,848**	,873**	,863**	,905**	,483**	1

Note: n = 184;

**p < 0.01; *p < 0.05.

Figure 2: confirmatory factor analysis

NFI porcess	Cronbach's α	Composite reliability	AVE	Factor loadings
Values	0,874	0,876	0,631	
(Likert 1 = not at all, ..., 7 = Very)				
benchmarking				0,668
standardchoice				0,781
matsdg				0,832
materiality				0,903

CFA: ($\chi^2 = 3.548$, $df = 2$, p value > .05, $CFI = .989$, $GFI = .990$, $SRMR = .022$, $RMSEA = .065$, $TLI = .968$, $IFN = .977$).