Corporate Governance and Corporate Social Responsibility Reporting and Assurance: Evidence from Italian Listed Companies

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Abstract

This study investigates the association between corporate governance (CG) variables and the production and assurance of corporate social responsibility (CSR) reports in Italian listed companies. We used two models to test our hypotheses. In the first model, we tested the decision to assure a CSR report estimating the influence of five CG variables regarding board structure. Then, in the second model, we tested the effect of these explanatory variables on the decision to assure CSR reports. We found evidence that board size and CEO duality are positively related to the CSR report. Board size and CSR committee are significantly and positively related to the decision to assure CSR reports. These findings indicate that larger boards may be able to direct management to produce and assure CSR reports to safeguard the interests of all stakeholders. From an agency theory viewpoint, the positive impact of CEO duality on CSR reporting could indicate that the CEO is pressured by stakeholders and may provide CSR disclosure to appease stakeholders' concerns. The presence of a CSR committee might be considered a monitoring device that is useful to produce an impact on the decision to assure the CSR reports.

Keywords: Corporate governance, CSR report, Assurance, Corporate board.

1. Introduction

Several academic studies examining corporate social responsibility (CSR) reporting have investigated the financial and non-financial factors that could influence a firm's decision to produce the CSR reports (social reports, sustainability reports, etc). The major part of these studies report that the "determinants" most frequently used in empirical research are: size variables (revenues, total assets, number of employees); economic and financial performance variables (ROA, ROE, leverage); defining company variables (industry membership, stock exchange listing); corporate governance (CG) variables (CEO duality, board dimensions); country variables (country of origin, legal requirements); and others (media attention, certifications) (Hahn and Kühnen, 2013; Ali et al., 2017). Certain variables related to internal aspects of CG are sparsely and occasionally examined, although some CG variables (e.g., audit committee, CSR committee, etc.) might influence corporate reporting. According to KPMG (2008), although CG has been recognised as a "key corporate responsibility issue" (p.42), many companies do not make the connection between CG and corporate responsibility in their CSR reports. Michelon and Parbonetti (2012) say that "[…] we have much to learn about the impact of governance on voluntary disclosure and especially sustainability disclosure" (p. 478). There is, therefore, a need for more research on this topic.

Some papers, however, explored the possible relations between voluntary disclosure and CG. Certain studies considered CG variables only as one of the possible different determinants of corporate disclosure (Dilling, 2010; Adams, 2002), while other studies, instead, focused on CG variables to understand how these variables influence the production, quality or extent of voluntary disclosures. Within the latter group of research, only a few studies have analysed a sample of Italian companies (Cucari et al., 2017; Allegrini and Greco, 2013; Patelli and Prencipe, 2007). Cucari et al. (2017), referring to 54 Italian listed companies, investigated the association between environmental, social and governance (ESG) disclosure and some characteristics of the board of directors. They found that ESG disclosure is associated with an independent director and CSR committee. Allegrini and Greco (2013) investigated the relationship between governance and voluntary information disclosed in the annual reports of a sample of 177 non-financial companies listed on the Italian Stock Exchange in 2007. They found that board size and board and audit committee diligence show a positive relationship with voluntary disclosure. Board committees, board composition and the presence of a lead independent director (LEAD) are not significantly correlated with the amount of voluntary disclosure. CEO duality shows a negative impact, with a poor level of significance. Patelli and Prencipe (2007) carried out an empirical analysis on 175 non-financial companies listed on the Milan Stock Exchange in 2002. They analysed the correlation between voluntary disclosure in annual reports and independent directors. This study shows that there is a positive correlation between the proportion of independent directors on the board and the level of voluntary information disclosed by companies. This research, then, analysed the interplay between some CG variables and both ESG data and level of voluntary disclosure in the annual report. Our study aims to investigate the association between CG and CSR reports.

The scarcity of studies that analyse the relationship between CG and CSR reports with reference to the Italian case is the first reason for our interest in this topic. The second one is related to the peculiarities of the Italian market and of Italian corporations' CG model. With reference to the Italian case, the Italian stock market is less developed than, for example, the US or the British one. The Italian CG model is influenced by the presence of corporations that typically have controlling owners with a concentrated and stable shareholding, and large controlling shareholders that dominate boards. In this situation there is a widespread perception of a "lack of independence by outside directors and a weak legal protection for small investors" (Allegrini and Greco, 2013, p. 189). Allegrini and Greco (2013) then say, "This situation is likely to produce calls for additional external control devices, such as disclosure" (p.189). In particular, Michelon and Parbonetti (2012) say that CG and CSR disclosure might be seen as complementary mechanisms used by companies to improve relations with different stakeholders. According to these considerations, we can observe that in Europe, Italy, as highlighted by KPMG International surveys (2011, 2013), is among the countries with the highest number and the best quality average score of voluntary CSR reports produced. Furthermore, Italy is one of the three European countries with the highest percentage of large companies that conduct assurance activities on their CSR reports (KPMG, 2011, p.29). Literature suggests that assurance of CSR reports is necessary to enhance their credibility and reliability. These results reflect the relative maturity of CSR reporting in Italy and make the Italian case interesting to analyse. According to what we have just observed, we may explain the third reason for our interest in the Italian case. As underscored by Fazzini and Dal Maso (2016), Italy presented a low value of the Worldwide Governance Indicator (WGI) Rule of Law, in comparison with other leading European Union economies (e.g., Germany, France). This weakness of the Italian institutional environment and of stakeholders' orientation may impact the decision to assure CSR reports. Francis et al. (2011) demonstrated that "voluntary assurance services can substitute for the weaknesses in a country's institutional environment" (p. 511). Herda et al. (2014) found that firms from countries with weaker investor protection are more likely to have their reports assured. Kolk and Perego (2010) and Simnett et al. (2009) found that companies operating in countries that are more stakeholder-oriented are more inclined to have their report assured.

Therefore, according to the above research, the aim of this study is twofold. Firstly, we want to test the existence of links between the production of CSR reports by Italian listed companies and a set of CG variables. Secondly, we want to investigate whether the assurance of CSR reports might be related to CG variables. We used two models to test our hypotheses. With the first model we tested the decision to produce CSR reports by estimating the influence of five CG variables relative to the board structure (board size, number of women on the board, CEO duality, presence of independent directors, presence of CSR committees). Then, in the second model, we tested the effect of these explanatory variables on the decision to assure CSR reports.

In this paper, we adopted the agency theory as the premise of our theoretical framework. Agency theory predicts that companies may use their CG structures and voluntary disclosure to reduce agency costs arising from the separation between ownership and control (Jensen and Meckling, 1976; Fama and Jensen, 1983). Agency theory is also useful to explain the recourse to voluntary auditing (Chow, 1982) and to the assurance of CSR reports (Moroney et al., 2012).

In our study, we found a positive impact of board size and CEO duality on the production of CSR reports. Board size and the presence of a CSR committee have a significant and positive relationship with the decision to assure CSR reports. However, contrary to our expectation, women on the board and independent directors have no relationship with CSR reports and with the decision to assure them.

This paper answers a call for more studies on accounting research that explore the relationship between CG characteristics and CSR disclosure (Kend, 2015). Moreover, we contributed to understanding the relationship between board composition and both the decision to produce and assure a CSR report, with reference to the Italian context.

The remainder of the paper is organised as follows. Section 2 reviews prior research on the relationship between CG and voluntary disclosure, and develops research hypotheses. Section 3 describes the data used and introduces the model applied, and section 4 shows the results. Concluding remarks are presented in section 5.

2. Background and Hypothesis Development

2.1 Background

Some papers explored the relationship between voluntary disclosure and CG. Certain studies considered CG variables only as one of the many possible determinants of corporate disclosure (Dilling, 2010; Adams 2002). Other studies, instead, focus on CG variables to examine how these variables influence voluntary disclosures. Referring to the latter part of the literature, we analysed papers that investigate the interplay between governance and voluntary CSR disclosure.

Conversely, the relationship between CG and the decision to assure a CSR report was not extensively explored in the literature and, when it was investigated, the most commonly used variable was ownership structure followed by board composition variables (Velte and Stawinoga, 2017).

We only analysed empirical articles, namely articles that usually contain some statistics and/or a survey or measurement tool of some sort (Taneja et al., 2011, p. 347). It should be noted that we proposed a personal interpretation and codification of selected research articles; hence, this classification is devoid of any "scientific truth" (Contrafatto, 2011). The aim is only to provide an outline of some research on this topic. To achieve this aim, for each paper we decided to: indicate the primary aim of the paper; identify the theoretical and methodological choices made; outline the research hypothesis, and report the findings obtained.

2.1.1 The theoretical framework

Most of the research that investigates the interplay between governance and voluntary disclosure are mainly based on agency theory (Allegrini and Greco, 2013; Jizi et al., 2014; Patelli and Prencipe, 2007; Ho and Wong, 2001). The agency theory assumes that firms disclose voluntary information and use control mechanisms delivered by its CG structures to mitigate the agency problem and to demonstrate that they are utilising the firm's resources in the shareholder's interests (Jensen and Meckling, 1976; Fama and Jensen, 1983; Cheng and Courtenay, 2006; Allegrini and Greco, 2013). Other studies defined the relationship between CG and voluntary disclosures on stakeholder theory and/or legitimacy theory. Stakeholder and legitimacy theories are socio-political theories. They are the two most utilised frameworks in social and environmental accounting literature to explain social and environmental disclosure. According to stakeholder theory, CSR disclosures are made in response to stakeholders' requests and are part of the dialogue between a company and its stakeholders. Legitimacy theory posits that firms try to behave in a way that society wants them to behave; thus, companies decide to produce a CSR report to gain legitimation in the eyes of the public (Michelon and Parbonetti, 2012; Cong and Freeman, 2011). Research based on these theories discusses whether good CG and CSR disclosure may be seen as complementary mechanisms that companies may use to dialogue and make themselves look legitimate in the eyes of stakeholders (Haniffa and Cooke, 2005; Cong and Freeman, 2011; Michelon and Parbonetti, 2012; Khan et al., 2013; Amran et al., 2014; Kend, 2015).

Studies on the relationship between CG and assurance in many cases do not say that they adhere to a certain theory (Castelo Branco et al., 2014). The theoretical frameworks most used to analyse the assurance of CSR reports are agency theory (Ruhnke and Gabriel, 2013), signalling theory (Cheng et al., 2015) legitimacy theory (Kuruppu and Milne, 2010) and stakeholder agency theory (De Beelde and Tuybens, 2015; Kend, 2015), and also a combination of theories (Fazzini and Dal Maso, 2016). The agency theory perspective sees assurance engagement convenient for reducing agency costs. According to the signalling theory, the decision to assure a CSR report produces a positive "signalling effect" (Cohen e Simnett, 2015, p. 64) in communicating the importance of reported information to investors. The legitimacy theory perspective reveals that the decision to assure a CSR report is a useful CG mechanism for legitimisation of corporate CSR activities (Velte and Stawinoga, 2017). Under stakeholder agency theory, the decision to assure a CSR report is useful to reduce information asymmetries and stakeholder agency costs (De Beelde and Tuybens, 2015; Kend, 2015).

2.1.2 Research methodology: sample and methods used

With reference to the samples investigated, we can observe that most papers on the relationship between production and assurance of CSR reports and CG refer to companies listed on a country stock exchange (e.g., Italy, Spain, US, Australia, UK, Malaysia, Jordan, Bangladesh, etc.). Other papers refer to samples of firms included in sustainability indices (e.g., Dow Jones Sustainability Index) (Michelon and Parbonetti, 2012).

The methods mainly adopted to carry out the empirical investigation are based on multivariate analysis. Only a few studies have also used questionnaire surveys (Haniffa and Cooke, 2005; Ho and Wong, 2001).

The dependent variable of studies that explore the relationship between CSR reports and CG is generally a disclosure index. This index was mainly constructed using data from published CSR reports, annual reports, or both of them. Conversely, studies analysing the association between CG variables and assurance employed, as dependent variable, a dummy variable (Peters and Romi, 2015; Kend, 2015; Liao et al., 2016).

The most frequently analysed determinants of CSR disclosure are some internal contextual factors related to CG variables (e.g., board size, CEO duality, LEAD independent director, audit committee, etc.). Studies analysing the relationship between CG and assurance most commonly used the ownership structure variable (Ruhnke and Gabriel, 2013; De Beelde and Tuybens, 2015), followed by variables related to board composition, such as board size and meeting frequency (Kend, 2015; Liao, 2016), existence of a CSR committee (Kend, 2015; Peters and Romi, 2015), existence of a corporate sustainability officer (Peters and Romi, 2015), gender diversity (Liao et al., 2016), audit committee size and meeting frequency (Kend, 2015).

2.1.3 Results

Empirical findings show controversial results in linking board structure/characteristics and CSR disclosure. Referring to board independence, some studies documented a positive relationship between this variable and CSR disclosure (Chen and Courtenay, 2006; Haniffa and Cooke 2005; Jizi et al., 2014, Patelli and Prencipe, 2007; Khan et al., 2013). Others, on the contrary, show that board independence significantly and negatively affects CSR disclosures (Gul and Leung, 2004; Eng and Mak, 2003), while other studies found no significant correlation between these variables (Allegrini and Greco, 2013; Amran et al. 2014). Board diversity is recently the focus of growing interest on the part of scholars and practitioners who investigate the link between diversity and corporate sustainability (Adams and Ferreira, 2009; Galbreath, 2011). However, to date few studies have analysed the interplay between gender diversity and CSR reporting. Several studies have documented that the presence of women directors on the board is not significantly related to the level of CSR disclosure or to voluntary disclosure in the annual report (Khan, 2010; Cucari et al., 2017).

Research has also analysed the role that the presence and characteristics of board committees (i.e., CSR committee, audit committee, etc.) can play on CSR disclosure. As regards to the CSR committee, several studies show that this variable is positively associated with sustainability reporting quality (Amran et al., 2014) or with CSR disclosure (Michelon and Parbonetti, 2012; Kend, 2015). Concerning the audit committee, some research found that the existence of an audit committee (Ho and Wong, 2001; Khan et al., 2013) or the audit committee's meeting frequency (Allegrini and Greco, 2013) have a positive influence on voluntary disclosure. Othman et al. (2014) show that only tenure and multiple directorships (i.e., two audit committee characteristics) are associated with voluntary disclosure.

Empirical findings mainly show that board size may positively affect voluntary disclosure (Allegrini and Greco, 2013, Michelon and Parbonetti, 2013; Jizi et al., 2014). However, other empirical studies find no association between board size and level of voluntary disclosure (Arcay and Vazquez, 2005; Cheng and Courtneay, 2006).

The combination of CEO and chairman positions, namely CEO duality, presents a negative correlation between CEO duality and CSR disclosure, as observed by Allegrini and Greco (2013). Conversely, Jizi et al. (2014) show a statistically significant positive relationship between these two variables. Michelon and Parbonetti (2012), Cheng and Courtenay (2006), Khan et al. (2013) show the lack of association between these two variables.

Until now only few studies have analysed the relationship between some CG characteristics and the decision to assure a voluntary CSR report. Some research finds a positive relationship between the assurance and the existence in the company of a CSR department (Ruhnke and Gabriel, 2013) or of a corporate sustainability officer (Peters and Romi, 2015). Peters and Romi (2015) fail to find an association between the presence of an environmental committee and the assurance of a CSR report, but if that committee comprises an environmental expert, then there is a positive association with assurance.

Kend (2015) observed that audit committee meetings had a positive impact on the decision to assure a sustainability report. Liao (2016) highlights that the decision to conduct an assurance is positively related to board size, gender diversity and to the absence of CEO duality. Instead, the presence on the board of foreign directors was significantly and negatively linked with CSR report assurance.

2.2 Hypothesis

Based on existing literature, the following analysis defines the hypothesis of the possible impact some CG variables might have on the decision to produce and assure a CSR report.

2.2.1 Board Size

Board size is one of the characteristics that may affect board effectiveness. A part of the literature suggests that large boards may benefit by different experiences, knowledge and skills, which can potentially promote monitoring activities and also more voluntary disclosure (Larmou and Vafeas, 2010). Therefore, some empirical studies suggest a positive association between board size and voluntary disclosure (Allegrini and Greco, 2013; Jizi et al., 2014). We believe that the larger the board, the higher will be board's attitude to promote corporate transparency. A large board may encourage more voluntary disclosure, improve quality of the CSR report (CSRR) and increase the requests for assurance (Liao et al., 2016). This leads to our hypothesis:

H1a. There is a positive correlation between board size and the decision to produce a CSRR

H1b. There is a positive correlation between board size and the decision to assure a GRI-based report

2.2.2 Women directors on the board

In relation to gender diversity, many authors find that the presence of women on the board has a positive effect on corporate behaviour (Adam and Ferriera, 2008; Galbreath, 2011). Female directors present significant differences in their ethical perception, compared to males (Ibrahim et al. 2009), and their presence may improve stakeholder relationships. This behaviour is often associated with greater corporate transparency and can contribute to more voluntary disclosure (Prado-Lorenzo and Garcia-Sanchez, 2010; Frias-Aceituno et al., 2013). Previous literature finds that firms with more women directors on the board are more likely to be assigned to audit committees and demand more audit efforts and managerial accountability (Adams and Ferreira, 2009). Liao et al. (2016) find that firms with more female directors on the board are more likely to engage in CSR assurance. These considerations lead to the following hypotheses:

H2a. There is a positive correlation between the number of women directors on the board and the decision to produce a CSRR

H2b. There is a positive correlation between the number of women directors on the board and the decision to assure a GRI-based report

2.2.3 CEO Duality

As highlighted earlier, empirical evidence on the relationship between CEO duality and voluntary disclosure is mixed. CEO duality signals the absence of a separation between decision control (chair of the board) and decision management (CEO) (Fama and Jensen, 1983). CEO duality may limit board monitoring effectiveness (Gul and Leung, 2004; Allegrini and Greco, 2013). It may also reduce the complete transfer of information between the CEO and board members that can be associated with poorer voluntary disclosure (Kim et al., 2009). Duality might create greater efficiency in the formulation and implementation of corporate strategies, and it can reduce conflicts that might arise between CEO and chairman (non-CEO) (Samaha et al., 2015). In this case CEO duality may be associated with more voluntary disclosure. We can hypothesise that firms with CEO duality may be more likely to obtain a third-party assurance of CSR reports produced in order to assure the credibility and reliability of CSR activities. Hence, we expect the following:

H3a. There is a positive correlation between CEO duality and the decision to produce a CSRR

H3b. There is a positive correlation between CEO duality and the decision to assure a GRI-based report

2.2.4 CSR Committee

The presence of a CSR committee at board level might be considered the expression of corporate commitment towards stakeholders. This committee might be considered a monitoring device to review and improve initiatives of social responsibility and practices of disclosure provided to stakeholders (Michelon and Parbonetti, 2012). Peters and Romi (2015) say that assurance could be seen as a useful means to enhance "the committee's reputational legitimacy" (p. 168), and as an "information conduit in the eyes of other board members" and for other external constituents. Then we might expect the presence of a CSR committee to impact the decision to assure a CSR report. Consistently with these considerations, we expect that:

H4a. There is a positive correlation between the presence of a CSR Committee and the decision to produce a CSRR

H4b. There is a positive correlation between the presence of a CSR Committee and the decision to assure a GRI-based report

2.2.5 Independent directors

From an agency theory perspective, boards with a large number of independent directors may have a significant impact on the effectiveness of the board's controlling activities. Independent directors are supposed to be able to ensure more board independence from management and better monitoring and control of management (Cheng and Courtenay, 2006). Haniffa and Cooke (2005) say that independent directors may be seen as the "check and balance mechanism" (p. 400), as their role is to ensure that companies act in the interests not only of shareholders but also of other stakeholders. Therefore, companies with independent directors are generally more interested in developing social responsibility and may display greater engagement in CSR reporting (Cheng and Courtenay, 2006; Michelon and Parbonetti, 2013; Jizi et al., 2014). If we consider that external assurance may be an important mechanism to reduce opportunistic management behaviour and instrument to enhance credibility and reliability of CSR reports, we can then suppose that a board with more independent directors is more likely to assure CSR reports. Taking into account these considerations, we propose the following hypothesis:

H5a. There is a positive correlation between the number of independent directors and the decision to produce a CSRR

H5b. There is a positive correlation between the number of independent directors and the decision to assure a GRI-based report

3. Data collection and research design

3.1. Sample selection and data source

In order to test the hypotheses proposed, we collected data from all 292 companies listed on the Italian Stock Exchange. We preliminarily excluded all financial companies because of their specific disclosure requirements and accounting regulations. Then we verified how many of the remaining listed companies had produced voluntary CSR reports in the year 2012 (or, failing these, in 2011 or 2013). We obtained CSR reports both from the Italian Stock Exchange website and from corporate websites. We gathered data on governance by downloading annual CG reports available also on the institutional website or on the corporate website. From the initial number of companies, we excluded those which did not produce any voluntary report, companies with foreign nationality (other than the Italian one), and companies showing a lack of information in their CSR reports or about their CG. Our final sample, therefore, includes 192 companies.

Table 1 lists these companies according to their relevant "Industry" sector as identified on the Italian Stock Exchange website.

Table 1. *Sample composition by industry type.*

Industry sector		Number of companies
Industrial	IND	59
Consumer goods	CG	44
Consumer services	CS	27
Technology	TEC	22
Utilities	UTL	18
Oil and gas	OG	8
Healthcare	HC	7
Basic materials	BM	4
Telecommunications	TEL	3
Total		**192**

3.2. Dependent variables

The dependent variable differs for each research question and, consequently, for the two models considered.

With regard to Model 1, the dependent variable was a voluntary CSR report (CSRREP), a dummy variable that takes the value '1' if the CSR report is produced, and the value '0' otherwise.

Model 2 focused only on a subset of the observations used to answer the first research question, relating GRI-based sustainability reports. GRI guidelines have become the most used global framework for voluntary CSR reporting, also with reference to the Italian context. One feature of the G3 and G3.1 guidelines was the definition of three 'Application Levels', namely A, B and C with 'plus' (+) available for each level, if external assurance was utilised for the report. The choice of a specific application level expresses the extent of adoption of the GRI Reporting Framework. The lowest level is C and the highest level is A. The preparation of a sustainability report in accordance with the Application Levels of GRI guidelines with a 'plus' may be considered a signal of both the extent of the report and the credibility of the information provided, "a surrogate for the scope and quality of the reporting" (Runhke and Gabriel, 2015, p. 1072). Hence, in Model 2, we verified if CG variables could impact the decision to assure a GRI-based report. To this end, the dependent variable chosen is GRI Report Assurance (GRIASS), a dummy variable that takes the value '1' if a sustainability report A, B and C with '+' is released, and the value '0' otherwise.

3.3. Independent variables and control variables

Following the theoretical and empirical approaches exposed above, we used 5 independent variables related to board composition and structure: Board Size (BS), number of Women on the Board (BW), CEO duality (CEODU), the presence of an Audit committee (CSRCOM), and the presence of Independent Directors (INDIR). These variables are described in Table 2. Following the stream of previous studies on CSR disclosure and assurance, we adopted several control variables representing company size, leverage, profitability and sector sensitivity.

In this research, company size is considered by computing the natural logarithm of total assets (SIZE). Previous studies found a positive relationship between size and decision to produce (Clarkson et al., 2008; Fortanier et al., 2011) and to assure (Sierra et al., 2013; De Beelde and Tuybens, 2015; Casey and Grenier, 2015) a CSR report.

Leverage is an index that indicates the level of indebtedness of a company. It is calculated as the ratio of total debt on total assets (LEV). This index is often considered a determinant of CSR reports and assurance (Clarkson et al., 2008; Simnett et al., 2009; Ruhnke and Gabriel, 2013; Casey and Grenier, 2015).

Several empirical research used financial performance variables to explore the relationship between corporate performance and the propensity of companies to produce and assure CSR reports. Profitability has been proxied by ROA (Clarkson et al. 2008; Simnett et al., 2009; Ruhnke and Gabriel, 2013) and ROE (Sierra et al., 2013). Data on size, leverage, ROE, and ROA have been taken from the consolidated 2012 financial statements of companies selected present on AIDA (Bureau Van Dijck Database).

Sector sensitivity is one of the most commonly used corporate variables. Several studies have reported that sector sensitivity can influence CSR disclosure (Tarquinio et al., 2018) and assurance (Sierra et al., 2013; De Beelde and Tuybens, 2015). For the purposes of our study, Oil and Gas, Utilities and Basic Materials industries have been considered as sensitive industries.

Table 2 shows the definition and measurement of each variable used in our empirical analysis and the expected signs of the variables.

Table 2. *Definition, measurement and expected signs of variables.*

Variables	Abbreviation	Definition and measurement	Expected sign
Dependent variables			
CSR Report (**Model 1**)	CSRREP	Dummy variable (1 if the company produces a CSR report, 0 otherwise)	
GRI Report Assurance (**Model 2**)	GRIASS	Dummy variable (1 if the company produces a GRI Report A+, B+, or C+, 0 otherwise)	
Independent variables			
Board Size	BS	Number of members in the company's board of directors	+
Women on the Board	BW	Number of women in the company's board of directors	+
CEO Duality	CEODU	Dummy variable (1 if the CEO is also the Chairman of the board, 0 otherwise)	+
CSR Committee	CSRCOM	Dummy variable (1 if the company has a CSR Committee, 0 otherwise)	+
Independent Directors	INDIR	Dummy variable (1 if the company has Independent Directors, 0 otherwise)	+
Control variables			
Firm Size	SIZE	Natural logarithm of total assets in thousands of euros	+
Leverage	LEV	Total debt to total assets at the end of the year 2012	+
Profitability	ROA	Return on assets	+
	ROE	Return on equity	+
Sensitive Sector (OG,UTL,BM)	SENSEC	Dummy variable (1 if the corporate sector is 'sensitive', 0 otherwise)	+

3.4. Model specification

In order to estimate the relationship between the explanatory variables introduced above and the corporate decision to produce and assure a voluntary CSR report, we applied a binary logistic regression model. We used this methodology for two main reasons: first, binary logistic regression overcomes the limitations of Ordinary Least Squares (OLS) to estimate the parameters when the dependent variable is dichotomous, as in our case; second, this methodology preserves the marched character of the sample (Hosmer and Lemeshow, 1989).

In order to answer the two research questions, we estimated two models described before. In Model 1, we tested the hypotheses regarding the decision to produce a voluntary CSR report by estimating the influence of five CG variables related to board structure (i.e., Board Size, number of Women on the Board, CEO Duality, presence of Independents Directors and presence of CSR Committees).

Hence, Model 1 is as follows:

$$\text{CSRREP} = \beta_0 + \beta_1\, \text{BS}i + \beta_2\, \text{BW}i + \beta_3\, \text{CEODU}i + \beta_4\, \text{CSRCOM}i + \beta_5\, \text{INDIR}i + \beta_6\, \text{SIZE}i + \beta_7\, \text{LEV}i + \beta_8\, \text{ROA}i + \beta_9\, \text{ROE}i + \beta_{10}\, \text{SENSEC}i + \varepsilon_i \quad (1)$$

In Model 2 we tested the effect of these explanatory variables on the decision to assure GRI-based reports.

Hence, Model 2 is as follows:

$$\text{GRIASS} = \beta_0 + \beta_1\, \text{BS}i + \beta_2\, \text{BW}i + \beta_3\, \text{CEODU}i + \beta_4\, \text{CSRCOM}i + \beta_5\, \text{INDIR}i + \beta_6\, \text{SIZE}i + \beta_7\, \text{LEV}i + \beta_8\, \text{ROA}i + \beta_9\, \text{ROE}i + \beta_{10}\, \text{SENSEC}i + \varepsilon_i \quad (2)$$

where: i = company 1 through n (n = 192); other abbreviations are listed in Table 2.

4. Empirical analysis and results

4.1. Descriptive analysis

Table 3 shows descriptive statistics for all variables in order to analyse its characteristics.

With regard to CG variables related to board composition, the results in Table 3 indicate that mean BS is quite high (around 9 members). By contrast, BW is very low (around 1 member). In addition, about 96% of companies have INDIR, and CEODU occurs in about 29% of the analysed companies. Conversely, most companies (91,7%) have no CSRCOM. Furthermore, the results of control variables indicate that LEV is, on average, equal to 1.78 and SIZE is, on average, equal to 18.33. Some relevant differences result, on average, between two profitability dimensions, because ROA has a negative value (- 0,1653) and ROE shows a relevant level on average (7.58). In both cases, however, there is also a high standard deviation that reveals a high dispersion of values (as shown by the high differences between the related minimum and maximum values). Finally, most companies do not belong to SENSECs (i.e., Industrial, Consumer Goods, Consumer Services, Technology, Healthcare and Telecommunications).

Table 3. *Descriptive statistics for all variables.*

Quantitative variables	Mean	Median	Minimum	Maximum	Standard deviation
BS	9.23	9	2	21	3.14
BW	1.27	1	0	5	1.08
SIZE	18.33		13.97	21.40	1.85
LEV	1.78		-10.01	163.63	12.07
ROA	- 0.1653		-157.48	27.82	18.42
ROE	7.58		-286.59	767.40	78.26
Dichotomous variables (1.0)	**Yes% (1)**	**No% (0)**			
CSRREP	24.5	75.5			
GRIASS	13.5	86.5			
CEODU	29.2	70.8			
CSRCOM	8.3	91.7			
INDIR	96.4	3.6			
SENSEC	15.6	84.4			

4.2. Logistic regression results

In Model 1 we tested the influence of independent variables related to CG dimensions on the likelihood of CSRREP production. Table 4 presents the results obtained.

The results of Model 1 support, as expected, the hypothesis of a relationship between CSRREP and BS, and between CSRREP and CEODU. The coefficients indicate that the influence of these variables on the dependent variable (CSR report) is positive. These results are consistent with some previous studies (Allegrini and Greco, 2013; Jizi et al., 2014; Samaha et al., 2015).

The coefficients of remaining variables are not significant at the 5% level and, thus, our hypotheses H2a, H4a and H5a are not supported. Variables CSRCOM and INDIR show the expected sign (positive), suggesting that the production of a CSRREP increases with the presence of a CSRCOM and of an INDIR, although results are not significant at the 5% level. Weak evidence of the relationship between the presence of CSRCOM and CSR disclosure, and the absence of a significant association between INDIR and disclosure was documented by Michelon and Parbonetti (2012).

By contrast, for the variable BW, the estimated coefficient is negative and, therefore, inconsistent with the expected sign (positive) and non-significant. This result is rather inconsistent with earlier studies, which highlight "that the presence of women directors have a stronger direction toward CSR reporting" (Ibrahim and Angelidis, 1994, p. 38). But our findings are consistent with other studies where the relationship between women on board and information voluntarily disclosed by the firm is statistically not significant (Khan, 2010). One possible explanation may be, in the Italian context, the small proportion of women on the board, as shown in Table 3. The presence of a single female director cannot produce a relevant influence on the board (Cucari et al., 2017).

Table 4. *Model 1 results.*

	B	Std. error	Wald	Df	Sig.	Exp(B)
BS	.224	.080	7.886	1	.005	1.251
BW	-.131	.222	.349	1	.555	.877
CEODU	.972	.460	4.472	1	.034	2.644
INDIR	19.836	14907.035	.000	1	.999	4.117E8
CSRCOM	22.410	9603.758	.000	1	.998	5.403E9
SIZE	-.047	.117	.163	1	.687	.954
LEV	.109	.068	2.600	1	.107	1.116
ROA	.008	.017	.223	1	.637	1.008
ROE	.005	.003	3.302	1	.069	1.005
SENSEC	.845	.578	2.136	1	.144	2.327
Constant	-23.073	14907.035	.000	1	.999	.000

In Model 2, we checked for this influence on corporate decisions about GRIASS. Table 5 presents the results obtained.

In Model 2, BS, CSRCOM and SIZE are significant at the 5% level. Results confirm the positive influence of BS and CSRCOM on the corporate decision to ensure a GRI-based report. Therefore, the existence of a CSRCOM may strengthen the request for credibility of CSR reports and may support the assurance. Our results are in line with Cucari et al. (2017). Instead, other studies fail to find the association between the presence of a CSRCOM and GRIASS (Peters and Romi, 2015). We find that a firm's CSR assurance decision is positively associated with BS. This result is in line with Liao et al., 2016.

Contrary to the previous model, the results show that, although the sign is positive as expected, CEODU is not significant in this context. Thus, the hypotheses H3b is not supported by the results. These results contrast with Allegrini and Greco (2013) that show a slightly significant negative correlation with disclosure, but they are consistent with Michelon and Parbonetti (2012).

The coefficients of remaining variables are not significant at the 5% level and, thus, also the hypotheses H2b and H5b are not supported.

The INDIR variable shows the expected sign (positive), and suggests that GRISASS increases with the presence of INDIR, although results are not significant at the 5% level, while also, in this case, the estimated coefficient of variables BW and SIZE is negative and, thus, inconsistent with the expected sign (positive).

Table 5. *Model 2 results.*

	B	Std. error	Wald	Df	Sig.	Exp(B)
BS	.301	.120	6.248	1	.012	1.351
BW	-.160	.325	.242	1	.623	.852
CEODU	.560	.807	.482	1	.487	1.751
INDIR	18.256	15306.309	.000	1	.999	8.483E7
CSRCOM	5.338	1.219	19.170	1	.000	208.166
SIZE	-.328	.170	3.700	1	.050	.720
LEV	-.110	.230	.229	1	.632	.896
ROA	.052	.051	1.048	1	.306	1.054
ROE	-.002	.012	.024	1	.878	.998
SENSEC	-.010	.994	.000	1	.992	.990
Constant	-18.083	15306.309	.000	1	.999	.000

5. Conclusions

Our study responds to the call from prior literature to investigate the relationship between CG characteristics and CSR disclosure (Kend, 2015). Using a sample of Italian firms, listed in the Italian Stock Exchange, we tested whether some characteristics of the Italian CG model may be the determinants of the decision to produce and assure a voluntary CSR report. In order to reach our aim, we used two models. In the first model, we tested the hypotheses regarding the decision to produce a CSR report by estimating the influence of five CG variables, regarding the board structure (BS, BW, CEODU, CSRCOM, and INDIR). Later, in the second model, we tested the effect of these explanatory variables on the decision to assure GRI-based CSR reports. We found a positive impact of BS on the production of CSRREP as well as a significant positive relationship between CEODU and CSRREP. BS and CSRCOM have a significant and positive relationship with the decision to GRIASS.

Under the agency theory framework, our results may suggest that CG and CSR disclosure act complementarily in mitigating agency conflicts, and also asymmetrically between large shareholders and other stakeholders (minority shareholders and others). A large board and the presence of a CSRCOM can incorporate various perspectives from different stakeholders and then act as promoters of monitoring activities designed to strengthen transparency towards the outside. Overall evidence is given by the significant association between GRIASS and both BS and CSRCOM. From an agency theory viewpoint, the positive impact of CEODU on CSRREP could indicate that CEO is under pressure of stakeholders, and he may provide a voluntary report to appease stakeholders' concerns. Furthermore, although INDIR has been proven to be an important "check and balance mechanism" under agency theory, in our study it does not seem to have an impact on CSRREP and assurance. This result contradicts a previous study that is also related to samples of Italian companies (Cucari et al., 2017), and suggests few considerations. Firstly, the non-significant correlation between INDIR and both production and assurance of CSR reports, which might be explained if we consider that these directors might not be involved in the daily operations and in the decision to produce and assure a CSR report. The protection of investors and of other stakeholders against managerial opportunism, that is a typical competence of an independent director, may be delegated to the board and, within it, to its committees (i.e., CSR Committee).

This study contributes to the literature on the relationship between CG and both CSR reports and assurance with reference to the Italian case, that is currently scarce. This research has two limitations. Firstly, our examination was confined to the Italian context. CG characteristics are related to the legal, cultural and socio-economic environment in which companies operate. These CG characteristics may influence the way in which companies and their managers ensure the adoption of rules, regulations and laws, and are accountable to the stakeholders of the companies. Secondly, our research is based on a 1-year sample. Longitudinal studies could offer other insights on the topic analysed.

Future research may consider the longer-term impact of these governance practices on the widespread use of CSR reporting and assurance. It may be interesting to investigate whether the adoption of the Golfo-Mosca's Low (L. 120/2011), which established the introduction of mandatory quotas of women on the boards of companies listed in the Stock Exchange, produced an impact on governance practices and on the decision to draw up a CSR report.

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