

# Disclosure in Non-Financial Reports as Strategic Leverage: can it Increase Firms' Value?

Donato Calace<sup>a,\*</sup>

<sup>a</sup>LUM University, Casamassima, Italy

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## ABSTRACT

Over the last years, stakeholders' pressures over sustainability issues have increased dramatically. Organizations have to demonstrate the inclusion of social and environmental concerns in their operative and strategic decisions processes. For this reason, companies report their sustainability performance in non-financial documents, signaling to markets and stakeholders the outcomes of their CSR policies. As non-financial reporting is a voluntary activity, there is not a common and enforced standard of reporting rules: as a result, the level of disclosure varies from one report to another. Sound and material reporting, with a higher level of disclosure, is a costly activity, requiring large investments in terms of time and resources. Therefore, CSR managers have to determine the grade of disclosure of non-financial reports by evaluating their costs and benefits. The aim of this paper is to determine whether the market remunerates this investment and if it rewards higher levels of disclosure, providing both managerial and academic implications. This paper analyzes the outcomes on companies' market value determined by non-financial disclosures strategies in GRI referenced reports, juxtaposing a partial disclosure stance against a full disclosure stance, through a 2 years longitudinal study of the 2012 Fortune Global 500 companies. Results show that while the issuance of a GRI referenced report with partial disclosure (C and B GRI Application Levels) causes a positive effect on market capitalization, a full disclosure stance (A and A+ GRI Application Levels) has a negative effect on market value in the period of analysis. This output suggests that there is an optimum level of disclosure perceived by the market, opening a debate over the quality of disclosure and its ability to satisfy stakeholders' informative needs.

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### \*Corresponding author:

Donato Calace

[calace@lum.it](mailto:calace@lum.it)

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## 1. INTRODUCTION

The definitions of business accountability and success have spread during the last years: today, firms are called to achieve environmental and social goals, as well as economic ones, in a triple bottom line approach (Elkington, 1997). Stakeholders ask companies to voluntarily include social and environmental elements in their strategic processes and to be acknowledged about their non-financial performance. As "the level of CSR activities of the firms is made known to public only through the disclosures" (Kavitha & Anita, 2011, p. 45),

disclosing non-financial information has become a critical activity. Today more than two-thirds of the Fortune Global 500 companies issue a non-financial report (LeBlanc, 2012), showing a growing trend that is not prompted by contingent and temporary forces (Kolk, 2003).

CSR activities and reporting imply going beyond legal requirements and engaging in voluntary actions (McWilliams, Siegel, & Wright, 2006). It is a managerial task to determine the definition and the boundaries of company accountability, defined as the duty to provide an account or reckoning of those actions for which one is held responsible (Gray, Owen, & Adams, 1996), thereby affecting the amount of sustainability disclosures reported to stakeholders (Michelon & Parbonetti, 2010). Thus, to which extent should a company exceed legal requirements in order to meet stakeholders 'demands'?

In answering this question, CSR managers should take into account that the issuance of a non-financial report has its costs: "a firm making social disclosures assumes that recipients' evaluation of the information will benefit the firm and that these benefits outweigh the costs of collecting, compiling, and disseminating the information" (Ullman, 1985, p. 542).

Thus, the first aim of this paper is to determine whether investing in the issuance of a non-financial report pays in terms of increased market value. The second purpose lies in investigating the effect of disclosing additional information: do stakeholders positively value greater amounts of disclosure? To test these propositions, I propose a longitudinal analysis of the companies listed in the Fortune Global 500 2012 list. The Global Reporting Initiative (GRI) Sustainability Disclosure Database (Global Reporting Initiative, 2013b) provides non-financial reports and their level of disclosure.

The remainder of the study is structured as follows: in the next section, a literature review concerning disclosure of non-financial information explains how and why such data is able to affect firms' value, offering a theoretical insight as well as quantitative evidences from relevant studies. On these theoretical indications, I formulate the hypotheses to be tested. The following methodological section sheds light on the sampling strategy, the operationalization of level of disclosure, and the econometric model employed. The final part presents the results, analyzing and discussing them, showing implications for management and academia.

## **2. LITERATURE REVIEW**

### **2.1. Corporate Social Responsibility and Disclosure**

Before analyzing in detail the causes and the effects of non-financial information disclosure, it is useful to present its primary antecedent and content, that is Corporate Social Responsibility. CSR is a very complex and fragmented domain that has gathered a plenty of attention in the last years. This is because “an intensive debate has been taking place among academics, consultants and corporate executives resulting in many definitions of a more humane, more ethical and a more transparent way of doing business” (Van Marrewijk, 2003, p. 95). CSR and its sister-concepts, like corporate citizenship (Mirvis & Googins, 2006), sustainable entrepreneurship (Schaltegger & Wagner, 2011), triple bottom line (Elkington, 1997), corporate sustainability (Dyllick & Hockerts, 2002) describe why and how firms are called to respond for the environmental and social consequences of their conduct, providing explanations at institutional, organizational and individual level of analysis (Aguinis & Glavas, 2012).

McWilliams, Siegel, & Wright (2006, p.1) define CSR as “situations where the firm goes beyond compliance and engages in voluntary actions that appear to further some social good, beyond the interests of the firm and that which is required by law”. The Commission of European Communities (CEC, 2001) describes CSR as a concept whereby companies integrate social and environmental concerns into their business operations and interact with their stakeholders on a voluntary basis. According to Aguinis (2011, p.855), CSR are “context-specific organizational actions and policies that take into account stakeholders’ expectations and the triple bottom line of performance”. Van Marrewijk (2003, p.102) indicates that “CSR refers to company activities – voluntary by definition – demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders”.

Most of research efforts look for a business case for sustainability, analyzing the relationship between Corporate Social/Environmental Performance (CSP/CEP) and Corporate Financial Performance (CFP) (Wood, 2010). The majority of research suggest that “it does pay to be green” in terms of increased efficiency, strengthened brand and market value, and improved competitiveness (Hart & Ahuja, 1996; Porter & Van der Linde, 1995; Porter & Kramer, 2011). However, there are still skeptical views, according to which the only responsibility of a company is the use of its resources to engage in activities designed to increase profits, while

CSR strategies are only a source of costs and divert resources from other profitable investments (Friedman, 1970; Vance, 1975; Brammer, Brooks, & Pavelin, 2006). Nevertheless, recent CSP/CEP-CFP studies meta-analyses show that there is a well-established positive relationship between the two dimensions, despite measurement, methodological and theoretical issues surrounding it (Wood, 2010; Dixon-Fowler, Slater, Johnson, Ellstrand, & Romi, 2013). In particular, a new standpoint is emerging, according to which “environmental initiatives may not lead to a cost advantage for all firm under all conditions” (Dixon-Fowler, *et al.* 2013). For this reason, researchers are moving from a “does it pay to be green?” perspective to a “when does it pay to be green?” one, not analyzing anymore *whether* being “green” or not, rather than *how* being “green”.

The spirit of this study moves in this direction, not providing another CEP/CSP-CFP analysis, but determining whether and to which extent corporate social disclosure, “the most direct expression of the companies’ attitudes and behaviors regarding social responsibility” (Perrini, 2005, p. 611), creates value for firms and stakeholders. Corporate social disclosure is “the process of providing information designed to discharge social accountability” (Sutantoputra, 2009, p. 36). Firms have many communication channels to disclose such data: the annual report, through the so-called “silent social account” (Gray, 1997), special publications, documents or reports, and even socially orientated advertising (Kavitha & Anita, 2011). In their study of the disclosures of 57 companies listed in the Dow Jones Sustainability Index (DJSI), Michelin & Parbonetti (2012, p. 495) underline that “on average companies disclose more sustainability information in social, environmental and sustainability reports than in the annual report”, confirming the significance of this medium over the others. Disclosure can be broadly categorized into mandatory or voluntary. As suggested before, voluntariness plays an important role in CSR. This is because “governments generally provide relatively little guidance on the implementation of sustainability at the corporate level” (Searcy, 2012, p. 240) and the motivations for self-regulation are well consistent with those for corporate social responsibility (Matiland, 1985). Likewise, Mirvis & Googins (2006), describing the five stages of Corporate Citizenship, indicate that legal compliance is present in the first, “elementary”, stage. For these reasons, it seems that voluntary disclosure, rather than mandatory one, is the best expression for companies’ CSR.

## **2.2. Determinants of non-financial disclosure**

Literature identifies several dimensions that prompts the issuance of a voluntary sustainability report. Such dimensions can be generally classified into external and internal: in their study of the evolution of third-party assurance of sustainability reports, Perego & Kolk (2012, p.185) suggest that “a combination of (external) institutional pressures and (internal) set of resources and capabilities provides most fruitful insights in explaining variation of firm’ adoption and integration of standardized management tools”, such as non-financial reporting frameworks and assurance. Their point of view is convenient with Oliver’s (1991) one, according to which organizations strategic response, in this case the issuance of a non-financial report, are crafted when confronted with institutional pressures, and they are a function of internal culture, norms and values. Research provides more insights in terms of external dimension, rather than internal one. In his early contribution, Ullman (1985) already indicated firm size, industry and company visibility, external pressures and executive values as determinants of social disclosure. Clarkson, Li, Richardson, & Vasvari (2007) indicate stakeholders’ pressures, mandatory requirements, industrial peers’ strategies, media coverage, image and reputation. On the internal side of the determinants, much effort has been spent linking corporate social disclosure and corporate governance (Kolk & Pinske, 2010). Michelon & Parbonetti (2010) studied board composition of 57 Dow Jones Sustainability Index companies, showing the effect of independent directors and “community influentials”, as well of CEO duality, on disclosure. Research regarding internal resources and capabilities, individual and organizational values and culture is currently an almost unexplored territory.

Visibly, also a firm’s sustainable performance determines the issuance of a non-financial report. Researches on this topic can be divided into two main opposite stands: those referring to the voluntary disclosure theory (Dye, 1985; Verrecchia, 1983) and those referring to socio-political theories (Skinner, 1994; Gray, Kouhy, & Lavers, 1995). The first theory, in line with signaling theory (Spence, 1973), posits that better performers have a proactive attitude towards stakeholders, thus they signal their improved results through higher levels of disclosure of verifiable and measurable data. Differently, inferior performers choose to disclose less or to be “silent”. The latter theory claims that firms have a defensive approach towards disclosure: companies with poor sustainability results use reports in order to explain or justify their shortcomings, aiming to defend their legitimacy to operate.

Recent studies are trying to overcome this dichotomy, looking for an integrative interpretation of the two stances. In particular, Cho, Patten, & Roberts (2006) suggest that reports quality is a major issue in studying the relationship with environmental performance. “Companies with superior environmental performance [...] seek to reveal their performance type, something not directly observable to investors and other stakeholders, through direct voluntary disclosures that cannot be easily mimicked by poor performers” (the so called “hard disclosure”) (Clarkson, Li, Richardson, & Vasvari, p.6, 2007). Consequently, these last firms make unverifiable and unmeasurable (the so called “soft disclosure”) claims to show their commitment to sustainability, in order to defend their legitimacy.

Concluding, empirical evidence shows that both poor and high performers disclose. The main difference lies in the quality, hard or soft, of their non-financial reports.

### **2.3. Disclosure and Economic Performance**

In most cases, the decision to issue a non-financial report is motivated through economic thinking: social and environmental reporting deliver benefits to a range of stakeholders while serving to enhance shareholder value (Spence & Gray, 2007). However, also in this case evidence provided by literature is mixed. In his early literature review regarding the relationship between social and environmental disclosure and economic performance, Ullman (1985, p.551) concludes that “given the ambiguous results, no clear tendency can be discerned”. Burnett, Skousen, & Wright (2011) show that the issuance of a non-financial report has a positive effect on firms’ market value, especially in the long term. Xu, Zeng, & Tam (2011, p.227) observe stock market’s reaction to disclosure of environmental violations for Chinese listed companies, finding that “the average reduction in market value is estimated to be much lower than the estimated changes in market value for similar events in other countries”. Using a dataset provided by the Thailand Institute of Directors’ Corporate Governance Benchmarking Survey, Connelly and Limpaphayom (2004) find a significant positive and non-linear relationship between environmental reporting and market valuation, while no link is evidenced with accounting performance. Stanwick and Stanwick (2000, p.155) conduct an examination of 469 US firms’ environmental disclosures, their result shows that “firms classified as high financial performers have higher incidences of environmental policies and/or descriptions of environmental commitment than firms classified as low performers”.

Theories in strategy provide the correct reading of the relationship between corporate social disclosures and economic performance: “the missing element [in the relationship] is strategy” (Ullman, 1985, p. 552; Perego & Kolk, 2012). As indicated by Bowman & Haire (1975), managers are called to decide on how to allocate company resources optimally between various effectiveness dimensions for successfully coping with the task environment. Addressing to the stakeholder theory (Freeman, 1984), which is one of the most applied theoretical framework in the field of CSR (Searcy, 2012), the task environment is populated by individuals and groups, including employees, shareholders, customers, the wider community, to whom companies have obligations. According to this view, corporate social disclosure is able to generate and enhance organizational legitimacy, demonstrating that a firm shares the same value system of the wider community (Michelon & Parbonetti, 2010), trust and reputation (Lamberti & Lettieri, 2009), moving from a “trust me” approach to a “tell me” one (Perrini, 2005), shareholder value creation alignment with social value creation (Chatterji & Levine, 2006), reliability, transparency and brand positioning (Perrini, Russo, Tencati, & Vurro, 2011). In summary, “the disclosure of financial, social and environmental information is part of the dialogue between a company and its stakeholders and it provides information on a company’s activities that legitimize its behavior, educate and inform, and change perceptions and expectations” (Michelon & Parbonetti, 2010, p. 478). If there are still uncertainties regarding corporate social disclosure business case, researchers definitely agree on the existence of a stakeholder case.

Corporate social disclosure can be a source of value for firms also as a form of sustainability performance measurement system (SPMS). A SPMS is a set of performance measures that provides a company with useful information that helps manage, control, plan and perform activities undertaken by the company (Tangen, 2005). In such view, “what gets measured, gets managed”: corporate social disclosure can help managers taking long-term decisions, and increase shareholders long-term value, on condition that disclosure is endowed with comparability, reliability and validity of data (Chatterji & Levine, 2006). Moreover, presence of such “hard” disclosure signals to shareholders and stakeholders that managerial decisions are taken also considering non-financial data: “reporting-based analyses represent the right way towards an overall comprehension of what practitioners consider efficient and appropriate socially responsible behavior” (Perrini, 2005).

## 2.4. Hypotheses development

Considering the stakeholder case of corporate social disclosure, it seems that the issuance of a social and environmental report can create different sources of value for the stakeholders and as a result of these, eventually improve firms' economic performance, following the value creation mechanism described by Perrini, Russo, Tencati, & Vurro (2011). Thus, I propose the first hypothesis to be tested:

*Hypothesis 1: The issuance of a sustainability report has a positive impact on firms' market value*

“Formulating social responsibility programs as well as disclosing their existence can be viewed as part of the strategic arsenal of dealing with one particular segment of a firm's stakeholders” (Ullman, 1985, p. 552). Managers can decide the amount of information provided in their non-financial report, accordingly to the definition they give to their company's accountability boundaries (Michelon & Parbonetti, 2010). The stakeholder approach suggests that the more information is disclosed, the more companies would enjoy increase of those intangible resources that eventually affect the overall economic performance. Higher levels of disclosure represent a stronger attitude towards sustainability, as Dawkins and Fraas (2010, p.385-386) advance: “it may be that companies that have adopted a full disclosure have done so because they fundamentally believe that their strengths outweigh their weaknesses and are committed to environmental disclosure as a matter of value”.

On the other hand, corporate social disclosure has its costs. In addition to the very direct costs of reporting activity, linked to report designing and drafting, employees training, data acquiring, assurance granting and publication, there are other sources of costs to be considered. First, the costs related to the object of analysis, which is corporate sustainability performance. It is a complex domain, endowed with pluralistic goals, ambiguity, uncertainty, and context dominance (Searcy, 2009). It requires multidisciplinary competencies, as well as the inclusion of stakeholders' panels in its processes, creating the opposition of different mindsets (O'Dwyer, 2011). As a result, “in many corporations, people are simply not equipped to effectively pursue a commitment toward corporate sustainability” (Searcy, 2012, p. 240), and a lack of these capabilities can represent a serious impediment for the diffusion of sustainability practices, like non-financial reporting (Perego & Kolk, 2012). Secondly, other costs are associated to managing excessive diversification, as managers and directors have to

shift from a single goal perspective to a triple or even multiple bottom line (Jensen, 2001). Finally, because of the proliferation of non-financial reporting standards, managers face too many frameworks to address. They often choose the one that requires less time and resources, although “the metrics that are the easiest to report are not always the most informative” (Chatterji & Levine, 2006, p. 5). Furthermore, proliferation of measures benefits poor performers, who can design their own metrics in order to “greenwash” their performance, deceiving stakeholders, and confusing consumers and socially responsible investors. As a result, they reduce the weight of non-financial measures in their decisions (Chatterji & Levine, 2006).

Given these considerations, I propose the following second hypothesis, testing whether the additional benefits generated by higher amounts of disclosure overcome its additional costs:

*Hypothesis 2: the issuance of a sustainability report with a higher amount of disclosure determines a higher positive effect on firms' market value*

### **3. METHODOLOGY**

#### **3.1. Data and Sample**

As explained by Brown, de Jong, & Levy, (2009), in recent years large multinational enterprises have dominated sustainability reporting. A number of reasons support the size-disclosure relationship. Firstly, larger firms are more politically visible and often become the “focal point” of broader wars against social and environmental injustices (Chatterji & Levine, 2006). Thus, big companies try to reduce this pressure by various measures, like non-financial reporting (Watts & Zimmerman, 1986). Secondly, bigger firms may enjoy economies of scale and bear lower information production costs (Foster, 1986), or lower costs of competitive disadvantage resulting from disclosing corporate information (Meek, Roberts, & Gray, 1995). Accordingly, I have selected the companies listed in the Fortune Global 500 2012 ranking as the sampling frame. I have collected financial data for a period of analysis of two years (2010, 2011). After having excluded outliers, firms missing financial data and companies belonging to less polluting industries, the final sample results in a balanced panel consisting of 256 observations, 128 per year. The choice of the “worst offenders” industries is because these may experience greater media attention and more pressures from NGOs, consumers, and governmental authorities (Bansel, 2005).

Table 1 provides descriptive statistics of the final sample. It includes companies operating in 5 industries (agriculture, chemicals/heavy industry, light industry, energy,

shipping/transport/distribution), coming from 26 different countries representing 6 world areas (North America, South America, Europe, Asia, Far East, Oceania).

**Table 1:** Descriptive statistics for the final sample, 2012 data

Industry	No. of Firms	Avg. Profits (\$ B.)	St. Dev. Profits (\$ B.)	Avg. Assets (\$ B.)	St. Dev. Assets (\$ B.)	Avg. Net Revenues (B. \$)	St. Dev. Net Revenues (B. \$)
Agriculture	8	2,30	1,33	37,04	10,19	42,80	20,87
Chemicals/ heavy industry	48	5,41	4,42	81,20	38,17	59,64	37,17
Energy	58	7,00	8,06	113,90	93,65	109,38	110,19
Light industry	110	2,35	3,10	77,69	117,09	56,69	46,75
Shipping/ transport/ distribution	32	1,80	1,72	55,89	59,31	56,08	30,06

**3.2. Operationalization of Disclosure**

In this paper, I propose the framework developed by the Global Reporting Initiative (GRI) G3 and G3.1 Guidelines (Global Reporting Initiative, 2011a) as the standard for non-financial reporting. There are several reasons that justify this choice. First, though there is not a commonly accepted definition of corporate reporting in the published literature (Schaltegger & Burritt, 2009; Roca & Searcy, 2011; Aktas, Kayalidere, & Kargin, 2013), practitioners and scholars agree on the fact that GRI is the most well-known and widely applied guideline for sustainability reporting (Aktas, Kayalidere, & Kargin, 2013; Chatterji & Levine, 2006; Searcy, 2012). In particular, Brown, de Jong, & Levy, (2009) argue that GRI exhibits several features of an established institution, such as broad uptake and legitimacy. GRI framework boasts a multiple stakeholder approach, as the Guidelines include them in the report design and fulfillment process. GRI reports include environmental, economic and social indicators, accordingly with the Triple Bottom Line methodology. GRI has developed sector

supplements in order to improve its framework ability to disclose information regarding specific industries, including automotive, electric utilities, mining and metals, oil and gas, telecommunications (Global Reporting Initiative, 2011a). Sustainability reports assurers also employ GRI guidelines to standardize assuring process (Perego & Kolk, 2012). In their analysis of indicators disclosed in corporate sustainability reports, Roca and Searcy (2012) investigated 94 non-financial reports, finding that 45 of them (47,9%) use the GRI G3 Guidelines, while 31 include indicators explicitly identified as GRI indicators. Such increasing diffusion represents a great opportunity to reduce costs of reporting through standardization (Chatterji & Levine, 2006), in particular considering the recent effort to produce a digital disclosure of sustainability information with the XBRL machine-readable format (Global Reporting Initiative, 2013b). Nonetheless, there are some critics of the GRI framework. Goel (2005), Smith & Lenssen (2009) claim that GRI indicators are too many and too general to be a management tool. Moneva, Archel, & Correa (2006) strongly criticize methodology behind the G2 version of the Guidelines, specifying that performance indicators are not balanced among the three sustainability dimensions, and evidencing that companies use the Guidelines to legitimize their action rather than embracing the values and principles of sustainability.

According to GRI G3.1 Guidelines (Global Reporting Initiative, 2011a), each report consists of three sections: Profile Disclosures, Disclosures on Management Approach (DMA), Performance Indicators & Sector Supplement Performance Indicators. The first set includes information about strategy and analysis, organization profile, report parameters, governance, commitment and engagement. The DMA regards the management attitude towards each topic covered by the report (economic, environmental, social issues). The last section discloses qualitative and quantitative data regarding economic and environmental performance, results in term of labor practices and decent work, human rights, society and product responsibility. A GRI report is not mandatory in all its sections, due to its voluntary nature. For this reason, each reporting organization should declare the grade to which it has applied the framework specified in the Guidelines. The “Applications Levels” (AL) system assesses the grade of disclosure, giving a score that goes from C (minimum disclosure) to A (full disclosure). Report makers self-declare their Application Level, and, in addition, they can have their self-declaration externally assured by a third party (receiving a “+” to their AL) and/or request the GRI to check the self-declaration (Global Reporting Initiative, 2011b). Table 2 presents details about the AL system. Traditional metrics regarding the amount of disclosure in non-

financial reports are based on content analysis methodologies, e.g. percent of prose in annual reports, number of pages/sentences regarding non-financial issues. Such methodology has the major issue of producing high variability in the results depending from the analysis level of refinement (Ullman, 1985). The AL system is a less arbitrary metric; furthermore, it is coherent within the GRI Guidelines, as the same author of the framework has designed it.

**Table 2:** Report Application Level system (GRI 2011b)

Profile Disclosure	Report on: 1.1 2.1-2.10 3.1-3.8, 3.10- 3.12 4.1-4.4, 4.14-4.15	Report on all criteria listed for level C, plus: 1.2 3.9-3.13 4.5-4.13,4.16-4.17	Same as requirement for Level B
Disclosure on Management Approach	Not required	Management approach disclosure for each indicator category	Management approach disclosure for each indicator category
Performance Indicators & Sector Supplements Performance Indicators	Report fully on a minimum of any 10 performance indicators, including at least one from each of: social, economic, and environment.	Report fully on a minimum of any 20 performance indicators, including at least one from each of: economic, environment, human rights, labor, society, product responsibility	Respond on each core and Sector Supplement indicator with due regard to the materiality principle by either: A) reporting on the indicator or B) explaining the reason for its omission
Report Application Level	<b>C</b>	<b>B</b>	<b>A</b>

Data regarding reports' Application Level is available in the GRI Sustainability Disclosure Database website (Global Reporting Initiative, 2013b). In order to strengthen the validity of the Application Level, I have excluded self-declared reports, as well as non-GRI reports. Indeed, assured reports respond to the demand for reliable and credible information, guaranteeing that the report truly represents a company's effort and achievements (KPMG/UvA, 2008). However, the so-called "rational myth" often flaws the assurance process: "report readers would often have great uncertainty in understanding how the assurance provider undertook the engagement, what they reviewed and what was the meaning of conclusion" (Deegan, Cooper, & Shelly, 2006, p. 368). Table 3 presents GRI reporting information for the sample.

**Table 3:** GRI Application Level for the sample. Data 2010-2011

GRI Application Level	No. of Firms
A	4
A+	42
B	5
B+	12
C+	1
Undeclared	1

### 3.3. Econometric Model

Ohlson, (1995) provides a model for examining the variation of market value, or price, of the firm at date  $t$  when a vector of other value-relevant information changes. On the hypothesis of efficient markets, share price changes would reflect also social disclosures, given their informational value (Ullman, 1985). Burnett, Skousen, & Wright (2011) use such model in their analysis of eco-effective management, linking firm value and corporate sustainability. In particular, they add cash flow from operations, leverage grade, and ROA to the original model, since relevant literature (Schaltegger, Burritt, & R., 2000; Cormier, Gordon, & Magnan, 2004) indicates that such elements enhance model's robustness and explanatory power.

As seen before, GRI Application Level is an ordinal, non-metric, scale. Its values are rank-ordered, but are not equidistant one from the other. For this reason, statistical techniques such as correlation, regression, and analysis of variance are not suitable. I converted the level of disclosure into two dichotomous variables, GRI1 and GRI2, following the criteria reported in Table 3, to overcome this issue.

**Table 4:** Conversion of GRI Application Level in two dichotomous variables

GRI1	No issuance of a GRI report	Issuance of a GRI report
GRI2	Publication of a GRI report with an application level score lower than A	Publication of a GRI report with an A application level score
VALUE	0	1

Thus, the equation of the model is:

$$MKV_{it} = a_0 + a_1TSE_{it} + a_2ROA_{it} + a_3CFO_{it} + a_4LEV_{it} + a_5GRI1_{it} + a_6GRI2_{it} + e_{it} \quad (1)$$

Where:

$MKV_{it}$  = market capitalization of firm  $i$  at date  $t$

$TSE_{it}$  = total shareholder equity

$ROA_{it}$  = return on activities

$CFO_{it}$  = cash flow from operations

$LEV_{it}$  = long-term debt/equity

With the aim of mitigating heteroscedasticity and controlling for size, net revenues scale MKV, TSE and CFO. Moreover, industry, year and geographical dummies are included in the analysis to control their effects. To test the validity of the model beyond endogeneity issues, I run the model with MKV values of the subsequent years as dependent variable.

#### 4. RESULTS

I test the hypotheses running a weighted least square (WLS) regression. There are several justifications for using such kind of regression. First, the Breusch-Pagan test shows that a pooled OLS model is inadequate, in favor of the random effect alternative (p-value < 0, 000001). The fixed-effects model is unfit because it excludes the predictors from the analysis. Following a technique proposed by Mundlak (1978), means of independent variables are included in the regression to relax the assumption in the random-effects estimator that the observed variables are uncorrelated with the unobserved variables. The Hausman test verifies that the assumptions underlying the random effects regression are satisfied. Its results show that the generalized least squares (GLS) estimates are consistent (p-value = 0,376503). Although I scale MKV, TSE, and CFO by net revenues, heteroscedasticity is still present, as

confirmed by Wald test ( $p$ -value = 0). For this reason, I use a WLS regression with weights based on per-unit error variances. Table 5 provides the results.

**Table 5:** WLS, using 256 observations, included 128 cross-sectional units. Weights based on per-unit error variances.

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-0.766405	0.202204	-3.7903	0.00019	***
Equity	0.219166	0.365871	0.5990	0.54973	
Cash Flow	1.13423	0.587052	1.9321	0.05455	*
ROA	-2.77247	0.702761	-3.9451	0.00011	***
Leverage	0.00329097	0.0447368	0.0736	0.94142	
GRI1	0.216974	0.0426563	5.0866	<0.00001	***
GRI2	-0.371774	0.0507369	-7.3275	<0.00001	***
Mean Equity	-0.382274	0.386899	-0.9880	0.32415	
Mean Cash Flow	6.48796	0.70687	9.1784	<0.00001	***
Mean Leverage	-0.0592301	0.0358038	-1.6543	0.09940	*
Mean ROA	2.77322	0.726789	3.8157	0.00017	***
Industry control	Yes				
Geo control	Yes				
Year control	Yes				

\*\*\* indicate significance at  $p \leq 0,01$

\*\* indicate significance at  $p \leq 0,05$

\* indicate significance at  $p \leq 0,1$

The variables of interest, GRI1 and GRI2 are both significant at 0,01 level. GRI1 effect is positive, confirming hypothesis 1. Therefore, the issuance of a GRI report determines a significant positive effect on market capitalization. Unexpectedly, GRI2 has a negative coefficient, rejecting the proposition of hypothesis 2. A full disclosure stance is not valued by

the market, at least in the industries considered in the sample. The analysis includes control effects of industry, world area and year of investigation. For what concerns measures of fit, R-squared (0,923) and adjusted R-squared (0,917) show that the model explains more than two-thirds of the variance of the dependent variable.

## 5. DISCUSSION AND CONCLUSION

The dialogue between organizations and stakeholders is a key element in the definition of companies' social and environmental responsibility and business success. Firms face a growing pressure to include voluntarily non-financial elements in their strategies, going beyond legal requirements. Companies have a plenty of ways to communicate such information to stakeholders. Relevant research (Michelon & Parbonetti, 2010) points out that sustainability reports are on average the preferred mean to disclose non-financial data. Even though the relationship between sustainability disclosures and sustainable performance is still unclear (Ullman, 1985; Clarkson, Li, Richardson, & Vasvari, 2007), because of methodological and measurement weaknesses, corporate social disclosure represents the most direct expression of firms' CSR and reporting-based analyses are the correct way towards the comprehension of what can be considered a socially responsible behaviour (Perrini, 2005). A strategic issue remains open: given the voluntary nature of CSR reporting, to which extent should managers go beyond law requirements meeting stakeholders' demands?

The aim of this article is to investigate whether and to what extent stakeholders value companies' voluntary efforts meeting their demand for non-financial performance information. Firstly, I test if the issuance of a sustainability report determines an increase of firms' market value. Evidence provided by literature offers mixed results, depicting no clear tendency, because of both conceptual and methodological shortcomings. (Ullman, 1985). In particular, the strategic perspective is the key missing element needed to understand this relationship (Ullman, 1985; Perego & Kolk, 2012). Stakeholder theory (Freeman, 1984) propose an appropriate framework to overcome the inconclusiveness of results. According to it, corporate social disclosure can increase organizational legitimacy, transparency, reliability, trust and reputation, social and shareholder value creation alignment, as well as signaling that managers include non-financial indicators in their decision-making processes. These intangible benefits are the main drivers of firm ability to advantage from CSR and its reporting (Perrini, Russo, Tencati, & Vurro, 2011), establishing the existence of a stakeholder

case that preempts the uncertain business case of corporate social disclosure. Secondly, I verify if a higher amount of disclosure in sustainability reporting leads to a higher reward in terms of firm market value, providing an innovative point of view in the disclosure-economic performance relationship studies. Indeed, the decision to report social and environmental issues is almost always justified through economic reasoning: benefits have to overcome costs (Spence & Gray, 2007). Reporting greater amount of information generates additional costs, basically because “the measurements that are easiest to report are not always the most informative” (Chatterji & Levine, 2006, p. 5).

I operationalize corporate social disclosure with the issuance of a non-financial report shaped following the GRI G3.1 Guidelines in order to test the two hypotheses. The GRI Guidelines are the most well-known and widely applied framework for sustainability reporting (Roca & Searcy, 2011) and the Global Reporting Initiative itself is today an established institution, endowed with broad uptake and legitimacy (Brown, de Jong, & Levy, 2009).

The 2-years longitudinal analysis of the Fortune Global 500 companies provides interesting results. I test the relationship between market capitalization and level of disclosure in GRI reporting through Ohlson’s (1995) model, controlling for industry, geographical and year effects. Results confirm the first hypothesis, showing that the issuance of a GRI G3.1 report determines a positive effect in terms of market value. This outcome confirms the existence of the stakeholder case for corporate social disclosure: companies publishing a GRI report show their commitment towards sustainability, signaling that their management includes it in the strategy-making process, strengthening a set of intangibles resources (trust, transparency, reputation) that eventually drives the economic return. The analysis leaves out of consideration social and environmental performance, thus stakeholders recognize this remuneration only to the disclosure of non-financial information. Dawkins and Fraas (2010) and Fombrun, Gardberg, & Barnett (2000) provide a possible explanation for this, grounded in the strategic approach towards reporting: disclosure can be a “safety net” for poor performers, saving their legitimacy to operate, or an “opportunity platform” for good performers, signaling their superior ability to achieve triple bottom line results. Nevertheless, the remuneration of disclosure has its limits, as the rejection of the second hypothesis demonstrates. In fact, the issuance of a GRI report with a full disclosure stance has a strongly significant negative effect on market value. This outcome carries important implications for both research and management. First, there is a specific amount of disclosure that stakeholders perceive to be optimum. Beyond this quantity, no benefits seems to be delivered

to stakeholders, who in turn consider this additional information unusable and costly. Second, “Friedman-type investors could view a firm’s social performance as detrimental or excessive to economic performance – the only legitimate activity in their opinion” (Ullman, 1985, p. 546). A full disclosure stance can be considered as a signal of an excessive sensitivity towards social and environmental issues, leading managers to a disproportionate strategy-making process, where the multiple goals of the triple bottom line are not balanced. Third, the proliferation of information produces a flooding of data that confounds stakeholders and they end up ignoring it and considering it useless. This is because “the introduction of each additional performance metric dilutes the importance of all that preceded it” (Chatterji & Levine, 2006, p. 2). This result opens a debate over the *quality* of disclosure, conceived as its capacity to satisfy stakeholders’ informative needs. The quantity of disclosure alone is not sufficient to achieve this result, even because its relationship with actual environmental and social performance is still unclear.

Although this research provides an interesting contribution to corporate social disclosure research, it also has some limitations that open avenues for future studies. In particular, the “worst offenders” industries choice limits the generalization of the results. It is likely that less polluting industries face different stakeholders’ pressures and reactions towards disclosure. Moreover, the sample cannot overcome a common limitation of sustainability empirical analysis, which is the size bias: the Fortune Global 500 are the biggest companies in the world, thus generalization of results is limited to this kind of businesses. Further research could test sustainable performance, level of disclosure and economic performance at the same time. Lastly, it would be of interest to understand the components and indicators of disclosure quality, as well as to juxtapose the effects on firm performance of hard disclosure against soft disclosure.

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