

**CORPORATE SOCIAL RESPONSIBILITY,  
COUNTRY-LEVEL PREDISPOSITIONS AND THE CONSEQUENCES OF  
CHOOSING A LEVEL OF DISCLOSURE**

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## **Abstract**

We study the different levels of corporate social responsibility (CSR) disclosures of the largest European firms. We find that firms are more predisposed to disclose more CSR information in countries with: better investor protection, higher levels of democracy, more effective government services, higher quality regulations, more press freedom, and a lower commitment to environmental policies. Our analysis of the association of different levels of CSR disclosure with share prices indicates that a high level of CSR disclosure is associated with higher share prices, whereas a low level of CSR disclosure in sensitive industries is associated with lower share prices (compared to no disclosure). These results are also present when we analyse changes in CSR disclosure, and are robust to the inclusion of an accounting quality measure in our model. The overall effect of the association of higher levels of CSR disclosure with higher share prices is stronger in countries with more democracy, more government effectiveness, better regulatory quality, and more press freedom. Therefore, market participants find CSR disclosures more informative in countries where investors are in a better position to voice their concerns and where there is better regulation and more effective government implementation of regulations.

**Keywords:** corporate social responsibility, global reporting initiative, voluntary disclosure

## INTRODUCTION

Firms increasingly disclose social and environmental information, otherwise known as Corporate Social Responsibility (CSR) information (O'Dwyer 2011). We define CSR disclosures as disclosures covered by the Global Reporting Initiative (GRI) framework. Whereas financial disclosures are highly regulated, CSR information is mostly disclosed on a voluntary basis. Firms disclose CSR information for two main reasons (Moser and Martin 2012): to 1) conform to societal expectations and thereby ensure continued access to resources, such as capital, customer support, etc., and to 2) provide additional information that allows capital market participants to more accurately assess firms' financial prospects and risk profiles, potentially leading to higher share prices and higher firm values. We examine both these reasons, referring to the first as predispositions (using legitimacy theory in hypothesis development), and the second as consequences (using agency theory in hypothesis development).

Capital market participants pay specific attention to CSR disclosures as evidenced by a recent survey that shows 1) investors and analysts use CSR information, and 2) they prefer corporate disclosures as the source for such information (Radley Yeldar 2012). Empirical evidence also links CSR disclosure with positive economic outcomes, such as reduced cost of equity capital (Dhaliwal et al. 2011), and increased analyst forecast accuracy (Dhaliwal et al. 2012). However, the prior research does not consistently report a positive relationship between CSR and economic outcomes. For example, Hassel, Nilsson, and Nyquist (2005) report a negative correlation with share prices, and Gietl, Göttsche, Habisch, Roloff and Schauer (2012) find a negative correlation with Tobin's Q. These counterintuitive findings suggest a need for further study to gain a better understanding of the conditions where CSR disclosures are linked

with positive economic performance, as well as the characteristics of an appropriate measure to proxy CSR disclosures.

We examine the predispositions towards, and the consequences of, CSR disclosures by the top 500 European firms during the period 2007 to 2010, using the Global Reporting Initiative (GRI) guideline's level of CSR disclosure as a measure of CSR disclosure. We provide more information on the GRI and our measure in the next section of the paper. By way of predispositions, we identify both country level variables and firm level variables that influence the level of firms' CSR disclosures. We then examine whether different levels of CSR disclosures are associated with higher/lower share prices, and document the type of country where CSR disclosures and positive economic outcomes are more closely linked.

We focus on share prices, because these incorporate the market's assessment both of firms' future cash flows and of an appropriate discount rate that reflect the risk inherent in the expected cash flows (i.e. cost of capital). For example, CSR disclosures that address strategic market opportunities will influence the capital market's expectation of future cash flows, and disclosures that address CSR-related risk management procedures will influence the market's risk assessment. Therefore, share prices provide wide-ranging market information in a single measure, incorporating more information content than cost of capital. CSR initiatives themselves and any potential benefits associated with CSR initiatives tend to be long-term in nature (De Villiers et al. 2011) and therefore we choose a measure (share price) that incorporates the market's view of all future prospects.

An improved understanding of the predispositions towards and consequences of CSR disclosures is of interest to capital market participants (because it can inform their investment decision making), managers (because they will be interested in any apparent

advantages that emanate from voluntary CSR disclosure, including higher share prices, that could enhance job security and incentive pay), regulators (because if there are opportunities for managers to act opportunistically, they may want to consider implementing CSR disclosure regulation), and social and environmental activists (because our findings may assist them in forming opinions on firms' CSR activities based on CSR disclosure).

We discuss our findings and our contribution to the literature in a separate discussion section immediately before the conclusion.

## **LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **What CSR disclosures are used for: a theoretical view**

According to Moser and Martin (2012), firms disclose CSR information 1) to show conformance to societal expectations, and 2) to provide additional information to market participants. These two broad reasons for disclosure can be further explored using, respectively, legitimacy theory and agency theory. Legitimacy theory encapsulates the idea that firms have to conform to societal norms in order to prosper (De Villiers and Van Staden 2006), whereas agency theory focusses on explaining the motivations and actions of both agents (i.e. managers) and principals (i.e. investors) (Healy and Palepu 2001). Without providing a full exposition of the basics of these theories, we will apply them to explain the causal links between the constructs in our setting.

According to legitimacy theory, firms will use CSR disclosures in order to show conformance to social norms. Far from merely trying to inform, these disclosures often embody attempts to deceive and manipulate information, as long as the disclosures advance the image of the firm as being socially responsible (Lawrence et al. 2013).

Where social norms are strongly expressed, e.g. through the media, firms have been shown to react with additional CSR disclosure (Brown and Deegan 1998). Social norms find stronger expression in certain countries and industries, therefore legitimacy theory would predict more CSR disclosure in countries with a stronger environmental agenda and in sensitive industries (Glennie and Lodhia 2013).

According to agency theory, managers make disclosure choices that would maximise their own job security and incentive pay (Healy and Palepu 2001). Therefore, managers can be expected to disclose CSR information in such a way that the firm's future prospects appear to be positive, both in terms of cash flows and risk profile. This implies that positive CSR information will be emphasised, and that previously known CSR information of a negative nature will be dealt with in order to explain that risks are properly managed, and that future cash flow effects and future liabilities will be minimised. CSR disclosure is not generally used to reveal new negative facts (De Villiers and Van Staden 2011). Thus CSR disclosures tend to emphasise positive news, ignore some negative news, and put a positive spin on other bad news. Far from being an overly negative assessment of managers' motives, this explanation of the use of CSR disclosure perfectly aligns with prior research findings, including studies using a legitimacy theory framework (e.g. Deegan and Rankin 1996).

To summarise, given the way managers use CSR disclosure, the level of CSR disclosure can be expected to be higher where there is a greater perceived need to show conformance with social norms (legitimacy theory), where there is CSR information that could impact financial returns positively (agency theory), or where there is known negative CSR information that needs to be explained (agency theory and legitimacy theory).

## **CSR disclosure measure used in CSR studies**

Prior studies use a CSR disclosure measure that is derived from one disclosure source, such as annual reports (Ingram and Frazier 1980), 10K reports (Cho and Patten 2007), websites (Clarkson et al. 2008), or stand-alone reports (Dhaliwal et al. 2011, 2012; Simnett et al. 2009); use an indicator variable with limited variability (e.g. Dhaliwal et al. 2011, 2012); or are based on self-constructed indexes (e.g. Clarkson et al. 2008), potentially raising reliability issues and the possibility of incorrect coding.

The use of a CSR disclosure measure that overcomes these shortcomings would be a major advance on the prior literature and could improve our understanding of the impact of the level of CSR disclosure.

## **The Global Reporting Initiative (GRI)**

The Global Reporting Initiative (GRI) is a non-profit organization that promotes economic, environmental and social sustainability by providing a comprehensive sustainability reporting framework in cooperation with global business, governments, civil society, labour, academic and professional institutions (GRI, 2012).

According to KPMG (2011) 80% of the world's 250 largest companies and 69% of the top 100 companies in the 34 countries their report covers adhere to GRI reporting guidelines. Indeed, KPMG (2011) refers to GRI as the global *de facto* CSR disclosure standard. CSR disclosure is high among European firms, especially in the countries that represent a large share of our sample firms. Table 1 shows that eight countries account for 76% of our observations and these countries all rate highly in the KPMG (2011) report in terms of quality of CSR disclosure, with the percentage of the top 100 firms in each of the 8 countries disclosing CSR information being 100% in the UK, 94% in

France, 62% in Germany, 64% in Switzerland, 72% in Sweden, 82% in the Netherlands, 88% in Spain, and 74% in Italy (KPMG, 2011). This shows a very high likelihood that firms in our sample disclose CSR information; a high likelihood that they use the GRI guidelines; and because of the high uptake of CSR disclosures, a need to use a disclosure measure that indicates the level of CSR disclosure.<sup>1</sup>

### **The financial consequences of different levels of CSR disclosure**

The prior research use simple CSR disclosure measures, such as an indicator variable that merely show whether a firm have or do not have CSR disclosure (e.g. Dhaliwal et al. 2011; Dhaliwal et al. 2013); or a variable that allows more variation, but used in such a way that the effects are assumed to be linear and non-differentiated.

Schadéwitz and Niskala (2010), De Klerk and De Villiers (2012), and De Klerk et al. (2015) examine the value relevance of CSR disclosures using an Ohlson (1995) model. All three studies use a GRI guideline based measure of CSR disclosure and find CSR disclosure to have a positive association with firm value in Finland (Schadéwitz and Niskala 2010), South Africa (De Klerk and De Villiers 2012), and the UK (De Klerk et al. 2015). These studies use a simple GRI indicator variable that does not take cognizance of the GRI level, or an ordinal GRI variable that mix the GRI level with another aspect of disclosure. Neither of these GRI-based measures focuses on the GRI disclosure level. The indicator variable ignores the levels of disclosure, whereas the combined measure combines two potentially confounding issues.

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<sup>1</sup> Note that the percentage of firms that disclose CSR is high, because the KPMG (2011) study includes all firms disclosing some form of social or environmental information. The percentage of firms disclosing CSR using the GRI guidelines is much lower, because it only includes firms that disclose information on a range of social and environmental issues, and disclose this information in accordance with GRI guidelines. Integrated reporting initiatives may increase the uptake of GRI (Atkins et al. 2015; Stent and Dowler 2015).



The only multi-country study we are aware of that use a GRI-based disclosure measure, assesses firm value via Tobin's Q (Gietl et al. 2012). However, this study has two major shortcomings, namely that it ignores country differences (and only include firm level control variables), and that the CSR disclosure measure used in their study considers a combination of the GRI level of disclosure and whether the GRI level is validated by a third party. This combination is not helpful, as the relationship between these two different aspects and any economic consequences are potentially in opposite directions. The potentially confounding disclosure measure used in Gietl et al. (2012) could explain their main finding, namely that disclosure at the GRI A level, validated by a third party, is associated with a lower Tobin's Q. The study reports that the relation with the similarly defined GRI B and GRI C levels of validated disclosure is not significantly related to Tobin's Q.

With these CSR disclosure measures, the possibility that different levels of CSR disclosure could lead to different financial outcomes were never considered. A study that use measures of the different levels of CSR disclosure where a linear relationship between the different levels were not assumed, would add to our understanding, and answer questions not asked before.

### **The country characteristics that drive CSR disclosure**

The few prior multi-country CSR studies typically use two country level measures, namely a "code law/common law" indicator variable and a continuous "rule of law" measure (e.g. Simnett et al. 2009, Dhaliwal et al. 2012). These variables, because of their broad nature, do not facilitate an understanding of the more specific underlying mechanisms at work. The code law/common law indicator variable has been severely criticised before (Lindahl and Schadéwitz 2013).

Prior multi-country research argue that common law countries (e.g. the US and the UK) are more investor oriented compared to code law countries (e.g. France) that tend to be more stakeholder oriented. A stakeholder orientation suggests a greater emphasis on corporate responsibilities towards all stakeholders (as opposed to an investor focus) and therefore a greater propensity to provide CSR information. However, the UK, a common law country, happens to be one of the countries where CSR disclosure is particularly popular (KPMG 2011), rendering this measure inappropriate for a CSR study.

The World Bank's 'rule of law' index provides an indication of the confidence citizens have in the ability of the country's laws, law enforcement, and judicial system, to ensure a fair outcome for all. However, the World Bank rule of law index provides a measure of the overall rule of law within a country, including issues not directly related to corporate affairs and investor protection measures.

A study that use new and more appropriate country level measures, such as investor protection mechanisms, democratic institutions, press freedom, and the prioritization of environmental policy goals, could enhance our understandings of the many drivers of CSR disclosure.

### **Diversity of countries included in multi-country CSR studies**

Prior multi-country CSR studies include a diverse range of countries (e.g. Simnett et al. 2009, Dhaliwal et al. 2012). The results of these studies could potentially be driven by a few outlier country-level measures. For example, in additional tests one of the main results in the Simnett et al. (2009) paper is shown to disappear when USA observations are dropped from the sample.

A study focused on a group of countries that are similar in terms of factors like economic development, but different in terms of relative levels of investor protection, democracy, government efficiency, regulatory quality, press freedom, and emphasis on environmental policies, could enhance our understandings of the country-level driving forces behind CSR disclosure and under which conditions CSR disclosure are more closely linked to financial consequences.

### **Predispositions of CSR disclosure**

Legitimacy theory suggests firms need CSR disclosure to demonstrate conformance to social norms. However, without mechanisms to pressurise firms, societal concerns would be subjugated by more powerful players, such as the state. Shareholders rely on investor protection regulations to ensure that they have sufficient and reliable information to make investment decisions. Both shareholders and analysts use the CSR information disclosed by firms in their investment decisions (Radley Yeldar 2012). Users can influence regulations designed to ensure access to CSR information more effectively in democratic countries and in countries where there is a high level of freedom of expression, leading to more informed investment decisions. In such countries, shareholders can rely on politicians and the media to amplify their concerns, leading in turn to greater levels of regulation, enforcement, and/or compliance by firms in order to avoid or delay additional regulation. In countries with a greater commitment to CSR, regulations would be more likely to carry financial consequences for failure to comply with CSR regulations. Therefore, we identify measures of countries' 1) investor protection, 2) democracy, 3) government effectiveness, 4) regulatory quality, 5) press freedom, and 6) commitment to CSR. The World Bank's 'rule of law' index provides a measure of the overall rule of law within a country,

including issues not directly related to corporate affairs and investor protection measures. Therefore, we use a different, more sophisticated measure specifically related to investor protection, namely an anti-self-dealing score, based on Djankov et al. (2008).

The World Bank publishes three country-level indicators related to democracy, government effectiveness, and regulatory quality. The first factor measures the democracy and freedom of the citizens in a country. Individual freedom of expression and association enable them to be more vocal about their concerns, including in areas like CSR. The World Bank calls this measure ‘voice and accountability’. The second factor measures the quality of public services (including their level of bureaucracy) and its independence from political pressures. If services are unbiased and efficient, businesses’ CSR practices are more likely to come under scrutiny. This measure is called ‘government effectiveness’. The third factor captures whether the country has sound policies and regulations, including competition regulation. This should promote companies’ development and fair practices, including disclosure of CSR practices. We measure this factor using the World Bank variable ‘regulatory quality’. As far as we are aware, no prior published CSR study use these World Bank measures.<sup>2</sup>

Prior research has shown the ability of the press to influence CSR disclosures (Clarkson et al. 2008, Brown and Deegan 1998). These were single country studies. In our cross-country setting where media coverage varies across countries, the firm-level measures these prior studies employ would not be appropriate. However, we are able to control for the general level of press freedom associated with each country in our sample. We identify the *Reporters without Borders* organization’s ‘freedom of press’ index as an appropriate measure. The aim of *Reporters without Borders* is to promote press freedom and reporter safety throughout the world by drawing attention to

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<sup>2</sup> A conference paper, Cahan et al. (2012) also uses these World Bank measures.

countries and incidents where violations of press freedom occur. In line with prior research that generally find that higher levels of press coverage correlate with higher levels of CSR disclosure we expect firms in countries with higher levels of press freedom to disclose more CSR information.

In recent years, sustainability, environmental issues, climate change, and greenhouse gas emissions have featured high on the public agenda in many countries. We use a country level measure that measures the importance of this item, namely Yale Law School's environmental performance index, which emphasizes law, policy and scientific issues. Firms in countries that show a greater commitment to an environmental agenda could be more likely to disclose more CSR information to reflect the local social concerns and to respond to higher levels of stakeholder pressure to provide information. However, in more environmentally committed countries, CSR related issues are more likely to lead to negative financial consequences and managers may fear that additional CSR disclosure will play into the hand of potential litigants. For example, the 2010 Gulf of Mexico oil spill cost BP billions of dollars. Fear of litigation would make managers less likely to disclose CSR information. Based on these opposing arguments, we form no prior expectation regarding the direction of the association between this particular environmental commitment variable and the level of CSR disclosure.

The above discussion regarding predisposition to CSR disclosure at the country level leads to the following hypothesis, stated in alternate form:

*H1: Firms disclose higher levels of CSR information in countries with less corporate self-dealing, more democratic rights for citizens, more effective government*

*administration, better regulatory quality, more press freedom, and less/more commitment to an environmental agenda.*

### **Consequences of CSR disclosure: Share price, firm value, other**

According to agency theory, managers can be expected to disclose CSR information that could influence the financial performance of the firm positively through the mechanism of providing information that will allow investors to reassess the firm's expected cash flow and/or risk profile (Healy and Palepu 2001). In addition, still arguing from an agency theory perspective, managers can be expected to provide additional information about previously known negative CSR information, to ensure that investors do not exaggerate the cash flow and risk implications when making investment decisions (De Villiers and Van Staden 2011). By providing investors with the information they need to reassess future cash flow and risk, additional CSR disclosure enable firms to reduce information asymmetry and avoid adverse selection, generally leading to positive economic outcomes.

In a meta-analysis of 52 studies, Orlitzky et al. (2003) find evidence of a positive relationship between CSR performance (not disclosure) and financial performance. Survey results show that market participants prefer to obtain CSR information from corporate sources, i.e. CSR disclosures (Radley Yeldar 2012, De Villiers & Van Staden 2010, De Villiers & Van Staden 2012). Therefore, a positive link between CSR disclosure and financial performance is plausible.

Two recent articles focus on standalone CSR reports and their financial consequences and provide further evidence in support of a positive relationship (Dhaliwal et al. 2011, 2012). Dhaliwal et al. (2011) examine the effect of publishing a

standalone CSR report on the cost of equity capital and find that firms that publish a standalone CSR report for the first time experience a reduction in the lagged cost of equity capital, for firms with superior CSR performance. Dhaliwal et al. (2012) find that analyst forecast accuracy is better for firms that publish a standalone CSR report.

Schadéwitz and Niskala (2010), De Klerk and De Villiers (2012), and De Klerk et al. (2015) provide evidence in support of a positive relationship between CSR disclosure and share prices, whereas Gietl et al. (2012) report a negative correlation with market values. Prior research on the value relevance of the environmental aspect of CSR disclosure also provides inconsistent results, reporting a negative correlation (Hassel et al. 2005), no correlation for non-financial CSR disclosure (Moneva and Cuellar 2009), or a positive correlation (Clarkson et al. 2013, Plumlee et al. 2010).

The arguments derived from theory, as well as much of the prior research evidence provided above, lead to the following hypothesis, stated in alternate form:

*H2: Firms that disclose higher levels of CSR information have higher share prices.*

According to legitimacy theory, CSR disclosures are aimed at legitimising the firm in the eyes of a broader set of stakeholders than investors and potential investors. These stakeholders often include customers, employees, government, and pressure groups, e.g. environmental groups. These CSR disclosures are aimed at “enhanced reputation with customers, greater employee satisfaction and retention, less regulation, etc.” (Moser & Martin 2012: 798). Certain country-level and firm-level characteristics predispose firms to disclose more of this kind of CSR information, leading investors to expect elevated levels of CSR disclosure from such firms. There is a greater need to legitimise in sensitive industries, leading to higher levels of CSR disclosure by firms

operating in sensitive industries, such as mining. This high level of CSR disclosure is likely to be expected by investors. Firms that do not meet the market's CSR disclosure expectation are likely to be suspected of trying to hide adverse CSR information. Market participants will factor this perceived risk into their share price valuation decisions, leading to lower share prices for suspected firms.

This line of argument leads to the following hypothesis, stated in alternate form:

*H3: Firms that disclose lower levels of CSR information have lower share prices.*

We are also interested in examining the effect of country governance measures on the relationship between CSR disclosure and firm value. To investigate this relation we add country measures and interaction terms to our basic model. In this exploratory analysis we focus on the most promising country level measures, as indicated by the results of the tests of our first hypothesis.

## **METHOD**

### **Sample**

We begin our sample selection by considering all firms included in the Financial Times 2010 classification of the 500 largest European firms, which is based on the 2009 market value. This allows us to analyse a set of firms that are economically important and that operate in different institutional and economic conditions. We next exclude 73 financial firms (banks and financial services companies), as their unique financial characteristics would render comparison with firms in other industries senseless. We also lose 61 firms, for which we cannot find financial data on Datastream. This leaves us with an initial sample of 366 firms.



Our first step in hand-collecting the level of GRI information disclosed by firms is to examine the CSR reports of these firms in each of the four years analysed: 2007 to 2010. Not all firms have such a report. When such a report does not exist, we examine the annual report of the firm. When analysing these documents we first establish whether these firms disclose a GRI score in that year or not. As a second step, when a GRI score is disclosed, we record the level of the firm's GRI compliance (A, B, or C).

From our potential sample of 1,464 observations (366 firms \* 4 years) we lose some observations due to missing data on some of the variables collected from Datastream. We keep the number of observations stable at 1,227 for all analyses related to the predispositions for CSR disclosure. However, for the consequences analyses, we allow the number of observations to vary, in order to maximize the number of observations used in each estimation.

### **Research design: predispositions**

In order to test hypothesis 1, which analyses the predispositions for CSR disclosure, we estimate the following general model:

$$CSR\ Disclosure = \alpha_0 + \alpha_1 Country\ Institutional\ Variables + \alpha_2 Firm\ Level\ Variables + \varepsilon \quad (1)$$

Given that our CSR disclosure measure is not continuous, but indicates levels of disclosure, we use an ordered logit model. Annex 1 provides a summary of the variables included to facilitate referencing.

**CSR disclosure measure.** We use firms' GRI disclosure level as a proxy for their CSR disclosure. Under the GRI G3 guidelines, in force during the 2007-2010 period,

firms can choose to disclose a limited number of CSR items for a C-rated GRI disclosure level, increase their disclosures for a B-rated level, or disclose the full ambit of GRI guideline CSR disclosures for an A-rated level. We convert this GRI disclosure level to *GRI\_Score* as follows: A=3, B=2, C=1. We attribute a score of 0 to all firms that do not follow GRI. Note that the GRI disclosure level measures the level of compliance to the GRI G3 guidelines and not the quality of the reporting or the sustainability performance.

***Country institutional variables.*** We use six country level variables that generally represent the level of investor protection, level of individual freedom of expression, and societal concern with CSR issues.

We follow Djankov et al. (2008) by using their anti-self-dealing measure, an index that reflects legal protection of minority shareholders against expropriation by corporate insiders, a specific part of corporate governance, taking into account (1) vote by mail; (2) shares not blocked or deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital to call meeting. This measure, *Law*, can range between 0 and 5, with higher numbers representing less self-dealing or better governance.

We also use three World Bank measures, namely (1) citizens' ability to select a government and voice their concerns (*Voice*), (2) public service and policy quality and effectiveness (*Gov\_Eff*), and (3) sound regulatory quality (*Reg\_Qual*).<sup>3</sup> The values of these measures range between -2.5 to 2.5, where higher values reflect higher citizen participation (*Voice*), more effective governments (*Gov\_Eff*), and higher regulatory quality (*Reg\_Qual*).

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<sup>3</sup> See [http://info.worldbank.org/governance/wgi/mc\\_countries.asp](http://info.worldbank.org/governance/wgi/mc_countries.asp)

Reporters Without Borders publish an index reflecting the degree of freedom of journalists and the media in more than 170 countries.<sup>4</sup> Values range from 0 to 112.5, with lower values reflecting higher freedom of the press. Therefore, lower values of this measure, *Press*, indicate higher level of press freedom.

Our final measure is the environmental performance index of created by The Yale Center for Environmental Law and Policy and the Center for International Earth Science Information Network at Columbia University. This index covers more than 150 countries and is released every second year (*Env\_Perf*).<sup>5</sup> Values can range between 0 to 100, higher values indicating countries that strongly pursue environmental policy goals.

***Firm level variables.*** One of the most consistent determinants of environmental disclosure is industry (Summerhays and De Villiers 2012). We use two environmentally sensitive industry indicator variables for the industries identified by De Villiers et al. (2011)<sup>6</sup>, *Ind\_Sens* for the forestry, metals mining, coal mining, oil and gas exploration, paper and pulp, chemicals, pharmaceuticals and plastics, iron and steel industries; and *Utility* for the electricity, gas and waste water industries. In addition, we identify from the prior literature, nine firm level variables to control for the level of CSR disclosures (e.g., Clarkson et al. 2008, De Villiers and Van Staden 2011). These variables are size (*Size*), profitability (*ROA*), need of additional finance (*Fin*), book-to-market value of equity (*B\_M*), leverage (*Lev*), level of international trade (*Internat*), share price volatility (*Volat*), age of assets (*New*), and capital expenditure (*Capex*). The prior literature suggests the expected direction of the association between these variables and

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<sup>4</sup> See <http://en.rsf.org/>

<sup>5</sup> See <http://epi.yale.edu/>; we used the 2008 data for 2007 and the mean of 2008 and 2010 for 2009.

<sup>6</sup> Sensitive industries are defined as in De Villiers et al. (2011) as those with SIC codes between 800-899 (Forestry), 1000-1099 (Metal Mining), 1200-1399 (Coal Mining and Oil and Gas Exploration), 2600-2699 (Paper and Pulp Mills), 2800-3099 (Chemicals, Pharmaceutical and Plastics Manufacturing), 3300-3399 (Iron and Steel Manufacturing), and 4900-4999 (Electricity, Gas and Waste Water).

CSR disclosure to be positive in most cases, except *New* (negative), and *Volat* (where we are unable to form a prior expectation).

### **Research design: consequences**

We examine the influence of CSR disclosure level on share prices (hypothesis 2) with the use of a modified Ohlson (1995) research design, where share price is assumed to be determined by earnings, book value, the variables of interest, and control variables.<sup>7</sup> Our model is as follows:

$$\text{Share\_Price} = \beta_0 + \beta_1 \text{EPS} + \beta_2 \text{BV\_pS} + \beta_3 \text{GRI\_based\_disclosure\_measure}(s) + \beta_4 \text{Size} + \beta_5 \text{Ind\_Sens} + \beta_6 \text{Utility} + \text{year dummies} + \text{country dummies} + \varepsilon \quad (2)$$

Where *GRI\_based\_disclosure\_measure(s)* can be *GRI\_Score*, a measure coded 3 for firms with a GRI disclosure level of A, 2 for B, 1 for C, and 0 for firms that do not follow GRI; or three indicator variables, *GRI\_A*, *GRI\_B*, and *GRI\_C*, coded 1 for disclosure at that GRI level, and 0 otherwise. We expect *GRI\_Score* and a high level of GRI disclosure (*GRI\_A*) to be positively and significantly related to *Share\_Price*.

In the Ohlson (1995) model it is assumed that market price per share is positively associated with book value per share as well as with the value of earnings per share, as these are indicative of future dividends. Therefore, we expect to find positive coefficients for these two independent variables. Aboody et al. (2004) add analyst growth forecast to their modified Ohlson (1995) model; Hann et al. (2007) add growth in sales, R&D expense and number of employees. In following these prior examples of adding additional controls appropriate to the issue under investigation, we identify three additional firm level control variables, namely size, industry, and utility. These controls

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<sup>7</sup> Note that earnings and book value replace dividends in valuation, according to the clean surplus relation.

are appropriate, because the relationship between CSR disclosure and firm value may be quite different for firms in sensitive industries (and regulated utilities), compared to other industries; and the same applies to larger firms that are potentially more exposed to political cost, due to their increased visibility (Massa et al. 2015). We include year dummies to control for any effects specific to a particular year. Finally, because we know from the predispositions discussion above that country specific issues influence CSR disclosure, we suspect that country specific effects may be at work in the relationship between CSR disclosure and market values. Therefore, we include country dummies to account for country sources of heterogeneity and we follow Aggarwal et al. (2009) in their multi-country approach by clustering residuals at the country level.

## FINDINGS

### Descriptive statistics

Table 1 shows descriptive statistics, with Panel A providing disclosure information per country, Panel B providing information regarding the frequencies of our CSR disclosure measures, and Panel C providing information for all variables used. Panel A shows that our sample covers 22 European countries. Nineteen of these countries have at least 12 observations. Most of our observations represent firms from the UK (246), France (202), Germany (149), Switzerland (92), and Sweden (79). This panel also shows that the use of GRI is widespread among large European firms and not confined to a limited number of countries, e.g. note that the mean for *GRI\_Score* is 1.0 or above for eight of the countries in our sample. Panel B shows that nearly one third of our observations report that they use GRI guidelines for their CSR disclosures, with more than 16% following the GRI guidelines fully (A disclosure level), over 11% following them to the B disclosure level, and more than 3% following GRI to the C

disclosure level.<sup>8</sup> Panel C shows descriptive statistics for all variables, e.g., the mean return on assets is 7.1% and the mean book to market value of equity is 55.4%.

*Ind\_Sens* shows that about a quarter of our observations are from firms in environmentally sensitive industries, whilst *Utility* shows another 7% to be regulated utilities.

<<<Table 1 about here>>>

## **Correlations**

Table 2 shows the correlations between GRI\_Score, country variables, and firm level variables. Panel A reveals that a number of country variables are highly correlated, especially among the three measures derived from the World Bank (*Voice*, *Gov\_Eff*, and *Reg\_Qual*) and the press freedom measure, *Press\_Law* and *Env\_Perf* are correlated with other country level measures in the range from 0.3 to 0.34. These high correlations suggest the need for care in regression specification. Except between country level variables, none of the correlations among the variables used in equation 1 (predispositions) are above 0.4.

<<<Table 2 about here>>>

## **Predispositions**

We now analyse whether country-level factors are associated with the level of CSR information disclosed by firms. Given that we know from the correlation statistics in Table 2 that some of the country variables we wish to study are highly correlated, we cannot include these variables in the same model without testing for multicollinearity. Thus, we estimate an ordinary least squares regression that includes all our country level

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<sup>8</sup> The fact that about a third of the firms in our sample use GRI may seem low, but note that Gietl et al. (2012), using a sample of Eurostoxx 600 firms over the same time period (2007-2010), report that only 240 of 1686 firms, or 14%, use GRI.

variables, as well as all our firm level variables, to inspect the variance inflation factors (VIFs). Two of the country level variables have VIFs above the standard benchmark of 10, indicating the presence of multicollinearity issues. We deal with this problem in two ways. We first estimate separate ordered logit models for each country level variable including, in each case, all the firm level control variables. Next, we use principal component analysis on the country level variables to construct composite indexes which are capable of representing this group of variables, allowing us to consider the effects of all variables and interpret their joint impact (Kennedy 1998).

Table 3 shows the results of ordered logit estimations for each country level measure in turn combined with all the firm level measures. For example, the first column shows that *Law* is positively and significantly related to *GRI\_Score* at the 5% level when firm level variables are included. In similar fashion, *Voice*, *Gov\_Eff*, *Reg\_Qual*, and *Press*, are related to *GRI\_Score* at the 1% level of significance and in the expected directions. *Env\_Perf* is negatively related to *GRI\_Score* at the 5% level. The directions of these associations are all consistent with the correlation table results (Table 2). Our results suggest that firms disclose higher levels of GRI information in countries with better investor protection (less anti-self-dealing), a greater ability to choose your own government, greater government efficiency, better regulatory quality, more press freedom, and less government commitment to environmental policy and law. These results provide evidence in support of our first hypothesis.

The only one of these six measures mentioned in hypothesis 1 we did not form a prior expectation on the direction for, deals with countries' environmental commitment. You may recall that we argued that firms in countries committed to an environmental agenda could, on the one hand, be expected to come under pressure to disclose more CSR information, but on the other hand, management could fear the likelihood of

increased environment-related litigation and liability. Fear of litigation appears to be a stronger motivation, resulting in less CSR disclosure in countries that demonstrate a higher commitment to environmental issues.

Turning to firm level variables, a scan of all six regression results shows that most of these variables are significantly associated with *GRI\_Score*, suggesting that firms are likely to disclose higher levels of CSR information if they: are larger, are more profitable, have high book to market firms, are more leveraged, use older equipment, spend more on capital, and operate in environmentally sensitive industries. However, we do not find support for an association between CSR disclosures and firms anticipating the need for additional finance, being exposed to international trade, or share price volatility.

<<<Table 3 about here>>>

In a second method of dealing with the multicollinearity issue caused by the high correlation between the country level measures, we now consider all six measures at the same time to learn more about the way that country variables interact to provide an indication of the predisposition of different firms to provide different levels of CSR disclosure. As in Li (2010) we perform a principle component analysis of all variables and include the resulting factors into a regression model. Table 4 provides information about this analysis. We use the first two components, because they have Eigenvalues above 1 (Panel A). Panel B shows the factor loadings and reveals that component 1 is determined mostly by *Voice*, *Gov\_Eff*, *Reg\_Qual*, and *Press*. Given that *Voice* and *Press* both relate to citizens' and investors' ability to voice their concerns, and that *Gov\_Eff* and *Reg\_Qual* both relate to the resultant regulation and the implementation of these regulations, we label it *Governance/Democracy*; whereas component 2 is determined



mostly by *Law* and thus we call it *Country\_Law*. Panel C shows the calculated values for PC1 and PC2 by country, with higher values indicating better governance/democracy (PC1) and minority investor protection (PC2).<sup>9</sup> When these components are used in the ordered logit regression, *Governance/Democracy* is highly significant in the predicted direction, as shown in Panel D. *Country\_Law* is marginally significantly related to *GRI\_Score* (at the 10% level). All the firm level variables correlate in the same directions as before and the same three (*Fin*, *Volat*, and *Internat*) are not significant. Table 4, Panel D therefore provides additional evidence in support of the country level hypothesis (H1) (relating to *Law*, *Voice*, *Gov\_Eff*, *Reg\_Qual*, and *Press*); and our firm level expectations (relating to size, profitability, book to market, leverage, age of equipment, capital expenditure, and sensitivity of industry).

<<<Table 4 about here>>>

Having established that each of our six country level variables, as well as the combined variable, *Governance/Democracy*, are significantly associated with the level of CSR disclosures, we now proceed to examine whether CSR disclosures are associated with positive economic outcomes. We do this first in general terms and then examine whether any positive economic outcomes are more pronounced in certain country types as measured by our country measures, individually and combined.

### **Consequences – hypotheses testing**

In order to assess whether the CSR disclosure level of a firm has value relevance we use an Ohlson (1995) type model in a per share specification with additional control variables, as defined in equation 2. Table 5 shows the regression results after removing

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<sup>9</sup> As can be expected, Switzerland (1.601) has a high score for governance and democracy, whereas Russia (-8.101) has a low score. In terms of minority investor protection, Russia (0.695) has a relatively high score compared to Switzerland (-0.319). This is due to the fact that PC2 consists mainly of the Djankov et al. (2008) anti-self-dealing index where Russia score 4 and Switzerland score 3. These scores are based on very specific investor protection legislation applicable in each country.

outliers by trimming the main continuous variables of the model (Share\_Price, EPS, and BV\_pS) at 1% and 99%. Country dummies control for any country effects in this test, because we do not (yet) include any country variables in the model. Table 5 shows the coefficient for *GRI\_Score* to be positive and significant at the 1% level. This indicates that CSR disclosures are value relevant to investors in such a way that firms with higher levels of CSR disclosure are associated with higher share prices after controlling for several accounting measures. Note that our measure of the level of CSR disclosure, GRI disclosure level, measures the level of compliance to the GRI G3 guidelines and not the quality of the reporting or the sustainability performance. We perform the Heckman procedure, but self-selection bias does not appear to be an issue in our sample.<sup>10</sup>

<<<Table 5 about here>>>

Although the level of CSR disclosure is positively associated with share prices in general, hypothesis 3 suggests that the different levels of CSR disclosure may be associated with different outcomes. To examine this notion, we include each level of GRI disclosure separately in the equation as indicator variables, instead of the composite *GRI\_Score* measure. The results shown in the final two columns of Table 5 are very interesting, therein that the highest levels of CSR disclosure (GRI A and GRI B) are associated with higher share prices, but the lowest level of CSR disclosure (GRI C) is associated with lower share prices, all at the 5% level of statistical significance.

These comparisons are made to firms that do not follow GRI guidelines at all. Thus our

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<sup>10</sup> There is a potential self-selection bias when we include our disclosure measure as an independent variable, as firms can choose whether they disclose that they use the GRI for CSR disclosure. We therefore perform the Heckman procedure to re-estimate our base model, using all the determinants (or predispositions) used in Table 3 to estimate an indicator variable coded as one when a GRI score is disclosed and zero otherwise, in order to assess whether we have a self-selection problem. Self-selection does not appear to be a significant concern, because lambda of the Mills ratio has a p-value of 0.93. Therefore, we do not use a two-step estimation when obtaining our next set of results. In order to establish that the variables used in our equation 1 are also determinants of the decision to disclose firms' GRI level, we create an indicator variable GRI, coded one when the firm discloses a GRI level and zero otherwise. Untabulated results indicate these determinants are valid and findings are qualitatively similar to the results reported in Table 3.

results suggest that the market is sophisticated in its assessment of CSR disclosures and treat different levels of CSR disclosure in two diametrically opposed ways. Indeed, the differences between GRI\_A and GRI\_C as well as between GRI\_B and GRI\_C are both statistically different from zero (whereas the difference between GRI\_A and GRI\_B is not statistically different from zero). Higher levels of CSR disclosure are associated with high share prices, but a low level of CSR disclosure may lead investors to question firms' reasons for not disclosing more comprehensively. These suspicions may lead investors to conclude that firms disclosing a low level of CSR information have something to hide, resulting in lower valuations.

Another possible explanation for our results is that firms disclosing at the lower levels have pre-existing CSR issues that are known to the market. Managers of firms with such pre-existing issues might be expected to disclose more CSR information in order to allay market concerns and mimic other firms. However, our analysis here appears to indicate that firms with pre-existing CSR issues cannot easily mimic other firms' CSR disclosures. If these explanations for the surprising result, that low levels of CSR disclosure is associated with lower share prices compared to no disclosure at all, were true, we would expect the result to be driven by firms in sensitive industries. Therefore, we estimate a regression similar to the final columns in Table 5, but including three interaction terms ( $GRI\_A \times Ind\_Sens$ ,  $GRI\_B \times Ind\_Sens$ ,  $GRI\_C \times Ind\_Sens$ ). The (untabulated) results are that  $GRI\_C \times Ind\_Sens$  is significant at the 1% level, but that GRI\_C is not statistically significant, lending weight to our explanation that CSR disclosure at lower levels than expected for firms in sensitive industries could lead to lower share prices.

## **Consequences – excluding firms that do not follow GRI disclosure guidelines**

Our measure of CSR disclosure is based on companies disclosing the level to which they follow the GRI guidelines. Although GRI is the most popular CSR guideline, especially among European firms (KPMG 2011), there is a possibility that some firms in our sample disclose high levels of CSR information without indicating that they follow GRI guidelines. We would have coded such firms' disclosure measures (*GRI\_Score*, *GRI\_A*, *GRI\_B*, and *GRI\_C*) as "0", thereby reducing the likelihood of getting our predicted results. We next perform tests to assess whether our results were influenced by this decision. Specifically, we ignore all firm-years where *GRI\_Score* equals zero and re-estimate the equations reported in Table 5. The results, shown in Table 6, are all consistent with the main results in Table 5. Note that the coefficient for *GRI\_Score* is positive and significantly associated with share prices, and that *GRI\_A* and *GRI\_B* are both positive and significantly higher than the effect of *GRI\_C* (as the effect of this variable is included in the constant term). These results provide additional evidence that higher (lower) levels of CSR disclosure are associated with higher (lower) share prices; and more specifically that higher levels of CSR disclosures are associated with higher share prices

<<<Table 6 about here>>>

## Consequences - causality

Thus far, we have been careful not to imply causality by always referring to associations. We now move to specifications based on the changes in CSR disclosure in order to directly examine the association of changes in CSR disclosure with share prices. These specifications also address endogeneity concerns.

We re-estimate our basic share valuation model, substituting the variable of interest with change in GRI level (*Change\_GRI\_Level*), a measure calculated as  $GRI\_Score_t$  minus  $GRI\_Score_{t-1}$  that can take on a value from -3 to +3; and a second model where our focus is on *First\_time\_GRI*, an indicator variable coded as 1 if the company is following GRI for the first time in our sample period (excluding the first year, 2007) and 0 otherwise.

The untabulated results show that *Change\_GRI\_Level* is positive and significant at the 1% level, with *First\_time\_GRI* positive and significant at the 10% level ( $p = 0.070$ ). This indicates that an increase (decrease) in the GRI level of CSR reporting is associated with higher (lower) share prices; and that following the GRI CSR guidelines for the first time is also associated with higher share prices.

In all of our analyses, we use share prices three months after the balance date. To further address endogeneity concerns, we re-estimate our Table 5 models, but using the prior period share price, i.e. 3 months after the previous balance date (thus in most cases 9 months before the current balance date). In both these models, our variables of interest (*GRI\_Score*, *GRI\_A*, *GRI\_B*, and *GRI\_C*) are not significant.

A possible alternative interpretation of our results could be that profitable firms tend to disclose more CSR information. Profitable firms can be expected to have higher share prices, because of their profitability, not because of their CSR disclosure. To

control for profitability, we add *ROA* to our two main models. The untabulated results are qualitatively similar to our main findings, providing some assurance that reverse causality is unlikely.

### **Consequences – by country**

We previously noted that, according to KPMG (2011), CSR disclosure is particularly popular in the UK. The UK is also the only country in our sample with a common law system, as opposed to a code law system. In addition, the UK is the country with the most observations in our sample. For these reasons, we are particularly interested in whether our overall findings hold in the UK. Therefore, we estimate the regression models first reported in Table 5 with UK observations only. The untabulated results show *GRI\_Score* to be positive and highly significant ( $p = 0.005$ ), *GRI\_A* to be positive and significant ( $p = 0.009$ ), *GRI\_B* to be positive and significant ( $p = 0.085$ ), and *GRI\_C* to be negative and significantly ( $p = 0.034$ ) associated with share prices in the UK. We also confirm that our Table 5 results hold and are qualitatively similar for all non-UK observations.

As a matter of interest, we do similar tests for firm in countries from Eastern Europe and Turkey, and the rest of the sample. Our results generally hold in both sub-samples.<sup>11</sup>

Instead of checking whether our findings hold in each of the countries in our sample, we now set about trying to establish whether the relationships we have identified are stronger in certain types of countries. Specifically, we examine the

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<sup>11</sup> Russia, Poland, Hungary, Czech Republic, Turkey only: *GRI\_Score* positive and  $p = 0.062$ , *GRI\_A* positive and  $p = 0.001$ , *GRI\_B* not significant, *GRI\_C* negative and  $p = 0.072$ ; Sample excluding these countries: *GRI\_Score* positive and  $p = 0.012$ , *GRI\_A* positive and  $p = 0.054$ , *GRI\_B* positive and  $p = 0.040$ , *GRI\_C* negative and  $p = 0.043$ .

influence of country variables on economic consequences of CSR disclosure by adding the composite country variable we calculated in Table 4 and that was highly significant in the Table 4 regression, *Governance/Democracy*, as well as an interaction term with *GRI\_Score* to the basic consequences equation (equation 2). The variable of interest is the interaction term, *GRI\_Score\*Governance/Democracy*. We expect CSR disclosures to be more likely to lead to positive economic outcomes in countries with a higher *Governance/Democracy* score, i.e. countries with more democracy, more effective government, better regulation, and more press freedom. Note that the composite country measure *Governance/Democracy* now takes the role previously fulfilled by the country dummies in the model. The results are shown in Table 7. The interaction term is positive and significant, showing that share prices and CSR disclosures are more strongly correlated in countries with better governance as measured by *Governance/Democracy*.

Table 7 also shows the results of the model that includes separate indicator variables for the different GRI levels of CSR disclosure. The coefficient for *GRI\_C* is negative and significant at the 1% level. Furthermore, the coefficients estimated for the interaction terms are positive and significant for *GRI\_A\*Governance/Democracy* (at the 5% level), and for *GRI\_B\*Governance/Democracy (at the 10% level)*, but that *GRI\_C\*Governance/Democracy* is not significantly related to share prices. These results show that the association between the higher levels of CSR disclosure (GRI A and GRI B level disclosure) and higher share prices is stronger in countries with better governance and democracy, but that the association between GRI C and lower share prices is not influenced by a country's governance/democracy levels.

<<<Table 7 about here>>>

## **Consequences – CSR disclosures versus general accounting quality**

A potential threat to the interpretation of our results is that our proxy for CSR disclosure is, in fact, a proxy for general accounting quality. If this was the case, our results would not indicate that the level of CSR disclosures is correlated with share prices. Rather, they would suggest that accounting quality is correlated with share prices. To rule this alternative explanation out, we add a commonly used proxy for accounting quality to our main analyses to ensure that our CSR disclosure measure(s) provide incremental share price-related information.

Following Francis et al. (2005), we use accruals-based measures to proxy for earnings quality. We use the McNichols (2002) measure of abnormal accruals, which modifies the Dechow and Dichev (2002) model, separating accruals based on their association with cash flows by regressing the change in working capital accruals on cash from operations (current, prior, and future periods); change in revenues; and property, plant, and equipment (all measures in the model scaled by total assets). Following Dechow et al. (1995), we estimate this equation for each industry/year, imposing the condition of at least 8 observations per regression. The inverse of absolute value of the error term in these regressions is our measure of accruals quality.

We add this accounting quality measure to both our main equations first reported in Table 5. In both equations, the newly introduced accounting quality measure is not significant and our initial results hold. More specifically, in the first equation *GRI\_Score* is positive and significant ( $p = 0.098$ ), while in the second equation, *GRI\_A* is positive and not significant, *GRI\_B* is positive and significant ( $p = 0.021$ ), and *GRI\_C* is negative and significant ( $p = 0.032$ ). Similar to our main findings, the difference between *GRI\_A* and *GRI\_B* is not statistically different from zero, whereas the



differences between *GRI\_A* and *GRI\_C* and between *GRI\_B* and *GRI\_C* are both statistically different from zero. Note that, due to the requirement of 8 observations per industry/year, the number of observations for these additional tests reduced substantially, potentially explaining the reduction in significance levels of the CSR disclosure measures. These tests show that our CSR disclosure measure add explanatory value in share price equations, independent of firms' general accounting quality.

### **GRI disclosure measure versus CSR from an outside source**

Even though we know that investors and analysts prefer corporate disclosure as a source of CSR information (Radley Yeldar 2012), it could be argued that the market knows firms' CSR from some source unrelated to our CSR disclosure measure (*GRI\_Score*). Bloomberg terminals provide an assessment of firms' ESG (similar to CSR). We find this Bloomberg ESG measure to be highly correlated with our CSR disclosure measure (*GRI\_Score*) and thus we are unable to use both measures, in unaltered form, in the same regression. Therefore, we replace *GRI\_based\_disclosure\_measure* with *Unexpected\_GRI\_Score* (the error term in Table 4, Panel D) in equation 2 and add the Bloomberg ESG measure as a control. We find *Unexpected\_GRI\_Score* to be positive and significant at the 1% level. We conclude that our CSR disclosure measure contain value relevant information over and above any CSR information contained in the Bloomberg ESG measure, i.e. an independent source of CSR information.

## **DISCUSSION**

To summarise, in terms of predisposition, we find that firms are likely to disclose more CSR information in countries with: better investor protection, higher levels of

democracy, more effective government services, higher quality regulations, more press freedom, and a lower commitment to environmental policies. In addition, we find firms are likely to disclose more CSR information if they: are bigger, are more profitable, have a higher book to market ratio, have higher leverage, have older assets, have higher capital expenditure, and operate in environmentally sensitive industries.

In terms of consequences, we find that higher levels of CSR disclosures are associated with higher share prices, and that lower levels of CSR disclosure (compared to no disclosure) are associated with lower share prices. The association between lower CSR disclosure and lower prices are driven by firms operating in sensitive industries. These results are also present when we analyse changes in CSR disclosure, and are robust to the inclusion of an accounting quality measure in our model, thus showing that our CSR disclosure measure is not a proxy for general good disclosure, but contains additional value relevant information. In additional tests, we show that our CSR disclosure measure contain value relevant information over and above CSR information that is known to the market from an independent source.

When combining country level predispositions with our consequences analysis, we find these positive share price consequences to be stronger in countries with stronger governance structures, i.e., in countries with more democracy, more government effectiveness, better regulatory quality, and more press freedom, share prices are more strongly associated with CSR disclosure levels. These results imply that market participants find CSR disclosures more informative in countries where investors are in a better position to voice their concerns (through democratic mechanisms and through the media), and where these opportunities to voice concerns have resulted in better regulation and more effective government implementation of regulations.

This paper represents several advances on the prior literature. First, we are the first to show a differential association between CSR disclosure and economic consequences depending on the level of CSR disclosure. Specifically, our findings 1) that a high level of CSR disclosure is associated with higher share prices, but 2) that a low level of CSR disclosure in sensitive industries is associated with lower share prices (than firms with no CSR disclosure), provides the first indication in the research literature that social, or investor, expectations regarding CSR disclosures can lead to different financial consequences. We conclude that investors interpret lower than expected levels of CSR disclosure as an indication that a firm is trying to hide the presence of adverse CSR issues that could lead to future liabilities. Our findings also suggest that it is not necessarily easy for companies with adverse CSR to mimic companies with good CSR by disclosing a high level of CSR information.

Second, whereas the few prior multi-country CSR studies typically use two country level measures, namely a continuous “rule of law” measure and a “code law/common law” indicator variable (e.g. Simnett et al. 2009, Dhaliwal et al. 2012)<sup>12</sup>, we identify and use several new country level measures that provide better understandings of the multiple drivers of CSR disclosure, such as investor protection mechanisms, democratic institutions, press freedom, and the prioritization of environmental policy goals. We also use these more explicatory country measures to document the kinds of jurisdictions (related to regulation and freedoms to voice concerns) where the link between CSR disclosure and share prices is stronger.

In a third advance on the prior literature, unlike prior studies, we focus on European countries. European countries are relatively similar in terms of factors like

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<sup>12</sup> We are aware of a working paper, Cahan et al. (2012), that uses more country level disclosures in a multi country CSR study, but this study uses a different CSR disclosure measure (composed of several sub-measures), examines disclosure in a single year, does not focus exclusively on European firms, and does not separately assess the effect of different levels of CSR disclosure.

economic development. However, there are still differences among European countries in terms of the relative levels of investor protection, democracy, government efficiency, regulatory quality, press freedom, and emphasis on environmental policies. In this paper, we investigate how these factors influence the relationship between CSR disclosure and firm value.

A fourth major advance on the prior literature is based on the characteristics of our CSR disclosure measure, which is superior by 1) encompassing disclosures in all media, 2) not being a simple indicator variable that ignores the actual content of CSR disclosures, but incorporating a level of disclosure, 3) providing greater variation, 4) not being based on a self-constructed disclosure index incorporating potential bias, 5) and being less open to incorrect coding. With our CSR disclosure measure, we are for the first time able to show that the level of CSR disclosure matters. This kind of analysis was not possible in, e.g., Dhaliwal et al. (2011) with their indicator variable for CSR disclosure.

Our CSR measure is superior to the one used by Gietl et al. (2012), because their measure combines the level of CSR disclosure with whether the GRI level is validated by a third party or not. This combination is not helpful, as the relationship between these two different aspects of disclosure and any potential economic consequences can be are potentially in opposite directions. In addition, their study does not control for country-level variations. Therefore, our findings are both more reliable and more comprehensive than Gietl et al.'s (2012) counter-intuitive results.

In terms of the practical implications of our research, given knowledge of our findings, both capital market participants and managers may be motivated to pursue CSR disclosure at a higher level (market participants to maximise returns and managers to enhance job security and incentive pay), regulators may be concerned about the

opportunities for managers to act opportunistically and consider implementing CSR disclosure regulation, and social and environmental activists may use the positive link between CSR disclosure and returns as an argument to convince firms to disclose more.

## **CONCLUSION**

We examine the CSR disclosures of the top 500 European firms during a recent four year period (2007-2010). We hand collect firms' GRI level as a measure of the extent of their CSR disclosure. About one third of the firms in our sample disclose this GRI measure.

We find evidence to support our hypothesis that there is a higher likelihood to disclose higher levels of CSR among firms in countries with: greater investor protection measures, higher levels of democracy, more government effectiveness, higher quality regulations, more press freedom, and a lesser commitment to environmental policies. At the firm level, we find that firms are more likely to disclose higher levels of CSR if they are larger, more profitable, have higher book to market ratios, are more highly leveraged, have older assets, spend more on capital, and operate in environmentally sensitive industries.

In general, we find evidence that higher levels of CSR disclosure are associated with higher share prices. However, when we examine the association between different levels of CSR disclosure and share prices, we find that a high level of CSR disclosure is associated with higher share prices, but that a low level of CSR disclosure in sensitive industries is associated with lower share prices, compared to no CSR disclosure. As such, CSR disclosures can be said to embody information that is value relevant to investors. Note that our measure of the level of CSR disclosure, GRI disclosure level,

measures the level of compliance to the GRI G3 guidelines and not the quality of the reporting or the sustainability performance.

We also find evidence that the positive economic association at the higher levels of disclosure is more pronounced in countries with higher levels of democracy, government effectiveness, regulatory quality and press freedom. This implies that market participants find CSR disclosures more informative in countries where investors are in a better position to voice their concerns (through democratic mechanisms and through the media), and where opportunities to voice concerns have resulted in better regulation and more effective government implementation of regulations.

We perform several robustness checks on our findings. First, we repeat our tests with the subsample of firms that disclose a GRI disclosure level and find similar results. Second, in order to address endogeneity concerns, we use two changes specifications and find that upward (downward) changes in GRI disclosure level are associated with higher (lower) share prices; as well as that following GRI guidelines for the first time is associated with higher share prices. We further address endogeneity concerns by showing that our results disappear when we repeat the analyses with the dependent variable, share prices, in the prior time period. We show that when we control for general accounting quality, our results hold, implying that CSR disclosures add distinct information and should not be regarded as a mere proxy for general accounting quality. Finally, we show that our CSR disclosure measure contain value relevant information over and above CSR information known to the market from an independent source.

In common with all research, our results should be treated with caution. Our measure of CSR disclosure represents the level of GRI G3 disclosure, therefore it does not measure reporting quality or sustainability performance. Our ‘consequences’ model,

a modified Ohlson (1995) model, only shows an association between the level of CSR disclosure and share prices and does not confirm causality.

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### Annex 1 – Variable definitions

#### Disclosure Variables

GRI_Score	Coded 3 for firms disclosing GRI at the A level, 2 for GRI B level disclosure, 1 for GRI C level disclosure, 0 for not reporting using the GRI disclosure framework. Note: firms can disclose a limited number of CSR items for a GRI C-rating (or level of disclosure), increase disclosures for a B-rating, or disclose all guideline items for a GRI A-rating
GRI_A	Indicator variable coded 1 for firms with a GRI disclosure level of A, otherwise 0
GRI_B	Indicator variable coded 1 for firms with a GRI disclosure level of B, otherwise 0
GRI_C	Indicator variable coded 1 for firms with a GRI disclosure level of C, otherwise 0

#### Country-level variables

Law	Measure of legal protection of minority shareholders against expropriation by corporate insiders: Anti-self-dealing score, based on Djankov et al. (2008). The index considers (1) vote by mail; (2) shares not blocked or deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital to call meeting
Voice	Voice and accountability, a World Bank measure, reported in Kaufman et al. (2010)
Gov_Eff	Government effectiveness, a World Bank measure, reported in Kaufman et al. (2010)
Reg_Qual	Regulatory quality, a World Bank measure, reported in Kaufman et al. (2010)
Press	Freedom of the press, as measured by Reporters without borders
Env_Perf	Environmental performance index, Yale Centre for environmental law and policy

#### Firm-level variables (data from Datastream)

Size	Size, measured as logarithm of total assets
ROA	Net income (before extraordinary items and preferred dividends) / beginning total assets
Fin	Financing, measured as (sales less purchases) of common and preferred shares plus change in long term debt
B_M	Book to market value of equity ratio
Lev	Leverage ratio, calculated as total debt divided by total assets
Internat	International trade, calculated as the percentage of sales made in countries other than the firms' headquarters
Volat	Share price volatility, measured as the standard deviation of market-adjusted monthly stock return during one year
New	Firms' asset newness, measured as net property plant and equipment (PPE)/ gross PPE
Capex	Capital expenditure, measured as capital expenditures / sales
Ind_Sens	Industry sensitivity, an indicator variables coded one for firms operating in environmentally sensitive industries, and zero otherwise. Sensitive industries are identified by the SIC codes described in De Villiers et al. (2011), except regulated utilities industry (electricity, gas and waste water) – see footnote for SIC codes
Utility	Regulated utility industry (electricity, gas and waste water), an indicator variable coded one for firms in this industry, and zero otherwise – see footnote for SIC codes
Share_Price	Closing market value per share, three months after fiscal year end
EPS	Earnings per share, as reported
BV_pS	Book value per share, measured at the end of the fiscal year

**TABLE 1***Descriptive statistics**Panel A – Descriptive statistics for CSR disclosure measures by country*

Country	Frequency	Percent of total	Mean of GRI_Score
Austria	13	1.06	1.85
Belgium	32	2.61	0.56
Czech Republic	4	0.33	0.00
Denmark	40	3.26	0.45
Finland	40	3.26	1.23
France	202	16.46	0.29
Germany	149	12.14	0.85
Greece	13	1.06	0.85
Hungary	12	0.98	1.00
Ireland	24	1.96	0.50
Italy	48	3.91	1.27
Luxemburg	3	0.24	0.33
Netherlands	65	5.30	1.02
Norway	21	1.71	0.90
Poland	4	0.33	1.00
Portugal	21	1.71	1.38
Russia	43	3.50	0.21
Spain	54	4.40	1.70
Sweden	79	6.44	0.85
Switzerland	92	7.50	0.91
Turkey	22	1.79	0.05
United Kingdom	246	20.05	0.66
Total	1,227	100.00	0.75

GRI\_Score measures the level of corporate social responsibility disclosure and takes a value of 3 for firms disclosing GRI at the A level, 2 for GRI B level disclosure, 1 for GRI C level disclosure, 0 for not reporting using the GRI disclosure framework.

*Panel B – Descriptive statistics for CSR disclosure frequencies*

GRI disclosure level	Value assigned in the variable GRI_Score	Frequency (%)
A	3	202 (16.46)
B	2	138 (11.25)
C	1	42 (3.42)
GRI not followed	0	845 (68.87)
Total		1,227 (100)

GRI\_Score measures the level of corporate social responsibility disclosure and takes a value of 3 for firms disclosing GRI at the A level, 2 for GRI B level disclosure, 1 for GRI C level disclosure, 0 for not reporting using the GRI disclosure framework.

Panel C – Descriptive statistics for country and firm-level variables

Variable	Mean	Std. Dev.	Min	Max
<u>Country level measures</u>				
Law	3.480	1.023	1.000	5.000
Voice	1.243	0.488	-0.986	1.618
Gov_Eff	1.481	0.555	-0.425	2.338
Reg_Qual	1.430	0.465	-0.453	1.924
Press	7.796	10.479	0.000	60.880
Env_Perf	81.682	7.806	58.100	95.500
<u>Firm level measures</u>				
Size	16.144	1.273	12.585	19.385
ROA	0.071	0.075	-0.339	0.631
Fin (millions)	0.414	2.891	0.000	45.800
B_M	0.554	0.442	-0.454	4.687
Lev	0.264	0.161	0.0000	1.197
Internat	0.572	0.311	0.0000	1.536
Volat	26.760	8.488	11.990	73.880
New	0.512	0.153	0.135	1.000
Capex	0.102	0.203	0.000	3.786
Ind_Sens	0.262	0.440	0.000	1.000
Utility	0.072	0.258	0.000	1.000
Share_Price	60.602	366.757	0.020	7,810.670
EPS	3.968	34.025	-224.977	813.341
BV_pS	34.596	280.892	-0.566	5,581.547

N = 1,227, the number of observations with no missing data for all variables in this table.

Law is an anti-self-dealing score, based on Djankov et al. (2008). The index considers (1) vote by mail; (2) shares not blocked or deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital to call meeting. Voice, Gov\_Eff, and Reg\_Qual are the following World Bank measures as reported by Kaufman et al. (2010): Voice and Accountability, Government effectiveness, and Regulatory quality. Press is freedom of the press, as measured by Reporters without borders. Env\_Perf is the environmental performance index of the Yale Centre for environmental law and policy. Size is measured as logarithm of total assets. ROA is net income (beipd) / beginning total assets. Fin is financing, measured as (sales less purchases) of common and preferred shares plus change in long term debt. B\_M is book to market value of equity ratio. Lev is the leverage ratio, calculated as total debt divided by total assets. Internat is a measure of international trade, calculated as the percentage of sales made in countries other than the firms' headquarters. Volat is share price volatility. New is firms' asset newness, measured as net property plant and equipment (PPE)/ gross PPE. Capex is capital expenditure, measured as capital expenditures / sales. Ind\_Sens is industry sensitivity, an indicator variables coded one for firms operating in environmentally sensitive industries, and zero otherwise. Sensitive industries are identified by the SIC codes described in De Villiers et al. (2011). Utility is coded one for firms operating in the regulated utility industry, otherwise zero. Share\_Price is the closing market value per share, three months after fiscal year end. EPS is earnings per share. BV\_pS is book value per share, measured at the end of the fiscal year.



**TABLE 2***Correlation tables**Panel A – Correlations between GRI\_Score and country variables*

	GRI_Score	Law	Voice	Gov_Eff	Reg_Qual	Press	Env_Perf
GRI_Score	1						
Law	0.044	1					
Voice	<b>0.104</b>	-0.044	1				
Gov_Eff	0.029	-0.038	<b>0.875</b>	1			
Reg_Qual	<b>0.069</b>	<b>0.136</b>	<b>0.916</b>	<b>0.902</b>	1		
Press	<b>-0.119</b>	<b>0.060</b>	<b>-0.965</b>	<b>-0.822</b>	<b>-0.886</b>	1	
Env_Perf	<b>-0.059</b>	0.046	<b>0.383</b>	<b>0.443</b>	<b>0.315</b>	<b>-0.352</b>	1

The correlations in bold are statistically significant at the 5% level.

GRI\_Score measures the level of corporate social responsibility disclosure and takes a value of 3 for firms disclosing GRI at the A level, 2 for GRI B level disclosure, 1 for GRI C level disclosure, 0 for not reporting using the GRI disclosure framework. Law is an anti-self-dealing score, based on Djankov et al. (2008). The index considers (1) vote by mail; (2) shares not blocked or deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital to call meeting. Voice, Gov\_Eff, and Reg\_Qual are the following World Bank measures as reported by Kaufman et al. (2010): Voice and Accountability, Government effectiveness, and Regulatory quality. Press is freedom of the press, as measured by Reporters without borders. Env\_Perf is the environmental performance index of the Yale Centre for environmental law and policy.

Panel B – Correlations between GRI\_Score and firm-level variables

	GRI_Score	Size	ROA	FIN	B_M	LEV	Internat	Volat	New	Capex	Ind_Sens	Utility	Price	EPS	BV_pS
Size	<b>0.305</b>	1													
ROA	-0.032	<b>-0.303</b>	1												
FIN	<b>0.078</b>	<b>0.187</b>	-0.005	1											
B_M	<b>0.094</b>	<b>0.248</b>	<b>-0.289</b>	0.009	1										
LEV	<b>0.072</b>	<b>0.219</b>	<b>-0.332</b>	<b>0.131</b>	-0.009	1									
Internat	0.056	<b>0.121</b>	-0.039	0.006	<b>-0.071</b>	<b>-0.161</b>	1								
Volat	<b>-0.066</b>	<b>-0.187</b>	<b>-0.118</b>	<b>-0.071</b>	<b>0.224</b>	<b>-0.123</b>	<b>0.063</b>	1							
New	-0.046	0.023	0.028	<b>0.093</b>	<b>0.104</b>	<b>0.178</b>	<b>-0.134</b>	<b>0.088</b>	1						
Capex	<b>0.056</b>	0.013	<b>-0.061</b>	0.043	0.021	<b>0.224</b>	<b>-0.088</b>	-0.014	<b>0.391</b>	1					
Ind_Sens	<b>0.123</b>	0.027	0.054	0.027	<b>0.108</b>	<b>-0.162</b>	<b>0.186</b>	<b>0.118</b>	<b>0.059</b>	0.005	1				
Utility	<b>0.101</b>	<b>0.188</b>	<b>-0.092</b>	<b>0.139</b>	0.050	<b>0.152</b>	<b>-0.236</b>	<b>-0.122</b>	<b>0.202</b>	<b>0.142</b>	<b>-0.166</b>	1			
Share_Price	-0.033	0.034	0.019	-0.012	0.021	-0.002	-0.003	-0.010	0.022	0.003	-0.011	-0.032	1		
EPS	-0.023	0.041	0.047	-0.019	0.010	-0.000	0.014	-0.013	0.016	0.015	-0.013	-0.021	<b>0.851</b>	1	
BV_pS	-0.017	<b>0.072</b>	-0.023	-0.009	<b>0.062</b>	0.015	-0.012	0.001	0.037	0.011	-0.026	-0.024	<b>0.939</b>	<b>0.771</b>	1

The correlations in bold are statistically significant at the 5% level.

GRI\_Score measures the level of corporate social responsibility disclosure and takes a value of 3 for firms disclosing GRI at the A level, 2 for GRI B level disclosure, 1 for GRI C level disclosure, 0 for not reporting using the GRI disclosure framework. Size is measured as logarithm of total assets. ROA is net income (beipd) / beginning total assets. Fin is financing, measured as (sales less purchases) of common and preferred shares plus change in long term debt. B\_M is book to market value of equity ratio. Lev is the leverage ratio, calculated as total debt divided by total assets. Internat is a measure of international trade, calculated as the percentage of sales made in countries other than the firms' headquarters. Volat is share price volatility. New is firms' asset newness, measured as net property plant and equipment (PPE)/ gross PPE. Capex is capital expenditure, measured as capital expenditures / sales. Ind\_Sens is industry sensitivity, an indicator variables coded one for firms operating in environmentally sensitive industries, and zero otherwise. Sensitive industries are identified by the SIC codes described in De Villiers et al. (2011). Utility is coded one for firms operating in the regulated utility industry, otherwise zero. Share\_Price is the closing market value per share, three months after fiscal year end. EPS is earnings per share. BV\_pS is book value per share, measured at the end of the fiscal year.

**TABLE 3***Predisposition towards CSR disclosures (Ordered Logit models)*

GRI_Score	Expected sign	Law		Voice		Gov_Eff		Reg_Qual		Press		Env_Perf	
		Coef.	P-value	Coef.	P-value	Coef.	P-value	Coef.	P-value	Coef.	P-value	Coef.	P-value
Law	+	0.137	0.020										
Voice	+			0.893	0.000								
Gov_Eff	+					0.362	0.004						
Reg_Qual	+							0.713	0.000				
Press	-									-0.048	0.000		
Env_Perf	?											-0.016	0.049
Size	+	0.500	0.000	0.528	0.000	0.520	0.000	0.530	0.000	0.544	0.000	0.499	0.000
ROA	+	3.168	0.001	3.983	0.000	3.516	0.001	3.757	0.000	4.050	0.000	3.156	0.001
Fin	+	0.000	0.448	0.000	0.499	0.000	0.482	0.000	0.467	0.000	0.472	0.000	0.458
B_M	+	0.290	0.026	0.402	0.006	0.316	0.018	0.388	0.006	0.432	0.004	0.216	0.080
Lev	+	1.004	0.017	1.105	0.010	1.118	0.009	1.074	0.012	1.085	0.012	0.991	0.018
Internat	+	0.256	0.134	-0.014	0.476	0.129	0.295	-0.017	0.472	-0.046	0.424	0.315	0.086
Volat	?	0.001	0.872	0.009	0.322	0.003	0.696	0.005	0.553	0.008	0.368	-0.001	0.869
New	-	-2.251	0.000	-1.614	0.001	-1.828	0.000	-1.912	0.000	-1.568	0.001	-2.059	0.000
Capex	+	0.920	0.002	0.848	0.003	0.933	0.002	0.900	0.002	0.841	0.003	0.936	0.002
Ind_Sens	+	0.738	0.000	0.814	0.000	0.755	0.000	0.785	0.000	0.796	0.000	0.719	0.000
Utility	?	0.722	0.004	0.796	0.002	0.788	0.002	0.794	0.002	0.764	0.002	0.723	0.004
N		1,227		1,227		1,227		1,227		1,227		1,227	
Prob > chi <sup>2</sup>		0.000		0.000		0.000		0.000		0.000		0.000	

The table reports the results of ordered logit regressions with GRI\_Score as the dependent variable.

P-values are one-tailed for variables with predicted signs.

GRI\_Score measures the level of corporate social responsibility disclosure and takes a value of 3 for firms disclosing GRI at the A level, 2 for GRI B level disclosure, 1 for GRI C level disclosure, 0 for not reporting using the GRI disclosure framework. Law is an anti-self-dealing score, based on Djankov et al. (2008). The index considers (1) vote by mail; (2) shares not blocked or deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital to call meeting. Voice, Gov\_Eff, and Reg\_Qual are the following World Bank measures as reported by Kaufman et al. (2010): Voice and Accountability, Government effectiveness, and Regulatory quality. Press is freedom of the press, as measured by Reporters without borders. Env\_Perf is the environmental performance index of the Yale Centre for environmental law and policy. Size is measured as logarithm of total assets. ROA is net income (beipd) / beginning total assets. Fin is financing, measured as (sales less purchases) of common and preferred shares plus change in long term debt. B\_M is book to market value of equity ratio. Lev is the leverage ratio, calculated as total debt divided by total assets. Internat is a measure of international trade, calculated as the percentage of sales made in countries other than the firms' headquarters. Volat is share price volatility. New is firms' asset newness, measured as net property plant and equipment (PPE)/ gross PPE. Capex is capital expenditure, measured as capital expenditures / sales. Ind\_Sens is industry sensitivity, an indicator variables coded one for firms operating in environmentally sensitive industries, and zero otherwise. Sensitive industries are identified by the SIC codes described in De Villiers et al. (2011). Utility is coded one for firms operating in the regulated utility industry, otherwise zero.

**TABLE 4***Principal components analysis of predisposition towards CSR disclosures**Panel A – Eigenvalues of the correlation matrix*

Principal components	Eigenvalue	Variance explained (%)	Cumulative variance (%)
PC1	3.877	64.62	64.62
PC2	1.033	17.22	81.83
PC3	0.816	13.60	95.43
PC4	0.196	3.26	98.69
PC5	0.050	0.83	99.52
PC6	0.029	0.48	100.00

N=1,227

*Panel B – Weights of the two country factors*

Variable	PC1	PC2	Unexplained
Law	0.003	0.974	0.019
Voice	0.494	-0.068	0.050
Gov_Eff	0.478	-0.039	0.114
Reg_Qual	0.483	0.112	0.083
Press	-0.481	0.090	0.093
Env_Perf	0.251	0.154	0.731

Law is an anti-self-dealing score, based on Djankov et al. (2008). The index considers (1) vote by mail; (2) shares not blocked or deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital to call meeting. Voice, Gov\_Eff, and Reg\_Qual are the following World Bank measures as reported by Kaufman et al. (2010): Voice and Accountability, Government effectiveness, and Regulatory quality. Press is freedom of the press, as measured by Reporters without borders. Env\_Perf is the environmental performance index of the Yale Centre for environmental law and policy.

*Panel C – PC1: Governance/Democracy measure by country*

Country	Frequency	Percent of total	PC1: Governance/Democracy	PC2: Country_Law
Austria	13	1.06	0.920	-0.915
Belgium	32	2.61	-0.020	-1.724
Czech Republic	4	0.33	-1.006	0.339
Denmark	40	3.26	1.642	0.398
Finland	40	3.26	1.537	-0.001
France	202	16.46	-0.185	-0.424
Germany	149	12.14	0.481	-0.967
Greece	13	1.06	-2.271	-1.611
Hungary	12	0.98	-1.220	-1.471
Ireland	24	1.96	0.624	-1.969
Italy	48	3.91	-1.976	0.462
Luxemburg	3	0.24	0.743	-2.524
Netherlands	65	5.30	0.876	-0.631
Norway	21	1.71	1.183	0.015
Poland	4	0.33	-1.957	-1.702
Portugal	21	1.71	-0.875	-1.024
Russia	43	3.50	-8.101	0.695
Spain	54	4.40	-1.024	1.397
Sweden	79	6.44	1.591	0.115
Switzerland	92	7.50	1.601	-0.319
Turkey	22	1.79	-5.319	-1.402
United Kingdom	246	20.05	0.589	1.486
Total	1,227	100.00		

The table reports the composite country level measures PC1 and PC2 from Panel B.

*Panel D – Ordered logit with 2 country factors and firm-level variables*

GRI_Score	Expected sign	Coef.	P-value
PC1: Governance/Democracy	+	0.166	0.000
PC2: Country_Law	+	0.092	0.086
Size	+	0.529	0.000
ROA	+	3.737	0.000
Fin	+	0.000	0.476
B_M	+	0.405	0.005
Lev	+	1.094	0.011
Internat	+	0.011	0.482
Volat	?	0.007	0.424
New	-	-1.903	0.000
Capex	+	0.885	0.003
Ind_Sens	+	0.791	0.000
Utility	?	0.783	0.002
/ cut1		9.786	
/ cut2		9.973	
/ cut 3		10.733	
N		1,227	
Prob > chi <sup>2</sup>		0.000	

The table reports the results of an ordered logit regression with standard errors clustered by country

P-values are one-tailed for variables with predicted signs.

GRI\_Score measures the level of corporate social responsibility disclosure and takes a value of 3 for firms disclosing GRI at the A level, 2 for GRI B level disclosure, 1 for GRI C level disclosure, 0 for not reporting using the GRI disclosure framework. Governance/Democracy is PC1 calculated in Table 4, Panel B. Country\_Law is PC2 calculated in Table 4, Panel B. Size is measured as logarithm of total assets. ROA is net income (beipd) / beginning total assets. Fin is financing, measured as (sales less purchases) of common and preferred shares plus change in long term debt. B\_M is book to market value of equity ratio. Lev is the leverage ratio, calculated as total debt divided by total assets. Internat is a measure of international trade, calculated as the percentage of sales made in countries other than the firms' headquarters. Volat is share price volatility. New is firms' asset newness, measured as net property plant and equipment (PPE)/ gross PPE. Capex is capital expenditure, measured as capital expenditures / sales. Ind\_Sens is industry sensitivity, an indicator variables coded one for firms operating in environmentally sensitive industries, and zero otherwise. Sensitive industries are identified by the SIC codes described in De Villiers et al. (2011). Utility is coded one for firms operating in the regulated utility industry, otherwise zero.

**TABLE 5***Consequences of CSR disclosures (Share price valuation models)*

Market price per share	Expected sign	GRI_Score		Dummies for levels of GRI	
		Coef.	P-value	Coef.	P-value
EPS	+	5.693	0.000	5.709	0.000
BV_pS	+	0.798	0.000	0.799	0.000
GRI_Score	+	0.788	0.007		
GRI_A	+			2.035	0.028
GRI_B	?			3.160	0.018
GRI_C	-			-7.315	0.022
Size	?	-5.190	0.002	-5.307	0.002
Ind_Sens	?	5.468	0.152	5.750	0.132
Utility	?	2.614	0.205	2.859	0.166
Constant		72.277	0.004	76.737	0.004
Dummies for years			Included		Included
Dummies for countries			Included		Included
Adjusted R <sup>2</sup>			0.708		0.709
N			1,176		1,176

The table reports the results of ordinary least squares regressions with standard errors clustered by country and observations trimmed at 1% and 99% for the market price per share, earnings per share, and book value per share.

P-values are one-tailed for variables with predicted signs.

The dependent variable is the market price per share, *Share\_Price*. EPS is earnings per share. BV\_pS is book value per share, measured at the end of the fiscal year. GRI\_Score measures the level of corporate social responsibility disclosure and takes a value of 3 for firms disclosing GRI at the A level, 2 for GRI B level disclosure, 1 for GRI C level disclosure, 0 for not reporting using the GRI disclosure framework. GRI\_A, GRI\_B, and GRI\_C are indicator variables taking a value of 1 if a company discloses that they disclose CSR at the A, B, or C GRI level, otherwise 0. Size is measured as logarithm of total assets. Ind\_Sens is industry sensitivity, an indicator variables coded one for firms operating in environmentally sensitive industries, and zero otherwise. Sensitive industries are identified by the SIC codes described in De Villiers et al. (2011). Utility takes a value of one if the firm operates in the regulated utility industry, otherwise zero.



**TABLE 6**

*Consequences of CSR disclosures (Share price valuation model excluding firms with no GRI\_Score)*

*Basic model (Sample excluding firms with no GRI\_Score)*

Market price per share	Expected sign	GRI_Score		Dummies for levels of GRI (GRI_C dropped)	
		Coef.	P-value	Coef.	P-value
EPS	+	7.011	0.000	7.107	0.000
BV_pS	+	0.525	0.000	0.537	0.000
GRI_Score	+	2.658	0.027		
GRI_A	+			9.677	0.007
GRI_B	?			11.014	0.019
Size	?	-5.766	0.013	-5.921	0.011
Ind_Sens	?	0.700	0.835	1.317	0.702
Utility	?	-0.702	0.759	-0.329	0.880
Constant	?	93.997	0.019	98.528	0.013
Dummies for years		Included		Included	
Dummies for countries		Included		Included	
Adjusted R <sup>2</sup>		0.784		0.788	
N		370		370	

The table reports the results of ordinary least squares regressions with standard errors clustered by country and observations trimmed at 1% and 99% for the market price per share, earnings per share, and book value per share. Results shown with GRI\_C dropped out of the model.

P-values are one-tailed for variables with predicted signs.

The dependent variable is the market price per share, Share\_Price. EPS is earnings per share. BV\_pS is book value per share, measured at the end of the fiscal year. GRI\_Score measures the level of corporate social responsibility disclosure and takes a value of 3 for firms disclosing GRI at the A level, 2 for GRI B level disclosure, 1 for GRI C level disclosure, 0 for not reporting using the GRI disclosure framework. GRI\_A, GRI\_B, and GRI\_C are indicator variables taking a value of 1 if a company discloses that they disclose CSR at the A, B, or C GRI level, otherwise 0. Size is measured as logarithm of total assets. Ind\_Sens is industry sensitivity, an indicator variables coded one for firms operating in environmentally sensitive industries, and zero otherwise. Sensitive industries are identified by the SIC codes described in De Villiers et al. (2011). Utility takes a value of one if the firm operates in the regulated utility industry otherwise zero.

**TABLE 7**

*Consequences (Share price valuation models) including Governance/Democracy*

Market price per share	Expected sign	GRI_Score		Dummies for levels of GRI	
		Coef.	P-value	Coef.	P-value
EPS	+	6.151	0.000	6.168	0.000
BV_pS	+	0.867	0.000	0.867	0.000
GRI_Score	+	0.489	0.214		
GRI_A	+			1.199	0.225
GRI_B	?			2.553	0.261
GRI_C	-			-8.992	0.007
Governance/Democracy	+	0.556	0.279	0.565	0.287
GRI_Score*Governance/Democracy	+	0.708	0.016		
GRI_A*Governance/Democracy	+			1.763	0.027
GRI_B*Governance/Democracy	+			1.634	0.089
GRI_C*Governance/Democracy	+			0.849	0.255
Size	?	-5.123	0.005	-5.262	0.004
Ind_Sens	?	4.293	0.156	4.720	0.121
Utility	?	2.879	0.102	3.015	0.108
Constant		77.619	0.005	79.776	0.004
Dummies for years			Included		Included
Adjusted R <sup>2</sup>			0.685		0.686
N			1,176		1,176

The table reports the results of ordinary least squares regressions with standard errors clustered by country and observations trimmed at 1% and 99% for the market price per share, earnings per share, and book value per share.

P-values are one-tailed for variables with predicted signs.

The dependent variable is the market price per share, *Share\_Price*. EPS is earnings per share. BV\_pS is book value per share, measured at the end of the fiscal year. GRI\_Score measures the level of corporate social responsibility disclosure and takes a value of 3 for firms disclosing GRI at the A level, 2 for GRI B level disclosure, 1 for GRI C level disclosure, 0 for not reporting using the GRI disclosure framework. GRI\_A, GRI\_B, and GRI\_C are indicator variables taking a value of 1 if a company discloses that they disclose CSR at the A, B, or C GRI level, otherwise 0. Governance/Democracy is PC1 calculated in Table 4, Panel B and represent mainly Voice, Gov\_Eff, Reg\_Qual and Press. Voice, Gov\_Eff, and Reg\_Qual are the following World Bank measures as reported by Kaufman et al. (2010): Voice and Accountability, Government effectiveness, and Regulatory quality. Press is freedom of the press, as measured by Reporters without borders.

GRI\_Score\*Governance/Democracy is an interaction term between GRI\_Score and Governance/Democracy, and similar for interactions with GRI\_A, GRI\_B and GRI\_C. Size is measured as logarithm of total assets. Ind\_Sens is industry sensitivity, an indicator variables coded one for firms operating in environmentally sensitive industries, and zero otherwise. Sensitive industries are identified by the SIC codes described in De Villiers et al. (2011). Utility takes a value of one if the firm operates in the regulated utility industry, otherwise zero.