Does assurance on CSR reporting enhance environmental reputation? An examination in the U.S. context

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Introduction

The issuance of standalone corporate social responsibility (CSR) reports[1] has grown dramatically over the past two decades and KPMG International indicates that 71 percent of the 4,100 companies it surveyed worldwide in 2013 engaged in CSR reporting (KPMG International, 2013). However, as noted by Cho et al. (2014, p. 131), this practice, "as with all types of voluntary corporate disclosure . . . is subject to concerns regarding the completeness and credibility of the information that is being provided" (also see Merkl-Davies and Brennan, 2007; Bouten et al., 2011; Bouten et al., 2012). Numerous commentators argue that third-party assurance on CSR reports can increase credibility (see, e.g., Beets and Souther, 1999; Holder-Webb et al., 2009; Simnett et al., 2009; Cohen and Simnett, 2015; Casey and Grenier, 2015), and KPMG International (2013, p. 11) reports such assurance continues to grow with over half of the Global 250 corporations now including outside assurance on their standalone CSR documents.

Perhaps owing to the relative newness of the practice, empirical analyses related to CSR report assurance are limited, and only a few studies to date investigate its impacts. Among these, Cho et al. (2014) document no significant relation between assurance and market valuation, whereas Casey and Grenier (2015) find that firms with CSR report assurance exhibit lower cost of equity capital, lower analyst forecast errors and less forecast dispersion. From a different perspective, Michelon, Patten and Romi (2015) examine whether CSR report assurance adds credibility to the information disclosed and report a positive relation between assurance and restatement of previously reported CSR information.

[1] The reports are issued under a variety of differing names including, for example, citizenship, social responsibility, and sustainability reports. In this paper, we refer to all of these issuances as 'CSR reports'.

In this study, we argue that, rather than being issued mainly to reduce information asymmetries between management and investors as argued by Dhaliwal et al. (2011), Casey and Grenier (2015), and others, standalone CSR reporting may also be used in an attempt to increase the environmental image of corporations (Michelon, Pilonato and Ricceri, 2015).[2] This view is supported by KPMG International's (2011, p. 18) claim that "the business imperative behind CR [Corporate Responsibility] reporting" is reputation. More recently, KPMG International (2013, p. 44) argues reporting enhances reputation internally (with a significant positive impact on employee pride and motivation, attraction and retention of talented employees) and externally (by strengthening relationships with external stakeholders and building credibility with customers). Furthermore, the organization asserts that "positive effects are dependent on the quality and credibility of reported information" (p.45) and sustain this claim quoting John Viera of Ford: "To get a reputational benefit you need your actions to match your words and to report in a consistent and transparent way against an accepted framework". Accordingly, if firms acquire outside assurance of their reports to enhance the credibility of the message being portrayed as argued in much recent research (e.g., Park and Brorson, 2005; Simnett et al., 2009; Kolk and Perego, 2010; Michelon, Patten and Romi, 2015), we would expect the practice to impact assessments of its environmental reputation as opposed to being directly related to differences in firm value.

In order to better identify the potential benefits of assurance in the CSR domain, we investigate whether standalone CSR report assurance in the U.S. appears to lead to better outside assessments of firms' environmental reputation. We use environmental reputation scores reported as part of *Newsweek* magazine's rankings of the 'greenest companies in America' from

[2] It should be noted that increases in environmental image could lead to economic effects such as those reported by Casey and Grenier (2015).

2009 and 2010,[3] and identify firms in the listing with a standalone CSR report issued in the prior year. Controlling for other factors potentially influencing the ratings, we find, based on a sample of 351 firm-year observations, that assurance is highly associated with higher assessments of companies' environmental reputation. We also explore whether impacts on environmental reputation differ depending on assurance provider type – accounting firms versus other providers. Our results indicate that having assurance from either type of provider is significantly related to increased environmental reputation, suggesting that it is the presence of assurance, as opposed to assurer type that impacts assessments of corporate environmental reputation.

We begin our study with a review of prior investigations related to assurance of standalone CSR reporting.

Background

Empirical research into assurance on standalone CSR reporting is relatively limited and, to date, most studies focus either on descriptive analyses of the practice or factors driving assurance choice. With respect to the former, for example, Mock et al. (2007) examine an international sample of 130 entities with assurance on their CSR reports between 2002 and 2004 and report that, geographically, the practice was most common for firms from the European Union (E.U.). With respect to industry sector, electric and energy firms and oil and gas companies had the highest representation. Focusing on reports issued in 2006 or 2007, Mock et al. (2013) identify a growing trend of assurance by financial services companies, but note that firms in the E.U. continued to exhibit the highest likelihood of having their CSR reports assured.

With respect to examination of the determinants of CSR report assurance, Park and Brorson (2005), based on interviews with executives from Swedish firms, suggest the primary

[3] Although *Newsweek* continued issuing annual rankings beyond 2010, it discontinued the use of an environmental reputation survey as part of the assessments beginning with the 2011 rankings.

factor driving the decision to seek assurance was the need for enhanced credibility. In a much broader empirical study, Simnett et al. (2009) use a large international sample of companies to examine the impact of both country-level and firm specific factors on the choice to have CSR reports assured.[4] Based on reports issued over the 2002 through 2004 period, Simnett et al. (2009) find that stakeholder orientation at the country level, firm size, and industry affiliation all were significantly related to CSR report assurance choice, with the first of those factors as the most dominant. However, when U.S. firms were deleted from the sample, stakeholder orientation was no longer significant, and as such, Simnett et al. (2009) conclude, in line with Park and Brorson (2005), that the need for enhanced credibility appears to drive demand for assurance. In a similar study, Kolk and Perego (2010) also investigate whether country-level and firm specific factors influence the demand for CSR report assurance. With the exception that firm size was not significant for their sample of Fortune Global 250 companies, results were largely consistent with those reported by Simnett et al. (2009).

From a different perspective, Jones and Solomon (2010) interviewed CSR representatives from 20 U.K. firms regarding their perceptions of the need for, and benefits of, CSR report assurance. Interestingly, a majority of the interviewees were reluctant to support external assurance on the reports, partly because of the practice's "relative current unimportance" (Jones and Solomon, 2010, p. 29).[5] However, Jones and Solomon (2010, p. 30) also report that their findings indicate "managers are using [assurance] as a way of reinforcing [CSR reporting] as a method of giving a favorable impression of the company to outside stakeholders." Somewhat

[4] Simnett et al. (2009) also examine the impact of these factors on report issuance and the choice of assurer (accountant versus non-accountant).

[5] Other reasons reported by Jones and Solomon (2010) for the lack of support of external assurance on CSR reports included the complexity of CSR reporting, cost, and concerns with the independence of assurance providers.

similarly, Edgley et al. (2010), based on interviews with assurance providers in the U.K., identify that CSR report assurance can add value by helping to manage reputation risk.

Several recent studies focus more exclusively on CSR report assurance in the U.S. as this is a market where the practice is less common compared to the international context (Simnett et al., 2009; KPMG, 2011). Cho et al. (2014) analyze a sample of companies included in the 2010 *Fortune* 500 and find that, in addition to industry affiliation, more extensive disclosure within the CSR report increases the likelihood of having external assurance. Casey and Grenier (2015) use a panel sample of 2,649 CSR reports over the period 1993-2010 and find that global operations, higher cost of capital, and increased advertising intensity increase the likelihood of having assurance, while leverage is negatively related to it. Interestingly, they also find that firms with CSR concerns are also more likely to obtain external CSR assurance, and they interpret this finding as an indication that some firms might be using assurance for impression management purposes. Finally, Peters and Romi (2015) present evidence that expertise in sustainability at the board level increases the likelihood of CSR report assurance over the period 2002-2010, inclusive.

In general, each of the studies examining determinants of CSR report assurance choice presents evidence that the need for enhanced credibility plays at least some role in the choice to seek assurance. Two recent experimental investigations show that, at least in some cases, assurance on a CSR report leads to a perception of increased credibility. In the first of these, Hodge et al. (2009) use a surrogate sample of business students in Australia and report a positive relation between assurance and perceptions of credibility, although the relation does not hold when the assurance level is limited or the assurer is not a top-tier accounting firm. Pflugrath et al. (2011), also using an experimental design, similarly report a positive relation between CSR report assurance and perceived credibility. Based on a sample of financial analysts from Australia, the United States, and the United Kingdom, Pflugrath et al. (2011) also find that the impacts on credibility are higher when reporting companies are from industries where assurance is more common, and that, for analysts from the U.S., assurance by a professional accountant impacts credibility more than when assurance comes from a sustainability consultant.

From a different perspective, Cho et al. (2014), in their analysis of U.S. CSR reports, examine whether the presence of assurance on CSR reports is associated with increased market value. Citing claims from Clarkson et al. (2008) and Dhaliwal et al. (2011) that the reporting is intended to signal superior social and environmental positions to market participants, Cho et al. argue that the assurance, if it strengthens the credibility of the information provision, should lead to higher market valuation. However, using an Ohlson (1995) valuation model controlling for disclosure extensiveness, Cho et al. find no differences in firm value across companies with and without assurance on their standalone CSR reports. Starting on the assumption that the low rate of adoption of CSR report assurance in the U.S. could be due to assurance being an ineffective form of credibility enhancement, Casey and Grenier (2015) also investigate capital market effects of CSR report assurance and find support for a negative association between first-time adoption of assurance and cost of capital and analyst forecast errors and dispersion.

A final set of studies within the CSR report assurance domain go beyond examination of assurance itself, and focus on potential differences associated with the choice of assurance provider. Cohen and Simnett (2015) note the accounting profession does not have a monopoly in the CSR report assurance market, and studies investigating assurance provider choice typically distinguish across accounting firms and consultants (Casey and Grenier, 2015; O'Dwyer and Owen, 2005; Michelon, Patten and Romi, 2015; Peters and Romi, 2015; Pflugrath et al., 2011;

Simnett et al., 2009). Evidence for differences appears mixed. For example, Simnett et al. (2009) find little support for their hypothesis that firms with a higher need to enhance credibility are more likely to choose assurance from the accounting profession, although Pflugrath et al. (2011), in an experimental setting, find that U.S. participants seem to value assurance by accounting firms more than consultants. Casey and Grenier (2015) argue that accounting firms are likely to be associated with a higher level of assurance quality and document, at the univariate level, that accounting providers are associated with a greater reduction in cost of capital and marginally with analyst forecast dispersion. They also find that firms with greater CSR strengths are more likely to purchase assurance from accounting firms, while firms with greater CSR concerns are more likely to use consultants. Michelon, Patten and Romi (2015) find that both accounting firms and consultants alike are associated with greater instances of restatements of CSR information. Finally, Peters and Romi (2015), using an Ohlson (1995) valuation model, find that assurance by accounting firms is weakly associated with market valuation, but only in the latter years of their investigation.

Hypotheses Development

Even if more limited than in other parts of the world, the existence of CSR report assurance in the U.S. at least to some extent suggests that managers must see benefit in the practice. Although the evidence reported by Casey and Grenier (2015) suggests that investors appear to value the first time adoption of assurance, we argue here that the lack of market valuation impacts reported by Cho et al. (2014) may be due to a misplaced focus on the intent of the reporting. More important than being a vehicle for reducing information asymmetries between managers and investors as argued by Ballou et al. (2006), Dhaliwal et al. (2011), and others, standalone CSR reports may instead be used to enhance the social and environmental image of the firms (see, e.g., Cho et al., 2012). Indeed, Brown et al. (2010, p. 86) identify that KPMG International in its 2008 survey of sustainability reporting "noted that more than half of its survey respondents . . . cited reputation or brand enhancement as an underlying reason for the issuance of a sustainability report." Cho et al. (2012, p. 16) further note that the Global Reporting Initiative also asserts that CSR reporting "can lead to enhancement of corporate reputation."

Gotsi and Wilson (2001, p. 29) define corporate reputation as "a stakeholder's overall evaluation over time" and note this is based on "direct experiences with the company, any other form of communication and symbolism that provides information about the firm's actions and/or a comparison with the actions of other leading rivals". Deephouse and Carter (2005) similarly claim that stakeholders determine reputational standing through comparison with other organizations. As argued by Unerman (2008, p. 362), "a corporation's reputation among its economically powerful stakeholders is a valuable asset" and "within this context, CSR reporting is a potentially powerful medium which corporations can use to try to influence" perceptions about the firm. Having a stronger environmental reputation can benefit a company by reducing its exposure to social and political pressures (Cho and Patten, 2007), allowing it to potentially charge premium prices for its products (Gardberg and Fombrun. 2006), and increasing its appeal to socially responsible investors (Patten and Zhao, 2014). However, Brown et al. (2010) also note that where the reporting is perceived as disingenuous, it is less likely to have positive reputational effects, and they show, for example, that first-time standalone report issuance had less positive benefits for companies from firms in industries facing social exposures and for firms with less extensive information provision in their reports.

If, as argued by Beets and Souther (1999), Simnett et al. (2009) and others, third-party assurance increases users' perception of standalone CSR report credibility regarding the environmental information being provided, we expect the disclosure would be less likely to be seen as disingenuous, and, accordingly, could lead to better outside assessments of firms' environmental reputation. We explore this relation in our empirical analysis and state our first hypothesis, in null form as:

> *H_1: Ceteris paribus, assurance on standalone CSR reports has no relation with perceptions of companies' environmental reputation.*

The second aspect of our analysis focuses more specifically on the type of assurance provider and potential differences in impact on environmental image. Provider type has been argued as possibly affecting the quality of the assurance service. Accounting firms are thought to be more conservative and cautious (O'Dwyer and Owen, 2005) as they are subject to both independence and professional conduct requirements, adhere to professional standards, and generally are associated with a high level of reputational capital (Simnett et al., 2009; Huggins et al., 2011; Casey and Grenier, 2015). Further, accounting firms follow more detailed and consistent procedures, and thus, in the absence of generally accepted and consolidated assurance standards, they also tend to limit their assurance (O'Dwyer and Owen, 2005). As accountants are likely to transfer the well-established financial statement verification practice to the sustainability arena, they focus on assuring only those items fitting the conventional financial accounting testing procedures (such as numerical indicators) (O'Dwyer, 2011; O'Dwyer et al., 2011). However, O'Dwyer and Owen (2005, p. 226) argue that "accountants' reluctance to mention their credentials suggests that they may rely on their brand name, as opposed to any substantive work, to convey an impression of assurance," and they emphasize how assurance provided by accounting firms might be in fact a symbolic exercise. Similarly, Perego and Kolk

(2012), although finding that accounting firms appear to deliver better quality with respect to the reporting format and procedures followed in the assurance process, note that accountants show a lack of transparency in the assurance engagement especially with respect to reporting on completeness and responsiveness.

In contrast, consulting firms possess specific sustainability (and in particular environmental) expertise and technical skills, although they are not subject to the same standards of professional conduct, reporting standards, and independence as accountants (Simnett et al. 2009). O'Dwyer and Owen (2005, pp. 225-226) note that "consultant assurors tend to focus much more on the issues of completeness, fairness and overall balance within their opinion statements" as they often "were involved as the reporting process emerged, as opposed to merely arriving at the end to verify data collection procedures and accuracy." Accordingly, O'Dwyer and Owen (2005) argue that consultant assurers adopt a more strategic approach to the assurance exercise, and thus external stakeholders may perceive more value from the process in that the level of assurance is considered to be higher than as is the case with accounting firm assurance.

It is unclear, based on the discussion above, whether the impacts of assurance on perceptions of companies' environmental reputation will differ across provider type, and we explore this issue in the second stage of our analysis. We formally state our second hypothesis, again in null form, as:

> *H_2: Ceteris paribus, differences in assurance provider type will not affect assurance impact on perceptions of companies' environmental reputation.*

Methods

Sample

As we discuss in more detail below, we rely on the environmental reputation scores reported by *Newsweek* magazine in its 2009 and 2010 assessments of the 'greenest companies in

America'. Accordingly, to be included in our analysis, companies had to have been listed on the *Newsweek* ranking in year *t*, have issued a standalone CSR report in year *t*-1, have KLD CSR ratings for year *t*-1 available from MSCI, Inc., have information on assurance of the CSR reports in Thomson Reuters ASSET4,[6] have ESG reporting quality scores available in Bloomberg, and have data for financial control variables available on Thomson Reuters Datastream. Panel A of Table 1 identifies our sample distribution by year. Overall, we include 351 observations with 165 from 2009 and 186 from 2010. The percentage of sample reports with assurance remains stable over the two years at just over 18 percent for each period.

---------- Table 1 about here ---------

Empirical Models

Our examination focuses on the association between CSR report assurance and companies' environmental reputation using scores as reported by *Newsweek* magazine in its 2009 and 2010 rankings of 'the greenest companies in America'. The reputation measures represent one of three different metrics compiled by *Newsweek* in calculating its rankings.[7] The scores are based on surveys of environmental reputation conducted for *Newsweek* by CorporateRegister seeking opinions from academics, professionals and other environmental experts (Cho et al., 2012). Guidry and Patten (2010) argue that the *Newsweek* survey's main strengths are that respondents are from a much broader group than those used for other assessments of corporate reputation (such as *Fortune*'s 'Most Admired' annual survey) and the survey's questions focus on environmental reputation as opposed to broader aspects of firm performance. Because

[6] Asset4 collects the information on whether there is a statement from an external auditor on the standalone CSR report.
[7] The other components are an environmental performance assessment score computed for *Newsweek* by the non-governmental organization, Trucost, and an environmental policies score provided to *Newsweek* by KLD Analytics.

Newsweek no longer included environmental reputation scores as part of its assessments beginning in 2011, we are limited to an analysis of relations for 2009 and 2010.

We examine the companies' environmental reputation (EnvRep) in year *t* and assess relations to assurance of the standalone CSR report from the prior year (year *t*-1). We use a one/zero indicator variable to designate firm-year observations where the CSR report had external assurance. Because a higher environmental reputation score indicates better environmental reputation, we expect our assurance variable to be positively related to the environmental reputation score. In our analysis focusing on assurer type, we replace the Assurer variable with separate one/zero indicator variables capturing whether the assurer was an accounting firm (Assurance – Audit) or another type of organization (Assurance – Other). We expect each assurer type to be positively associated with our environmental reputation measure.

We control for several factors that might be expected to influence environmental reputation. These include, first, firm size, which we measure as the natural log of sales (LnSales). Several studies (e.g., Brown and Perry, 1994; Brown et al., 2010; Craig and Brennan, 2012; Guidry and Patten, 2010) note that, presumably owing to visibility, survey assessments of corporate reputation are positively associated with firm size.

Second, we control for membership in environmentally sensitive industries. Because companies from environmentally sensitive industries are deemed to have more negative impacts on the environment and thus are, in comparison to companies from other industries, less environmentally sustainable, we expect membership in environmentally sensitive industries (ESI) to be negatively related to perceptions of environmental standing.[8] We follow prior research (e.g., Cho et al., 2010; Clarkson et al., 2008; Hackston and Milne, 1996; Patten, 2002) and

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[8] Consistent with this belief, Guidry and Patten (2010) report that the reputation scores included in the 2009 *Newsweek* ratings were negatively associated with membership in environmentally sensitive industries.

classify companies whose primary operations are in the chemicals, metals, mining, paper, petroleum, or utilities industries as being environmentally sensitive.

Our third control variable centers on assessments of the sample companies' actual environmental performance. We follow prior studies (e.g. Cho et al., 2012; Dhaliwal et al., 2011) and use KLD performance ratings from the company MSCI, Inc. MSCI assesses performance across a variety of different measures and scores companies with respect to both strengths and concerns. However, based on Chatterji et al.'s (2009) evidence that the environmental strength scores are not valid measures of performance, we use only the KLD environmental concern score (KLDEnvCon) as our proxy for environmental performance in this study. *A priori*, we would expect companies with worse environmental performance (higher concern scores) to be ranked lower in terms of perceptions of environmental standing. Consequently, we predict a negative association between KLDEnvCon and environmental reputation.

We also control for firms' financial performance in the form of return on assets (ROA) as our fourth control variable. Guidry and Patten (2010) document that the environmental reputation score in 2009 was positively associated with financial performance, a finding consistent with investigations of other measures of CSR reputation (see, e.g., Brown and Perry, 1994; Brown et al., 2010). In addition, Waddock and Graves (1997) argue that better financial performance potentially results in the availability of slack resources providing an opportunity for companies to invest in CSR activities, which in turn could be expected to influence environmental reputation.

In order to address the concern that the perceptions of environmental reputation could be due to the disclosure within the reports rather than the presence of an assurance statement, we follow Eccles et al. (2011) and Eccles et al. (2014) and control for disclosure extensiveness using

Bloomberg ESG disclosure scores (DiscScr). As noted by Eccles et al. (2014), Bloomberg assesses the completeness of reporting across a range of environmental, social, and governance items, and reports extensiveness along a scale ranging from 0 to 100 percent. Cho et al. (2012) found greater environmental disclosure is positively associated with environmental reputation, and we thus expect a positive association between DiscScr and our dependent variable.

Finally, we include a year indicator variable (using 2009 as the base year) to allow for year fixed effects.

We use ordinary least squares multiple regression analysis to estimate our environmental reputation model. The model, with expected relations in parentheses below each independent variable, is stated as:

$$\begin{aligned} EnvRep_{(it)} = a_1 &+ \underset{(+)}{B_1\, Assurance_{it-1}} + \underset{(+)}{B_2\, Ln(Sales)_{it-1}} + \underset{(-)}{B_3\, ESI_{it-1}} + \underset{(-)}{B_4 KLDEnvCon_{it-1}} \\ &+ \underset{(+)}{B_5 ROA_{it-1}} + \underset{(+)}{B_6 DiscScr} + \underset{(none)}{B_7 Year2010} \end{aligned}$$

For the second stage of the analysis, Assurance is replaced with Assurance-Audit and Assurance-Other classification variables.

Results

Descriptive Statistics

Panel B of Table 1 presents definitions for the variables used in our analysis, while Table 2 summarizes descriptive statistics. As indicated in Table 2, sample company environmental reputation scores range from 8.86 to 100 with a mean of 48.62. Overall, 65 of the 351 company-year CSR reports include assurance, and in the vast majority of cases the assurance comes from a non-accounting firm source. On average, our sample companies are large (mean LnSales =

16.65) and profitable (average ROA = 0.08). Just over a quarter of our observations come from companies designated as belonging to an environmentally sensitive industry. KLD environmental concerns range from zero to five with a mean of 1.17. Finally, the mean Bloomberg ESG disclosure score for our sample firms was 38.81 based on a range from 11.16 to 75.10.

---------- Table 2 about here ---------

Correlations

Table 3 shows the correlations between the variables with Pearson product-moment metrics presented above the diagonal and Spearman's Rho measures below. At the univariate level, we find that Assurance is positively and significantly associated with environmental reputation.

---------- Table 3 about here ----------

Regression Results

We present the results of our multiple regression analysis for the relation between assurance presence and environmental reputation in Panel A of Table 4. As indicated in the table, the model is highly significant (based on the model *F*-statistic) with an adjusted R^2 of 0.323. All control variables are signed as expected, and, with the exception of ESI and ROA, they are statistically significant at $p = .05$, one-tailed, or better. Most importantly, the assurance variable, as hypothesized, is significantly (at $p < .001$, one-tailed) associated with environmental reputation scores. The positive sign indicates that companies with report assurance have a higher reputation than firms without assurance, suggesting that assurance positively influences perceptions of firms' environmental standing.

---------- Table 4 about here ----------

In additional sensitivity tests, we examine whether the influence of assurance differs across firms from environmentally sensitive industries or across differences in environmental performance based on the KLD environmental concern scores. We use interaction terms to capture these potential effects. Neither of the additional control interactions is statistically significant at conventional levels, and the relation between Assurance and environmental reputation continues to hold.

In order to test H2, we replace the Assurance variable with separate metrics capturing assurer type. Results of the regression analysis on environmental reputation are presented in Panel B of Table 4. As noted in Panel B, both Assurance-Audit (at p = .004, one-tailed) and Assurance-Other (at p = .003, one-tailed) are positively and significantly associated with environmental reputation. These results suggest that outside assurance positively influences perceptions of environmental reputation regardless of assurer type.

Additional Analysis

As noted above, Cho et al. (2014) report a significant association between the extensiveness of disclosure within CSR reports and the choice to obtain outside assurance. Further, a review of Table 3 indicates that, in addition to disclosure extensiveness (DiscScr) both firm size (LnSales) and environmental performance (KLDEnvCon) are significantly correlated (at p < .01, two-tailed) with the presence of assurance. Accordingly, to address potential endogeneity concerns, we replace our Assurance metric with Assurance*, where the latter measure is the residual from the OLS regression of Assurance on DiscScr, LnSales, and KLDEnvCon.[9] As reported in Table 5, Assurance* remains positively and significantly (at p = .001, one-tailed) associated with environmental reputation scores.

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[9] We also calculate a residual based on inclusion of all of the remaining independent variables. Results, not presented, are qualitatively similar to those reported in Table 5.

Conclusion

Although, concurrent with the growth of standalone CSR reporting over the past twenty years, the incidence of outside assurance on the reports continues to become more prevalent in the U.S. and worldwide, explorations of the potential value from the service remain quite limited. In one of the few studies investigating potential impacts of the practice, Cho et al. (2014) fail to find any significant relation between the assurance and market valuation. We argue in this examination that, rather than being used as a signaling device to corporate investors, standalone CSR reports instead are more likely used to enhance the environmental image of the issuing companies (see also Cho et al. 2015). Accordingly, we attempt in this investigation to identify whether outside assurance on the CSR reports is related to higher assessments of companies' environmental standing. Focusing on environmental reputation and using a broad sample of report-issuing firms from the U.S., we find that assurance on the reports is significantly related to environmental reputation as captured by *Newsweek* magazine's environmental reputation scores. We also find that the positive relation between assurance and environmental reputation hold, regardless of assurer type. Overall, the results suggest that there may indeed be positive outcomes associated with the choice to seek assurance on standalone CSR reports, and this may help explain why some companies, at least in the U.S. setting, are willing to incur the expense related to the practice.

We note that some caveats are in order when interpreting our evidence. First, our reputation measure relies on aggregated scores and as such, it does not reflect the potential richness, diversity, and ambiguity of the conceptual attributes of reputation (for an overview, see Fombrun, 1996). Brammer and Pavelin (2006, p. 437), for example, argue that, because stakeholders likely have diverse preferences regarding firm actions, "reputational assessments depend upon the congruence between the apparent behaviours of the firm and the preferences of those publics." A more qualitative investigation could thus shed light not only on how preferences regarding corporate environmental behavior might vary across (and potentially within) relevant stakeholder groups, but also how assurance on CSR reporting might impact individual assessments of the perceived credibility of firm actions, in turn potentially affecting the degree of perceived congruence with preferences. Such an extension of our research could help bridge the gap between our more narrow assessment of environmental reputation and broader understandings of the concept.

A second limitation centers on the period of our analysis. As we note above, because Newsweek chose to curtail the use of the reputation surveys after its first two greenest company assessments, our investigation is limited to 2009 and 2010. As also noted above, the incidence of CSR report assurance in the U.S., consistent with the practice in other areas of the world (see KPMG International, 2013), appears to be growing, and whether the relations we report continue to hold as assurance becomes more common is worthy of future investigation should an alternative measure for environmental reputation become available.

Finally, we examine only U.S. companies, and as such, we cannot generalize our findings to firms in other countries. This is potentially relevant given the U.S.'s classification as being more shareholder-oriented as opposed to stakeholder-oriented. Whether assurance on CSR reports in more stakeholder-oriented domains similarly appears to induce impacts regarding environmental reputation could potentially make for an interesting extension of our study.

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Table 1
Panel A – Sample selection and distribution

Year	**Sample Companies**	**Reports with Assurance**
2009	165	31 (18.8%)
2010	186	34 (18.3%)
Total	351	65 (18.5%)

Panel B – Variable definitions

Variable	Definition	Source of data
$Assurance_{it}$	A 1/0 indicator variable where 1 identifies that company i's CSR report included external assurance in year t	Thomson Reuters Asset4
$EnvRep_{it}$	Company i's environmental reputation score based on CorporateRegister.com's reputation survey and reported in the Newsweek magazine for year t	Newsweek Environmental Reputation
$Ln(Sales)_{it}$	The natural log of company i's revenues in year t	Thomson Reuters Datastream
ROA_{it}	Company i's year t earnings before interest and taxes on year t total assets	Thomson Reuters Datastream
ESI_{i}	A 1/0 indicator variable where 1 identifies that company i's primary operations are in an environmentally sensitive industry (chemical, paper, metals, petroleum, mining and extractive, and utility industries)	Thomson Reuters Datastream
$KLDEnvCon_{it}$	The total number of environmental concerns noted for company i in the KLD ratings for year t	MSCI ESG data
$DiscScr_{it}$	Bloomberg's ESG disclosure extensiveness score for company i in year t.	Bloomberg

Table 2 – Descriptive statistics[a] (n = 351)

Variables	Min	Max	Mean	Std. Dev.
EnvRep	8.86	100	48.62	16.32
Ln(Sales)	14.30	19.87	16.65	1.06
ROA	-0.54	0.33	0.08	0.10
KLDEnvCon	0	5	1.17	1.44
DiscScr	11.16	75.10	38.81	13.16

Sample frequencies:

Assurance	65 (18.5%)
ESI	96 (27.4%)

[a] Table 1 provides variable definitions.

Table 3 – Correlations[a]

Pearson product-moment correlation coefficients are reported above the diagonal and Spearman's Rho correlation coefficients are reported below the diagonal.

	Assurance	EnvRep	Ln(Sales)	ROA	ESI	KLDEnvCon	DiscScr
Assurance	1	0.277**	0.247**	-0.012	0.069	0.254**	0.368**
EnvRep	0.264**	1	0.234**	0.046	-0.106*	-0.012	0.308**
Ln(Sales)	0.227**	0.181**	1	0.037	-0.152**	0.205**	0.064
ROA	-0.023	-0.011	0.021	1	-0.010	-0.049	0.060
ESI	0.069	-0.077	-0.177**	-0.045	1	0.549**	0.151**
KLDEnvCon	0.194**	0.030	0.122*	-0.068	0.553**	1	0.170**
DiscScr	0.359**	0.311**	0.048	0.064	0.135*	0.148**	1

* Denotes significance at $p < .05$, two-tailed.
** Denotes significance at $p < .01$, two-tailed.

[a] Table 1 provides all variable definitions.

[b] Due to data availability, sample size is 351.

Table 4 – Regression results for tests of the relation between *Newsweek* environmental reputation scores and assurance on standalone CSR reports.

Panel A

Model F-statistic = 24.909 Significance of F-statistic = < .001 Adj. R^2 = .323

Variable[a]	Predicted Relation	Parameter Estimate	t-statistic	Significance[b]
Constant	none	-28.299	-2.242	.026
Assurance	(+)	7.042	3.389	< .001
LnSales	(+)	3.536	4.733	< .001
ESI	(-)	-2.194	-1.074	.142
KLDEnvCon	(-)	-1.189	-1.835	.034
ROA	(+)	6.458	0.892	.187
DiscScr	(+)	0.290	4.877	< .001
Year 2010	none	13.092	9.036	< .001

Panel B

Model F-statistic = 22.140 Significance of F-statistic = < .001 Adj. R^2 = .326

Variable[a]	Predicted Relation	Parameter Estimate	t-statistic	Significance[b]
Constant	none	-27.706	-2.198	.029
Assurance-Audit	(+)	14.074	2.700	.004
Assurance-Other	(+)	6.121	2.825	.003
LnSales	(+)	3.489	4.674	< .001
ESI	(-)	-2.404	-1.175	.121
KLDEnvCon	(-)	-1.129	-1.742	.041
ROA	(+)	7.299	1.007	.158
DiscScr	(+)	0.295	4.958	< .001
Year 2010	none	12.962	8.944	< .001

[a] Table 1 provides all variable definitions.
[b] Significance levels are one-tailed for variables with predicted relations.

Table 5 – Regression results for tests of the relation between *Newsweek* Environmental Reputation and assurance on standalone CSR reports – 2nd stage of 2 stage model to address endogeneity.

Model F-statistic = 24.573   Significance of F-statistic = < .001   Adj. R^2 = .320

Variable[a]	Predicted Relation	Parameter Estimate	t-statistic	Significance[b]
Constant	none	-38.317	-3.102	.002
Assurance*	(+)	6.734	3.143	.001
LnSales	(+)	4.036	5.479	< .001
ESI	(-)	-2.194	-1.071	.142
KLDEnvCon	(-)	-0.889	-1.387	.083
ROA	(+)	6.223	0.858	.196
DiscScr	(+)	0.359	6.414	< .001
Year 2010	none	13.107	9.025	< .001

[a] Table 1 provides all variable definitions.
[b] Significance levels are one-tailed for variables with predicted relations