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**FINANCIAL PERFORMANCE, POLLUTION MEASURES AND THE PROPENSITY TO USE
CORPORATE RESPONSIBILITY REPORTING: IMPLICATIONS FOR BUSINESS AND
LEGAL SCHOLARSHIP**

Adam Sulkowski, M.B.A., J.D.*
Assistant Professor of Management & Business Law
Charlton College of Business
University of Massachusetts Dartmouth
285 Old Westport Road
North Dartmouth, MA 02747 USA
Tel: 508.999.8037
asulkowski@umassd.edu

D. Steven White, D.B.A.
Professor of Marketing & International Business
Charlton College of Business
University of Massachusetts Dartmouth
285 Old Westport Road
North Dartmouth, MA 02747 USA
Tel: 508.999.8267
swhite@umassd.edu

*** Corresponding author**

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ABSTRACT

Thousands of companies around the world, including a majority of the Global Fortune 250, voluntarily report on their environmental, societal, and economic impacts, a practice known as corporate responsibility (CR) reporting. The practice is alternatively known as corporate social responsibility (CSR) reporting, sustainability reporting, citizenship reporting, or triple bottom line (TBL) reporting.

A brief history of regulation-by-disclosure and CR reporting is presented. The authors then review related business and legal scholarship. Two broad lines of inquiry emerge: first, are CR disclosures associated with businesses that perform well financially, and, second, are CR disclosures associated with businesses that perform well environmentally. The authors test both of these relationships simultaneously using logistic regression. The authors discuss the results of the statistical testing and conclude with suggestions for future lines of research.

This article therefore makes a significant contribution to legal and management scholarship by determining the impact that financial and environmental variables have on whether or not a company utilizes CR reporting. The results should provoke further research in the fields of both business and law.

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I. INTRODUCTION

Thousands of companies around the world, including a majority of the Global Fortune 250, voluntarily report on their environmental, societal, and economic impacts, a practice known as corporate responsibility (CR) reporting. The practice is alternatively known as corporate social responsibility (CSR) reporting, sustainability reporting, citizenship reporting, or triple bottom line (TBL) reporting. While this practice has expanded rapidly, a consensus does not exist as to the drivers nor the impacts of these disclosures.

The goal of this study is to test two urgent questions in the field of management and legal scholarship: first, are CR disclosures associated with businesses that perform well financially, and, second, are CR disclosures associated with businesses that perform well environmentally. A brief history of regulation-by-disclosure and CR reporting is presented. The authors then review existing management and legal scholarship of the issue. The literature review leads to the research goals stated above. The authors then statistically test both of these relationships using logistic regression. The authors discuss the results of this test and conclude with suggestions for future lines of research.

This study is the first in the field of legal scholarship to statistically test both the relationship between financial performance and the CR reporting behavior of corporations and the environmental performance and the CR reporting behavior of corporations. This article therefore makes a significant contribution to legal and management scholarship by generating observations that ought to provoke further research in the fields of business and law.

II. BACKGROUND

A history of regulation-by-disclosure and CR reporting

The stock market collapse of 1929 revealed the risk of market failures due to lack of information.¹ The event catalyzed an appreciation of the fact that investors and society as a whole would be better served by requiring publicly traded companies to issue regular disclosures about their finances under a set of rules administered by a government agency.² The Securities Acts of 1933 and 1934 (hereinafter the 1933 Act and 1934 Act) and the Securities and Exchange Commission (SEC) resulted.³

Half a century later, the concept of a mandatory disclosure regime was applied in the context of the environmental regulation of companies. The Bhopal tragedy of 1984 catalyzed what has been called the third generation of environmental legislation, known as informational regulation or regulation-by-disclosure.⁴ The most directly associated piece of legislation is the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986,⁵ which, rather than limiting behavior, only requires companies to

¹ Allen L. White, *Why We Need Global Standards for Corporate Disclosure*, 69 LAW AND CONTEMP. PROBS. 167, 175 (2006).

² Steve Thel, *The Original Conception of Section 10(b) of the Securities Exchange Act*, 42 STAN. L. REV. 385, 409 (1990).

³ David Monsma & Timothy Olson, *Muddling Through Counterfactual Materiality and Divergent Disclosure: The Necessary Search For a Duty to Disclose Material Non-Financial Information*, 26 STAN. ENVTL. L.J. 137, 145 (2007).

⁴ David W. Case, *Corporate Environmental Reporting as Informational Regulation: a Law and Economics Perspective*, 76 U. COLO. L. REV. 379, 384 (2005).

⁵ [42 U.S.C. §§ 11001-50](#) (2000).

provide emergency response plans and the disclosure, through the Toxic Release Inventory (TRI), of inventories of specified dangerous chemicals.⁶

In the ensuing decades, the idea that voluntary reporting of social, environmental, and economic impacts could both benefit companies and ameliorate negative externalities gained traction; John Elkington popularized this concept in the 1990s.⁷ As mentioned above, the practice came to be known by many names, and CR reporting has since become widely adopted.⁸

As revealed by the triennial KPMG survey of CR reporting, of the largest 250 corporations in the world (the Global Fortune 250, or G250), 79 percent issued a stand-alone CR report in 2008 (up from 52% in 2005).⁹ An additional four percent disclosed CR information in their annual reports.¹⁰ This means that the number of companies in the G250 who had engaged in CR reporting (either in a stand-alone report or within the context of an annual report) grew from 64 percent in 2005¹¹ to 83 percent in 2008 (or 207 out of the G250).¹² In 2008, 45% of a sample consisting of the largest 100 companies by revenue in each of 22 developed and developing economies (a sample therefore consisting of 2200 companies, hereinafter referred to as the N100) engaged in CR reporting (ranging from 93 percent in Japan, 91 percent in the United Kingdom, and 74 percent in the United States to 24 percent in Denmark, 17 percent in Mexico, and 14 percent in the Czech Republic).¹³

The predominant standard for disclosures has been developed by the Global Reporting Initiative (GRI); over 75 percent of the G250 use GRI guidelines, as do almost 70 percent of the N100.¹⁴ The GRI, a multi-stakeholder network of experts, began as a project of two U.S. non-profit organizations, CERES and Tellus, in the 1990s.¹⁵ It expanded under the auspices of the United Nations (UN) and in 2002 became an independent non-profit organization based in Amsterdam.¹⁶ The GRI guidelines are intended as a framework for not only reporting, but also for engaging with external stakeholder groups.¹⁷

Several countries have mandated some CR disclosures by businesses, including Denmark since 1995, and, since then, the Netherlands, Norway, and Sweden, followed by France in 2003.¹⁸ However, the French rules have been criticized as relatively lacking in environmental disclosure requirements, and no penalties have been established for non-compliance.¹⁹ In the United States, securities laws have been

⁶ See *id.* §§ 11003, 11022-23.

⁷ John Elkington popularized the concept of TBL reporting in his 1997 book, *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Elkington has been authoring books on green business and sustainability since 1980.

⁸ The authors are part of a small but hopefully growing community who believe that the term CSR reporting is overly narrow, inasmuch as many corporate non-financial disclosures dedicate equal or greater attention to environmental rather than social impacts. The choice of the authors to instead use the term CR reporting is supported by KPMG's decision to use it in the title of their triennial survey of the practice. See *infra* note 9.

⁹ KPMG, *KPMG International Survey of Corporate Responsibility Reporting 2008*, 15 (hereinafter KPMG Int'l Survey 2008), available at http://www.kpmg.com/SiteCollectionDocuments/International-corporate-responsibility-survey-2008_v2.pdf.

¹⁰ *Id.*

¹¹ KPMG, *KPMG International Survey of Corporate Responsibility Reporting 2005*, 4 (hereinafter KPMG Int'l Survey 2005), available at http://www.kpmg.nl/Docs/Corporate_Site/Publicaties/International_Survey_Corporate_Responsibility_2005.pdf.

¹² KPMG Int'l Survey 2008, *supra* note 9, at 14.

¹³ *Id.* at 16.

¹⁴ *Id.* at 21.

¹⁵ GRI, *Sustainability Reporting 10 Years On*, 1, available at http://www.globalreporting.org/NR/rdonlyres/430EBB4E-9AAD-4CA1-9478-FBE7862F5C23/0/Sustainability_Reporting_10years.pdf (last visited May 31, 2009).

¹⁶ *Id.* at 2.

¹⁷ *Id.* The third generation of GRI guidelines, or G3, are available at www.globalreporting.org (last visited May 31, 2009).

¹⁸ Lucien J. Dhooge, *Beyond Voluntarism: Social Disclosure and France's Nouvelles Régulations Économiques*, 21 ARIZ. J. INT'L & COMP. L. 441, 446 (2004).

¹⁹ *Id.* at 487.

interpreted to require environmentally-related disclosures inasmuch as such information is relevant to financial performance, material regulatory compliance, and material legal proceedings.²⁰ A summary of this perspective is presented in the following literature review, along with evidence that existing SEC guidance on disclosing environmental risks and liabilities is largely ignored by companies.

Recent actions by the EPA have been characterized as steps forward in regulation-by-information, though they do not mandate any further disclosures by companies.²¹ Instead, some of these steps only involve the EPA compiling publicly-available lists; also, these lists only include enforcement activities, not data on environmental impact.²² In 2001, the Environmental Protection Agency (hereinafter EPA) announced its intent to share information with the SEC about environmental enforcement actions, with the aim of helping to spot companies that fail to report enforcement actions against them.²³ The effort has been characterized as a failure, partly because the EPA tracks violators by facility while the SEC tracks registrants by company.²⁴ A debate continues about whether and how a heightened and standardized form of reporting CR information should be implemented.²⁵

III. LITERATURE REVIEW

CR reporting as an example of “soft law” theory

As articulated by Cynthia Williams, the theory of soft law holds that norms of conduct are enforced by a desire to avoid shame rather than a desire to avoid sanctions, yet may achieve the ultimate aim of hard law, which, as she puts it, is “to coordinate action to a focal point”.²⁶ CR reporting is one example of a soft law approach. Williams suggests that soft law approaches – such norms that involve no official punishment by a public agency – be taken seriously.²⁷ Others agree, as discussed below, that a soft law measure such as greater disclosure of information has great potential, but point out that to be effective, a hard law framework is needed to assure uniformity and reliability.²⁸

David Case explains how economic theories support the notion of soft law and specifically regulation-by-disclosure: more information should allow stakeholders to more efficiently negotiate with polluters to achieve desired goals.²⁹ After a review of existing scholarly works, Case concludes that the economic literature on regulation-by-disclosure is “young” and legal scholarship related to the topic is in its “infancy”.³⁰ Mitchell Crusto echoes this conclusion, stating that there is “little, if any, critical analysis of increased corporate environmental disclosure in the academy.”³¹ As of 2009, the state of theoretical

²⁰ See, e.g., Michael J. Viscuso, *Note: Scrubbing the Books Green: a Temporal Evaluation of Corporate Environmental Disclosure Requirements*, 32 DEL. J. CORP. L. 879, 879-880 (2007).

²¹ *Id.* at 886-892.

²² *Id.* at 886-888. For example, the EPA’s Enforcement and Compliance History Online (ECHO) lists present and past enforcement actions and penalties. *Id.* at 887-888.

²³ *Id.* at 886-892.

²⁴ *Id.* at 891.

²⁵ *Id.*

²⁶ Cynthia A. Williams, *Civil Society Initiatives and “Soft Law” in the Oil and Gas Industry*, 36 N.Y.U. J. INT’L L. & POL. 457, 496 (2004).

²⁷ *Id.*

²⁸ See, e.g., Larry Catá Backer, *From Moral Obligation to International Law: Disclosure Systems, Markets and the Regulation of Multinational Corporations*, 39 GEO. J. INT’L L. 591 (2008).

²⁹ Case, *supra* note 4, at 415-427.

³⁰ *Id.* at 427.

³¹ Mitchell F. Crusto, *Endangered Green Reports: “Cumulative Materiality” in Corporate Environmental Disclosure After Sarbanes-Oxley*, 42 HARV. J. LEGIS. 483 (2005).

and applied knowledge has improved, allowing for the following review of empirical data and business and legal scholarship.

Drivers of CR reporting

The growth of the practice of voluntary CR reporting suggests that companies see some real value in at least appearing to keep up with the trend of providing greater transparency than what is mandated.³² Such a conclusion is supported by the triennial KPMG survey of CSR reporting, which offers evidence that a majority of executives at companies that report CR information see economic motivations as a driver of the practice.³³

Some observers attribute the spread of CR reporting to the growth of socially responsible investment, pointing out that twelve percent of managed assets are invested in stocks that are currently screened based on ethical criteria.³⁴ The investors and fund managers associated with these funds are making investment decisions partially based on the non-financial disclosures, and firms may be responding to this market demand for more information. Such investors are becoming more vocal: in June 2006, twenty-seven investors, including state treasurers and collectively representing more than \$1 trillion in assets, demanded more disclosures of companies with regard to their risk exposure due to climate change.³⁵ Similarly, firms may be engaging in CR reporting in response to demands from customers and other stakeholders; empirical evidence has established that the early adopters of CR reporting tended to be firms in polluting industries.³⁶

The triennial KPMG study of CR reporting may be the best source of data on the specific drivers of CR reporting as identified by executives of companies that publish such disclosures.³⁷ In response to the question of why they implemented CR reporting, executive respondents from the G250 could choose multiple responses. 55 percent of respondents selected innovation and learning (up from 53 percent in 2005), exactly the same percentage that chose impact on reputation or brand (up from only 27 percent in 2005), and roughly the same percentage that chose employee motivation (52 percent, up from 47 percent in 2005).³⁸ In the next most popular tier of responses, 35 percent chose risk management or reduction in 2008 (47 percent in 2005), 32 percent chose strengthened supplier relationships (13 percent in 2005), and 29 percent chose access to capital or improving shareholder value (39 percent in 2005).³⁹ Finally, increasing market share was identified by 22 percent in 2008 (21 percent in 2005) while 21 percent chose improved relationships with government (9 percent in 2005), and 17 percent chose cost savings (9 percent in 2005).⁴⁰

Several observations are noteworthy. Two of the top three drivers – motivating employees and encouraging innovation – involve the impact of the practice on employees; both of these motivations were identified by more than 50 percent of respondents as key drivers. A concern for brand management was the third of the top three motivations, tying for first place with innovation and learning. However, brand management was only the sixth most commonly identified impact in 2005, and therefore cannot be

³² See Roberta S. Karmel, *Reform of Public Company Disclosure in Europe*, 26 U. PA. J. INT'L ECON. L. 379 (2005).

³³ KPMG Int'l Survey 2008, *supra* note 9 at 18.

³⁴ Jeroen Derwall et al., *The Eco-Efficiency Premium Puzzle*, 61 FIN. ANALYST J. 51, 51 (2005).

³⁵ Monsma & Olson, *supra* note 3 at 163.

³⁶ Minna Halme & Morten Huse, *The Influence of Corporate Governance, Industry and Country Factors on Environmental Reporting*, 13 SCANDINAVIAN J. MGMT, 137, 137 (1997).

³⁷ KPMG Int'l Survey 2008, *supra* note 9 at 18.

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.*

characterized as one of the primary drivers of the practice in 2005. It is also noteworthy that less than one in three respondents identified relations with investors and less than one in four chose increasing market share as a key driver. This calls into question the theory that CR reports are issued primarily as a response to market demands, either from investors or from consumers. A minority of executives – less than one in five – believe that measurement of non-financial impacts will lead to cost savings, which somewhat challenges the theory that reporting alters internal processes. Taken together, the data on the ranking of motivations indicates that CR reporting has not been solely a public relations exercise, especially in the early years of adoption in the period leading up to 2005, and that it continues to be driven in part by a desire to stimulate innovation and motivate employees.⁴¹

In a related finding, a 2003-2004 survey conducted by the Center for Corporate Citizenship at Boston College, the US Chamber of Commerce, and the Hitachi Foundation found that 82 percent of executives acknowledged the importance of social and environmental responsibility to the bottom line, 59 percent to their companies and reputations, and 53 percent to their customers.⁴² The study also concluded, however, that there is considerable variation among businesses in terms of their embedding these values into their functions and in the effective implementation of meaningful practices to further the causes of social and environmental responsibility.⁴³

CR reporting in a global context

Another vein of scholarship has taken into account the spread of CR reporting as a global phenomenon that is intended to address global problems; this has led authors to consider other drivers and cultural factors that might impact CR reporting.⁴⁴ One recent study introduced the notion that cultural values could color how managers even discussed their motivations, with Western executives being more inclined to state that they engage in CR reporting for the sake of their shareholders.⁴⁵ In a study of the motivations of Japanese companies, close relationships with foreign share owners and foreign customers appeared to be a stronger influence on a firm adopting CR reporting than its links to domestic owners.⁴⁶ In the same study, country-specific cultural sensitivities were found to be salient to CR reporting, inasmuch as CR reports address the issues that are of greatest concern to a particular society.⁴⁷ For example, Western CR reports disclose more data on gender equity issues while Japanese CR reports disclose relatively more data on environmental impacts.⁴⁸

The idea that the successes of CR initiatives are “strongly dependent” on their footing in society

⁴¹ The following observation is harder to explain: economic considerations were selected as a driver of CR reporting by 68 percent of respondents, which, though a majority, was down from 74 percent in 2005, while the percent choosing ethical considerations actually grew from 53 percent to 69 percent of respondents. KPMG Int’l Survey 2008, *supra* note 9 at 18. The 2008 KPMG report suggested that the growth in ethical considerations as a stated driver may be related to “dozens of scandals in accounting, environment, governance, and human rights”. *Id.*

⁴² Philip Mirvis & Bradley Googins, *The Best of the Good*, 82 HARV. BUS. REV., 20, 21 (2004).

⁴³ *Id.*

⁴⁴ See, e.g., Lu Wei et al., *The Relationships between Environmental Management, Firm Value and Other Firm Attributes: Evidence from Chinese Manufacturing Industry*, INT’L J. ENV’T & SUST. DEVELOPMENT (forthcoming).

⁴⁵ See Adam J. Sulkowski, S.P Parashar & Lu Wei, *Corporate Responsibility Reporting in China, India, Japan and the West: One Mantra Does Not Fit All*, 42 N. ENGLAND L. REV. 787 (2008).

⁴⁶ Kanji Tanimoto & Kenji Suzuki, *Corporate Social Responsibility In Japan: Analyzing The Participating Companies In Global Reporting Initiative*, 7-8 (The European Inst. of Japanese Studies, Working Paper No. 208, 2005), available at <http://ideas.repec.org/p/hhs/eijswp/0208.html#provider> (last visited May 31, 2009).

⁴⁷ *Id.*

⁴⁸ *Id.*

has also been posited.⁴⁹ Supporting studies have been carried out in many countries including Pakistan.⁵⁰ In Spain, Brazil, and Argentina, current business realities such as corruption were observed to have an effect on the efforts of firms to behave responsibly; extra efforts are ironically sometimes made in regions deemed to be more corrupt.⁵¹ Other studies have documented the tendency of CR initiatives at some Indian companies to be driven by individual executives because of cultural norms.⁵² Finally, the success of CR and CR reporting initiatives may be impacted by the reticence of managers in collectivist societies to publicly reveal shortcomings out of concerns for their superiors or company losing face.⁵³

In summary, it is possible that values other than financial interests in some way affect the drivers and the practice of CR reporting. Conversely, the same financial motivations may really be driving CR reporting everywhere, with cultural values only affecting the choice of language and shaping the rhetoric of CR dialogue.⁵⁴ At any rate, the role of culture and other non-financial factors in the global spread of CR reporting is a noteworthy facet of the larger scholarly debate about the drivers of CR reporting and its relationship with financial and environmental performance.

Does financial performance influence CR reporting?

There is growing if not yet conclusive evidence of a demonstrable positive relationship between successful management of commitments to corporate responsibilities and good financial performance.⁵⁵ Studies have endeavored to test the correlation between greater disclosures and greater profitability; companies that disclose more non-financial information have been found to be more profitable.⁵⁶ Stock price volatility was reduced in the 1960s when greater disclosures were mandated.⁵⁷ A co-founder of the GRI, Allen White, points out that a moderately positive correlation exists between the use of the GRI framework and lower price share volatility, higher operating profits, and greater revenue growth.⁵⁸ These findings are consistent with those of a 2002 Standard and Poor's analysis of 1500 companies that concluded that greater disclosures were related to market risk and valuations and led to a higher price-to-book ratio and the ability to lower the cost of capital.⁵⁹

Large companies have found that CR reporting can boost profitability by, for example, prompting corporations to make socially- and environmentally-conscious investments that rapidly pay for themselves and contribute to the bottom line by reducing energy costs or the costs of absenteeism and worker errors.⁶⁰ Why, then, did less than 20 percent of executives in the 2008 KPMG study choose cost

⁴⁹ Reinhard Steurer, Markus E. Langer, Astrid Konrad & André Martinuzzi, *Corporations, Stakeholders and Sustainable Development I: A Theoretical Exploration of Business-Society Relations*, 61 J. BUS. ETHICS, 263-282 (2005).

⁵⁰ Peter Lund-Thomsen, *Towards a Critical Framework on Corporate Social and Environmental Responsibility in the South: The Case of Pakistan*, 47 DEVELOPMENT, 106-114, (2004).

⁵¹ Domènec Melé, Patricia Debeljuh & M. Cecilia Arruda, *Corporate Ethical Policies in Large Corporations in Argentina, Brazil and Spain*, 63 J. BUS. ETHICS, 21, 33-34 (2006).

⁵² Bimal Arora & Ravi Puranik, *A Review of Corporate Social Responsibility in India*, 47 DEVELOPMENT, 93, 96-97 (2004).

⁵³ Y. Ling, Steven Floyd & David Baldrige, *Toward a Model of Issue-Selling by Subsidiary Managers in Multinational Organizations*, 36 J. INT'L BUS. STUD. 637, 644-45 (2005).

⁵⁴ See Sulkowski et al., *supra* note 45.

⁵⁵ Terra Pfund, *Corporate Environmental Accountability: Expanding SEC Disclosures to Promote Market-Based Environmentalism*, 11 MO. ENV'T. L. & POL'Y REV. 118, 119 (2004).

⁵⁶ See, e.g., Diana C. Robertson & Nigel Nicholson, *Expressions of Corporate Social Responsibility in U.K. Firms*, 15 J. BUS. ETHICS 1095, 1097-1106 (1996).

⁵⁷ Allen Ferrel, *Measuring the Effects of Mandated Disclosure*, 1 BERKELEY BUS. L.J. 369, 377 (2004).

⁵⁸ White, *supra* note 1, at 177. The study involved more than 800 GRI-utilizing companies in over forty countries. *Id.*

⁵⁹ Sandeep A. Patel & George Dallas, Standard & Poor's, *Transparency and Disclosure: Overview of Methodology and Study Results – United States*, 4 (2002), available at http://www.securitization.net/pdf/sp_trans_101602.pdf.

⁶⁰ See, e.g., Anita Roper, *Proving the Case for Sustainability at Alcoa*, 1 CORP. RESP. MGMT. 34, 34-37 (2004).

savings as a driver of the practice of CR reporting? Perhaps, as indicated by David Case, public reporting functions best when it is deployed in tandem with environmental managements systems that use measurements as part of a process of reducing resource usage and unnecessary pollution, which results in lower costs.⁶¹ This conclusion is supported by empirical evidence from China, where the amount of CR disclosure was not found to automatically result in better financial performance metrics.⁶² Integrating concepts such as total quality management (TQM) and cost of poor quality (CPQ) with CR reporting has been suggested as a logical next step to maximize the potential of CR reporting to help businesses realize cost savings.⁶³ Richard Ellis, Head of Corporate Social Responsibility at Boots, a UK-based health and beauty products company, has found that cooperation between himself and the Chief Financial Officer and the practice of tracking environmental impact data has resulted in significant cost savings.⁶⁴

Large MNCs in developed economies are not the only enterprises that have observed positive outcomes as a result of the adoption of CR reporting. Small and medium-sized enterprises (SMEs) located in developing countries and engaged in textile manufacturing and the tanning of leather – both highly-polluting activities – were shown to mitigate their harmful activities upon adoption of CR reporting.⁶⁵ The same study found that, even in developing countries, these SMEs became more profitable when they implemented CR reporting.⁶⁶

Among CEOs who have implemented CR reporting, there is a consensus that the internal intellectual capital, technology, and culture of a firm can influence whether CR reporting yields benefits to a reporting company.⁶⁷ Put another way, the knowledge management that turns CR reports into sustainable performance improvements involves people, process, and technology.⁶⁸ In general, there is a growing trend of making a strictly “business case” in favor of CR reporting, with the understanding that resulting benefits to a company may depend on other factors.⁶⁹

Legal scholarship of CR reporting

As mentioned above, legal scholars have characterized regulation-by-disclosure as the third generation of regulation of environmental and societal impacts.⁷⁰ In this view, the first generation of regulation consisted of rule-based systems and the second involved command-and-control regulation.⁷¹

⁶¹ See David W. Case, *Changing Behavior Through Environmental Management Systems*, 31 WM. & MARY ENV'T'L. L. & POL'Y REV. 75, 111 (2006).

⁶² See Lu Wei et al., *supra* note 45.

⁶³ See Raine Isaksson, *Economic Sustainability and the Cost of Poor Quality*, 12 CORP. SOC. RESP. & ENV'T'L. MGMT. 197, 197-209 (2005).

⁶⁴ Telephone Interview with Richard Ellis, Head of Corporate Soc. Responsibility, Boots (June 29, 2006).

⁶⁵ Ralph Luken & Rodney Stares, *Small Business Responsibility in Developing Countries: A Threat or An Opportunity?*, 14 BUS. STRATEGY & ENV'T 38, 43-52 (2005).

⁶⁶ *Id.*

⁶⁷ See Pamela Ruebusch, *The Triple Bottom Line: What It Means and Why We Need to Embrace It*, 105 CAN. TRANSP. LOGISTICS 18 (2002), available at <http://www.ctl.ca/columnists/ruebusch/2002/feb.asp> (last visited June 4, 2009).

⁶⁸ Carol Gorelick & Brigitte Tantawy-Monsou, *For Performance Through Learning, Knowledge Management Is the Critical Practice*, 12 LEARNING ORG. 125, 125-29 (2005).

⁶⁹ See Björn Stigson, Foreword to Charles O. Holliday, Jr. et al., *Walking the Talk: The Business Case for Sustainable Development* 8-9 (2002); Marc Gunther, *Tree Huggers, Soy Lovers, and Profits*, 147 FORTUNE 98, 98-105 (2003) Oliver Salzmann et al., *The Business Case for Corporate Sustainability: Literature Review and Research Options*, 23 EUR. MGMT. J. 27, 27-35 (2005).

⁷⁰ See Case, *Corporate Environmental Reporting as Informational Regulation*, *supra* note 4 at 428.

⁷¹ *Id.*

As mentioned above, David Case provides a review of the economic and legal theories that suggest that greater disclosure of non-financial data should bring about the same outcomes as traditional regulatory approaches, inasmuch as companies manage what they measure and inasmuch as markets with better information ought to more efficiently lead to either constructive negotiated solutions or bad actors being punished by investors and consumers for creating risks and liabilities.⁷²

Daniel Esty is among those who argue that many of the shortcomings of current environmental policies stem directly from information gaps.⁷³ In the context of discussing the promise of technology to fill these gaps, however, he notes that the U.S. regulatory approach is to allow activities until they are proven to be harmful.⁷⁴ Therefore, current legislation and regulations discourage companies from even measuring negative impacts of products and processes, for the discovery of such knowledge could trigger reporting obligations and regulation of their activities.⁷⁵ Even when reporting requirements of environmental liabilities do exist, such as those established by the Federal Accounting Standards Board and the Securities and Exchange Commission, they are not rigorous and are likely to be ignored.⁷⁶ A key element of his greater thesis, therefore, is that more information can assist in stakeholders negotiating acceptable solutions with polluting companies, but only if governmental regulation of disclosures becomes more stringent and demanding.⁷⁷

As mentioned above, David Case has also argued that external CR reporting has the greatest potential to reduce the environmental harms related to corporate activity when it is deployed in tandem with internal environmental management systems.⁷⁸ This makes intuitive sense; measuring and generating reports with data is a useful step, but the data, as in any context, must be acted upon to change behaviors and outcomes. Informational regulation has also been shown, especially when other governmental intervention has been lacking, to help consumers make decisions to avoid exposing themselves to risk.⁷⁹ Finally, a key means through which CR reporting is intended to ameliorate negative externalities is by catalyzing more dialogue with stakeholders; there is evidence that CR reporting can indeed facilitate this dialogue.⁸⁰ This evidence supports the economic theories mentioned above that hold that CR reporting should lead to more efficiently negotiated agreements between companies and stakeholders.

However, there is no unanimity that more mandated disclosure, on its own, will lead to better behavior.⁸¹ Allison Snyder suggests that informational regulation alone will be inadequate to improve corporate societal and environmental performance, and that more conventional enforcement mechanisms will be required to either reduce negative externalities or generate positive externalities.⁸²

Some have focused more on the question of what existing regulatory structures require. Perry

⁷² *Id.* at 415-427.

⁷³ Daniel C. Esty, *Environmental Protection in the Information Age*, 79 N.Y.U. L. REV. 115, 115 (2004).

⁷⁴ *Id.* at 203.

⁷⁵ *Id.* at 204.

⁷⁶ *Id.* at 206.

⁷⁷ *Id.* at 210.

⁷⁸ Case, *Changing Behavior Through Environmental Management Systems*, *supra* note 61 at 111.

⁷⁹ Katherine Renshaw, *Student Article, Sounding Alarms: Does Informational Regulation Help or Hinder Environmentalism*, 14 N.Y.U. ENVTL. L.J. 654 (2006).

⁸⁰ Timothy Riley, *Unmasking Chinese Business Enterprises: Using Information Disclosure Law to Enhance Public Participation in Corporate Environmental Decision Making*, 33 HARV. ENVTL. L. REV. 177 (2009).

⁸¹ See Allison M. Snyder, *Survey, Holding Multinational Corporations Accountable: Is Non-Financial Disclosure the Answer?*, 2007 COLUM. BUS. REV. 565 (2007).

⁸² *Id.*

Wallace has argued that, given the likely catastrophic consequences of climate change and existing fiduciary duties of managers, companies should, given existing rules and principles, be making greater non-financial disclosures.⁸³ This line of reasoning, as also presented by David Monsma and Timothy Olson, holds that company responses to climate change are material knowledge to investors and that regulation S-K, correctly interpreted, require related disclosures.⁸⁴ Jeffrey McFarland agrees with this logic, stating that U.S. securities laws should be interpreted as requiring at least a disclosure of liability exposure, including amounts of emissions and actions taken to reduce the risk of related possible losses.⁸⁵

Despite the compelling arguments that current legislation and SEC rules already require more CR disclosures, and despite predictions that greater mandatory environmental disclosures are inevitable⁸⁶, neither Congress nor the SEC have mandated more CR disclosures in the 1990s nor first decade of the current millennium. Based on studies by government, academia, and the private sector, it appears that companies ignore existing SEC reporting guidance on environmental issues a majority of the time. A 1992 Price Waterhouse survey found that the financial statements of 62 percent of respondents failed to follow SEC rules and did not disclose fines for environmental illegalities in excess of \$100,000.⁸⁷ A 1996 academic study found that 54 percent of companies with potential liabilities for hazardous waste sites failed to disclose this in their initial public offering registration statements and 61 percent of currently registered companies known to have potential liabilities for hazardous waste sites failed to disclose this fact.⁸⁸ A governmental study found that 74% of corporations in its sample fail to comply with disclosure requirements.⁸⁹ The SEC has effectively done nothing to investigate or penalize such failures to disclose large environmental liabilities; for example, no investigation followed when liabilities of \$270-300 million related to hazardous waste sites were not mentioned in Viacom's 10-K report.⁹⁰

Therefore, most legal scholars conclude that new disclosure rules and better enforcement are needed. Mitchell Crusto is most categorical in declaring that regulators, the investment community, and voluntary corporate initiatives have failed in systematically changing corporate behavior; corporate structure and law are similarly characterized as hindering environmental protection.⁹¹ Crusto concludes that a comprehensive reporting of environmental risks and liabilities should gradually become mandatory and adhere to a standard – the cumulative materiality standard (CMS) – suggested by the American Society of Testing and Materials (ASTM).⁹² Others have focused specifically on the urgent need for the SEC to issue specific and mandatory guidelines for disclosures related to climate change risks, urging

⁸³ Perry E. Wallace, *Climate Change, Fiduciary Duty, and Corporate Disclosure: Are Things Heating Up in the Boardroom?*, 26 VA. ENVTL. L.J. 293 (2008).

⁸⁴ Monsma and Olson, *supra* note 3 at 147-161.

⁸⁵ Jeffrey M. McFarland, *Warming Up to Climate Change Risk Disclosure*, 14 FORDHAM J. CORP. & FIN. L. 281, 285-292 (2009).

⁸⁶ See Risa Vetri Ferman, *Note, Environmental Disclosures and SEC Reporting Requirements*, 17 DEL. J. CORP. L. 483 (1992).

⁸⁷ Price Waterhouse, *Accounting for Environmental Compliance: Crossroads of GAAP, Engineering and Government - Second Survey of Corporate America's Accounting for Environmental Costs*, 10-11 (1992).

⁸⁸ Case, *Corporate Environmental Reporting As Informational Regulation*, *supra* note 4 at 410 n.187 (citing to Memorandum from Mary Kay Lynch, Director, EPA Office of Planning and Policy Analysis, and Eric V. Schaeffer, Director, EPA Office of Regulatory Enforcement, to Office of Enforcement and Compliance Assurance Directors, et al. (Jan. 19 2001)).

⁸⁹ *Id.* at 410 n.188.

⁹⁰ *Id.* at 410-411. Potentially more worrisome are the illegalities themselves and the admissions by a majority of corporate legal counsels that their corporate clients have been in violation of environmental laws. See, e.g., Marian Lavelle, *Environmental Vise: Law, Compliance*, NAT'L L. J., Aug. 30, 1993, at S1.

⁹¹ Crusto, *supra* note 31 at 490-493.

⁹² *Id.* at 503-509.

that it should at least match its efforts in the years leading up to the year 2000 and attendant risks and preparations to overcome Y2K problems with company computers.⁹³ David Sand argues that greater standardization, oversight, and enforcement of non-financial disclosures would bring about greater benefits for both shareholders and stakeholders.⁹⁴ David Case explicitly sides with this view.⁹⁵ Lucien Dhooge, in his review of the content and limitations of the French regulations, concludes that such government-imposed reporting requirements are a positive step, but that verification and enforcement structures are needed if disclosure regimes are to fulfill their potential.⁹⁶ Wendy Wagner likewise arrives at a similar conclusion, concluding that there must be penalties for failure to disclose negative information.⁹⁷ Allen White argues for global uniformity in disclosure standards.⁹⁸ Larry Backer further argues that the new rules and enforcement mechanisms must be supranational.⁹⁹

A key common question uniting all of the business and legal scholarship above, either implicitly or explicitly, is whether more disclosures are associated with companies that better serve the interests of either investors or stakeholders or both. Whether substantiated or assumed, whether arguing for more reporting or not, or suggesting that more disclosure is already required or not, the same relationships (or lack thereof) are at the root of all of these lines of inquiry and argument: the associations between CR reporting, financial performance, and environmental performance.

IV. RESEARCH QUESTION, METHODOLOGY, AND VARIABLE SELECTION

Based on the literature review above and stated in its broadest terms, the holy grail of business and legal scholarship related to CR reporting is to establish whether and how the use of CR reporting is influenced by financial and environmental performance. Some are interested in this research question because of the potential, ultimately, for improving the financial performance of companies and returns for investors. Others appear to be interested in this research question because of the potential of non-financial disclosures to encourage companies to minimize negative impacts on society and the environment. Still others are concerned with the drivers of CR reporting and whether CR reporting serves its intended role as providing a signal to markets as to the intent and actions and riskiness of companies. Finally, legal scholars are concerned with this central theme, because it undergirds any discussion of whether CR reporting needs to be mandated.

Consistent with the broad question outlined above, the authors chose a statistical analysis technique that has been proven, in other fields, to deal well with a binary dependent variable: logistic regression. A binary dependent variable is a characteristic of an entity that either is true or is false; for example, one such characteristic is whether a firm engages in CR reporting or not. The independent variables in a logistic regression equation, such as measures of relative financial performance or relative amounts of a polluting activity, are not binary, but rather metric and represent a value along a continuum. For example, market capitalization is such a variable.

Logistic regression takes the form

⁹³ McFarland, *supra* note 85 at 307-310.

⁹⁴ David F. Sand, *Environmental Disclosure and Performance: The Benefits of Standardization*, 12 CARDOZO L. REV. 1347 (1991).

⁹⁵ Case, *Changing Behavior Through Environmental Management Systems*, *supra* note 4 at 439-442.

⁹⁶ *Id.* at 488-490.

⁹⁷ Wendy Wagner, *Commons Ignorance: The Failure of Environmental Law to Produce Needed Information on Health and the Environment*, 53 DUKE L. J. 1619, 1745 (2004).

⁹⁸ See White, *supra* note 1.

⁹⁹ See Backer, *supra* note 28.

$$\text{logit } p = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots \beta_k X_k$$

where the dependent variable (logit p) represents the range of probability from 0 to 1 (No versus Yes).

The goal of logistic regression is to develop an equation designed to predict the probability (propensity) of membership in one of the two groups given the variables examined. The data was analyzed using the R statistical package module for generalized linear models.¹⁰⁰

The largest 250 companies in the S&P500 provide the basis for analysis.¹⁰¹ This sample population is large enough to yield statistically significant results while not presenting an overwhelming data gathering challenge. Additionally, recent secondary data (2008) for these companies is available through a variety of sources.

The next step after choosing the sample population was to select independent and dependent variables. The dependent variable is defined as GRI reporting (0=no, 1=yes). The independent variables, for reasons explained below, included three financial measures (market capitalization, total equity, and total liabilities), two financial ratios (price-to-book and Tobin's q) and two measures of pollution (total metric tons of carbon and a newly proposed ratio, carbon-to-equity). The final measure, carbon-to-equity, is proposed, as explained below, to serve as an indicator of the relative environmental efficiency of companies.

Clearly, since the ultimate goal is to explore the impacts of CR reporting, the authors needed to choose a dependent variable that reflects whether or not a company made any serious attempt at a CR report. The measures had to be uniform across companies to make any meaningful comparison. Since, as mentioned above, the GRI guidelines are the most commonly adopted standard by those companies issuing CR reports, the dependent variable is whether a company issued a GRI report. This is a binary measure: either a company issues a GRI report or it does not. The source of this data was the GRI website.¹⁰²

The variables for financial performance are both broad and specific, since this is one of the associations at the heart of the inquiry. In addition to market capitalization, total equity and total liabilities, there are several ways to measure financial performance, including ROE (return on equity), ROA (return on assets), P-to-B (price to book) ratio, P/E (price/earning) ratio, EPS (earnings per share), and Tobin's q (the ratio of the market value of the firm to the replacement cost of its assets). Tobin's q is a good measure for making comparisons between firms because accounting measures or the application of other ratios based on stock return requires risk-adjustment or normalization among firms for comparison.¹⁰³ Moreover, firm value is fundamentally related to share value as decided by stock exchanges.¹⁰⁴ Consistent with Larry Lang's and Rene Stulz's definition of Tobin's q , Kee Chung and Stephen Pruitt offer a simplified Tobin's q model which yields similar results but depends on fewer financial variables.¹⁰⁵ The simpler means of calculating Tobin's q is as follows:

¹⁰⁰ The R statistical package is a free and open-source set of software tools is available at <http://www.r-project.org/> (last visited May 31, 2009).

¹⁰¹ The list of the S&P500 is available at <http://www.indexarb.com/indexComponentWtsSP500.html> (last visited May 31, 2009).

¹⁰² GRI Reports List is available at <http://www.globalreporting.org/GRIReports/GRIReportsList/> (last visited May 31, 2009).

¹⁰³ Larry Lang L. & René Stulz, *Tobin's Q, Corporate Diversification, and Firm Performance*, 102 J. POLITICAL ECON., 1248, 1248-1280 (1994).

¹⁰⁴ *Id.*

¹⁰⁵ Kee Chung, & Stephen Pruitt, *A Simple Approximation of Tobin's q*, 23 FINANCIAL MGMT, 70, 70-74 (1994).

$$q = (MVE + PS + DEBT) / TA$$

where MVE is the product of share price and the number of common stock shares outstanding, PS is the liquidating value of outstanding preferred stock, DEBT is the value of the firm's short-term liabilities net of its short-term assets plus the book value of the long term debt, and TA is the book value of the total assets. For the reasons above, Tobin's q was calculated for each company and entered as a variable in the model. Likewise, the Price-to-Book ratio is a quick indicator of whether or not a company is overvalued or undervalued. Tobin's q overcomes some of the limitations of the Price-to-Book ratio by including a debt component in its calculation. The source of the needed data was company financial disclosures.¹⁰⁶

The final independent variables selected reflect relative environmental performance because that is the other association at the heart of the inquiry. These were also the most challenging variables to decide upon. Many measures of environmental performance were considered, and some might eventually be tested in future studies. These included several measures that theoretically were appealing, but that practically would fail to measure environmental performance fairly across companies in the sample universe. For example, measures involving fines and litigation are faulty because some environmentally-related harms may be undetected or resulting disputes may be quietly settled. As mentioned above, while SEC guidance requires that litigation and fines above proscribed thresholds be disclosed, scholarly, business, and government sources all agree this guidance is ignored in a majority of cases.¹⁰⁷ Further, parsing-out solely environmentally-related liabilities out of the information in annual reports is often impossible.

A solution was found in the form of both carbon dioxide release statistics. The carbon disclosure project is a voluntary disclosure practice adopted by a majority of the G250. This measure could be critiqued as being too narrowly focused on one aspect of environmental harm. Another potential criticism is that some industries, such as software, are inherently less polluting of the air than, say, automobile production, such that comparing companies on the basis of carbon dioxide emissions is not fair. There are four responses to this line of criticism. First, carbon dioxide emissions have been identified as a leading cause of global climate change and hence constitute one of the most concerning forms of pollution and one which likely will be subject to regulation and a disclosure regime.¹⁰⁸ Second, some industries will always and inherently appear to be less polluting than others, regardless of the metric that is chosen. Third, it has previously been observed that companies in more polluting industries are the first and most likely to adopt the practice of CR reporting.¹⁰⁹ This yields a hypothesis: namely, that companies with greater carbon dioxide emissions will be more likely to engage in CR reporting. Finally, as a practical matter, measures for such studies must be based on a reliable dataset that includes most of the entities in the sample population. The carbon disclosure project meets this criterion.¹¹⁰ The authors also tested a novel ratio as an independent variable: the ratio of carbon dioxide emissions to equity. The amount of carbon dioxide generated relative to the equity of a company is an indicator of comparative environmental efficiency among firms.¹¹¹ The concept of environmental efficiency – the

¹⁰⁶ Company financial data is available at www.thestreet.com (last visited May 31, 2009).

¹⁰⁷ See *infra* notes 87-90.

¹⁰⁸ See McFarland, *supra* note 85.

¹⁰⁹ See, e.g., Minna Halme & Morten Huse, *The Influence of Corporate Governance, Industry and Country Factors on Environmental Reporting*, 13 SCANDINAVIAN J. MGMT, 137, 137 (1997).

¹¹⁰ PriceWaterhouseCoopers, *The Carbon Disclosure Project Report 2008 S&P500*, available at http://www.cdproject.net/download.asp?file=67_329_142_CDP%20SP500%20Report%202008.pdf.

¹¹¹ Environmental or ecological efficiency, the concept of gauging the amount of negative environmental impact per unit of economic activity, is a developing but accepted and valuable measure for comparing countries, or, in this case, firms. See Justin Kitzes et al., *A Research Agenda for Improving National Ecological Footprint Accounts*, ECOLOGICAL ECONOMICS (in press), available at http://www.brass.cf.ac.uk/uploads/fullpapers/Kitzes_et_al_M65.pdf (last visited May 31, 2009).

amount of negative impact on the environment generated per unit of size or production – is increasingly appearing in sustainability-related research; comparing companies based on their ratio of carbon dioxide to equity builds on this concept.¹¹²

V. RESULTS AND DISCUSSION

Testing the impact of financial and environmental variables on a firm's propensity to use GRI reporting required gathering data from nearly 250 companies. The end result was a total of 113 companies in the database for which complete data on all desired variables was available. Of the 113 companies examined, 78 do not use GRI reporting and 35 use GRI reporting. Thus, given the size of the two groups (78 versus 35), limitations associated with small sample size are reduced.

The results of the statistical analysis are included in the table below (Table 1):

TABLE 1

Variable	Estimate	Std. Error	z value	Pr(> z)
Intercept	-1.35E+000	4.97E-001	-2.73	0.01
MKTCAP	6.88E-003	1.33E-002	0.52	0.61
EQUITY	-8.39E-003	1.70E-002	-0.5	0.62
LIABILITIES	1.95E-004	1.09E-003	0.18	0.86
PRICE-to-BOOK	1.65E-001	2.31E-001	0.71	0.48
TOBIN'S Q	9.62E-002	1.02E-001	0.94	0.35
CARBONTMT	2.61E-008	1.76E-008	1.48	0.14
CARBON/EQUITY	-9.83E-002	9.37E-002	-1.05	0.29

As indicated in Table 1, none of the seven variables investigated significantly discriminates between companies that use GRI reporting and those who do not. Neither market capitalization, total equity, total liabilities, price-to-book ratio, Tobin's q ratio, total metric tons of carbon dioxide released nor carbon-to-equity ratio significantly impact the likelihood that a firm will engage in the most widely-embraced type of CR reporting. Despite the lack of individual discriminant power, a predictive function emerges:

$$\text{GRI Probability} = -1.35\text{E}+000 + 6.88\text{E}-003(\text{MKTCAP}) + -8.39\text{E}-003(\text{EQUITY}) + 1.95\text{E}-004(\text{LIABILITIES}) + 1.65\text{E}-001(\text{PRICE-to-BOOK}) + 9.62\text{E}-002(\text{TOBIN'S Q}) + 2.61\text{E}-008(\text{CARBONTMT}) + -9.83\text{E}-002(\text{CARBON/EQUITY})$$

Those seeking to predict the probability of a company using GRI reporting need only to plug in the values in parentheses, perform the mathematical functions and interpret the results. The calculated result, when multiplied by 100, provides a measure of the propensity of the firm being investigated to utilize GRI reporting.

The findings of this study are relevant to the scholarship described in the first sections of the

¹¹² See, e.g., John C. Dernbach and Seema Kakade, *Climate Change Law: An Introduction*, 29 ENERGY L.J., 1, 1-31 (2008).

literature review; specifically, the scholarship that seeks to determine the drivers of CR reporting and its relationship to financial performance. Some research suggests that the drivers are related to executives pursuing better financial performance for their firms. Some research, especially the scholarship that examines CR reporting from a global perspective, raises the possibility that there are other variables that may also impact the adoption of CR reporting.¹¹³ This study suggests that, whatever the managers might say or perceive in other studies, there is not a correlation between firms with superior financial performance and firms that engage in the most widely adopted form of CR reporting. This, in turn, ought to provoke further business scholarship: there are possibly variables related to management, rather than financial and environmental variables, that affect the probability of a company adopting CR reporting. Potentially there are characteristics of managers or firms or their relationships with investors, customers, employees or other stakeholders that merit further investigation. Potentially such research would lead to a better understanding of what kinds of firms perceive a greater benefit in more CR reporting, and, conversely, what kind of firms apparently do not see value in the practice.

This finding ought to also provoke further legal scholarship. As also described in the literature review, legal scholars have largely embraced the theory that soft law practices such as CR reporting serves a valuable function in the marketplace and ultimately is related to companies behaving in a manner that is desired by society.¹¹⁴ The question of whether CR reporting is correlated with a firm being a good or bad actor ultimately undergirds any discussion of whether the practice ought to be mandated. This study shows that being relatively less polluting and being a GRI adopter are not correlated. It also shows that a company's comparative environmental efficiency – in this case, the amount of carbon dioxide emissions relative to a firm's value – is also not significantly correlated to whether a firm is a GRI adopter.

These outcomes could therefore be interpreted to indicate that informational regulation is ineffective in producing its intended ends. That would be an error, since the causal association tested was whether financial performance and environmental performance affected the probability of GRI adoption. Nothing can be imputed about the opposite causal relationship: namely, does GRI reporting affect financial performance or environmental performance or both. Even if one were tempted to make this interpretive error, the study's results represent a snapshot – they describe reality at one moment in time, rather than the potential relationship of the variables over a period of time. For these reasons, the results suggest nothing about whether GRI reporting is effective at producing improved financial and environmental performance.

However, the results are evidence that GRI reporting should not be taken, at any given point in time, to necessarily be a signal to the marketplace that a company is a good actor relative to non-reporting firms. Because CR reporting is optional and not all firms have adopted the practice, there may be a perception among investors that being a GRI reporter is a proxy for a firm being relatively environmentally efficient and benign compared to non-reporters. This study disproves that inference.

Such a misleading indicator is undesirable for a variety of reasons: it prevents investors from fulfilling their investment strategies and it prevents the marketplace – meaning both the stock markets and relevant markets for goods and services – from punishing bad actors and rewarding companies that satisfy the expectations of society. Finally, such a misleading indicator may misdirect enforcement agencies from investigating companies that are actually in breach of environmental regulations; indeed, better relations with governmental authorities is one of the motivations for reporting cited in the literature review above. Therefore, the outcome that better financial and environmental performance is

¹¹³ See *supra*, notes 44-54.

¹¹⁴ See *supra*, notes 26-31 and 70-99.

not correlated with GRI reporting is a valuable gleaning for legal scholars. It contributes to the growing body of literature that suggests that CR reporting should be mandated, universal, and uniform. This would eliminate voluntary CR reporting as a misleading signal to markets and assure that CR reporting fulfills its potential by allowing fair comparisons between companies.

VI. CONCLUSIONS AND IMPLICATIONS FOR BUSINESS AND LEGAL SCHOLARSHIP

This article has reviewed the history of regulation-by-disclosure and voluntary CR reporting and the relevant business and legal scholarship. Based on this review, it identified a major theme underlying research related to the phenomenon: namely, whether the use of CR reporting can be predicted by financial and environmental performance.

The authors, by testing a wide array of financial measures and two measures related to the impact of companies on climate change, thereby make a valuable contribution to existing business and legal scholarship. This study suggests that financial and environmental performance does not affect the propensity of a company to engage in CR reporting.

The authors suggest that business scholars turn their attention to developing theories and testing hypotheses that may better explain what kinds of firms are more likely to engage in CR reporting. The authors suggest that business law scholars turn their attention to exploring what kind of regulatory framework best encourages meaningful, universal, and uniform disclosures by all companies, with an understanding that voluntary CR reporting may function as a misleading signal to the marketplace that a company is comparatively benign in its societal and environmental impacts. This study should thus provoke further theoretical work, stimulate further empirical testing, heighten an appreciation for the importance of mandatory CR reporting to the marketplace and stakeholders, and catalyze the development of a legal framework that achieves that end.