Do Investors Value a Firm's Commitment to Social Activities?

The Moderating Role of Intangibles and the Impact of the Sarbanes-Oxley Act

By

Waymond Rodgers

A. Gary Anderson Graduate School of Management
University of California, Riverside, CA 92521
Office phone: (951) 827-2486
Mobile: (949) 300 77 66
Fax: (951) 827-3970
e-mail: waymond.rodgers@ucr.edu

Hiu Lam Choy

LeBow College of Business
Drexel University
Office phone: (215) 895-2147

e-mail: hc349@drexel.edu

Andrés Guiral

School of Management and CIFF researcher
University of Alcala, Spain, 28880
Office phone: (34) 91 885-4282
Fax: (34) 91 885-4282
e-mail: andres.guiral@uah.es

Best paper award, Social and Environmental Accounting Section
31st Annual Congress of the European Accounting Association, Rotterdam 2008

* Financial support of the Ministry of Education and Culture of Spain (research projects SEJ2004-00791ECON, SEJ2007-62215/ECON/FEDER, SEJ 2006-14021 and postdoctoral/Fulbright grant EX2004-0294) is appreciated.

Do Investors Value a Firm's Commitment to Social Activities?

The Moderating Role of Intangibles and the Impact of the Sarbanes-Oxley Act

Abstract:

Previous empirical research has found mixed results of the impact of corporate social responsibility (CSR) investments on financial performance. In this paper we contribute to the literature by exploring the complex relationship between intangibles, CSR, and financial performance. In a two stage investor decision-making model we control for firms' investing in intangibles in our analysis of the impact of CSR on both accounting and market-based measures of financial performance. In addition, we study how a change in the legal environment, the passage of the Sarbanes-Oxley Act, affects the role of intangibles and its impact on the relation between CSR and firm value. Both Partial Least Squares and traditional OLS regression analyses were carried out to measure the impact of CSR intangibles, and its interaction, for a sample of the top corporate citizens as complied by KLD Research and Analytics. Our findings suggest that (1) a firm's commitment to social activities (CSR) contributes to its financial performance; (2) intangibles moderate the relation between CSR and firm value; and (3) an increase of the impact of intangibles on firm value in the post-SOX period to the detriment of CSR which is no longer significant.

Keywords: Intangibles; Corporate Social Responsibility; Investor decision-making; Sarbanes-Oxley Act

JEL descriptors: M14; M41; D81

1. Introduction

In recent years, investors, creditors, and financial analysts have started to emphasize the importance of intangible assets on a company's financial health (Kohlbeck and Warfield 2007; Rodgers 2007). However, previous research seems to ignore whether the effects of financial or

valuation-based intangible asset measures, such as research and development (R&D) and advertising, differ from those of non-financial measures, such as employee and customer satisfaction (Ittner 2008). It is important to identify the differential effects, if any, especially when corporate social responsibility (CSR) investments play a critical role in firm's value (McWilliams, Siegal, and Wright 2006; Margolis and Walsh 2001, 2003; Orlitzky, Schmidt, and Rynes 2003; Porter and Kramer 2006).

Indeed, the link between CSR and corporate financial performance (CFP) has been intensely explored by the strategic/management/organization literature. The majority of researchers have recurred to the *stakeholder theory* (Freeman 1984; Sen, Bhattacharya, and Korschun 2006), sometimes re-called as *good management theory* (Waddock and Graves 1997), and some other related approaches as the *resource-based view* (Barney 1991) and *transaction cost economics* (Jones 1995) to explain a positive link between CSR and CFP (Margolis and Walsh 2001). Stakeholder theory suggests that a firm exists not only to maximize shareholder value but also need to take into consideration the impact of its action on the firm's other stakeholders. When applied to firm's commitment to social activities, stakeholder theory supports a firm's investment in CSR in order to enhance its relation with its stakeholders. Further, stakeholder's theory also suggests that a firm's CSR effort can have a significant impact not only on its customers, but also on other stakeholders such as employees and shareholders. For instance, Greening and Turban (2000) and Turban and Greening (1997) suggest that people can react to a firm's CSR investment by seeking employment with the firm, instead of just purchasing products from it. Thus, the impact of CSR on a firm's financial performance or firm value can be examined from multiple facets.

Several reviews (McWilliams et al. 2006; Margolis and Walsh 2001, 2003; Roman, Hayibor, and Alge 1999; Griffin and Mahon 1997; Pava and Krausz 1995; Wood and Jones 1995; Ullmann 1985), meta-analysis (Orlitzky et al. 2003) and recent special issues in top management and organization journals[1] suggest that CSR efforts contribute to improve a firm's CFP. These theories and empirical findings have significantly contributed to our knowledge of why a positive sign of the CSR and financial performance relation may be expected. At the same time, they have led to various interpretations. Barnett (2007, 18) states "we now understand the effects of isolated pieces of the overall puzzle, ceteris paribus, but the dots remain unconnected through any theoretical framework…" (p. 18). Orlitzky et al. (2003) point out that there is a large amount of unexplained variance across studies. These discrepancies among studies suggest the potential presence of mediator variables such as firm's investments in intangible assets (Barnett 2007; McWilliams et al. 2006)[2].

The aim of this paper is to extend previous research by exploring the complex theoretical/empirical relationship between intangibles, CSR efforts and financial performance. We contribute to this literature in four ways. First, our research extends previous work by examining how CSR and CFP are linked in a two stage investor decision-making model. We argue that conflicting results on the relationship between CSR and CFP found in previous studies may have been due to different stages of influence for CSR and CFP. Our use of the decision-making model is motivated by Schuler and Cording (2006, 556), which state that "to fully explain the link between CSR and CFP, the decision-making processes of stakeholders must also be illuminated." That is, by providing a process approach, we are able to look inside the "black box" in order to determine if CSR affects both the intermediary stage and final stage of CFP. To this extent, we follow Barnett (2007) and Van de Velde et al. (2005)'s arguments that investors

are ready to pay a premium for firms with good management of their relationship with relevant stakeholders groups. Second, we improve the way in which CFP have been traditionally captured. Our simultaneous approach allows us to integrate both accounting (intermediary stage) and market-based (final stage) measures, whereas previous research has merely focused on an individual surrogate. Further, while most of the previous research traditionally defines "profitability" as a main surrogate of accounting-based CFP (Margolis and Walsh 2003; Aupperle, Carroll, and Hatfield 1985), we develop the conceptualization of the accounting-based measurement. To this end, rather than adopting a narrow view of financial performance solely as "profitability" we refer to this construct as "firm's financial distress", a more sophisticated financial concept which depends not only on a firm's profitability, but also on its liquidity and leverage. Third, we respond to Barnett (2007), McWilliams and Siegel (2000) and McWilliams et al. (2006)'s call for more research regarding the role played by intangibles by examining its relation with the firm's CSR efforts and how they interact to affect a firm's value. We further explore how a change in the legal environment, the passage of the Sarbanes-Oxley Act (hereafter referred to as SOX), affects the role of intangibles and its impact on the relation between CSR and firm value. Finally, matching a conceptual model with a covariance structural model could provide new insights regarding the importance of the interactions of CSR and CFP.

Our study of the top 100 corporate citizens complied by KLD Research and Analytics (http://www.business-ethics.com) provides important evidence that the relationship between CSR efforts and the market-to-book of assets ratio (a proxy for the market valuation of firms) is not mediated by financial distress, but rather CSR has a direct impact on market value. Therefore, our results in general support the *stakeholder* theory. Further, our results point out that this effect of CSR on market value varies with a firm's investment in intangibles. Firms with

a large investment in intangibles tend to benefit more, in terms of higher market-to-book ratios, from their CSR investments than firms with low intangible investments. This supports the argument that firms cannot use CSR investments to substitute for product quality. Investors only perceive CSR as value-enhancing investments if the firm has performed well in its core business, which is to provide quality and innovative products to customers. If investors are concerned that firms divert resources from product enhancement to CSR, they will not respond as positively to such investment. In addition, the improvement in intangible quality leads to an increase in the weight put on intangibles in firm valuation in the post-SOX period.

The next section presents an overview of the theories and empirical research of the CSR-CFP paradigm. In the third section we propose a simultaneous approach through an investor decision-making model. The development of hypotheses, methods, and results are showed in the fourth, fifth and sixth sections, respectively. Finally, we conclude in Section 7.

2. The contribution of CSR investments to firm's financial performance

Much has been discussed in terms of whether firms should orient themselves toward a shareholder or stakeholder perspective (Sundaram and Inkpen 2004). In an attempt to solve this strategic paradigm, a significant amount of research papers have focused on the examination of the CSR-CFP link and the presence of potential moderators affecting that relationship (Orlitzky et al. 2003; Margolis and Walsh 2001).

The *stakeholder theory* (Freeman, 1984) has been the most important approach in explaining how CSR investments leads to a higher CFP; that is, how a firm's commitment to social activities contributes to its financial wealth. This theory postulates that it is insufficient for managers to focus exclusively on the perceived needs of shareholders (McWilliams et al., 2006).

In this regard, firms should cater to the demands of important stakeholders other than their shareholders alone (Ruf et al. 2001). The *stakeholder theory* may also be interpreted under either the *instrumental* or the *normative* taxonomy (Marom 2006; Donaldson and Preston 1995; Preston and O'Bannon 1997). The *instrumental approach* assumes that "the ultimate objective of corporate decisions is marketplace success" (Berman et al. 1999, 491). Here, "managerial concern for a stakeholder group is viewed as determined solely by the perceived ability of such concern to improve firm financial performance" (Berman et al., 1999, 488). In contrast, the *normative perspective* conceptualizes corporate social effort as a moral imperative, rather than the business benefits it may provide (Marom 2006).

Other researchers have suggested the arguments of the *transaction cost economics* and *resource-based view* to illustrate why a firm may pursue the satisfaction of stakeholders' demands (Ruf et al. 2001; McWilliams et al. 2006; Jones 1995). From the *transaction cost economics* it could be argued that firms would try to satisfy stakeholders' needs in order to minimize potential costs (Williamson 1985). While shareholders and debt holders have explicit claims on the firm, other stakeholders (e.g., customers, government, and the community) have implicit claims on the firm[3]. When a firm fails to act socially responsible, other stakeholders will have doubt whether the firm will honor their implicit claims. These stakeholders likely transfer the low-cost implicit contracts into costly explicit claims. Thus, *transaction cost economics* implicates that firms with good CSR perceptions have low-cost implicit claims whereas those with poor CSR more likely face high-cost explicit claims (Cornell and Shapiro 1987; Peloza 2006)[4].

In addition, the *resource-based view* also suggests a positive impact of CSR on CFP. From this approach firms interpret meeting stakeholder's demands as a strategic investment (Ruf

et al. 2001; Russo and Fouts 1997). By investing in such a strategy, organizations develop assets that are valuable, rare and non-substitutable, such as leadership and positive social reputation. These assets in turn lead firms to a competitive advantage and potentially a higher return (Barney 1991; Luo and Bhattacharya 2006). Thus, *resource-based view* advocates that CSR activities help managers develop better skills and firms develop more advanced information systems which, in turn, will contribute to a better financial performance (Russo and Fouts 1997; Wernerfelt 1984).

Two recent reviews developed by Margolis and Walsh (2003) and Orlitzky et al. (2003) adequately summarize the current stage of the CSR-CFP empirical research. On the one hand, Margolis and Walsh (2003) reported that in their review of the 109 published articles using CSR as an explanatory variable, they found 54 studies having a positive impact on financial performance. On the other hand, Orlitzky et al. (2003)'s meta analysis of 52 empirical studies arrived at similar conclusions as Margolis and Walsh (2003), by showing a positive correlation between CSR and CFP. Thus, results of studies on the impact of CSR investments on firm's financial performance are mixed. Barnett (2007), McWilliams et al. (2006), and McWilliams and Siegel (2001) point out a potential shortcoming in the previous studies is the failure to control for investments in R&D and advertising.

In sum, this section leads us to believe that although theories and models surrounding the CSR-CFP link are abundant, empirical research is still in an early stage (Harrison and Freeman, 1999). Harrison and Freeman (1999) further recommend that researchers should make a significant effort "to try to find a way to integrate the economic and the social" (483-484). Thus, rather than an isolated analysis of the impact of CSR efforts on CFP, we propose an investor decision-making model by examining the role played by valuation-based intangible asset

measures (i.e., R&D and advertising), which allows us to a better understanding of the complexity of the CSR-financial performance relationship.

3. An investor decision-making model

In this paper, we examine whether investors value a firm's commitment to meet the needs of stakeholders other than its shareholders and how this social effort is simultaneously related to both accounting and market-based measures of CFP. Hill et al. (2007, 166) states that "the primary way in which businesses are assessed by potential investors is through perceived CSR". If investors do value the firm's catering to other stakeholders' needs, then this perceived commitment can lead to an increase in firm value. In this regard, Van de Velde et al. (2005)'s empirical findings suggest that investors are ready to pay a premium for firms with good management of their relationship with important stakeholders group, such as shareholders, clients and suppliers. Shareholders benefit from this increase in the value of their investment. As such, a firm's catering to the needs of stakeholders and those of shareholders can be *complementary* to each other. Consequently, a *stakeholder perspective* may further our understanding regarding sources of sustained competitive advantage for firms[5]. This paper strives to identify if managers can strategically utilize this perspective to maximize the firm value and whether investors identify with the managers' strategy.

We present a theoretical model that attempts to clarify the multiple ways in which social perceptions can increase or decrease firms' value. This *Throughput Model* (Rodgers, 1997) captures different pathways and stages that can influence a decision at the individual or organizational level. The model proposed here also provides a broad conceptual framework for examining the interrelated processes that affects decisions (both individual and firm level)

(Figure 1). It incorporates the constructs of perception, available information, judgmental processing (analysis of information/perception), and decision choice as it applies to individuals/organizations (Rodgers 1997).

(Insert Figure 1 about here)

The central insight of the investor decision-making model is that CSR information inputs are embedded in a social contract. This insight we depict as "perception" in our model. Perception on CSR efforts together with other information are then used for the second stage, Judgment (i.e., financial distress in the current case). Judgment involves a detailed analysis of CFP and CSR. Decision choice then follows. This final stage represents a culmination of information, perception and judgment (see Figure 1).

Information includes the set of financial information reported by firms. In this model, profitability, liquidity, leverage (I) as well as social perception —measured by customer, employee and community relations— (P) affects the financial distress judgment (J), i.e., an accounting-based measure of CFP. Further, we include investment in intangibles, such as R&D expenses and advertising expenses in the model. Similar to the case of CSR efforts, we encode a firm's investment in intangibles as "perception" since the current accounting rules *do not allow* investors to know a rational valuation of this effort through the information showed by the financial statements (Rodgers 2003). Hence, investors form their "perception" regarding the value of a firm's full set of intangible investments based on the limited information available on the financial statements. However, we claim that this information differs from CSR information in that current accounting rules *do not require* firms to report CSR investments (Rodgers 2003). Finally, our model also includes an important assumption: both information and perception may be correlated (Rodgers 1997).

The *judgment* stage contains the process investors implement to analyze incoming information (financial and non-financial), as well as the influence from the perception stage (i.e., social perceptions). The direct path from social perception to judgment implies that CSR contributes to financial accounting-based performance (i.e., financial distress), thereby providing credence to the *stakeholder* contract costs theory. Finally, the *decision choice* stage reflects the market valuation of a firm. CSR efforts and intangible investments (P) and financial distress (J) can affect decision choice (D) of common stock valuation, i.e. a market-based measure of CFP. Social perceptions' direct influence on decision choice is an indication that CFP results from CSR. That is, CSR can influence market valuation of common stock.

4. Hypotheses Development

Financial profitability and other financial measures provide useful information on a firm's short-term performance. In our model, we propose that in addition to accounting-based measures of CFP, investors' perception of its CSR efforts and intangible investments play a significant role in predicting a firm's long-term performance; and hence, in determining its market value (see Figure 2). In this section, we first describe the various components of financial information, intangible investments and CSR efforts. In addition, we develop our hypotheses regarding their potential impact on both firm's financial distress and market value.

Most of the previous empirical research has focused on the examination of profitability or other isolated measures as individual surrogates of accounting-based CFP. We propose the use of "financial distress" construct (J) as a summary measurement of a firm's accounting-based CFP. This construct simultaneously depends on a firm's profitability, liquidity and leverage information (Johnstone and Bedard 2004). A profitable firm can still suffer from cash flow

problem and not be able to survive if it cannot meet its debt obligations. This going concern issue likely has an adverse effect on the firm's value. As such, the financial distress construct provides a more comprehensive measure of the firm's performance and financial health than a profitability measure.

(Insert Figure 2 about here)

While financial information, such as profitability, liquidity and leverage, indicates a firm's current CFP status, it does not necessarily reflect the firm's ability to increase its CFP in the future. Certain studies on intangible assets (Lichtenberg and Siegel 1991; Amir and Lev 1996; Lev and Sarowin 1999; Demers and Lev 2001; Trueman, Wong, and Zhang 2000; Xu, Magnan, and Andre 2007) suggest that traditional financial reports do not reflect a firm's value in today's high-tech environment. In this information technology environment, a firm's knowledge-based assets become a significant determinant of the firm's value. For firms in such high-tech industries as internet, biotechnology, and computer, one important determinant of the firm's potential growth is the continued innovativeness of their products. As such, a significant portion of high-tech firms' investment is in R&D expenditures or other intangible assets. These knowledge-based assets constitute a significant part of a firm's economic resources. For instance, Ernst & Young L.L.P. estimates that publicly-listed biotechnology firms spent a total of $14.5 billion on R&D in 2003, $15.8 billion in 2004 and $16 billion in 2005. Pharmaceutical Research and Manufacturers of America, a trade group that includes the major pharmaceutical companies and certain large biotech firms, reports that its members spent an average of 18.8% of their sales revenues on R&D in 2004. This figure has stayed at around 18% since 1999. For other biotechnology firms (i.e., excluding major pharmaceutical firms), S&P estimated that about 38% and 40% of their revenues were spent on R& D in 2003 and 2004, respectively. In addition to

R&D investments, firms also acquire other intangibles in order to continuously improve its existing products and explore innovative new products. This continuous strive for product improvement helps to attract new customers and retain current customers, which in turn contributes to the firm's profit and growth.

As such, we expect the investment in intangibles have a positive impact on the firm's value. The effect on a firm's current profitability can be twofold. First, investment in R&D and advertising, which have to be recorded as expenses rather than assets under current accounting rules, can cost a significant portion of a firm's revenue and hence lead to a decrease in current profits. Second, if R&D investments and advertising are autocorrelated, firms with high intangible investments can also be reaping the gain from the prior period investments and enjoy higher profits in the current period. Thus, the impact of intangibles on our financial distress measure remains an empirical one.

The impact of investment in intangibles on firm value is expected to be positive as the market values a firm's continuous strive to improve and invent new products. The innovative ability, which is proxied by the firm's investment in intangibles, helps to enhance customer satisfaction and keep the firm competitive in the market place. Therefore, we incorporate these potential value-creating intangible investments in our model.

In addition to intangible assets, the perception of a firm by the public can also be an invaluable asset to the firm. We evaluate a firm's CSR efforts as perceived by its three stakeholder groups—employee, customer, and community relations—on a firm's value. To this end, our model conceptualizes that, in addition to the financial viability of a firm, investors incorporate their perception of the firm's commitment to meet CSR in their valuation decisions.

Employee Perception. With the significant growth in high-tech firms, the competition for talents in the labor market has been more intense than ever (Collins and Smith 2006; Ballou, Godwin, and Shortridge 2003). Firms use various long-term compensation schemes, such as stock options and restricted stock grants with several years of vesting period, to retain their employees. Still other firms tried more innovative ways to attract employees. A positive firm image created by investing in CSR can attract potential employees because individuals tend to identify with firms that are socially responsible and are more likely to seek employment from these firms (Sen et al. 2006; Greening and Turban 2000; Turban and Greening 1997). An increase in current employees' goodwill can improve productivity and financial outcomes (Davis 1973; McGuire et al. 1988; Waddock and Graves 1997). Unfortunately, this important "human capital asset" of a firm is not recorded anywhere on a firm's balance sheet. However, with its significant impact on a firm's long-term well-being, we anticipate investors account for this employee satisfaction factor and the positive image of a firm in their investment decision and factor this human capital asset into their pricing decision.

Customer Perception. In addition to happy employees, it is equally important that a firm's customers are satisfied with its products and/or services (Luo and Bhattacharya 2006; Maiga and Jacobs 2005). A well-maintained customer relation helps to retain old customers for repetitive businesses, build up customer loyalty, and attract new businesses by the word of mouth. The costs of keeping existing customers are likely to be lower than those of acquiring new customers (Voss and Gruber 2005). Retention of existing customers is particularly important for a company operating in a mature industry (Reichheld 2003).

While these customer-relation efforts have both short- and long-term benefits, only the short-term benefits are recognized as sales on financial statements. On the other hand, all such

costs incurred in improving and promoting the products in the current period are recorded as expenses on the income statement. Without accounting for the customer relation or brand name on the financial reports, these financial statements again understate the "assets" of a firm. If the market realizes the value of brand name and/or customer relation to a firm, investors will incorporate this information in their pricing.

Community Relation. Besides improving relation with current employees and customers, it also helps a company to cultivate its relation with potential employees and customers. One way to achieve this is to have a good community relation. Maintaining a good community relation promotes the image of a company. A good company image contributes to a good brand name[6]. By actively participating in community programs, either through charitable donation, sponsorship, and/or setting up policies to encourage employees to volunteer, firms can promote their brand name. We expect this long-term relationship with the community improves the firm's image and help to attract not only customers, but also potential employees and investors, which leads to an increase in its market value. This positive image can also provide insurance on shareholder value. These arguments, based on the *stakeholder theory*, lead us to our first hypothesis:

HYPOTHESIS 1: *Investors incorporate their perception of the firm's efforts to improve their employee, customer, and community relations in their valuation of the firm.*

CSR and intangible investments are expected to be positively correlated (McWillians et al. 2006; McWillians and Siegel 2000; Barnett 2007). McWillians and Siegel (2000) advocate that many firms that actively engage in social activities are also pursuing a differentiation strategy, involving complementary strategic investments in intangible resources (measured by R&D expenditures). As a result, it would be very difficult to isolate the impact of CSR on CFP

without simultaneously controlling for those intangible investments. Also, these authors argue that intangible investments and CSR are positively correlated, since many aspects of CSR lead to either a product innovation, a process innovation, or both (McWillians and Siegel 2000). Thus, it is important for us to control for a firm's investment in intangibles in our analysis of the impact of CSR on both accounting (financial distress) and market-based (firm value) measures of CFP.

In addition to the positive correlation between intangible investments and CSR, we expect that CSR and intangible investments interact to affect firm value. First, while intangible investments contribute to the firm's future performance, it is hard, if not impossible, for external investors to evaluate the value of these investments. Given this constraint in the valuation of firms with a significant portion of their value dependent on the hard-to-measure intangibles, investors search for other indicators that can assist them in achieving the valuation task. We propose that CSR serves such a role in identifying firms that are more likely to be effective and productive regarding their intangible investments and also provide a more accurate evaluation of their intangible assets. Second, Luo and Bhattacharya (2006) and Sen and Bhattacharya (2001) suggest that CSR can create negative impact on the firm if customers believe that CSR investments are at the expense of developing product quality and innovativeness. The investment in intangibles, especially R&D, signals that the firm does not sacrifice either product quality or innovativeness for CSR. Both reasoning suggests a moderating effect between intangibles and CSR on each other's impact on firm value. The first argument describes a moderating role of CSR in the relation between intangibles and firm value while the second one portrays intangibles as the moderator of the relation between CSR and firm value. In regression terms, both arguments suggest a positive coefficient on the interaction term of CSR and intangibles.

HYPOTHESIS 2: *Impact of intangible investments on firm value depends on investors' perception of the firm's CSR and vice versa.*

On June 24, 2002, the U.S. Congress enacted the SOX and President Bush signed it into law on July 30 of the same year. The objective of the Act is to restore integrity in the financial market by reinforcing corporate accountability and improving the accuracy and reliability of corporate disclosures. Deemed one of the most expensive sections of SOX, Section 404 required CEOs and CFOs certify to the effectiveness and efficiency of their internal control system. The firm's auditor has to express an opinion on both the management's certification and the internal control. With the improvement in internal control, financial reports are supposed to be more truthfully reflect the economic performance and value of the firm. We expect this improvement in the quality of financial reports enhances the information content of the reports and investors' information environment. Further, several studies document an improvement in the quality of intangible records post-SOX. Therefore, we expect the effect of intangibles on the firm value increases post-SOX.

HYPOTHESIS 3: *The impact of intangibles on firm value increases in the post-SOX period.*

5. Methods

CSR measure

In order to test these hypotheses, we use the employee and customer satisfaction, and community relation indices provided on Business-ethics.com (http://www.business-ethics.com). Each year, the website generates a list of top 100 corporate citizens based on data provided by KLD Research and Analytics. Business-ethics.com started generating the list in year 2000. The

list is constructed based on the points a firm scores in the welfare measures of four stakeholder groups: the customer, employee, community, and stockholders. Over the years, the criteria have gradually expanded to include the welfare of seven stakeholders. However, in order to provide a consistent comparison over years, we include only the initial four stakeholder groups in our analyses. Our sample is composed of 328 observations between 2000 and 2006.

For each stakeholder group, KLD Research and Analytics identified the strengths and concerns of a firm in that area. The number of concerns was then subtracted from the number of strengths to arrive at a net score. This net score was then standardized by the mean net score of each stakeholder category. That is, KLD used the number of standard deviations a firm's scores was from the mean of each stakeholder category as a measure of the firm's points received in that category. An overall score for a firm is then computed using the unweighted average of points received in all stakeholder categories. This constitutes the overall social responsibility standing of a firm (CSR).

For the customer category, KLD examines whether the firm has a quality management program and its quality, any quality awards the firm has won, customer satisfaction measure, any customer lawsuit pending, etc. In the employee relation category, KLD considers, among other criteria, employees' wages relative to the industry, benefits, employee empowerment, family-friendly policies, and other policies the firm has in place to accommodate employees' needs. The factors considered in the community relation category includes whether the company has any foundation, community service projects, employee volunteer programs, etc.

We took the scores a firm receives in the customer, employee, and community categories from the website and rank them relative to other firms that made the top 100 list in the year ("Social Commitment Effort" in Figure 2)[7]. We use the relative ranking in each category as a

proxy for the quality of its customer, employee, and community relations. In addition, we use the overall social responsibility score a firm receives as a proxy for the general perception investors have regarding the firm or the image a firm projects to the general public ("CSR" in Figure 2).

Intangibles

In addition to CSR, we incorporate a firm's intangible assets in our analysis. The growing importance of intellectual properties in firms indicates that these intangible assets play a critical role in a firm's success. While not recorded as an asset on the financial statements, as documented in prior studies, investors do account for intangibles in their valuation of a firm. In this study, we investigate the valuation effect, if any, of these intangibles that are expensed when incurred: R&D to sales and general administrative expense to sales (a proxy for advertising). Given two firms with the same profitability, leverage, and liquidity levels, will they have different financial viability and values if intangibles constitute a larger portion of one firm's assets than that of another firm?

Financial distress and firm value

Besides a firm's "intangible" investments, we include a firm's financial distress status, a proxy for the firm's accounting-based CFP, in our analyses. This provides us with a benchmark on how much the non-financial measures contribute to the overall market value of a firm relative to the financial viability. We use the Zmijewski score (Zmijewski 1984) as a proxy for the financial distress[8]. This financial distress score measures a firm's probability of going bankrupt.

The higher the score, the higher the probability of a firm going bankrupt. The score is constructed based on a firm's profitability, liquidity, and leverage ratios as follows:

$$ZFC = -4.336 - 4.513\ (ROA) + 5.679\ (FINL) + 0.004\ (LIQ)$$

where *ROA* is the return on assets, *FINL* is the financial leverage, and *LIQ* is the liquidity measure. We use the lagged value of these ratios in computing the Zmijewski score.

To capture the effect of financial performance information (accounting-based measures) on financial distress, we use the return on assets (ratio of net income to total assets) and the net income to sales ratio to measure a firm's profitability. A firm's liquidity is again measured by two indicators: the quick ratio (the ratio of sum of cash, marketable securities, and receivables to current liabilities) and the ratio of cash to current liabilities. Leverage is measured by the ratio of total debt to total assets and the ratio of total debt to equity[9]. Finally, the market's valuation of a firm is measured by the market-to-book of assets ratio, which has been widely used in prior research (Smith and Watts 1992; Kaplan and Zingales 1997; Pava and Krausz 1996).

6. Results

We first use Partial Least Squares (PLS) to analyze our research model in order to understand the overall relation among our constructs. As our model involves multiple latent constructs with multiple indicators (see Figure 2), PLS has proven to be particularly useful in depicting the overall relationship in this case. Also, PLS imposes minimal restrictions on measurement scales, sample size, and residual distributions. The result of PLS analysis is depicted in Figure 3 and Table 1 summarizes descriptive statistics for indicators.

(Insert Table 1 about here)

Measurement Validation

The measurement model evaluates the relationship between indicators and latent constructs by assessing the reliability and validity of the scales measures. Each measure's reliability is assessed by examining the loading of the indicators on the corresponding construct. All measures have a loading level above 0.70 (see Table 2). In addition, measurement residuals are small. All loadings have the expected signs (i.e., non-negative) and are statically significant at the 0.001 level (one-tailed). Further, all constructs present a composite reliability (see, Fornell and Larcker 1981) above 0.70, the benchmark level suggested by Nunnally (1978).

(Insert Table 2 and 3 about here)

Also, convergent and discriminant validity can be evaluated within the PLS model. According to Chin (1998) and Chin, Marcolin, and Newsted (2003), convergent and discriminant validity is inferred the square root of each construct's Average Variance Extracted (AVE) is larger than its correlations with other constructs (the average variance shared between the construct and its indicators is larger than the variance shared between the construct and other constructs). Table 3 shows satisfactory discriminant validity since the square root of the AVE of each construct was much larger than any correlation between this construct and any other construct.

The CFA procedure in PLS was also performed. Convergent validity of a construct is measured by the ratio of the variance of its indicators captured by the construct to the total amount of variance ("average variance extracted" ρ_{VC}). The total amount of variance includes the variance due to measurement error. As a rule of thumb, a ratio of less than 0.50 implies the

convergent validity assumption is violated because more variance is explained by the error than the construct. In our model, average variance extracted (o_{vc}) ranges between 0.65 and 1.00, indicating satisfactory convergent validity for the constructs.

Another meaningful indicator of the fit of the model with respect to its measurement is the overall communality coefficient (in our model 0.826). This exceeds Falk's (1987) recommendation that this coefficient should be greater than 0.30. Thus, it can be concluded that the constructs are measured with sufficient precision, that is, the model is both reliable and valid.

The Structural Model

The PLS path coefficients are shown in Figure 3. Overall, our results support that investors integrate both financial and non-financial measures in their valuation of a firm. Consistent with the results in previous research, the financial distress latent variable has a significantly negative effect on the market value of companies (β_9= -0.550, $p < .01$). In other words, companies with lower financial distress are those with higher market value. Further, companies with better financial health are those with higher profitability (β_1= -0.577, $p < .01$), higher liquidity (β_2= -0.188, $p < .05$) and less leverage (β_3= 0.289, $p < .05$). However, both CSR efforts and intangibles investments did not have a significant impact on financial distress.

Apparently, our results do not support McWilliams and Siegel (2000)'s expectation regarding a positive relationship between intangible investments and CSR. We found a negative but not significant correlation among these constructs (r_7 = -.003; p < .10). A firm's investment in intangibles is negatively correlated with its profitability (r_1 = -.560; p < .01), and positively correlated with its liquidity (r_2 = .246; p < .05) and leverage (r_3 = .767; p < .05). These significant correlations implicate that investment in intangibles may provoke investors to perceive the firm

as being less liquid and has more financial risk on a firm's short-term performance[10]. However, a firm's investment in intangibles was perceived by investors as a positive signal of long-term performance (β_5= 0.221, p < .10).

Finally, a firm's efforts in meeting the needs of its various stakeholders—employees, customers, and the community—had a significant influence on the market's perception of the firm's commitment to meet its social responsibility (β_6= 0.902, p < .01; R^2 = .818), which in turn, had a significantly positive effect on the firm's market value (β_8= 0.174, p < .01; R^2 = .307). This supports our Hypothesis 1 based on the *stakeholder theory* by suggesting that firm's commitment to social activities contributes to its financial wealth. Thus, the social perception of a firm's commitment to meet CSR contributes directly to the firm's market value, rather than affecting it indirectly via the financial status of the firm.

Regression Analysis

In addition to PLS, we employ the traditional OLS regression to further analyze the relations among our constructs[11]. All the standard errors are white-adjusted for heteroscedasticity. Table 4 presents results of the regression analyses. We introduce interaction terms between a SOX dummy variable and our contextual variables to capture any change in the correlation in the post-SOX period. The SOX dummy takes on a value of 1 if the year of observation is after 2002 and 0 otherwise. Panel A presents the results for the financial distress analysis while Panel B describes those for the firm value analysis.

Results in Table 4 Panel A show that firm profitability, liquidity, and leverage are three main determinants of a firm's distress status. As expected, profitable firms with high liquidity ratios are less likely to suffer from financial distress while firms with high leverage face higher

risk of bankruptcy. The impact of SOX is not significant for most cases, except that the negative correlation between intangibles and financial distress becomes significant in the post-SOX period.

(Insert Table 4 about here)

When we examine the firm value analysis (see Table 4 Panel B), we observe a significantly positive impact of intangibles and CSR on the firm value in the pre-SOX period. Coefficient of *INTANGIBLES* is 0.099 ($p < .05$) while that of *CSR* is 0.170 ($p < .01$). This supports our first hypothesis that investors incorporate a firm's investment in CSR in firm valuation. The impact of financial distress, *Distress*, on firm value is significantly negative, a coefficient of -0.659 ($p < .01$). Further, consistent with Hypothesis 2, we observe a positive coefficient for the interaction term between intangibles and CSR, *INTANGIBLES*CSR*, supporting either a moderating role played by CSR on the relation between intangibles and firm value or a moderating role played by intangibles on the relation between CSR and firm value. We cannot differentiate which moderating relation we are observing based on these results.

Next, we investigate whether SOX has any impact on the firm value or the relation between our constructs and firm value. The interaction of SOX with intangibles, *INTANGIBLES*SOX*, takes on a significantly positive coefficient. This suggests that intangibles play a more significant role in determining firm value in the post-SOX period. One main objective of SOX is to improve corporate governance and internal control so as to enhance the accuracy and reliability of financial reporting. With this emphasis on the quality of financial reporting, the quality of intangibles is likely to improve in the post-SOX period. Investors tend to shift more weight onto intangibles when valuing a firm as the quality of intangibles improves.

The impact of CSR on firm value drops in the post-SOX period. Its effect is no longer statistically significant in the post-SOX period.

The effect of the interaction term between CSR and intangibles increases in the post-SOX period. This strengthening of the impact of the interaction term in the post-SOX period suggests that the moderating role of intangibles on the relation between CSR and firm value seems more likely an explanation for the positive coefficient of the interaction term. If CSR helps to identify firms with more efficient investment in intangibles or those with more credible intangible information, the importance of this role of CSR should drop with the improvement in the quality of intangibles. As the impact of the interaction term on firm value actually increases in the post-SOX period, this suggests that the moderating relation gets stronger in the post-SOX period. This fits better with the proposal that intangibles moderate the relation between CSR and firm value. For firms investing in both product innovation and CSR, the market views the CSR investment positively and hence appraises a higher firm value. As the quality of intangibles improves in the post-SOX period, investors can better assess their value and improves its role as a moderator between CSR and firm value. Thus, while based solely on the pre-SOX results, we cannot identify which moderating relation is supported by our empirical results, the post-SOX results suggest that the moderating role of intangibles on the CSR-firm value relation seems more likely.

7. Conclusion

Overall, our results suggest that taking into account a firm's broader societal strategies leads to a material shift in value when compared to standard financial analysis. Therefore, if social perceptions are not incorporated in strategic planning, then there is value at stake for firms that understand these issues and can adapt them to their own businesses.

This research demonstrated that there is a positive link between a firm's CSR investment and its firm value. From a strategic point of view, our study confirms that investors (1) on average positively perceive a firm's social efforts and (2) the perception of a firm's social effort increases with the firm's investment in intangibles. One explanation for this cross-sectional variation in investors' perception of CSR is that investors are concerned that firms divert their resources to CSR instead of investing in product improvement or innovation. Worse still, investors worry that firms use CSR investment as a camouflage for poor product quality. Thus, investors perceive CSR more positively for firms with significant investment in R&D and other intangible investments. With the improvement in the quality of intangible value, this moderating effect of intangibles on the correlation between CSR and firm value is even more prominent in the post-SOX period. Also, the improvement in intangible quality leads to an increase in the weight put on intangibles in firm valuation in the post-SOX period.

A limitation of this study involves the tenuous relationship between CSR and CFP due to their measurements, as well as the sample used in this study (Griffin and Mahon, 1997). In addition, much work is needed in terms of how to relate both financial and non-financial-based measures intangible assets to firms' financial performance.

Footnotes

[1] See the special issue on "Corporate Social Responsibility: Strategic Implications" in *Journal of Management Studies* (volume 43, issue 1, January 2006) and the special topic forum on "Corporations as Social Change Agents" in *Academy of Management Review* (volume 32, issue 3, July 2007). Also, see previous special research forum on "Stakeholders, Social Responsibility, and Performance" in *Academy of Management Journal* (volume 42, issue 5, October 1999).

[2] Moreover, McWilliams et al. (2006), McWilliams and Siegel (2000) and Barnett (2007) argue that the lack of consistency in previous findings may be a consequence of poor definition of the financial performance and CSR constructs, imprecision in research design, model specification biases and deficient analysis of the results.

[3] For example, the firm has an implicit contract with its customers on the quality of products and services. Customers have an implicit claim on the firm when the product does not meet quality standard (e.g. product recalls for safety concern).

[4] Peloza (2006) also suggests that corporate social activities, in terms of firm reputation, may play an important role in mitigating the potential consequences of future damaging events.

[5] Alternatively, commitment to meet stakeholders' requirements can be viewed as resources of a firm. As the *resource-based view* suggest, one should examine an organization in regards to its resources, rather than its products, and aims to identify strategic options through the exploitation and development of these resources (Barney 1991; Wernerfelt 1995).

[6] For example, Ford Motor was selected Latina Style magazine's 2004 Fifty Best Companies based on, among other criteria, its mentoring program and its relationship with the Hispanic community. This publicity can help Ford to attract better prospective employees (Greening and Turban 2000; Turban and Greening 1997), increase customer-company identification (Sen and Bhattacharya 2001) and affect customers' product attitude (Berens, van Riel, and van Bruggen 2005).

[7] Indicators for our latent variables are shown in Figure 3.

[8] Numerous accounting studies have used Zmijewski score for the recognition of financial distressed firms (e.g., Ruiz-Barbadillo et al. 2004; Johnstone and Bedard 2004; Carcello and Nagy 2004).

[9] We retrieve the financial data required from Compustat.

[10] In addition, ccorrelations among CSR efforts and profitability, liquidity and leverage were not significant.

[11] We employed latent score variables as generated by PLS.

References

Amir, E., and B. Lev. 1996. Value-relevance of nonfinancial information: The wireless communications industry. *Journal of Accounting and Economics* 22: 3-30.

Aupperle, K., A. Carroll, and J. Hatfield. 1985. An empirical examination of the relationship between corporate social responsibility and profitability. *Academy of Management Journal* 28: 446-463.

Ballou, B., N. H. Godwin, and R. B. Shortridge. 2003. Firm value and employee attitudes on workplace quality. *Accounting Horizons* 17: 329-341.

Barnett, M. L. 2007. Stakeholder influence capacity and the variability of financial returns to corporate social responsibility. *Academy of Management Review* 32: 1-50.

Barney, J. 1991. Firm resources and sustained competitive advantage. *Journal of Management* 17: 99-120.

Berens, G., C. B. M. van Riel, and G. H. van Bruggen. 2005. Corporate associations and consumer product responses: The moderating role of corporate brand dominance. *Journal of Marketing* 69: 35-48.

Berman, S., A. Wicks, S. Katha, and T. Jones. 1999. Does stakeholder orientation matter? The relationship between stakeholder management models and firm performance. *Academy of Management Journal* 42: 488-506.

Carcello, J. V., and A. L. Nagy. 2004. Audit firm tenure and fraudulent financial reporting. *Auditing: A Journal of Practice & Theory* 23: 57-71.

Chin, W. W. 1998. Issues and opinion on structural equation modeling. *MIS Quarterly* 22: 7-16.

Chin, W. W., B. L. Marcolin, and P. R. Newsted. 2003. A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic mail emotion/adoption study. *Information Systems Research* 14: 189-217.

Collins, C. J., and K. G. Smith. 2006. Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms. *Academy of Management Journal* 49: 544-560.

Cornell, B., and A. Shapiro. 1987. Corporate social responsibility and financial performance. *Academy of Management Review* 4: 497-505.

Davis, K. 1973. The case for and against business assumptions of social responsibilities. *Academy of Management Journal* 16: 312-317.

Demers, E., and B. Lev. 2001. A rude awakening: Internet shakeout in 2000. *Review of Accounting Studies* 6: 331-359.

Donaldson, T., and L. Preston. 1995. The stakeholder theory of the corporation: concepts, evidence, and implications. *Academy of Management Review* 20: 65-91.

Falk, R. F. 1987. *A primer for soft modeling*. University of California Institute of Human Development, Berkeley.

Fornell, C., and D. F. Larcker. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 18: 39-50.

Freeman, R. E. 1984. Strategic management: A stakeholder approach. Pitman, Marshfield, MA.

Greening, D. W., and D. B. Turban. 2000. Corporate social performance as a competitive advantage in attracting a quality workforce. *Business and Society* 39: 254-280.

Griffin, J. J., and J. F. Mahon. 1997. The corporate social performance and corporate financial performance debate: Twenty-five years of incomparable research, *Business and Society* 36: 5-31.

Harrison, J. S., and R.E. Freeman. 1999. Stakeholders, social responsibility, and performance: Empirical evidence and theoretical perspectives. *Academy of Management Journal* 42: 479-485.

Hill, R.P., T. Ainscough, T. Shank, and D. Manullang. 2007. Corporate social responsibility and social responsible investing: A global perspective. *Journal of Business Ethics* 70: 165-174.

Ittner, C. D. 2008. Does measuring intangibles for management purposes improve performance? A review of the evidence. *Accounting and Business Research* 38(3): 261-272.

Johnstone, K. M., and J. C. Bedard. 2004. Audit firm portfolio management decisions. *Journal of Accounting Research* 42(4): 659-690.

Jones, T. M. 1995. Instrumental Stakeholder Theory: A Synthesis of Ethics and Economics. *Academy of Management Review* 20: 404-437.

Kaplan, S., and L. Zingales. 1997. Do investment-cash flow sensitivities provide useful measures of financing constraints? *Quarterly Journal of Economics* 112: 169-215.

Kohlbeck, M., and T. D. Warfield. Unrecorded intangible assets: Abnormal earnings and valuation. *Accounting Horizons* 21(1): 23-41.

Lev, B., and P. Sarowin. 1999. The boundaries of financial reporting and how to extend them. *Journal of Accounting Research* 37(2): 353-385.

Lichtenberg, F., and D. Siegel. 1991. The impact of R&D investment on productivity: New evidence using linked R&D-LRD data. *Economic Inquiry* 29: 203-228.

Luo, X., and C. B. Bhattacharya. 2006. Corporate social responsibility, customer satisfaction, and market value. *Journal of Marketing* 70: 1-18.

Maiga, A. S., and F. A. Jacobs. 2005. Antecedents and consequences of quality performance. *Behavioral Research in Accounting* 17: 111-131.

Margolis, J. D., and J. P. Walsh. 2001. *People and profits? The search for a link between a company's social and financial performance*. Mahwah, NJ: Lawrence Erlbaum Associates.

Margolis, J. D., and J. P. Walsh. 2003. Misery loves companies: Rethinking social initiatives by business. *Administrative Science Quarterly* 48: 655-689.

Marom, I. 2006. Toward a Unified Theory of the CSP-CFP Link. *Journal of Business Ethics* 67: 191-200.

McGuire, J. B., A. Sundgren, and T. Schneeweis. 1988. Corporate social responsibility and firm financial performance. *Academy of Management Journal* 31: 854-872.

McWilliams, A., D., and P. M. Siegal. 2000. Corporate Social Responsibility and Financial Performance: Correlation or Misspecification? *Strategic Management Journal* 21: 603-609.

McWilliams, A., D., and P. M. Siegal. 2001. Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review* 26: 117-127.

McWilliams, A., D., P. M. Siegal, and D. Wright. 2006. Guest Editors' Introduction. Corporate social responsibility: Strategic Implications. *Journal of Management Studies* 43: 1-18.

Nunnally, J.C. 1978. *Psychometric Theory*. McGraw Hill, New York.

Orlitzky M., F. L. Schmidt, and S. L. Rynes. 2003. Corporate social and financial performance: A meta-analysis. *Organization Studies* 24: 403-441.

Pava, M. L., and J. Krausz. 1996. The association between corporate social-responsibility and financial performance: The paradox of social cost. *Journal of Business Ethics* 15: 321-357.

Peloza, J. 2006. Using corporate social responsibility as insurance for financial performance. *California Management Rev*iew 48, 52-72.

Porter, M. E., and M. R. Kramer. 2006. The link between competitive advantage and corporate social responsibility. *Harvard Business Review* December: 2-15.

Preston, L. E., and D. P. O'Bannon. 1997. The corporate social-financial performance relationship: A typology and analysis. *Business and Society* 36: 419-429.

Reichheld, F. 2003. The one number you need to grow. *Harvard Business Review* 81: 46-54.

Rodgers, W. 1997. *Throughput Modeling: Financial Information Used by Decision Makers*. Greenwich, CT, JAI Press.

Rodgers, W. 2003. Measurement and reporting of knowledge-based assets. *Journal of Intellectual Capital* 4: 181-190.

Rodgers, W. 2007. Problems and resolutions to future knowledge-based assets reporting. *Journal of Intellectual Capital* 8: 205-215.

Roman, R. M., S. Hayibor, and B.R. Alge. 1999. The relationship between social and financial performance: Repainting a portrait. *Business and Society* 38: 109-125.

Ruf, B. M., K. Muralidhar, R. M. Brown, J. J. Janney, and K. Paul. 2001. An empirical investigation of the relationship between change in corporate social performance and financial performance: A stakeholder theory perspective. *Journal of Business Ethics* 32: 143-156.

Ruiz-Barbadillo, E., N. Gómez-Aguilar, C. Fuentes-Barberá, and M. A. Garcí-Benau. 2004. Audit quality and the going-concern decision-making process: Spanish evidence. *European Accounting Review* 13(4): 597-620.

Russo, M. V., and P. A. Fouts. 1997. A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal* 20: 534-559.

Schuler, D. A., and M. Cording. 2006. A corporate social performance-corporate financial performance behavioral model for consumers. *Academy of Management Review* 3: 540-558.

Sen, S., and C. B. Bhattacharya. 2001. Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. *Journal of Marketing* Research 38: 225-243.

Sen. S., C. B. Bhattacharya, and D. Korschun. 2006. The role of corporate social responsibility in strengthening multiple stakeholder relationships: a field experiment. *Journal of the Academy of Marketing Science* 34: 158-166.

Smith, C., and R. Watts. 1992. The investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Financial Economics* 32: 263-292.

Sundaram, A. K., and A. C. Inkpen. 2004. The corporate objective revisited. *Organization Science* 15: 350-363.

Trueman, B., T. J. Wong, and X. J., Zhang. 2000. The eyeballs have it: Searching for the value in internet stocks. *Journal of Accounting Research* 38: 137-162.

Turban, D. B., and D. W. Greening. 1997. Corporate social performance and organizational attractiveness to prospective employees. *Academy of Management Journal* 40: 658-672.

Ullmann, A. 1985. Data in search of a theory: A critical examination of the relationships among social performance, social disclosure, and economic performance. *Academy of Management Review* 10: 540-577.

Van de Velde, E., W. Vermeir, and F. Corten. 2005. Finance and accounting: Corporate social responsibility and financial performance. *Corporate Governance* 5: 129-138.

Voss, R., and T. Gruber. 2005. Complaint handling at the Schindlerhof Hotel with praise and assessment cards. *Management Services* 49: 16-19.

Waddock, S. A., and S. B. Graves. 1997. The corporate social performance-financial performance link. *Strategic Management Journal* 18: 303-319.

Wernerfelt, B. 1984. A resource-based view of the firm. *Strategic Management Journal* 5: 171-180.

Wernerfelt, B. 1995. The resource-based view of the firm: Ten years after. *Strategic Management Journal* 16: 171-174.

Williamson, O. E. 1985. *The Economic Institutions of Capitalism*. New York: The Free Press.

Wood, D. J., and R. E. Jones. 1995. Stakeholder mismatching: a theoretical problem in empirical research on corporate social performance. *International Journal of Organizational Analysis* 3: 229-267.

Xu, B., M. L. Magnan, and P. E. Andre. 2007. The stock market valuation of R&D information in biotech firms. *Contemporary Accounting Research* 24(4): 1291-1318.

Zmijewski, M. E. 1984. Methodological issues related to the estimation of financial distress prediction models. *Journal of Accounting Research* (Supplement): 59-82.

TABLE 1

Descriptive Statistics

Indicator	Mean	Standard Deviation
Return on Assets	0.071	0.103
Net Income / Sales	0.051	0.255
Quick ratio	1.587	1.215
Cash ratio	0.498	0.478
Total debt on Assets	0.276	0.109
Total debt on Equity	1.084	0.877
R&D / sales	0.071	0.069
SG&E / sales	0.308	0.210
Community	1.308	1.606
Employee	1.306	1.433
Customer	1.069	1.292
Z-Score	-3.362	1.076
KLD score	1.126	1.046
Market-to-book of asset	2.940	1.724

TABLE 2

Measurement Model Parameter Estimates

Constructs and Indicators	Loadings	T-Statistic	Convergent Validity (ovc)	Discriminant Validity*
Profitability (Composite Reliability = 0.886)			0.797	0.11
Return on Assets	0.776	8.46		
Net Income / Sales	0.995	94.97		
Liquidity (Composite Reliability = 0.929)			0.868	0.08
Quick ratio	0.886	3.47		
Cash ratio	0.996	8.52		
Leverage (Composite Reliability = 0.898)			0.815	0.19
Total debt on Assets	0.946	57.94		
Total debt on on Equity	0.847	13.61		
Intangible Investments (Composite Reliability = 0.908)			0.831	0.04
R&D / Sales	0.904	4.07		
SG&E / Sales	0.919	6.14		
Social Commitment Effort (Composite Reliability = 0.847)			0.650	0.14
Community	0.704	19.93		
Employee	0.813	34.80		
Customer	0.889	49.40		
Financial Viability (Composite Reliability = 1.000)			1.00	0.24
Z-Score	1.00	0.00		
Corporate Social Responsibility (Composite Reliability = 1.000)			1.00	0.15
KLD score	1.00	0.00		
Investors' decisions (Composite Reliability = 1.000)			1.00	0.12
Market-to-book of asset	1.00	0.00		

* The entry in each row is the average of the squared correlations of the particular construct with all other constructs.

TABLE 3

Correlation Matrix between Latent Variables Scores

and Square root of AVE (diagonal elements)

	Profitability	Liquidity	Leverage	Intangible Investments	Corporate Social Responsibility	Social Commitment effort	Financial Distress	Market Value
Profitability	**0.892**	-	-	-	-	-	-	-
Liquidity	-0.623	**0.963**	-	-	-	-	-	-
Leverage	-0.323	-0.531	**0.902**	-	-	-	-	-
Intangible Investments	-0.546	0.247	0.314	**0.911**	-	-	-	-
Corporate Social Responsibility	0.091	-0.079	0.023	-0.112	**1.000**	-	-	-
Social Commitment effort	0.097	-0.062	0.079	-0.029	0.902	**0.806**	-	-
Financial Distress	-0.442	0.172	0.240	0.288	0.020	0.002	**1.000**	-
Market Value	0.208	-0.136	-0.005	0.052	0.162	0.122	-0.486	**1.000**

TABLE 4

Regression results using latent variable scores as generated by PLS

This table presents the results of OLS analysis of the financial distress and firm value of firms. Panel A provides the results for the financial distress analysis while Panel B describes those for the firm value analysis.

Panel A Financial distress regression

Variable	Coefficient	Std. Error	t-Statistic	p-value
Intercept	0.125	0.069	1.812	0.071
INTANGIBLES	0.394	0.403	0.976	0.330
CSR	0.003	0.068	0.044	0.965
PROFIT	-0.564	0.134	-4.201	0.000
LIQUIDITY	-0.240	0.062	-3.887	0.000
LEVERAGE	-0.212	0.284	-0.748	0.455
*INTANGIBLES*CSR*	0.288	0.125	2.310	0.022
*INTANGIBLES*SOX*	0.047	0.648	0.072	0.942
*CSR*SOX*	0.269	0.177	1.517	0.130
*PROFIT*SOX*	-0.056	0.221	-0.252	0.801
*LIQUIDITY*SOX*	0.263	0.155	1.693	0.092
*LEVERAGE*SOX*	0.394	0.464	0.850	0.396
*INTANG*CSR*SOX*	0.575	0.562	1.023	0.307
N	328			
Adjusted R-squared	0.244			

Statistical Tests:	F-statistics
1. *INTANGIBLES*+*INTANGIBLES*SOX*=0	16.84***
2. *CSR*+*CSR*SOX*=0	1.29
3. *PROFIT*+*PROFIT*SOX*=0	13.29***
4. *LIQUIDITY*+*LIQUIDITY*SOX*=0	0.49
4. *LEVERAGE*+*LEVERAGE*SOX*=0	4.99**

TABLE 4

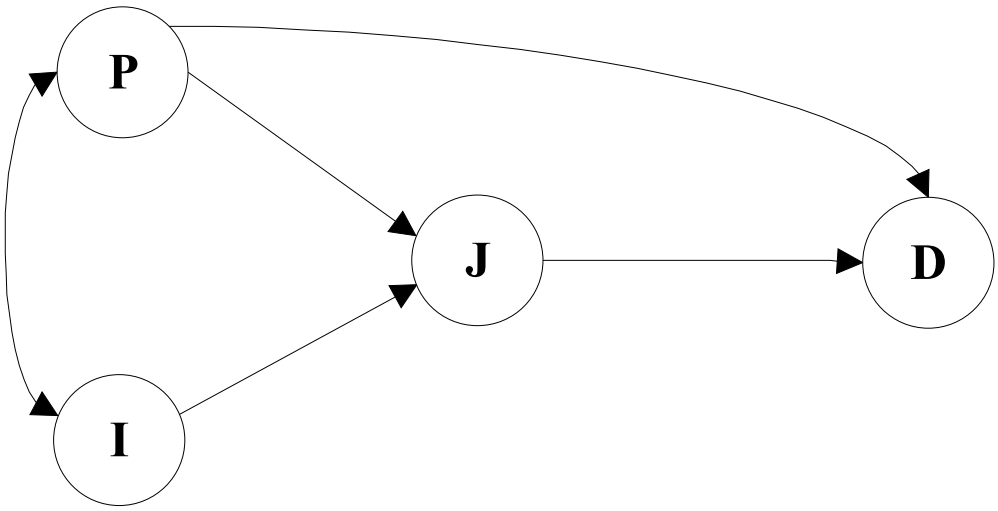
Panel B Firm value regression

Variable	Coefficient	Std. Error	t-Statistic	p-value
Intercept	0.040	0.062	0.643	0.52
INTANGIBLES	0.099	0.040	2.453	0.015
CSR	0.170	0.062	2.739	0.007
Distress	-0.659	0.086	-7.693	0.000
*INTANGIBLES*CSR*	0.065	0.029	2.261	0.024
*INTANGIBLES*SOX*	0.671	0.277	2.419	0.016
*CSR*SOX*	0.012	0.149	0.080	0.936
*Distress*SOX*	0.189	0.102	1.851	0.065
*INTANGIBLES*CSR*SOX*	0.658	0.346	1.901	0.058
N	328			
Adjusted R-squared	0.307			

Statistical Tests:	F-statistics
*1. INTANGIBLES + INTANGIBLES*SOX* = 0	16.84***
*2. CSR + CSR*SOX* = 0	1.29
*3. Distress + Distress*SOX* = 0	13.29***
*4. INTANGIBLES*CSR + INTANGIBLES *CSR*SOX = 0*	0.49
*5. INTANGIBLES + INTANGIBLES*SOX* = 0	4.99**

FIGURE 1

Decision Making Model



where P = perception of corporate social responsibility (customer, employee and community relations) and intangible investments, I =financial information (profitability, liquidity and leverage) , J = judgment (financial distress), and D = decision choice (valuation of common stock).

FIGURE 2

Investor decision-making model: Latent variables and indicators

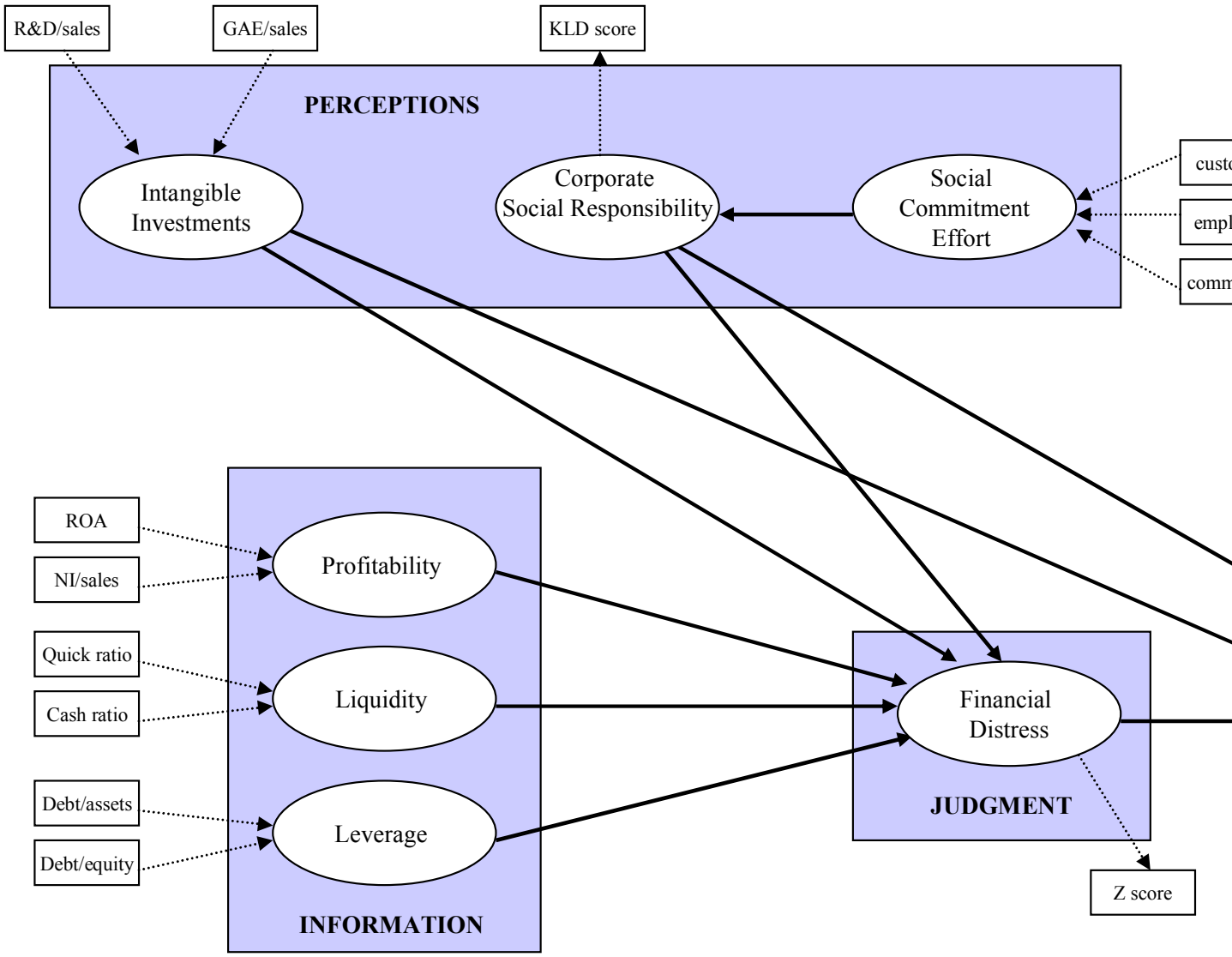


FIGURE 3

PLS results