CORPORATE SOCIAL RESPONSIBILITY AND GREATER WORKER PROTECTION: TWO SIDES OF THE SAME COIN?

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ABSTRACT

This paper evaluates whether a firm's motivation to engage in socially responsible activities (CSR) stems from a desire to mitigate downside risk (a damage mitigation model) or whether it is driven by a belief that CSR insures against negative outcomes and creates an upside advantage for firms (an insurance model). Using data drawn from more than 300 companies listed on the Toronto Stock Exchange over three reporting periods (2004-2006), we find that firms experiencing losses (downticks) in shareholder equity display subsequent improvements in overall CSR and employee relations scores that are greater than those experienced by firms with equivalent gains (upticks). These results lend support to the damage mitigation model of CSR investment and reflect perhaps the payoffs attributed to recapturing reputation, attracting/keeping top employee talent and/or increasing future sales following a negative shock specific to the firm.

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1. Introduction

"Toyota Motors, estimating that it lost 18,000 sales in the United States last month while its chief competitors enjoyed big gains, introduced [measures] Tuesday [designed] to restore consumers' confidence in its vehicles after three big recalls."

New York Times, 03/02, 2010

"In the wake of recent corporate scandals, corporate leaders need to think more rigorously about corporate responsibility – whether they like it or not. Failure to do so…will see options taken out of their hands."

Roger Martin (Dean, Rotman School of Management), 2003

The spread of Corporate Social Responsibility (CSR)[1] has been well-documented since the 1970s (Moscowitz, 1972; Abbot and Monsen, 1979; Aupperle, 1991; Caroll, 1979; McWilliams and Siegel, 2000; Mamic, 2007; Vance, 1975) and studies of the relationship between CSR and firm performance abound (Allouche and Laroche, 2005; van Beurden and Gossling, 2008). However, research on the determinants of CSR and its connection to past financial performance and broader corporate governance issues is still rather nascent (Gospel and Pendelton, 2006). The CSR literature has also placed a relatively low emphasis on firm policies towards employees. CSR is more commonly measured in terms of good governance practices, responsibility towards the environment and philanthropy to the exclusion of employee-relations outcomes. Yet, a firm's social responsibility towards its employees is an important component of its overall social responsibility. What motivates firms to engage in CSR and, especially, in their responsibility towards employees is important to achieve a better understanding of overall firm behaviour. This study uses empirical data from publicly-listed firms in Canada to address these issues.

There are two types of motivations that can be attributed to firms for engaging in CSR activity (e.g., Peloza, 2006 and Maron, 2006). One motivation comes from the belief that CSR policies insure against negative outcomes and create an upside advantage for firms. We call this the *insurance hypothesis*. The other motivation stems from a desire to manage downside risk that we call the *damage mitigation hypothesis*. The latter is more likely to happen when a firm has experienced a downturn in its financial performance. The notion that firms devote their attention to socially responsible activities only after a negative event has occurred is not new. Not only is it suggested by the quotes above, it is also reinforced by numerous examples of firms using socially responsible initiatives to repair the damage done by mistake or

[1] CSR is generally understood as a multi-dimensional construct composed of a number of activities such as good employee relations, sound corporate governance, adherence to outsourcing codes of conduct, care for the environment and the incorporation of community concerns into managerial decision-making (Waddock, 2004; Carroll, 1999).

malfeasance.[2] Surprisingly, however, very little empirical research has emerged that examines which of these two hypotheses better explains firm behaviour.

In this study, we attempt to address the gaps in the literature by testing to see if firms use socially responsible behaviour, especially towards employees, to mitigate the impact of costly mishaps. If this were the case then we might expect to see an inverse relationship between past financial performance and subsequent CSR activity, i.e., a firm-specific financial downturn would be positively related to future CSR. On the other hand, if CSR is adopted by firms in anticipation of idiosyncratic risk[3], then the relation between past performance and CSR should be positive. It is also possible that both mechanisms could be at work simultaneously, in which case we would be interested in determining which of the two effects is larger.

We use data from the Canadian Social Investment Database (CSID), which provides information on approximately 300 companies listed on the Toronto Stock Exchange (TSX). These firms have been assessed annually since 1996, on a number of CSR competencies including employee-relations policies. The database provides an *overall CSR score* for each company as well as a score for CSR sub-components including employee relations.

We carried out a variety of analyses with each result lending support for the damage mitigation hypothesis. First, when lagged changes in financial performance are grouped into three categories -- what we term 'downticks' and 'upticks' for negative and positive changes respectively and 'noticks' for changes at or below the mean of change of our sample -- we find that a financial 'downtick' produces higher subsequent period CSR scores than comparable upticks. Firms experiencing average changes (or 'noticks') respond with the lowest CSR scores of all three groups. We also find that when comparing second moments for 'notick', 'uptick' and 'downtick' firms; there is generally more uniformity in the distribution of CSR scores amongst downtick firms. This latter result is suggestive that CSR investments are seemingly being deployed as a 'default-option' by firms, used when times get tough in otherwise buoyant or stable market conditions. [4]

As a robustness check, we undertake the same analysis on two subcomponents of the overall CSR score: *employee relations* and *international human rights compliance* measures. We find that employee relations scores behave much the same as CSR (i.e., a 'downtick' period produces higher employee relations scores in the subsequent period than either 'notick' or an 'uptick' period) but that this effect does not obtain for international human rights (i.e., a downturn produces no significant change in human rights scores in the subsequent period). We argue that this can be explained by a firm's desire to implement CSR that is most visible and that can most effectively 'rebuild' any lost brand equity following a negative shock. International human rights improvements – notwithstanding their intrinsic worth – are simply harder to verify and showcase for public and market consumption than investing in something closer to home. Our estimates are also robust to inclusion of redefined 'downtick' and 'uptick'

[2] The high profile case of Nike in the mid 1990s and its many attempts to convince consumers that its products were no longer being made in sweatshops is one obvious example but less well known and now almost forgotten is the damage repair mission of Bill Gates and Microsoft following the threatened anti-trust actions of the US government in the late 1990s and early 2000s. One of the many ways in which Microsoft attempted to change its image following the near break up of its company was its investment in the Congressional Black Caucus Foundation and funding of minority scholarships - thereby engendering support from unexpected political quarters (For more see Naughton, 2004).

[3] For our purposes the terms idiosyncratic and 'firm-specific' shocks are used interchangeably in the paper. We do not observe these shocks directly but instead assume these shocks only matter if they are observed in the financial performance of the firm.

[4] In addition to the well-known cases of Nike and Toyota, this is added empirical evidence of firms mitigating the damage done by corporate scandal with increased CSR activity.

categories that exclude our third category of 'no tick' firms (firms whose market performance was at or below average for that period) and instead measure absolute positive and negative changes in financial returns. As a final check on the generalizability of our results we also measure the contemporaneous association between CSR and corporate performance and find what many in the literature have long reported, a strong and robust link between 'doing well' and 'doing good' (Waddock and Graves, 1997). Taken together, these results imply that improvements in CSR and employee relations activity appear to be part of a rational response by firms to idiosyncratic risk. Moreover, since the pure cross-sectional CSR-performance relation is strongly positive, this suggests that previous investments in CSR damage control or insurance do appear to pay off in future periods.

2. Conceptual Framework

We begin by asking the question: which firms are likely to invest in CSR? There are two arguments that can be given for why a firm would invest in CSR. The first argument is embodied in the canonical approach which can be described almost simultaneously in both normative and predictive terms[5]: firms should adopt CSR because it is a smarter way to manage that leads to positive financial returns. A stream of empirical research has emerged around questions such as: firms 'do well by doing good' (see McWilliams and Siegel, 2000; Cochran and Wood, 1984; van Beurden and Gossling, 2008); "do employee relations and CSR practices correlate positively with financial performance?" or "do good ethics lead to good business?" (van Beurden and Gosslin, 2008). The logic behind this approach is shown in Figure 1, where (1) greater CSR investments provide social benefits[6] (1a) that end up making firms more valuable either because these investments help companies manage internal risk and insure against external risk more effectively, or because investors/consumers simply value CSR investments and are willing to pay market premiums for them. Regardless of the specific channel, CSR activity eventually produces a rise in financial performance (2) which then generates the surplus (2a) funds required for sustained CSR investments in the future. We call this the *insurance hypothesis* because it captures a firm's intent to insure against poor financial performance.

[insert Figure 1 around here]

A second argument for why firms would invest in CSR can be made using the damage mitigation scenario. When market-wide conditions are generally stable and positive, any negative financial performance at the firm level (i.e., an idiosyncratic shock) stands out and calls for a discernible response. One such response could be a CSR initiative. If CSR is valued by market participants -- as efficient market theory would predict -- then this should lead to positive financial performance in the next observed period. Specifically, we posit that CSR investments are also made as a damage mitigation technique *deployed after* a firm-specific negative shock hits the firm.[7] If this were the case, then firms with prior negative shocks to financial performance would tend to have higher than average CSR scores. Naturally this channel along with the idea that CSR can act as insurance bought *to reduce* idiosyncratic risk, can coexist simultaneously.

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[5] One could speculate on the origin of this, but one reason is that the roots of corporate social responsibility (CSR) actually stretch back quite far to the beginnings of Fabien and utopian socialist thinker/industrialists such as Robert Owen and Charles Fournier who were . These were people interested in putting their ideas into practice.

[6] We are of course abstracting for the moment the complication of how one measure CSR.

[7] In short, we are interested in examining why some firms might engage in increased CSR activity while others do not. Namely, is a firm motivated to engage in CSR activities based on a desire to manage downside risk, or does CSR arise from the belief that pro-social activities create a tangible upside advantage in the first place?

Lastly, we note that although past positive financial performance does create an incentive (and a surplus) to invest in CSR, some firms may not have *enough* of a surplus to invest in CSR activity which can be costly. In such cases -- i.e., firms with positive but below-average performance relative to their competitors -- we would not expect them to invest in CSR at a significant level.

As argued in previous work (Peloza, 2006; Verma and Gomez, 2010) the CSR-as-insurance or risk management model builds on the "efficient market" hypothesis by arguing that when financial participants value a firm they factor in the risk posed by various internal and external threats. To the extent that the absence (presence) of certain socially responsible organizational policies increases (decreases) those risks, markets reward or punish the firm by discounting their valuation proportionately. As an example, if a lack of quality control exposes a company to lawsuits, the market would discount the value of the firm by the amount for which it may be held liable. This 'efficiency' effect can of course work in tandem with the damage control/risk-mitigation rationale for CSR. A firm may strengthen investments in quality control following a bad performance period to mitigate damage (e.g., to counteract the lost goodwill generated by a product defect) but it would also gain from the efficiency effects generated by institutionalizing these policies as insurance against future threats.

Several assumptions underpin the conceptual model depicted here and anticipate specific predictions made in the paper. Our first assumption is that both the insurance and risk mitigation models of CSR activity work best for publicly-traded firms that are based in countries with an active business press culture, an independent trade union movement and financial oversight, where visibility matters and where negative news can have a tractable effect on share prices. These effects are therefore manifest on components of CSR that are themselves also the most visible to market participants such as good employee relations rather than something harder to observe and track such as international human rights compliance.

Our second assumption is that the risk mitigation model of CSR activity is best tested in 'good economic times' when financial markets are secularly rising or stable and macroeconomic conditions are also growing or stable. In such environments idiosyncratic shocks will be more visible to financial market participants. We do not observe these shocks directly but instead assume these shocks only matter if they are observed by financial market participants and have an effect on the financial performance of the firm, which we can observe.

Our final assumption is that during generally buoyant market conditions, firms which experience a negative change in financial performance (i.e., 'downtick' firms) are distinct from firms that experience average changes ('no tick') and those with above average financial performance (i.e., 'uptick' firms).

a.The Basic Model

Our discussion above suggests a curvilinear relationship between change in financial performance and CSR investments. If firms use CSR to mitigate 'downside risk', then past (negative) changes in financial performance, attributed to previous firm-specific negative (positive) shocks, should lead to positive (negative) future period CSR investments. If, on the other hand, firms believe that CSR activities reduce the likelihood of negative shocks and provide tangible upside advantages that are recognized by financial participants, then past financial performance should not be related to CSR activity in an inverse fashion.[8] If anything, we expect better than average past financial performance to release 'surplus' funds that can

[8] Consistent with this basic premise is the idea that market-wide shocks should have no differential effects on CSR investments either.

then be invested in greater CSR down the road (as depicted in channel 2 of Figure 1). The contrast (or treatment group) is with those firms whose financial performance is at or below the average. This group is expected to have the least sensitivity of lagged financial performance relative to CSR. This sets up the potential for a non-linear relationship between CSR and past financial performance.

The logic above is depicted in Figure 2, where changes in financial performance and subsequent CSR activity are inversely related between regions A-B, after which, in a region of above average financial performance, C-D, the relationship turns positive again. The implication is that CSR will be lowest in region B-C where changes in financial performance are at or below average and hence the incentives for CSR damage mitigation or insurance purchase are lowest as well.

[insert Figure 2 around here]

Our approach, therefore, is consistent with the typical efficient market hypothesis of a positive cross-sectional link between high performing firms and high levels of CSR activity. However, the model advanced here provides another rationale for this well known finding -- i.e., the CSR as insurance mechanism -- and makes an important new claim that is not anticipated by standard efficient market theory: namely, that negative changes in financial performance can produce, on average, even greater CSR activity in subsequent periods (i.e., the CSR as damage mitigation mechanism).

To summarise, we expect lagged financial performance changes of lowest (downticks) and highest orders (upticks) to result in greatest CSR activity, while intermediate changes (noticks) in financial performance should be associated with the least amount of CSR activity. Furthermore, when comparing the tails of the financial performance distribution, firms facing negative changes in financial value will have the greatest incentive to respond with CSR improvements and hence we expect that relationship to be stronger than for firms with above average returns. Certainly firms in the upper reaches of the positive zone will have an increased capacity to invest in CSR as a form of insurance, but one can always postpone buying insurance whereas a crisis situation involving financial losses typically calls for more immediate responses. This lack of symmetry is depicted in Figure 2 whereby the negative range produces higher CSR scores than the equivalent region of gains.

3. Empirical Framework

a. Data and Measures of CSR

The Canadian Social Investment Database (CSID) provides environmental, social, employee and governance performance measures for approximately 300 companies and income trusts in Canada, including all the constituents' of the S&P/TSX Composite Index.[9] Company CSR performance is evaluated using up to 100 industry and company specific Risk/Opportunity indicators. Users of the CSID can compare performance across a range of stakeholder issues at the company, industry, sector and/or portfolio level.

The CSID dataset is provided by Sustainalytics, whose framework for tracking and reporting corporate social and environmental performance includes a comprehensive set of indicators based largely on the Clarkson stakeholder model (Clarkson 1991, 1995). The database is created by performing CSR audits of company annual reports and analyzing thousands of media items in order to determine CSR strengths and weaknesses for each

[9] The database was founded by the Jantzi Corporation which began publishing the Jantzi Social Index (JSI) in 2000. In 2009, the Jantzi Corp merged with Europe-based, Sustainalytics (www.sustainalytics.com).

company. These data are then translated into a standardized comparable score in each area of CSR activity.

The overall CSR score indicator used in our paper is a weighted average of scores drawn from the following focus areas:

1. Employee Relations
2. Environment
3. Corporate Governance
4. Community and Society
5. International Human Rights

Each of these five areas has sub-components or indicators addressing, depending on the area, such items as management systems, reporting, programs and initiatives, and other social performance data. A company which displays strength in all its indicators and no weaknesses for a given CSR component would therefore be scoring 'high' in that area of CSR.[10]

There is therefore an overall CSR score and also scores for each area of CSR activity. In this paper we use the overall CSR scores and contrast the employee relations score data with the human rights score. Each score, which can take on a value of 1 to 10, is arrived at from a weighting of indicators. The employee relations score include: i) *Work/Family Balance*: The Company has outstanding benefit programs to help employees balance their work and family responsibilities; ii) *Diversity Management Systems and Programs*: The Company has exceptional programs to encourage the hiring and promotion of women, visible minorities, or other traditionally disadvantaged groups; iii) *Women on the Board:* Women hold 15 percent or more of the seats on the company's board of directors; iv) *Women Among Senior Officers:* Women account for 25 percent or more of the company's senior officers; and v) *Union Relations*: The Company has exceptionally positive relations with its unionized employees.

For human rights activity which includes international labor standards and supply-chain management practices, the scores are derived from whether: i) *The company has implemented or participates in credible and independently monitored mechanisms to ensure that its suppliers and subcontractors are not engaged in unfair or abusive labour practices*; and whether ii) *Upholding international labor standards is a priority in sourcing in the company*.

These data are of course subject to the usual caveats; namely, that although a useful comparative tool, the CSID scoring data should be interpreted with caution. Many of the areas of interest to investigators are complex, and CSR performance is always very difficult to quantify and therefore should not be viewed as representing socially responsible behaviour performance precisely. However, if there is an increase in CSR activity after a negative/positive change to firm financial performance, we are assuming that the CSID dataset is able to pick up this change in its CSR scoring criteria. If there are problems in observing 'true' CSR with scoring data, we assume these measurement problems affect all groups of firms (i.e., those with negative shocks, average returns and above average financial returns) so comparisons of the relative differences between downtick and uptick firms are still informative.

b. Data and Measures of Financial Performance

[10] When evaluating companies, CSR scores are assigned at the micro-level of indicators. For each indicator, Jantzi Research assigns a score for each company, which is then normalized between zero and one. The weighted average of the scores for a group of indicators at a given level in the hierarchy is calculated to produce a score for the next level up, and so on up the hierarchy to produce a total score for each focus area and an overall score for the company.

Financial performance data were obtained from Toronto Stock Exchange (TSX) financial indicators database and then merged with the CSID by firm and by year. We use three periods of financial performance data (2003-2004, 2004-2005, and 2005- 2006) in order to match to our CSR score data. As depicted in Figure 3, this period does correspond to a unique window of low market volatility and secularly rising stock evaluations, thus providing a natural experiment of sorts to test the effect of idiosyncratic negative shocks on firm CSR outcomes.

[insert Figure 3 around here]

Financial value of the firm is measured by total shareholder equity. From this we create two versions of our lagged financial performance variable. One is a continuous measure, which simply measures the lagged financial losses/gains over a given reporting period and the second is a set of mutually exclusive dichotomous measures, which we categorize as 'downtick', 'uptick' and 'notick' dummy variables. These variables, respectively, take on the value 1 and zero otherwise if: a firm has lost value over a given year (downtick), gained above average value over a given year (uptick); or has had zero-to-below the average change in financial value over a given year (notick). These three indicators sum to 1 and therefore form a mutually exclusive set.

c. Descriptive Statistics

Table 1 presents some summary statistics on the characteristics of the data in the sample years. In calculating lagged changes in financial performance we take the difference in shareholder equity between two financial reporting years. As negative values cannot be logged, we leave these values in their dollar (in millions) value figures and transform them into percentage changes by dividing the one-year change over the initial value. For firms that drop out of either the TSX 300 or fail to report financial performance in consecutive years they drop out of the sample and are entered as missing from the sample.

[insert Table 1 around here]

The data on head office location, firm size, and sector are based on the TSX sample that includes all firms appearing at any point in time in the CSID database. Because the CSR, employee relations and human rights score outcomes are constructed from firms reporting consecutively each of the three years, the sample is effectively constrained by this number (581 observations) as well as the lagged financial performance sample, which reduces observations by an additional sample period (377 observations). Missing data on key controls further reduces our sample when the model is fully specified.

Of note in Table 1 are the first four rows where the overall mean and variance of CSR scores are measured for the full sample plus the subsamples of downtick, uptick and notick firms. The pattern hypothesized in figure 2 emerges quite clearly in column 1, rows 2 through 4. CSR scores are highest at the negative (5.38) and positive tails (5.10) of the lagged financial change distribution and lowest in the middle (4.77). The min-max measures of inequality also indicate that the distribution of scores is less extreme in the downtick group than in the notick or uptick groups respectively.

4. Analysis and Results

a. Analysis of Changes in Financial Performance and CSR Scores

The empirical basis for this paper stems from the ability to estimate associations between past changes in financial performance and subsequent CSR scores across firms. This can be expressed in a simple regression model of the form:

[1] $CSR_Score_{it} = a_{it} + \beta_1 Downtick_{it-1} + \beta_2 Uptick_{it-1} + \beta_3 Controls_{it} + u_{it}$,

where the *CSR score* for firm *i* at time *t* is estimated against a lagged indicator of financial performance capturing negative changes (downticks), above average changes (upticks) and zero-to-below average changes (notick dummy) acting as the excluded reference category. There is an error term:

$$u_{it} = v_i + e_{it},$$

composed of a firm-specific v_i permanent factor as well as the purely random error e_{it}, component. Estimation results for various versions of equation [1] are presented in the results to follow, but our expectation is that β_1 and β_2 will be positive in all specifications if the damage mitigation and insurance mechanisms of CSR are at work. This specification also allows us to compare β_1 and β_2 in order to see if damage mitigation is a stronger/weaker motive for CSR activity than the insurance model.

As control variables we include sector dummies, head-office location, time, total log financial value and firm size as measured by total log revenue. The sector dummies (which include retail and consumer goods companies), head-office location, firm size and total log financial value are meant to pick up *i)* any potential correlation between companies with greater incentives to insure or mitigate against CSR damage (i.e., a consumer company presumably has more to lose by not investing CSR than less well known trading or supply company), and *ii)* the average level of financial returns to a company from doing so.

Estimation results for equation [1] are presented in Table 2, columns 1 through 4. We begin with the estimated OLS results where we expect to find a positive co-efficient for both downtick and uptick dummies if firms use the risk mitigation and insurance models of CSR investment.

[insert Table 2 around here]

As can be seen in columns (1) and (2), downtick significance remains strong both alone and with the introduction of controls. The downtick and uptick dummy coefficients in column (2) can therefore be treated as the adjusted differences in overall CSR scores with respect to notick firms and they can be compared to the unadjusted differences in CSR score activity found in column (1). The unadjusted differences were 0.617 and 0.333 and as such present the upper bound estimates of the CSR score difference between negative (downtick) and above average financial value changes (uptick) with respect to average change (notick) firms. They show that the point estimate of a negative shock on subsequent CSR scores is roughly double that of an above average change in firm value. Our adjusted estimates suggest that when we control for such variables as firm size and market value of firm, the downtick dummy is more than halved in value (0.617 to 0.218) but remains significant while the uptick dummy turns negative and becomes insignificant. This is a validation of the damage mitigation model but does not necessarily represent a repudiation of the insurance model since the coefficient (not reported) on the log financial value of the firm is highly positive (0.332) and significant (with a t-stat of 9.58 respectively), suggesting that firms with more to 'lose' insure against risk with higher CSR investments.

An issue for the specification is whether one should allow company fixed-effects to capture any permanent firm-specific factors that account for differences in the mean (adjusted) CSR scores between downtick and uptick firms. If we control for fixed effects we are now looking *within* as opposed to *across* firms for the effect of downticks or upticks on CSR scores. Columns (3) and (4) in Table 2, where fixed effects estimates are applied to equation [1], show that the inverse relationship predicted by the default model of risk mitigation by firms appears to hold and is still significant in the presence of observed firm controls. The difference in the

downtick coefficient is considerably smaller, however, at 0.097 (half the size of the adjusted OLS coefficient) and our uptick dummy, though it remains positive, is not robust to the inclusion of firm-specific controls. Total shareholder equity (not reported), does remain robust and retains a point estimate (e.g., 0.349) very close to the adjusted OLS estimate of 0.332.[11]

One reason for the dramatically reduced impacts, of course, is that with only three periods, a set of dummy variables capturing past financial performance and an unbalanced panel, the amount of within firm variation is just too small to capture meaningful fixed effect estimates. A better solution, perhaps, is to use the entire sample but to cluster the standard errors around our three firm subgroups as this would permit an examination of the sensitivity of changes in financial performance and CSR produced by all firms (Froot, 1989). However, because we would be clustering around our three subgroups we would have to capture the change in financial value as a continuous measure which, as depicted in figure 2, would have to control for the fact that CSR scores are highest at the tails of the performance change distribution. A quadratic estimate using the square of lagged financial performance change, as in equation [3] below, is therefore employed to capture the non-linear specification:

$$[2] \quad CSR_Score_{it} = a_{it} + \beta_1 \Delta\, Financial\ Performance_{it-1} + \beta_2 [\Delta\, Financial\ Performance_{it-1}]^2 + \beta_3\, Controls_{it} + u_{it}.$$

In this same regard, we could also examine the relation between CSR scores and lagged financial changes separately for all three subsamples using an equation of the form:

$$[3] \quad CSR_Score^j_{it} = a_{it} + \beta_1 \Delta\, \%\, Financial\ Performance^j_{it-1} + \beta_2\, Controls^j_{it} + u^j_{it},$$

where all variables are measured as in model [1] except that we use our continuous measure of financial performance change, $\Delta\, \%\, Financial\ Performance_{ijt-1}$. We now conduct separate estimates across subsamples of firms, where superscript *j* captures our three (uptick, downtick and notick) groups. We interpret this model as a test of whether the relationship between CSR and lagged financial performance is an 'average effect' dominated by whether firms have a downtick or uptick episode, or if the relationship is sensitive to the magnitude of those changes within groups. If there are no differences across firms that experience negative, average, or above average financial changes, then the coefficients on β_1 -- the lagged change in financial performance -- will not be significantly different from zero in all three groups. However, based on our categorical estimates above and our hypothesised relations in figure 2, we do not expect this to be the case and instead expect to see β_1 coefficients to be highest in the uptick and downtick subsamples.

The results of estimating models [2] and [3] can be found in Table 3 columns (1) through (5). The first columns (1 and 2) of Table 3 show that there is indeed a U-shaped relation between lag changes in financial value and subsequent CSR activity as measured by our CSR scoring data. The coefficient on our lagged change variable is negative while the squared term is positive (indicative of a U-shaped relation), and this remains so once controls are added to our specification in column (2). The bottom range of our CSR score and financial performance relationship (using 95 confidence intervals) appears to occur for changes in financial value between 0 and 7 percent with the point estimate of a 3.5 percent increase occupying the turning point. This is surprisingly close to the hypothesised relationship depicted in figure 2.

[insert Table 3 around here]

[11] In this specification changes in uptick, downtick or uptick 'categories' are being measured as the key independent variable. This makes it somewhat harder to interpret as they would represent changes-in-changes.

In columns (3) to (5) the subgroup analysis of model [3] reveals that the greatest sensitivity between CSR scores and past financial performance appears in negative performing (downtick) firms. Above average firms (uptick) having a statistically zero relation between lagged financial performance change and CSR scores.

Firms, it seems, are not only prepared to repair the damage done by negative financial shocks (as evidenced by our downtick dummy) but appear to increase their CSR investments as the scale of the loss widens. For example, amongst downtick firms, our results show that a 10 percent drop in financial value increases CSR scores by 0.091, whereas for uptick firms the equivalent positive change produces a .003 fall in overall CSR scores (though the change is not significant). Amongst notick firms, the coefficient is -.0.51 and statistically significant, suggesting that a 10 percent rise within average performing firms, reduces CSR scores by .051.

b. Are Negative Financial Returns Associated with More Uniform CSR Scores?

The next most important issue for understanding how lagged financial performance can affect subsequent CSR activity is the variability of responses within the two groups of 'uptick' and 'downtick' firms. Comparisons across these two groups are potentially very useful because the conceptual framework – in particular the risk mitigation theory of CSR investment -- predicts greater uniformity of CSR response among firms experiencing a negative financial shock (a downtick) as opposed to responses of firms with average (notick) or above average positive financial changes (an uptick).

If there is an important degree of differential average response by firms, this would be picked up in both the *mean* and *variance* of subsequent CSR scores. In other words, we would expect that the relative mean scores for overall CSR activity should be higher *and* accompanied by a *lower variance/range* amongst downtick companies. To address this second possibility, we compare the variance of CSR scoring data between notick, downtick and uptick firms.

Table 4 reveals that there is some evidence of more uniformity in CSR responses in downtick than amongst uptick firms. The coefficient of variation for all years in Table 4 clearly shows less dispersion amongst firms that experienced negative shocks than for those with above average positive changes in financial performance. Other measures of variance such as the 90/10 ratio in column two and the range in column three illustrate the greater dispersion amongst uptick firms and greater uniformity of CSR response in downtick firms. There is consistently wider variation in CSR scores across companies in the uptick category than amongst downtick firms. Notick firms seem to fall somewhere in between.

[insert Table 4 around here]

c. Alternative Specifications and Robustness Checks

In Table 2 all the specifications pointed to a similar conclusion; this is that firms experiencing a negative change in their financial performance experience, other things constant, significantly improved CSR scores as compared to firms facing zero-to-below average changes.

As a sensitivity test we look at whether this response emerges amongst subcomponents of the overall CSR score. In Table 5 we find that the magnitude of responses is larger for the employee relations component than that of the overall CSR score. This finding is similar whether controls are added to the model or not (columns 1 and 2), and whether the model is estimated by OLS or fixed effects (columns 3 and 4). This is not surprising given that *more visible* aspects of CSR activity, such as employee relations, would receive differential attention by firms wishing to improve their reputation following a negative firm-specific financial shock.

[insert Table 5 around here]

By way of contrast, in columns 5 through 8, we find that for components of CSR activity that may be *less visible* to outside market observers, in this case international human rights activity, the relationships between lagged changes in financial performance and subsequent CSR scores are rather weak and non significant. Thus, as predicted by the conceptual framework, less visible aspects of CSR activity are less likely to be the focus of firms affected by negative idiosyncratic shocks.

Next, in Table 6 columns (1) and (4), we use the same estimation models found in table 2 but adjust our definition of 'uptick' and 'downtick' firms by excluding our third category of 'no change' firms. Our uptick and downtick firms in these estimates therefore represent absolute changes in either direction rather than dummies based on greater than average positive and negative changes respectively. The results illustrate that the risk mitigation model (i.e., firms invest in CSR when a negative firm specific shock hits the firm) as opposed to the traditional market efficiency argument (i.e., firms with surplus funds invest in CSR) is confirmed in this alternative specification. Downtick firms are more likely to display positive increases in CSR when compared to a group of firms who experience any positive changes (average or above average) in financial performance.

[insert Table 6 around here]

Finally, how generalizable are these results to other publicly listed firms and the general CSR literature? One way of addressing that question is to undertake a descriptive regression of the relation between current financial outcomes and CSR. Table 7, Columns (1) and (2) show the traditionally estimated cross-sectional relationship between CSR activity and financial performance with columns (3) and (4) adjusting OLS with fixed effect estimates. The results confirming a positive relationship between CSR scores and contemporaneous financial performance remain robust to both specification and estimation techniques. [12]

[insert Table 7 around here]

5. Interpretation of Results

The main estimates in section 4 strongly support the conclusion that firms' motivation to engage in CSR activities does appear, on average, to stem from a desire to mitigate downside damage and risk to firm reputation. This was confirmed with estimations using OLS and fixed effects as well by working with differing measures of CSR activity and estimation methods. The more visible a CSR area the more likely the risk mitigation effect would be at work and hence stronger correlations were expected. This proved to be the case as did our prediction that if CSR acts as a mitigation default option following some negative financial shock, we would expect to see more uniformity in the CSR scores of 'downtick' firms than amongst 'uptick' or 'notick' ones. Again we found this to be the case for overall CSR scores and employee relations scores but not for human rights scores (i.e., the harder-to-observe component of CSR behaviour). The insurance view of CSR activity found some support as well, given that the market value of the firm correlated positively and robustly across all specifications with CSR

[12] As reported before, given that the total market value of the firms is positively correlated with CSR scores, suggests that large firms with reputations to protect invest more in CSR than firms with smaller market valuations. Consumer oriented companies also have a greater CSR score relationship as compared to other sectors. These findings are in keeping with our basic model and lend credence to our findings for downtick firms.

activity. It would appear that firms with more resources and with more to lose have a greater incentive to invest in CSR.

The evidence therefore suggests that CSR is not only an investment made by firms to improve financial valuations but that firms use CSR to mitigate the fallout from (often unforeseen) damaging events. We have fit many different versions of the model in equation [1], including specifications using overall CSR, employee relations and human rights scores. The first two of these sets of specifications yield estimates of the inverse relationship between lagged changes in financial performance and subsequent CSR scores and the third shows that when it comes to a less visible component of CSR, the relationship disappears.

We also ran a series of robustness checks in Tables 5, 6 and 7 to see if the results were sensitive to our definition of 'uptick' and 'downtick' firms. We found that when we recoded our data to exclude 'no-tick firms' – i.e., firms whose financial performance from year-to-year was within the mean change – the results remained significant and qualitatively the same for our overall score estimations.

6. Conclusion

This paper has provided an overview and synthesis of existing knowledge on the relationship between overall CSR and the financial performance of firms, focusing on evidence from cross-firm comparisons in Canada's largest publicly listed exchange –i.e., the TSX. We also looked in some detail at the employee relations outcomes and international human rights conduct of firms. We found that firms experiencing dips in shareholder equity (downticks) appear to invest more in improving overall CSR and (domestic) labor conditions in the subsequent period, reflecting perhaps the payoffs attributed to recapturing firm reputation, attracting/keeping top employee talent and/or increasing future sales. However, this improvement seems to come at a cost in that there are no (significantly) similar improvements in human rights/international labour standard compliance. Likewise this evidence suggest that firms experiencing positive changes to financial returns, on average, invest less in CSR improvements in future periods, and that this effect disappears when controls are added. If the group of positive change firms is split into a group of at-or-below average performers (noticks) and above average performers (upticks), the notick group displays the lowest performance of all three groups in the sample.

In the paper we explain these findings using a model of corporate behaviour where CSR acts as either a risk mitigation or insurance mechanism. In particular, the model showed how negative firm-specific shocks in financial performance during otherwise good economic times (observed in our data) differ from negative returns faced during economic-wide downturns. Our model predicts that idiosyncratic shocks exert differential corporate responses in overall CSR conduct. The idea is that during economy-wide periods of crisis -- when financial performance is negative for everyone -- firms feel less pressured to invest in CSR and in particular less inclined to improve more visible components of CSR such as domestic labour conditions. However, when macro-economic conditions are generally good, any negative financial performance stands out and calls for a visible response in the form of improved CSR components such as those found in employee relations outcomes. By implication, the pressure of maintaining profitability during good-times creates a trade-off for the firm in the form of reduced investments in the hard-to-monitor aspects of corporate behavior (in this case, lower levels of international supply chain management/human rights compliance).

Together these results imply that the impacts of improved CSR outcomes on the financial performance of firms can be quite large since the pure cross-sectional effect is strongly positive, suggesting that previous investments in CSR damage control appear to pay-

off in the future period. Downtick firms – i.e., those that encounter a firm-specific ‘negative financial shock’ – also were found to display less variance with respect to CSR investments than did firms experiencing positive financial outcomes suggesting a ‘default’ response to CSR is at work.

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Figure 1: The Traditional CSR-Financial Performance Positive Feedback Loop

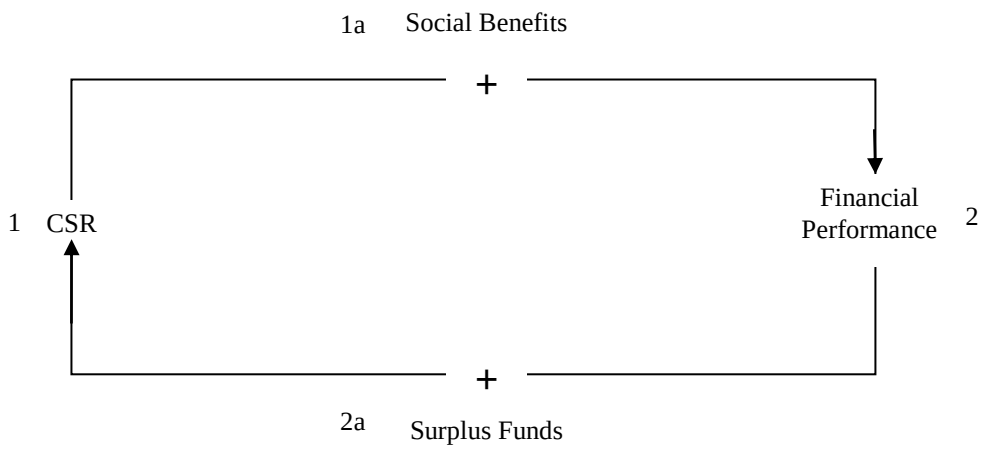

Figure 2: Hypothetical Relationship between Past Financial Performance and CSR Activity

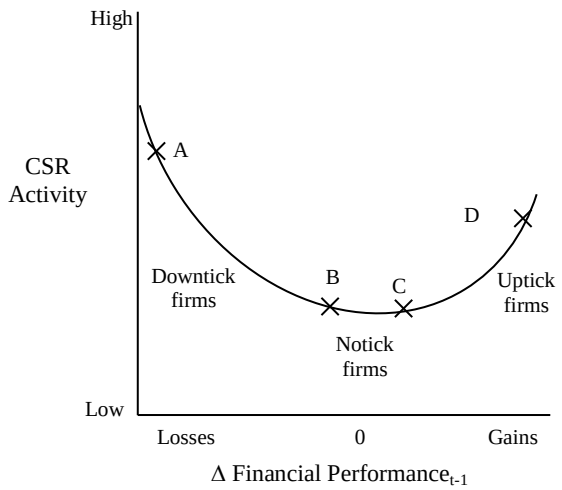

Figure 3: Toronto Stock Exchange (S&P 300) Index: 1999-2009

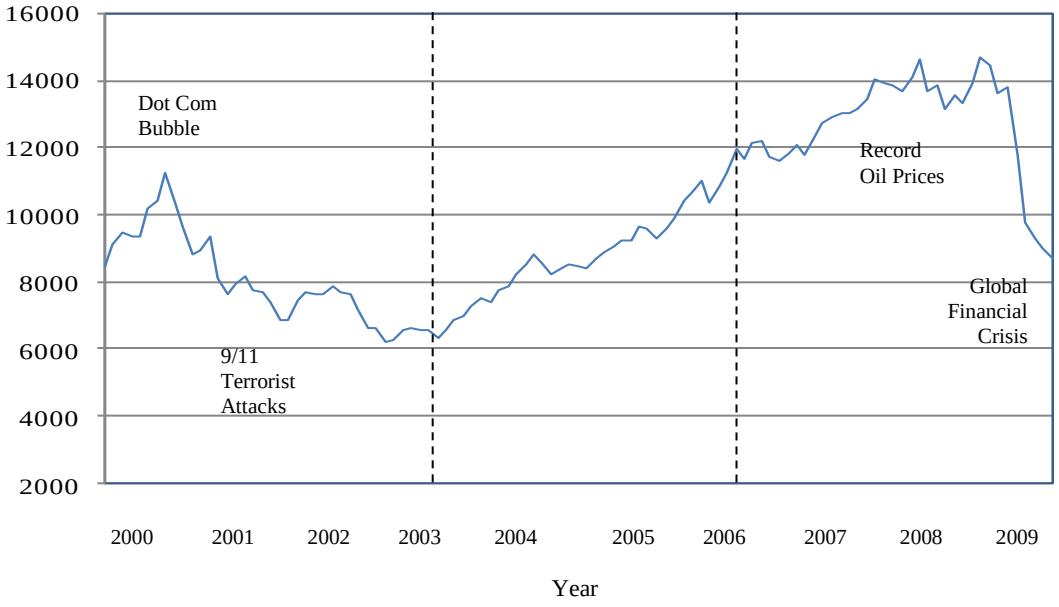

Table 1: Characteristics of Sample Variables

	Mean	S.D	Min	Max
1. Overall CSR Score (All firms)	4.95	0.79	2.87	7.23
1.2. Overall CSR Score (Downtick Firms)	5.38	0.85	3.84	7.05
1.3. Overall CSR Score (Uptick Firms)	5.10	0.87	3.56	7.18
1.4. Overall CSR Score (Notick Firms)	4.77	0.67	2.87	7.23
2. Employees Relations Score	4.29	1.08	1.84	7.16
3. Int'l Human Rights Score	4.10	1.09	0	7.61
4.1 Yearly Negative Lagged Financial Performance Change(Downtick Dummy)	0.27	--	0	1
4.2 Yearly Above Average Lagged Financial Performance Change (Uptick Dummy)	0.26	--	0	1
4.3 Yearly Zero-to-Average Lagged Financial Performance Change (Notick Dummy)	0.45	--	0	1
5. Yearly Lagged Change in Financial Performance (Δ Shareholder Equity percent)	0.24	0.64	-0.78	4.41
6. Firm Market Value (Log of Total Shareholder Equity)	20.16	1.46	13.78	24.96
7. Firm Size (Log of Total Revenue)	20.35	2.00	8.98	25.31
8. Consumer Retail Dummy	0.10	--	0	1
9. Consumer Goods Dummy	0.06	--	0	1
10. Head Office (Ontario)	0.35	--	0	1
11. Head Office (Nfnd)	0.04	0.06	0	1
12. Head Office (Nova Scotia)	0.02	--	0	1
13. Head Office (Sask)	0.02	--	0	1
14. Head Office (Alberta)	0.26	--	0	1
15. Head Office (Manitoba)	0.02	--	0	1
16. Head Office (BC)	0.13	--	0	1
17. Year 2004 Dummy	0.35	--	0	1
18. Year 2005 Dummy	0.29	--	0	1
19. Year 2006 Dummy	0.34	--	0	1

Table 2: Estimated Models for CSR Score Difference between Downtick, Uptick and Notick Firms

	Dependent Variable: Overall CSR Score			
	OLS Estimates		Fixed Effects Estimates	
	(1)	(2)	(3)	(4)
1. Lagged Change in Financial Performance [Notick Dummy]				
Downtick Dummy	.617***	.223**	.013	.097*
	(4.15)	(2.23)	(0.31)	(1.78)
Uptick Dummy	.334***	-.126	.162***	.031
	(3.85)	(-1.16)	(3.75)	(0.72)
2. Controls for Firm Size (Log Total Revenue), Market Value of Firm (Log Total Shareholder Equity), Province Head office Dummy, Year Dummies, Consumer Sector Dummy.	No	Yes	No	Yes
3. Constant	4.77***	-1.72**	4.90**	-2.34***
	(2.78)	(1.99)	(2.34)	(2.87)
4. R-squared	.069	.294	.077	.268
5. Observations	377	339	377	339

Notes: T-stats in parentheses. All models estimated on unbalanced panel of TSX publicly listed firms for the period 2004-2006. Dependent variable is the Overall CSR Score. Downtick Dummy is based on firms with a lagged negative year-to-year change in financial performance as measured using changes in Total Shareholder Equity. Uptick Dummy is based on firms with above average lagged year-to-year change in financial performance as measured using changes in Total Shareholder Equity. Notick Dummy is based on firms with zero to below average lagged year-to-year positive changes in financial performance as measured using changes in Total Shareholder Equity. In columns 3-4 time-invariant dummies for province head office and sector drop out of estimation. The *** represents significance at 1%, **represents significance at 5%, and *represent significance at 10% levels respectively.

Table 3: Estimated Models for CSR Score and Continuous Measures of Lagged Financial Performance Change

	Dependent Variable: Overall CSR Score				
	OLS Estimates				
	All Firms		Downtick Firms Only^	Notick Firms Only	Uptick Firms Only
	(1)	(2)	(3)	(4)	(5)
1. Lagged Change in Total Shareholder Equity	-.388*	-.608**	.906*	-.506**	-.034
	(-1.71)	(-8.84)	(1.83)	(-2.35)	(-0.45)
2. Lagged Change in Total Shareholder Equity*Squared	.054	.141**	--	--	--
	(1.23)	(7.13)			
3. Controls for Firm Size (Log Total Revenue), Province Head office Dummy, Year Dummies, and Sector Dummy.	No	Yes	Yes	Yes	Yes
4. Constant	5.01***	-1.14***	-0.46*	-0.63**	-4.209**
	(2.90)	(2.19)	(1.78)	(1.90)	(2.90)
5. Clustered S.E	Yes	Yes	No	No	No
6. R-squared	.03	.32	.27	.24	.35
7. Observations	377	339	79	143	121

Notes: T-stats in parentheses. All models estimated on unbalanced panel of TSX publicly listed firms for the period 2004-2006. Dependent variable is the Overall CSR Score. Downtick, Notick and Uptick firm sub-sample estimates are based on definitions of firms found in Table 1 notes. Lagged change in total shareholder equity is the year-to-year change (expressed as a share of initial value or percent terms). In columns 3-5 estimates occur on the sub-sample of firms listed in the columns and no clustering of standard errors therefore occurs.^ Percent changes in the downtick subsample are transformed to absolute value. The *** represents significance at 1%, **represents significance at 5%, and *represent significance at 10% levels respectively.

Table 4: Differences in Variance of CSR Scores between Notick, Uptick and Downtick Firms

		Variance in CSR Scores 2004-2006			
		Coefficient of variation	90/10 Ratio	Range	Mean
Overall CSR Score by	1. Downtick Firms	0.158	1.51	3.23	5.38
	2. Uptick Firms	0.170	1.56	3.62	5.10
	3. Notick Firms	0.149	1.41	4.35	4.77
	4. Difference [1-2]	-0.012	-0.05	-0.39	0.28
	5. Difference [1-3]	0.021	0.15	-0.73	0.33

Notes: Samples include all firms without missing values on CSR score that entered our regression estimates (n=377). CSR score maximum in data was 7.23. Residual CSR score variance is based on linear prediction models, fit separately by year, firm size, and sector.

Table 5: Estimated Models for CSR Score Difference between Downtick, Uptick and Notick Firms

	Dependent Variable: Employee Relations Score				Dependent Variable: Human Rights Relations Score			
	OLS Estimates		Fixed Effects Estimates		OLS Estimates		Fixed Effects Estimates	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Lagged Change in Financial Performance								
[Notick Dummy]								
Downtick Dummy	.377***	.413**	.161***	.172***	-.224	-.194	-.072	-.125
	(3.09)	(3.16)	(2.83)	(2.80)	(-1.11)	(-0.94)	(-0.53)	(-0.94)
Uptick Dummy	-.013	-.022	.119**	.135**	-.062	-.071	.038	.086
	(-0.10)	(-0.15)	(1.98)	(2.05)	(-0.33)	(-0.40)	(0.25)	(0.56)
2. Controls for Firm Size (Log Total Revenue), Market Value of Firm (Log Total Shareholder Equity) Province Head office Dummy, Year Dummies, and Sector Dummy.	No	Yes	No	Yes	No	Yes	No	Yes
3. Constant	5.64***	4.88***	5.76***	5.64***	2.21*	3.46***	9.63***	9.46**
	(6.02)	(5.61)	(3.41)	(3.21)	(1.71)	(2.88)	(2.75)	(2.86)
4. R-squared	.30	.34	.29	.30	.02	.16	.01	.05
5. Observations	376	339	376	339	232	216	232	216

Notes: Notes: T-stats in parentheses. All models estimated on unbalanced panel of TSX publicly listed firms for the period 2004-2006. Dependent variables are the Employee Relations and International Human Rights Scores respectively. Downtick Dummy is based on firms with a lagged negative year-to-year change in financial performance as measured using changes in Total Shareholder Equity. Uptick Dummy is based on firms with above average lagged year-to-year change in financial performance as measured using changes in Total Shareholder Equity. Notick Dummy is based on firms with zero to below average lagged year-to-year positive changes in financial performance as measured using changes in Total Shareholder Equity. In columns 3-4 and 7-8 time-invariant dummies for province head office and sector drop out of estimation. The *** represents significance at 1%, **represents significance at 5%, and *represent significance at 10% levels respectively.

Table 6: Estimated Models for CSR Score Gap between Downtick and Uptick Firms

	Dependent Variable: Overall CSR Score			
	OLS Estimates		Fixed Effects Estimates	
	(1)	(2)	(3)	(4)
1. Lagged Change in Financial Performance				
[Uptick Dummy]	.324**	.300**	.086*	.082*
Downtick Dummy	(2.46)	(2.13)	(1.84)	(1.73)
2. Controls for Firm Size (Log Total Revenue), Market Value of Firm (Log Total Shareholder Equity),Province Head office Dummy, Year Dummies, Sector Dummy.	No	Yes	No	Yes
3. Constant	0.915	.945	3.49***	2.65**
	(1.62)	(1.63)	(3.21)	(2.19)
4. R-squared	.26	.28	.25	.27
5. Observations	376	339	376	339

Notes: T-stats in parentheses. All models estimated on unbalanced panel of TSX publicly listed firms for the period 2004-2006. Dependent variable is the Overall CSR Score. Downtick Dummy is based on firms with a lagged negative year-to-year change in financial performance as measured using changes in Total Shareholder Equity. Uptick Dummy is based on firms with zero to positive lagged year-to-year change in financial performance as measured using changes in Total Shareholder Equity. In columns 3-4 time-invariant dummies for province head office and sector drop out of estimation. The *** represents significance at 1%, **represents significance at 5%, and *represent significance at 10% levels respectively.

Table 7: Estimated Models of Association between Current Financial Valuation and Overall CSR

	Dependent Variable: Overall CSR Score			
	OLS Estimates		Fixed Effects Estimates	
	(1)	(2)	(3)	(4)
1. Current Period Financial Performance Total Shareholder Equity (percent)				
	.287***	.295***	.328***	.280***
	(11.24)	(11.58)	(7.44)	(5.89)
2. Controls for Firm Size (Log Total Revenue), Province Head office Dummy, Year Dummies, and Sector Dummy.	No	Yes	No	Yes
3. Constant	-1.06**	-1.17**	-1.94**	-1.02
	(-2.14)	(-2.24)	(-2.14)	(-1.05)
4. R-squared	.227	.266	.227	.242
5. Observations	521	475	521	475

Notes: T-stats in parentheses. All models estimated on unbalanced panel of TSX publicly listed firms for the period 2004-2006. Dependent variable is the Overall CSR Score. In columns 3-4 time-invariant dummies for province head office and sector drop out of estimation. The *** represents significance at 1%, **represents significance at 5%, and *represent significance at 10% levels respectively.