Corporate Social Responsibility as a Conflict between Shareholders

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March 10, 2006

Abstract

In recent years firms have greatly increased the amount of resources allocated to activities classified as Corporate Social Responsibility (CSR). While an increase in CSR expenditure may be consistent with firm value maximization if it is a response to changes in stakeholders' preferences, we argue that a firm's insiders (managers and large blockholders) may seek to over-invest in CSR for their private benefit to the extent that doing so improves their reputations as good global citizens. We test this hypothesis by investigating the relation between firms' CSR ratings and their ownership and capital structures. Employing a unique data set that categorizes the largest 3,000 U.S. corporations as either socially responsible or socially irresponsible, we find that on average, insiders' ownership and leverage are negatively related to the firm's social rating, while institutional ownership is uncorrelated with it. These results support our hypothesis that insiders induce firms to over-invest in CSR when they bear little of the cost of doing so.

One of the most significant corporate trends of the last decade is the growth in activities associated with Corporate Social Responsibility (CSR). While definitions of CSR vary, the

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term generally refers to actions taken by firms with respect to their employees, communities and the environment, that go beyond what is legally required of a firm. Indeed, the alignment of business operations with social values is a well-developed industry: hundreds of websites, newsletters, professional associations, and consultants are devoted to CSR program development, students can earn an MBA degree in CSR, and most major companies issue a special annual publication dedicated to CSR or devote a large section of their annual report to the documentation of social goals advanced and good works undertaken. Moreover, both the FTSE and Dow Jones have recently launched indices of socially responsible companies, joining similar indices around the world.

In this paper we wish to gain a better understanding of the drivers behind this dramatic increase in CSR expenditure. A key argument in our analysis is that the relation between CSR expenditure and firm value is non-monotonic. When CSR expenditure is low, we expect that it should contribute positively to firm value, for example, by increasing the productivity of employees or by avoiding reputational or pollution-related costs and fines. But at some point, however, the marginal effect of an additional dollar of CSR expenditure must decrease shareholder wealth as there is no limit to the amount that a firm can transfer to its stakeholders.

To the extent that firms' decisions are made to achieve value-maximizing objectives, the chosen level of CSR expenditure should be consistent with such objectives. However, we hypothesize that a firm's insiders (corporate managers, directors, and large blockholders) may have an incentive to increase CSR expenditure to a level that is higher than that which maximizes firm value if they gain private benefits from a high CSR rating. For example, a favorable CSR rating can enhance their reputation as individuals who respect their employees, communities, and the environment. Thus, while a high CSR expenditure may confer benefits upon a firm's insiders (affiliated shareholders), the other shareholders (non-affiliated shareholders) may not approve of a high CSR expenditure if it reduces firm value. CSR may therefore create a conflict between different shareholders.

In order to test for the presence of this potential conflict, we analyze the relations between

CSR and firm characteristics that may affect such a conflict. First, we claim that if insiders gain unique benefits at the expense of other shareholders, ownership structure should play an important role in setting the amount of a firm's CSR expenditure. The level of insider ownership can have two potential effects. On the one hand, as Demsetz (1983) and Fama and Jensen (1983) argue, high ownership tends to beget entrenchment, which may allow insiders to promote CSR more easily. On the other hand, if CSR expenditure is at a level that reduces firm value, insiders would bear more of the cost associated with CSR the higher their ownership level. The literature shows that insiders are entrenched at relatively low levels of ownership (see, e.g., Morck, Shleifer, and Vishny (1988)). Above the entrenchment ownership level, increases in insider ownership serve to better align the interests of insiders with the objective of maximizing firm value. Thus, if CSR expenditure is at a point at which it reduces firm value, then, given entrenchment has been reached, one would expect to find a negative relation between CSR expenditure and insider ownership.

Note that in the case of a CSR conflict, insiders gain at the expense of both institutional as well as small individual investors. While small individual shareholders do not have much of an impact on a firm's decision-making process, there is some evidence that institutions play a role in mitigating agency conflicts (e.g., Hartzell and Starks (2003) and Bhojraj and Sengupta (2003)). Accordingly, we include institutional ownership among the variables in our analysis.

Second, the capital structure of the firm may also influence the extent of a CSR conflict. Consistent with Jensen (1986) and Zweibel (1996), we conjecture that when firms have high interest payments, the ability of insiders to over-invest in CSR is limited. . High debt levels should also induce creditors to play a more active monitoring role (e.g., Diamond (1991), Gilson (1990)), which in turn may help to mitigate such conflicts.

We employ a unique and large data set that classifies most firms in the Russell 3000 as either socially responsible (SR) or socially irresponsible (SI). Controlling for industry and firm characteristics, we show that insider ownership is negatively and significantly correlated with CSR ratings. A one-standard deviation increase in a firm's total insider ownership

decreases the probability that the firm will be classified as SR by 3.8%.

As it is reasonable to assume a positive monotonic relation between a firm's level of CSR expenditure and the probability that the firm receives an SR rating, the negative correlation that we find is consistent with the view that insiders gain personal benefits from CSR. At high levels of ownership, insiders are more aligned with firm value maximization and thus they bear more of the costs involved in CSR. The fact that when insider ownership is high CSR ratings are low (implying a low CSR expenditure) supports the argument that, on average, an incremental dollar spent on CSR reduces firm value.

We also find that a one-standard deviation increase in the leverage of a firm decreases the probability that it will be defined as SR by 2.2%. This result also supports our hypothesis: high debt levels potentially make over-investing in CSR more difficult for insiders since they have less cash available.

In contrast, we find weak (and mostly insignificant) evidence that institutional ownership is positively correlated with the social ratings. This result is consistent with Woidtke's (2002) claim that public institutions may care more about social issues than about maximizing the value of their portfolio.

Despite the enormous interest in CSR, the extant literature concentrates mostly on the relation between CSR and financial performance (see Griffin and Mahon (1997) for a survey). There are very few papers that bear a similarity to ours. Navarro (1988) studies the nature of corporate giving to charity; however, his focus is on tax policies with respect to corporate donations. Aggarwal and Nanda (2004) explore the relation between board size and social objectives, and Fishman, Heal, and Nair (2005) analyze the relation between consumer-oriented CSR and profitability. Our paper differs from these latter two studies along two main dimensions. First, we try to explain the CSR phenomenon by focusing on a very basic question: is CSR motivated by objectives other than pure firm value maximization? Second, we consider the CSR ratings provided by KLD[1] as a "black box" (similar to how one would

[1]Kinder, Lydenberg, and Domini Research & Analytics, Inc., the leading research group in providing ratings of corporate social performance to investors.

treat bond ratings), which is contrary to both Aggarwal and Nanda (2004) and Fishman, Heal, and Nair (2005), who develop specific measures of CSR (based on KLD data) that address their specific research questions.

The remainder of the paper proceeds as follows. In Section I we present the CSR conflict hypothesis and the different mechanisms that can potentially affect it. In Section II we describe the data and the variables that we use in the empirical analysis. In Section III we conduct the empirical analysis. Finally, section IV concludes.

I CSR as a Conflict between Different Shareholders

The potential conflict that we analyze in this paper is one between two types of shareholders: insiders, who are affiliated with the firm, and other shareholders such as institutions or small individual investors, who are not affiliated with the firm. Affiliated owners are those investors whose reputation, identity, or heritage is related to the firm, while non-affiliated owners are the majority of investors who hold shares in the firm as part of a well-diversified portfolio and whose relation with the firm does not go beyond its affect on their portfolio value. Our hypothesis is that insiders, the affiliated shareholders, may gain private benefits from being identified with a firm that has a high CSR rating. In other words, insiders bear a cost from being associated with a firm that is classified as socially irresponsible.

The group of insiders is composed of two major subgroups: managers and non-managers (blockholders and directors who are not part of the daily management team). It is hard to hypothesize which group would gain more from being associated with a socially responsible firm. However, we argue that insiders of both subgroups care about a firm's social rating more than a diversified shareholder does. For example, consider the following three individuals: Steven Jobs, the CEO of Apple Computer, Warren Buffet, a large blockholder and a director of The Coca-Cola Company, and Roy Disney, a director of The Walt Disney Company. We argue first that all three of these individuals (Jobs = a manager; Buffet and Disney = non-managers) are strongly affiliated with their corresponding firm, and further, that these individuals should gain from the fact that their firms have a high CSR rating more than a

diversified shareholder such as Fidelity, whose reputation is not affected by the social rating of one single firm in its portfolio.

In what follows, we explore how this potential conflict may be affected by different attributes of the firm, namely, a firm's ownership and capital structure. In addition, we discuss how free cash flow and other governance issues may affect the conflict.

A Insiders

Demsetz (1983) and Fama and Jensen (1983) claim that when insiders are entrenched it is easier for them to promote non-value-maximizing activities. This can include promoting CSR if the additional dollar invested in CSR reduces firm value. A high level of insider ownership can make them entrenched. Morck, Shleifer, and Vishny (1988) propose that entrenchment is reached at levels of ownership between 5% to 25% and they argue that an increase in ownership above that level results not in more entrenchment, but rather in increased alignment with shareholders. This means that if CSR decreases firm value, and insiders are entrenched, a further increase in insider ownership should not enable insiders to pursue their will more easily (as entrenchment has already been reached); instead, insiders should pay greater costs associated with the expanded CSR activity. This is similar to the argument by Jensen and Meckling (1976), who claim that deviation from value-maximization declines as management ownership rises. Therefore, the alignment hypothesis predicts that at relatively high levels of inside ownership, a larger insider stake can reduce the CSR conflict.

B Institutions

Shleifer and Vishny (1986) argue that by virtue of the fact that institutional shareholders have large stockholdings, they have incentives to monitor corporate decision-making. Consistent with this hypothesis, several studies document cases in which institutional investors have voted against harmful amendments (Jarrell and Poulsen (1988), Brickly, Lease, and Smith (1988)). Other papers show that institutional investors enhance firm value as measured by Tobin's Q (McConnell and Servaes (1990, 1995)), increase executive pay-for-performance

(Hartzell and Starks (2003)), and reduce agency costs between shareholders and bondholders (Bhojraj and Sengupta (2003)).

On the other hand, Black (1992) points out that institutional investors' objectives may be different than those of their unit holders. Woidtke (2002) finds supporting evidence for this claim by showing that public pension funds do not enhance firm value. Indeed, she argues that these funds are often managed by officials that have their own personal agendas, such as campaigning for public office. Under such circumstances, these institutions may find that a pro-CSR agenda coincides with their private objectives even if it reduces firm value. Moreover, it is conceivable that even among private funds, a higher priority would be given for voting against golden parachutes compared to voting against donations to tsunami victims, for example.

When discussing the impact that institutions may have on CSR, some attention should also be given to Socially Responsible Investing (SRI), which refers to investment decisions that consider social criteria. A typical SRI fund avoids holding shares of firms that have a poor CSR rating. According to the Social Investing Forum, an association dedicated to promoting SRI, the amount of funds involved in SRI reached a level of US$ 2.2 trillion as of December 2003, accounting for about 11% of all managed funds in the U.S.[2] However, only 20% of this amount is invested in portfolios controlled by institutions that also promote various social and environmental issues within the firms. This suggests that while SRI may lead to high ownership of institutions in socially responsible firms, the direct impact of these institutions on the CSR policies of these firms is probably limited.

C Leverage

Over-investment is relatively easy when firms have a lot of cash in place (e.g., Jensen (1986) and Zweibel (1996)). In contrast, debt servicing obligations may discourage over-investment in CSR by self-serving insiders. If banks and debt holders have investments in the firm, they are likely to want to see the returns on these investments materialize. While these creditors

[2] 2003 Report on Socially Responsible Investing Trends in the United States, Social Investment Forum.

do not have voting rights, because firms occasionally have to raise additional capital from creditors, the creditors often have the power to influence decisions. For instance, Gilson (1990) documents that U.S. banks play a major governance role by replacing managers and directors. Moreover, creditors, compared to shareholders, typically keep their debt holdings for a longer period. This has some advantages, such as the ability to influence corporate management by patient, informed investors.

D Free Cash Flow

Jensen (1986) suggests that it is easier for managers to consume perks in firms with substantial free cash flow as these managers do not have to raise more funds from questioning investors.[3] While Jensen's theoretical argument is intuitive, testing it empirically is very difficult since actual levels of free cash flow is unobservable. Consider, for example, one of the most commonly used measures of free cash flow, proposed by Lehn and Poulsen (1989):

$$FCF = INC - TAX - INTEXP - PFDDIV - COMDIV$$

where,

FCF = free cash flow

INC = operating income before depreciation

TAX = total taxes

$INTEXP$ = gross interest expenses on short and long-term debt

$PFDDIV$ = total dividend on preferred shares

$COMDIV$ = total dividend on ordinary shares

This free cash flow measure does not represent the availability of cash; rather, it represents the cash left in the company after perks have been (potentially) consumed. In the context of our paper, the above free cash flow measure is not a good proxy for the cash available to pursue CSR activities because CSR costs have already been recognized in the operating

[3] Jensen (1986) also argues that the likelihood of perk consumption by managers is especially high in mature firms operating in low growth industries.

income. That is, the observable measure is net of CSR. Moreover, since any measure of free cash flow is a measure of net free cash flow, not of the gross free cash flow (which is unobservable), using it as an explanatory variable in a regression analysis would result in a severe endogeneity problem. For these reasons, we do not use free cash flow in the study.

E Other Governance Issues

It is very common to link CSR with corporate governance. Arguably, this link is due to the perception that a high CSR expenditure and good corporate governance mechanisms are both to be found in so-called ethical firms. We therefore examine whether CSR is related to the presence of standard corporate governance mechanisms. Using the governance index suggested by Gompers, Ishii, and Metrick (2003) (GIM) to explore this possible relation, we find that the CSR ratings and the GIM index are uncorrelated. We therefore do not report these results.

The corporate finance literature specifically recognizes board composition as an additional mechanism that may affect standard agency conflicts. For example, Ryan and Wiggins (2004) claim that independent directors help in aligning managers' objectives with those of other shareholders. It is important to note, however, that the CSR conflict is not between managers and other shareholders; rather, it is between affiliated and non-affiliated shareholders. We view both inside and outside directors as affiliated shareholders since the reputation of each may be affected by firms' CSR ratings. Therefore, if all board members have the same ownership level, we would not expect to find a correlation between CSR and board composition. We are aware of the fact that board composition is correlated with insider ownership; however, employing board composition in the analysis is not helpful since we use a direct measure of insider ownership.

II Data

A Data Source

We obtain our data from a variety of sources. The first is a unique database that comes from KLD, the leading research group in providing ratings of corporate social performance to investors. The KLD data screen close to 3,000 firms, categorizing them as either socially responsible (SR) or socially irresponsible (SI), and include firms that account for 98% of the total market value of U.S. public equities. The other data sources that we use consist of proxy statements, 13F schedules, CRSP, Compustat, and Execucomp. Note that our database is cross-sectional, and it contains the most recent data available as of the third quarter of 2003 (September 2003). Table I provides a complete description of the main variables used in the study.

[Insert Table I about here]

B The CSR Measure

In 2001, KLD launched the Broad Market Social Index (BMSI). The BMSI, a subset of close to 3,000 firms that compose the Russell 3000 index, is derived from a CSR screening process. In this process, KLD divides firms into three different categories, in particular, SR, SI due to *exclusionary* reasons, and SI due to *qualitative* reasons. Only SR firms are eligible for inclusion in the BMSI.

Sorting firms into these three categories involves a two-stage social screening process. First, KLD applies an exclusionary social screening. In this stage SI firms are defined as follows: companies that derive any revenue from alcohol, tobacco, or gambling; companies that derive more than 2% of gross revenues from the production of military weapons; and electric utilities that own interests in nuclear power plants or derive electricity from nuclear power plants in which they have an interest. It is important to note that the exclusionary screening that KLD applies is a per-se criterion. For example, as long as Philip Morris continues to produce cigarettes, it is defined as SI. Thus, even if Philip Morris' expenditure

on CSR is relatively high, it would never get an SR rating from KLD. Firms that fail in this screening stage can not be reconsidered to be SR unless they shut down the "unethical" side of their business. In some cases, as in the case of Philip Morris, this means shutting down the firm. Out of the 2,837 firms that were considered, 187 are defined as SI due to exclusionary reasons.

In the second stage, KLD applies a qualitative social screening on the remaining firms. Qualitative screening includes areas such as community relations, workforce diversity, employee relations, environment, non-U.S. operations, and product safety and use. In each of these areas, KLD investigates a range of sources to determine, for example, whether the company has paid fines or penalties in the area or has major strengths in the area (e.g., strong family policies for the employee relations category). Where possible, KLD uses quantitative criteria to determine the rating (e.g., dollar amount paid in fines; percentage of employees receiving certain kinds of benefits). Some subjective judgment is necessary, of course, in the determination of the cutoff point for a negative rating, as well as in borderline cases. In our sample, 2,278 firms pass the qualitative social screening and are defined as SR firms, while 372 firms do not pass the qualitative screening and are defined as SI firms.

The dependent variable in our analysis is the CSR rating of each firm. A binary variable, *CSR* equals one if a firm passes the screening conducted by KLD and zero otherwise. Our underlying assumption is that there is a monotonic relation between the amount that firms spend on CSR and the probability that a firm receives an SR rating from KLD. With respect to the qualitative screening, we are comfortable with this assumption since the screening procedure is a comprehensive analysis that examines many dimensions of social issues (more than 200 sections) and it is reasonable to assume that firms with higher CSR expenditure tend to receive an SR rating (KLD also mentions this implicitly). On the other hand, SI firms due to exclusionary screening receive their rating due to a failure in one "unethical" dimension, which is controversial at best. These firms cannot be employed in the analysis because they can not be considered as firms with low (nor high) CSR expenditure. Thus, we omit these firms from the sample and are left with 2,650 firms in the analysis.

A limitation of the binary measure is the inability to distinguish between firms that pass (fail) the KLD screening. Recently, financial economists have started to use the KLD's Socrates database to construct measures that take on a broader range of values. For example, Aggarwal and Nanda (2004) cumulate the number of strengths and weaknesses that appear in the Socrates database of KLD. The net difference (number of strengths minus number of weaknesses) quantifies a firm's concentration on multiple CSR dimensions. This measure takes integer values that range between -11 to 11. Similarly, Fishman, Heal, and Nair (2005) aggregate strengths of community relations with regard to three aspects of CSR, and their measure takes integer values between 0 and 3. The main limitation in developing new measures is guaranteeing equal treatment across all types of strengths and weaknesses, as the various types are rather different in meanings and costs. Another major limitation of the Socrates database is its small sample coverage of S&P500 firms. Thus, trying to overcome the limitations of the binary KLD measure by constructing a new CSR index has both its advantages and its disadvantages. We believe that both types of studies can enhance our understanding of the CSR phenomenon. For our purposes, since we would like to have as large a sample size as possible, our approach is to treat the KLD rating procedure as a "black box" similar to the treatment one would give bond ratings.

[Insert Table II about here]

Table II reports the number of SR and SI firms, sorted by 2-digit SIC codes to 64 industries. The ratio $\frac{SR}{SI}$ is approximately 6 over the whole sample. Of course, there are large variations across industries: some industries, such as high-tech, are dominated by SR firms, while other industries, such as basic materials, have a higher proportion of SI firms.

C Conflict Variables

As mentioned above, when considering the ownership structure we focus on two groups of investors, insiders and institutions. We use two measures for ownership by insiders. The first is *Insiders' ownership*, the percent of common stock held by all officers and directors of

the company plus beneficial owners who own more than 5% of the subject company's stock as disclosed in the most recent proxy statement. Our second measure is *Insiders' control*, a dummy variable that equals one if the combined ownership of insiders is more than 50% of the shares outstanding, and zero otherwise. This allows us to isolate cases in which insiders (jointly) have control over the firm.

For institutional ownership we also use two measures. *Institutional ownership* is the aggregate holdings of common stock held by all reporting institutions as a group and is calculated as a percent of the total number of shares outstanding. Institutional HHI, which is the Herfindahl-Hirschman Index (HHI) of concentration of the top 15 institutional owners for every single firm, is defined as $\sum_{i=1}^{15} h_i^2$, where h_i is the percentage of ownership of institution . We employ a measure of the concentration of institutional ownership in addition to a measure of total ownership because previous work shows that institutions have more influence when they are large shareholders (Shleifer and Vishney (1986)) or when they can form a coalition (Black (1992)) – the concentration measure can capture this ability better than the total ownership measure can.

Both the monitoring ability of debt holders and availability of cash flow are captured by a firm's leverage. The variable *Leverage* is defined as long-term debt divided by the total book value of assets.

D Control Variables

We include in the analysis several control variables that are theoretically related to CSR. Table II shows dramatic variations in CSR ranking across industries. One reason is that CSR ratings are affected by environmental issues that vary across industries according to the nature of the operation (e.g., oil vs. high-tech). Therefore, industry is probably the most important issue to control for. In order to capture industry effects, we include three different types of control variables. First, we include 64 *2-digit SIC code* indicators. Second, we include *Market to book*, the market value of assets divided by the book value of assets, to capture industry's growth opportunities. Lastly, we include 60 months' return volatility

to complement our controls for industry effects by incorporating a proxy for firm risk.

A firm's visibility and size are also important characteristics to take into account. Clearly, larger firms have a larger operational impact and thus are expected to spend more on CSR in order to get an SR rating. We therefore include firm size, measured by the natural log of the book value of total assets, in our analysis. Lastly, with respect to visibility, a firm's age can capture visibility. We measure age as the number of years that have elapsed since the firm's share price first appeared on the CRSP tape.

E Summary Statistics

Table III presents difference of means tests between SR and SI firms. SI firms represent 14% of our sample. The table provides the t-statistics and the industry-adjusted t-statistics, where each observation is adjusted by subtracting the 2-digit SIC code industry mean of the relevant variable. The latter provides a cleaner way to test the significance of the variable once industry effects are accounted for.

We find that the level of insider ownership of SR firms is 4% lower than that of SI firms. Moreover, 17% of SI firms are controlled by insiders (i.e., insider ownership of more than 50%), while this is the case in only 9% of the SR firms. While there is a distinct difference in the holdings of insiders between SR and SI firms, there is no significant difference in the institutional ownership measures. Consistent with our hypothesis, SR firms tend to have lower leverage than SI firms. With respect to age and size, SR firms are younger and smaller than SI firms. The univariate analysis also suggests that SR firms tend to have a higher market to book ratio and that their shares are more volatile than those of SI firms. Concerning the firms' classification, 51.6% of SR firms are listed on the Nasdaq stock exchange compared to 28% of SI firms. Firms that are part of the S&P500 represent 18.9% of our sample. However, the S&P500 contains 14.6% of the SR firms and 27.9% of the SI firms. This again suggests that size is an important factor in whether a firm is classified as either SR or SI.

[Insert Table III about here]

III Multivariate Analysis

A Multivariate Analysis of CSR

In this section we investigate the relation between CSR and the conflict variables. Our measure of a firm's social performance is CSR, which is a dummy variable that equals one if a firm has passed the qualitative screening conducted by KLD and zero if it failed. The model that we test is as follows:

$$\begin{aligned} CSR &= \gamma_0 + \gamma_1 \left(Insider\ ownership\right) + \gamma_2 \left(Institutional\ ownership\right) + \gamma_3 \left(Leverage\right) \\ &\quad + \gamma_{4-7}(Control\ variables) + \gamma_{8-71}(Two-digit\ SIC\ code) + \varepsilon \end{aligned} \tag{1}$$

On the right-hand side we interchangeably use the variables *Insider ownership* and *Insider control* as measures of insider ownership. Our measures of ownership by institutions are the variables *Institutional ownership* and *Institutional HHI*; we use these variables interchangeably as well. Leverage captures potential capital structure effects. The control variables are *Ln total assets*, *Market to book*, *Return volatility*, and *Firm age*, as well as 64 *2-digit SIC code* dummy variables to control for industry effects.

[Insert Table IV about here]

Table IV presents the results of our basic regressions. The most striking result in our analysis is that the coefficients of insider ownership and leverage are negative and significant at the 1% level across all specifications. On the other hand, the coefficients of institutional ownership are insignificant with inconsistent signs. The economic interpretation of the probit results is that ceteris paribus, at the sample means, a one-standard deviation increase in total insider ownership of firm i, decreases the probability that KLD would define firm i as socially responsible by 3.8%. Similarly, a one-standard deviation increase in the leverage of firm i, decreases the probability that KLD would define firm i as socially responsible by 2.2%. In contrast, an increase in the total institutional ownership or the institutional concentration of firm i, does not change the probability that KLD would define firm i as socially responsible.

Some additional information regarding the prospects of SR firms can be obtained from the coefficients of the control variables. We find that SR firms tend to be smaller in size, as measured by book value of assets. On the other hand, the multivariate analysis suggests that a firm's growth prospects, risk, and age do not make a significant contribution in explaining the variance of CSR.

Our results show that insiders' holdings are negatively correlated with CSR ratings. According to our hypothesis, insiders who are affiliated with the firm are those who gain private benefits from a high CSR rating. The interpretation of this negative correlation in light of our hypothesis is that at high ownership levels, the cost to insiders of increasing CSR expenditure (which yields a higher CSR rating) is larger than the related benefits. In other words, insiders downplay the importance of their private benefits compared to firm value because they own more of the firm. Thus, the negative relation suggests that the cost incorporated in CSR is significant.

The negative correlation between leverage and CSR also supports the CSR-conflict hypothesis. If leverage plays a conflict-mitigating role as suggested by the literature (e.g., Harvey, Lins, and Roper (2004)), higher leverage makes firms spend less on CSR. Lastly, the results reveal that institutional holdings are not correlated with CSR. This may be attributed to the reasons discussed above.

B Piece-wise Regression

In our basic regressions in Table IV, we allow only for a linear relation between insider ownership and CSR. In order to analyze whether a possible non-linearity is present in the data, we follow Morck, Shleifer, and Vishny (1988) and perform piece-wise regressions that allow the coefficients of *Insider ownership* to vary over three different segments of ownership.

This procedure allows us to investigate the trade-off between insiders' alignment versus entrenchment. At low levels of ownership, an increase in insider holdings not only makes insiders bear more of the costs of CSR expenditure, but also gives them more control to pursue a pro-CSR agenda. Therefore, it is not clear a priori which force will dominate nor

how the CSR rating should be affected. However, once insiders are entrenched, a further increase in their ownership should only result in bearing more of the costs associated with CSR.

Table V report the results of the piece-wise regressions. The analysis suggests that at low levels of insider ownership (up to 25%), there is no relation between insider ownership and CSR, while at levels above 25%, the relation is negative and highly significant. This suggests that only levels of ownership above 25% align insiders with other shareholders as only then do insiders bear a significant amount of the costs involved with CSR. On the other hand, lower levels of ownership do not help to mitigate a potential CSR conflict.

The results are also somewhat consistent with Morck, Shleifer, and Vishny (1988), who document a positive relation with Tobin's Q at small holdings of 0% to 5%, a negative relation at holdings of 5% to 25%, and a positive relation again at holdings greater than 25%.

[Insert Table V about here]

C Insiders' Ownership Partitioning and CEO Characteristics

We argue above that the CSR conflict is somewhat different than typical agency conflicts since all insiders (that is, not only managers) may gain personal benefits from the high CSR ratings of their corresponding firms. Nevertheless, one can divide the group of insiders into two subgroups: managers and non-managers (directors and blockholders who are not part of the daily management team.) While our view is that insiders of both subgroups are likely to enjoy being associated with a firm that has a high CSR rating, it may be interesting to explore whether there are differences between the two sub-groups.

For a subsample of 1,380 firms that come from the Execucomp database, we partition total insider ownership into subgroups of mangers and non-managers. We then apply these two measures in our regression analysis; the results are reported in Table VI. Consistent with our previous results, we find a negative correlation between the total ownership of both subgroups of insiders and CSR, and a negative correlation between leverage and CSR.

An interesting result in these specifications is that the negative relation is stronger for non-manager insiders than it is for managers. A possible explanation for this result is the fact that the Execucomp database is available mostly for large firms in which the direct ownership of managers is relatively low (mean of 2.99% in our subsample) and thus has a low impact on decisions taken with respect to CSR.

[Insert Table VI about here]

Two other variables that can play an important role in the testing of our hypotheses are the degree of management entrenchment and the extent to which management compensation is incentive based. We proxy for the degree of CEO entrenchment by adding the variable *CEO tenure*, the number of years since the appointment of the CEO, to our analysis. To capture the potential effect of incentive- based compensation, we use the variable *CEO performance pay*, which is the ratio of incentive-based pay (the value of stock, option grants, and bonuses) to total pay.

Table VII reports the results of our analysis using the entrenchment and incentive-based compensation variables. Consistent with our hypothesis, we find that *CEO tenure* is positively correlated with CSR and that *CEO performance pay* is negatively related to CSR. Both variables are significant.

Another interesting result is that institutional ownership is positively correlated with CSR in specifications (1) and (3). This again shows that institutions do not necessarily perceive CSR activity to be value reducing, that is, that they simply do not recognize the possibility that CSR may be harmful.

[Insert Table VII about here]

D Reverse Causality

In this subsection we address the potential problem of reverse causality. Specifically, one could claim that insider and institutional ownership are determined by CSR ratings, not vice versa as we argue in this paper. For example, it may be the case that socially responsible

investing (SRI) plays an important role in setting the holdings of institutional investors. Since most socially responsible investors implement their investing strategy using institutions such as mutual funds and pension funds, one could expect to see higher ownership by institutions at SR firms relative to SI firms. In order to address this potential problem we apply an instrumental variable approach.

The problem of reverse causality may be related to the ownership structure variables. Bennett, Sias, and Starks (2003) use *Turnover* as an instrument for institutional ownership arguing that institutional investors trade more often than the average investor and therefore there is a positive correlation between the two variables. Similarly, we use *Turnover* as an instrument for *Insider ownership*, the rationale being that insiders trade less often than the average investor and therefore there is a significant negative correlation between the two variables. We define *Turnover* as the three-month average of the monthly volume divided by the number of shares outstanding. We replace *Insider ownership* and *Insider control* with the predicted value of these variables regressed on *Turnover*, *Ln total asset*, *Market to book*, *Firm age*, *Return volatility* and the *2-digit SIC* dummy variables.

In order to avoid a potential reverse causality problem with the variable *Institutional ownership*, we perform the regressions using *Institutional HHI*. We view *Institutional HHI* as a purely exogenous variable (consistent with Hartzell and Starks (2003)) as there is no theoretical reason to argue that the concentration of institutional ownership is a result of the CSR rating of the firm.

[Insert Table VIII about here]

E Robustness Analysis

In this section we explore the robustness of our results further by performing our analysis on different subsamples that are partitioned by size and industry, the two most important characteristics of firms with respect to CSR.

We start with a robustness analysis with respect to size. While we do control for size in our analysis, one may still wonder whether the results are similar for subsets of the sample

sorted by size. For example, it may be the case that small firms attract less attention from private investors and institutions, in which case it would be easier for insiders to affect their CSR policy compared to large firms. We perform this robustness check by splitting our sample to two subsets based on the book value of assets. The results of this analysis are reported in specifications (1) and (2) of Table IX. In both specifications, insider ownership and leverage are negatively significant while institutional ownership is insignificant. While the results of the table reconfirm our hypothesis, the significance levels and size of the insider ownership coefficients are larger in small firms. This suggests that the presence of a CSR conflict is larger in small firms.

In a second robustness analysis we split the sample based on industries' average CSR ratings, where industries are defined by 2-digit SIC codes. Firms are partitioned into two groups according to the percentage of SR firms in their industry (the median value across all industries of SR firms is 86.5%.) Specifications (3) and (4) of Table IX report the results of these regressions. We find some differences between the two subsamples. While the insider ownership coefficients are negative and significant in both subsamples, they are more significant in SI industries (industries that have less than 86.5% SR firms). With respect to debt, while it is always negatively correlated with CSR, it is significant only in SR industries. To conclude, the results show that insider ownership is the dominant conflict-mitigating mechanism in SI industries, while leverage is the dominant mechanism in SR industries.

[Insert Table IX about here]

IV Conclusions

In this paper we find evidence in support of the hypothesis that CSR can create a conflict between different shareholders. In this conflict, insiders personally benefit from the fact that they are associated with firms that have a high CSR rating. The conflict is mitigated if insiders hold a large fraction of the firm. Similarly, debt serves as a conflict-mitigating mechanism.

The CSR conflict can be viewed from two different normative perspectives. On the one hand, we find that the chosen level of CSR expenditure is greater than that which maximizes firm value. This typically has a negative connotation as it decreases shareholder value. On the other hand, the CSR conflict leads to the promotion of a social agenda that can be viewed in a positive way. Given most agency conflicts are interpreted as managers demonstrating self-serving behavior at the expense of other shareholders, it is somewhat surprising to show that the CSR conflict generates greater alignment of corporate and social goals. From a social welfare perspective, whether this conflict increases total welfare depends on whether firms have a relative advantage in contributing to society's benefit.

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Table I
Definition and Source of Major Variables

	Description	Source
Conflict variables		
Insider ownership	Percent of common stock held by all the officers and directors of the company plus beneficial owners who own more than 5 percent of the subject company's stock as disclosed in the most recent proxy statement.	Proxy statements
Insider control	A dummy variable that equals 1 if Insider ownership is greater than 50%.	Proxy statements
Institutional ownership	Percent of common stock held by all the reporting institutions as a group. It is calculated as total shares owned by institutions divided by total shares outstanding.	13F schedule
Institutional HHI	The Herfindahl-Hirschman Index (HHI) of concentration of the top 15 institutional owners (as reported on 13f). It is defined as $\sum_{i=1}^{15} h_i^2$, where h_i is the percentage ownership of institution *i*.	13F schedule
Leverage	The book value of long term debt (data item #9) divided by the book value of assets (data item #6)	Compustat
Insiders – managers	Percent held by top executives (aggregation of data item SHROWN).	Execucomp
Insiders – non- managers	Insider ownership minus insiders – managers	Excecucomp
CEO tenure	Number of years since the CEO was appointed	Excecucomp
CEO performance pay	The percentage of compensation attributed to bonus, restricted stock, and option grants out of total direct compensation (sum of data items BONUS, RSTRKGRNT, and BLK_VLU divided by data item TDC1).	Excecucomp
Control variables		
Ln (total assets)	Natural log of book value of total assets (data item #6)	Compustat
Market to book	The ratio of the market value of assets (book value of assets (data item #6) plus the difference between the market value of equity (data item #24 ×data item #25) and the book value of equity (data item #60)) to the book value of assets (data item #6).	Compustat
Return volatility	The standard deviation of share returns during the previous 60 months.	CRSP
Firm age	The year in which the Firm share price (data item PRC) first appeared on CRSP.	CRSP
2-digit SIC code	The 2-digit Standard Industry Classification code	CRSP
Other		
Turnover	The three months average of the monthly volume (data item VOL) divided by the number of shares outstanding (data item SHROUT)	CRSP

Table II
The Distribution of SR (Socially Responsible) and SI (Socially Irresponsible) Firms by Two-Digit SIC Code (N = 2,649 firms)

SR Firms and *SI Firms* correspond to the number of SR and SI firms classified by two-digit standard industry classification (SIC) code. *Total Number of Firms* corresponds to the total number of firms in each industry. *Percent of SI Firms* is *SI Firms* divided by *Total Number of Firms*.

SIC Code	Industry Description	SR Firms	SI Firms	Total Number of Firms	Percent of SI Firms
10	Metal mining	4	6	10	60%
12	Coal mining	0	3	3	100%
13	Oil and gas extraction	54	12	66	18%
14	Nonmetallic minerals, except fuels	3	1	4	25%
15	General building contractors	16	3	19	16%
16	Heavy construction, except buildings	5	1	6	17%
17	Special trade contractors	5	0	5	0%
20	Food and kindred products	38	8	46	17%
21	Tobacco products	0	0	0	----
22	Textile mill products	8	0	8	0%
23	Apparel and other textile products	15	1	16	6%
24	Lumber and wood products	10	4	14	29%
25	Furniture and fixtures	14	2	16	13%
26	Paper and allied products	25	3	28	11%
27	Printing and publishing	30	9	39	23%
28	Chemical and allied products	163	48	211	23%
29	Petroleum and coal products	4	10	14	71%
30	Rubber and miscellaneous plastic products	15	3	18	17%
31	Leather and leather products	9	1	10	10%
32	Stone, clay, and glass products	7	4	11	36%
33	Primary metal industries	26	7	33	21%
34	Fabricated metal products	22	4	26	15%
35	Industrial machinery and equipment	129	12	141	9%
36	Electronic and other electrical equipment	165	11	176	6%
37	Transportation equipment	30	7	37	19%
38	Instruments and related products	125	5	130	4%
39	Miscellaneous manufacturing products	15	1	16	6%
40	Railroad transportation	4	4	8	50%
42	Trucking and warehousing	15	2	17	12%
44	Water transportation	7	0	7	0%
45	Transportation by air	17	1	18	6%

Table II - *continued*

SIC Code	Industry Description	SR Firms	SI Firms	Total Number of Firms	Percent of SI Firms
46	Pipelines, except natural gas	1	0	1	0%
47	Transportation services	7	2	9	22%
48	Communications	70	9	79	11%
49	Electric, gas, and sanitary services	56	16	72	22%
50	Wholesale trade - durable goods	44	2	46	4%
51	Wholesale trade- nondurable goods	17	4	21	19%
52	Building materials and gardening	5	1	6	17%
53	General merchandise stores	19	2	21	10%
54	Food stores	11	2	13	15%
55	Auto dealers and service stations	14	2	16	13%
56	Apparel and accessory stores	36	6	42	14%
57	Furniture and home furnishings	17	1	18	6%
58	Eating and drinking places	29	3	32	9%
59	Miscellaneous retail	48	7	55	13%
60	Depository institutions	253	42	295	14%
61	Nondepository institutions	21	4	25	16%
62	Security and commodity brokers	29	5	34	15%
63	Insurance carriers	79	17	96	18%
64	Insurance agents, brokers, services	15	1	16	6%
65	Real estate	4	4	8	50%
67	Holding and other investment offices	137	11	148	7%
70	Hotels and other lodging places	7	2	9	22%
72	Personal services	5	4	9	44%
73	Business services	269	19	288	7%
75	Auto repair, services, and parking	5	0	5	0%
78	Motion pictures	8	3	11	27%
79	Amusement and recreation services	2	5	7	71%
80	Health services	30	14	44	32%
81	Legal services	1	0	1	0%
82	Educational services	11	0	11	0%
83	Social services	2	1	3	33%
87	Engineering and management services	42	8	50	16%
99	Conglomerates	4	1	5	20%
Total		2278	371	2649	14%

Table III
Difference of Means Tests

Insider ownership is the percent of common stock held by all officers and directors of the company plus beneficial owners who own more than 5 percent of the total shares outstanding. *Insider control* is a dummy variable that equals 1 if insiders as a group have more than 50% of the shares outstanding. *Institutional ownership* is the percent of common stock held by all the reporting institutions as a group. *Institutional HHI* is the Herfindahl-Hirschman Index calculated based on the holdings of the 15 largest institutional investors. *Leverage* is the book value of long-term debt divided by the book value of total assets. *Ln total assets* is the natural log of the book value of assets. *Market to book* is defined as the ratio of the book value of assets plus the difference between the market value of equity and the book value of equity to the book value of assets. *Return volatility* is the standard deviation of share returns during the previous 60 months. *Firm age* is measured based on the date in which a firm's share price first appeared on the CRSP tape. The classification dummy variables *Nasdaq* and *S&P 500* equal 1 if the firm is traded on Nasdaq and if the firm is part of the S&P 500 index, respectively. The table provides the *t*-statistics and the Industry Adjusted *t*-statistics, where each observation is adjusted by subtracting the 2-digit SIC code industry mean of the relevant variable.

	N	SR Firms	SI Firms	*t* - statistic	Industry Adjusted t-statistic
Number of firms	2650	2278	372		
Conflict variables					
Insider ownership (%)	2650	18.29	22.37	3.61	3.58
Insider control (%)	2650	9.00	17.20	4.88	4.28
Institutional ownership (%)	2641	60.22	60.00	-0.16	-0.29
Institutional HHI (%)	2650	2.26	2.32	0.34	0.13
Leverage (%)	2589	17.79	24.37	5.85	4.91
Control variables					
Ln total assets ($000,000)	2597	6.81	7.74	9.93	9.15
Market to book	2594	1.70	1.51	-2.72	-2.59
Return volatility (%)	2648	17.11	14.84	-4.35	-2.52
Firm age (years)	2649	15.57	20.22	5.52	3.13
Classification					
Nasdaq (%)	2650	51.62	27.96	-8.58	-6.54
S&P 500 (%)	2650	14.62	23.66	4.44	3.55

Table IV
The Relation between CSR and the Conflict Variables - Probit Analysis

Insider ownership is the percent of common stock held by all the officers and directors of the company plus beneficial owners who own more than 5 percent of the total shares outstanding. *Insider control* is a dummy variable that equals 1 if insiders as a group have more than 50% of the shares outstanding. *Institutional ownership* is percent of common stock held by all the reporting institutions as a group. *Institutional HHI* is the Herfindahl-Hirschman Index calculated based on the holdings of the 15 largest institutional investors. *Leverage* is the book value of long-term debt divided by the book value of total assets. *Ln total assets* is the natural log of the book value of assets. *Market to book* is defined as the ratio of the book value of assets plus the difference between the market value of equity and the book value of equity to the book value of assets. *Return volatility* is the standard deviation of share returns during the previous 60 months. *Firm age* is measured based on the date in which a firm's share price first appeared on the CRSP tape. All specifications include *2-digit SIC code* indicators. The table provides *z*-statistics calculated with robust standard deviations.

	(1)	(2)	(3)	(4)
Intercept	1.8623	1.5431	1.9173	1.6810
	(2.34)	(1.99)	(2.44)	(2.19)
Insider ownership	-0.0098		-0.0102	
	(-5.09)		(-6.10)	
Insider control		-0.5341		-0.5943
		(-4.76)		(-5.79)
Institutional ownership	0.0006	0.0019		
	(0.35)	(1.07)		
Institutional HHI			0.0683	-0.0438
			(0.08)	(-0.05)
Leverage	-0.5884	-0.6073	-0.5786	-0.5880
	(-3.06)	(-3.18)	(-3.01)	(-3.09)
Ln (total assets)	-0.2067	-0.1960	-0.2060	-0.1910
	(-7.69)	(-7.37)	(-7.91)	(-7.53)
Market to book	0.0548	0.0582	0.0550	0.0613
	(1.42)	(1.51)	(1.42)	(1.56)
Return volatility	0.3011	0.3686	0.2849	0.3062
	(0.57)	(0.70)	(0.54)	(0.58)
Firm age	-0.0008	-0.0002	-0.0008	-0.0003
	(-0.33)	(-0.07)	(-0.34)	(-0.13)
N	2537	2537	2546	2546
"Pseudo R^2"	0.143	0.141	0.143	0.141

Table V
Piecewise Regressions of Insider Ownership - – Probit Analysis

Insider ownership is divided to three different segments of ownership. Following Morck, Shleifer and Vishney (1988), *Insiders 0 to 5* equals *Insider ownership* if *Insider ownership* < 5% and equals 5% if *Insider ownership* ≥ 5%; *Insiders 5 to 25* equals 0% if *Insider ownership* < 5%, equals *Insider ownership* - 5% if 5% < *Insider ownership* < 25% and equals 20% if *Insider ownership* ≥ 25%; *Insiders over 25* equals 0% if *Insider ownership* < 25% and equals *Insider ownership* - 25% if *Insider ownership* ≥ 25%. *Institutional ownership* is percent of common stock held by all the reporting institutions as a group. *Institutional HHI* is the Herfindahl-Hirschman Index calculated based on the holdings of the 15 largest institutional investors. *Leverage* is the book value of long-term debt divided by the book value of total assets. *Ln total assets* is the natural log of the book value of assets. *Market to book* is defined as the ratio of the book value of assets plus the difference between the market value of equity and the book value of equity to the book value of assets. *Return volatility* is the standard deviation of share returns during the previous 60 months. *Firm age* is measured based on the date in which a firm's share price first appeared on the CRSP tape. Specifications (1) and (2) include *2-digit SIC code* indicators. The table provides *z*-statistics with robust standard deviations.

	(1)	(2)
Intercept	1.8949	1.9411
	(2.36)	(2.45)
Insiders 0 to 5	-0.0264	-0.0268
	(-0.92)	(-0.94)
Insiders 5 to 25	-0.0035	-0.0036
	(-0.55)	(-0.59)
Insiders over 25	-0.0122	-0.0127
	(-3.99)	(-4.32)
Institutional ownership	0.0006	
	(0.33)	
Institutional HHI		0.1113
		(0.12)
Leverage	-0.5834	-0.5741
	(-3.02)	(-2.98)
Ln (total assets)	-0.2072	-0.2063
	(-7.48)	(-7.70)
Market to book	0.0557	0.0560
	(1.44)	(1.44)
Return volatility	0.3008	0.2874
	(0.57)	(0.55)
Firm age	-0.0008	-0.0008
	(-0.31)	(-0.32)
N	2537	2546
"Pseudo R^2"	0.144	0.144

Table VI
CSR and Insider Ownership Partitioning – Probit Analysis

Insiders - managers is the percentage held by all insiders that work for the firm and report themselves on forms 3,4. *Insiders - non-managers* is the percentage held by all other insiders. *Institutional ownership* is percent of common stock held by all the reporting institutions as a group. *Institutional HHI* is the Herfindahl-Hirschman Index calculated based on the holdings of the 15 largest institutional investors. *Leverage* is the book value of long-term debt divided by the book value of total assets. *Ln total assets* is the natural log of the book value of assets. *Market to book* is defined as the ratio of the book value of assets plus the difference between the market value of equity and the book value of equity to the book value of assets. *Return volatility* is the standard deviation of share returns during the previous 60 months. *Firm age* is measured based on the date in which a firm's share price first appeared on the CRSP tape. All specifications include *2-digit SIC code* indicators. The table provides *z*-statistics calculated with robust standard deviations.

	(1)	(2)
Intercept	2.4786	2.7339
	(0.78)	(3.50)
Insiders – managers	-0.0076	-0.0109
	(-1.14)	(-1.68)
Insiders – non-managers	-0.0090	-0.0108
	(-2.55)	(-3.18)
Institutional ownership	0.0048	
	(1.85)	
Institutional HHI		1.3140
		(0.66)
Leverage	-0.5180	-0.4823
	(-1.81)	(-1.67)
Ln (total assets)	-0.1724	-0.1733
	(-4.92)	(-4.93)
Market to book	0.1260	0.1298
	(2.13)	(2.16)
Return volatility	0.6137	0.4933
	(0.70)	(0.55)
Firm age	0.0001	-0.0003
	(0.04)	(-0.09)
N	1375	1380
"Pseudo R^2"	0.145	0.142

Table VII
CSR and CEO Characteristics – Probit Analysis

Insiders - managers is the percentage held by all insiders that work for the firm and report themselves on forms 3,4. *Insiders – non-managers* is the percentage held by insiders that are not managers of the firm. *CEO performance pay* is the percentage of annual compensation attributed to bonus, restricted stock grants, and option grants. *CEO tenure* is the number of years since the appointment of the CEO. *Institutional ownership* is percent of common stock held by all the reporting institutions as a group. *Institutional HHI* is the Herfindahl-Hirschman Index calculated based on the holdings of the 15 largest institutional investors. *Leverage* is the book value of long-term debt divided by the book value of total assets. *Ln total assets* is the natural log of the book value of assets. *Market to book* is defined as the ratio of the book value of assets plus the difference between the market value of equity and the book value of equity to the book value of assets. *Return volatility* is the standard deviation of share returns during the previous 60 months. *Firm age* is measured based on the date in which a firm's share price first appeared on the CRSP tape. All specifications include *2-digit SIC code* indicators. The table provides *z*-statistics calculated with robust standard deviations.

	(1)	(2)	(3)	(4)
Intercept	0.4556	2.5671	0.3061	0.8153
	(0.49)	(3.26)	(0.37)	(1.02)
Insiders – managers	-0.0172	-0.0210	-0.0081	-0.0122
	(-2.19)	(-2.74)	(-1.10)	(-1.70)
Insiders – non-managers	-0.0072	-0.0096	-0.0066	-0.0091
	(-1.96)	(-2.68)	(-1.83)	(-2.58)
CEO performance pay	-0.4792	-0.4041	-0.4391	-0.3643
	(-2.28)	(-1.98)	(-2.16)	(-1.85)
CEO tenure	0.1174	0.1200		
	(1.67)	(1.68)		
Institutional ownership	0.0066		0.0069	
	(2.34)		(2.50)	
Institutional HHI		2.4307		2.2566
		(1.10)		(1.07)
Leverage	-0.7012	-0.6510	-0.6492	-0.5912
	(-2.30)	(-2.12)	(-2.11)	(-1.91)
Ln (total assets)	-0.1516	-0.1552	-0.1501	-0.1538
	(-3.89)	(-4.00)	(-3.90)	(-4.01)
Market to book	0.1521	0.1528	0.1503	0.1520
	(2.38)	(2.37)	(2.35)	(2.35)
Return volatility	1.2787	1.1037	1.1340	0.9586
	(1.33)	(1.12)	(1.21)	(0.99)
Firm age	-0.0004	-0.0008	-0.0003	-0.0009
	(-0.12)	(-0.28)	(-0.12)	(-0.30)
N	1249	1254	1300	1305
"Pseudo R^2"	0.158	0.154	0.155	0.151

Table VIII
Instrumental Variable Regressions – Probit Analysis

Instrumental-variable, two-stage probit regressions of CSR, where *Turnover* is used as an instrument for *Insider ownership*. The *Predicted value of Insider ownership (Insider control)* is the predicted value obtained by regressing *Insider ownership* (*Insider control*) on *Turnover*, *Ln total asset*, *Market to book*, *Return volatility*, *Firm age* and *2 digit SIC codes*. *Institutional HHI* is the Herfindahl-Hirschman Index calculated based on the holdings of the 15 largest institutional investors. *Leverage* is the book value of long-term debt divided by the book value of total assets. *Ln total assets* is the natural log of the book value of assets. *Market to book* is defined as the ratio of the book value of assets plus the difference between the market value of equity and the book value of equity to the book value of assets. *Return volatility* is the standard deviation of share returns during the previous 60 months. *Firm age* is measured based on the date in which a firm's share price first appeared on the CRSP tape. Both specifications include *2-digit SIC code* indicators. The table provides *z*-statistics with robust standard deviations.

	(1)	(2)
Intercept	3.1515	2.2492
	(3.35)	(3.18)
Predicted value of Insider ownership	-0.0286	
	(-2.05)	
Predicted value of Insider control		-2.7226
		(-2.05)
Institutional HHI	-0.1381	-0.1381
	(-0.13)	(-0.13)
Leverage	-0.6071	-0.6071
	(-3.29)	(-3.29)
Ln (total assets)	-0.2413	-0.2165
	(-5.70)	(-6.50)
Market to book	0.0560	0.0708
	(1.50)	(1.86)
Return volatility	0.2158	0.2603
	(0.41)	(0.50)
Firm age	-0.0045	-0.0046
	(-1.26)	(-1.28)
N	2546	2546
"Pseudo R^2"	0.128	0.128

Table IX
Robustness Analysis by Size and Industry – Probit Regressions

In specifications (1) and (2) the sample of firms is partitioned according to size (book value of total asset). *Large Firms* refer to large cap firms and *Small Firms* refer to small cap firms respectively. In specifications (3) and (4), the sample of firms is partitioned according to the percentage of SR firms in the industry, where industry is defined according to the 2-digit SIC code. Firms that belong to an industry where the percentage of SR firms is higher than 86.5% (overall industry median value) are part of the first sub sample, and firms that belong to an industry where the percentage of SR firms is lower than 86.5% are part of the second sub sample. *Insider ownership* is the percent of common stock held by all the officers and directors of the company plus beneficial owners who own more than 5 percent of the total shares outstanding. *Insider control* is a dummy variable that equals 1 if insiders as a group have more than 50% of the shares outstanding. *Institutional ownership* is percent of common stock held by all the reporting institutions as a group. *Institutional HHI* is the Herfindahl-Hirschman Index calculated based on the holdings of the 15 largest institutional investors. *Leverage* is the book value of long-term debt divided by the book value of total assets. *Ln total assets* is the natural log of the book value of assets. *Market to book* is defined as the ratio of the book value of assets plus the difference between the market value of equity and the book value of equity to the book value of assets. *Return volatility* is the standard deviation of share returns during the previous 60 months. *Firm age* is measured based on the date in which a firm's share price first appeared on the CRSP tape. All specifications include *2-digit SIC code* indicators. The table provides *z*-statistics with robust standard deviations.

	Size Partitioning		Industry Partitioning	
	Large Firms	Small Firms	SR Industries	SI Industries
	(1)	(2)	(3)	(4)
Intercept	1.0200	2.2609	1.9831	1.9985
	(1.05)	(2.23)	(3.48)	(2.39)
Insider ownership	-0.0049	-0.0149	-0.0060	-0.0119
	(-1.81)	(-5.15)	(-1.82)	(-4.93)
Institutional ownership	0.0039	-0.0026	-0.0007	0.0014
	(1.53)	(-0.96)	(-0.24)	(0.59)
Leverage	-0.5704	-0.5371	-1.0272	-0.2108
	(-1.73)	(-1.95)	(-3.80)	(-0.84)
Ln (total assets)	-0.2182	-0.2837	-0.0997	-0.2560
	(-5.72)	(-3.29)	(-2.11)	(-7.56)
Market to book	0.2917	-0.0258	0.0124	0.0800
	(3.49)	(-0.70)	(0.29)	(1.32)
Return volatility	0.3854	0.1209	0.5783	0.1621
	(0.39)	(0.19)	(0.73)	(0.22)
Firm age	-0.0003	-0.0028	0.0032	-0.0024
	(-0.10)	(-0.51)	(0.68)	(-0.79)
N	1216	1175	1244	1293
"Pseudo R^2"	0.152	0.135	0.057	0.134