Is Corporate Social Responsibility Priced?

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Abstract

We provide evidence that firms with higher CSR activities earn lower future returns in asset pricing context initially. The quintile (or decile) hedging strategy buying the lowest CSR portfolio and selling the highest CSR portfolio earns 3.36-3.96% (4.23-4.52%) annual return on average. The negative relation between CSR and initial future short-term returns is consistent with the view that CSR activities are indicative of perceived social norm pressure. In addition, we find that while the impact of CSR on future returns is negative initially, the impact of cumulative CSR on future returns become positive over the long term between two and two and half years after CSR engagement. Two-year cumulative CSR produces 3.84-19.2% annual returns over time. Combined results are supportive of the social norm pressure (short term) and conflict resolution (long term) explanation. Our result is neither consistent with a view that CSR activities proxy for market risk nor with a view that no trading profits are possible on the basis of publicly available information on CSR.

Keywords Corporate social responsibility, asset-pricing portfolio approach, social norm pressure, market externality, long-term CSR investment

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1. Introduction

While the literature on the relation between corporate social responsibility (CSR) and firm value is quite extensive, the CSR-value relation remains inconclusive. Some recent studies find evidence that CSR can positively impact shareholder value to a certain extent (Dimson, Karakas, and Li, 2015; Ferrell, Liang, and Renneboog, 2016; Flammer, 2015; Krüger, 2015; Liang and Renneboog, 2017; Servaes and Tamayo, 2013). Their generalizability, however, is rather unclear because there are other counter evidences showing that CSR activities may decrease shareholder value by increasing managers' ability to opportunistically exploit corporate resources for their private gains (Cronqvist et al. 2009; Masulis and Reza 2015; Pagano and Volpin 2005).

In this paper, we attempt to shed light on the CSR–shareholder value debate, at least partially, by using the asset-pricing portfolio approach of the U.S. stocks. Specifically, we examine whether CSR can be viewed as a proxy for social norm, or CSR as a market externality, or CSR as a manifestation of Miller's (1977) optimistic pricing model and provide evidence on the market effects of CSRs within asset pricing context over time. Previous studies maintain that CSR investments incur costs to firms as well, with substantive payoffs usually only becoming evident in the long term (Burke and Logsdon, 1996; Wang and Bansal, 2012). This long-term horizon of CSR activities has an impact on managerial behavior, which, in turn, is closely related to a firm's long-term future stock return. And yet, to date there has been little empirical research to examine whether the CSR effect on stock return persists and whether this CSR effect becomes positive over time. Since many of the previous CSR-value papers produce conflicting cross-sectional implications, the debate can only be resolved with a careful empirical investigation of CSR-asset pricing context to address whether CSR is *priced* initially as well as over time. Our paper takes a step in this direction.

For this task, we analyze the role of CSR in predicting the cross section of future stock returns by regressing one-month ahead of monthly excess firm returns on the CAPM, Fama-French (1993) three factor model, the Carhart (1997) four factor model, and the Fama-French (2015) five factor model. We then examine the effect of cumulative CSR index on future stock returns to discern how long the CSR-cross section of stock return relation persists and whether this CSR effect changes over time. We take the asset-pricing portfolio approach because stock returns are less susceptible to the reverse causality and endogeneity problems relative to other corporate finance measures. To the best of our knowledge, this is the first attempt to study the investment performance of CSR within asset pricing portfolio contexts in the U.S. initially as well as over the long term.

We find that stocks with higher CSR earn significantly lower future returns than otherwise comparable stocks initially. In particular, a portfolio of stocks in the highest quintile of CSR underperforms a portfolio of stocks in the lowest quintile of CSR by 3.36 – 4.52 percent per year. This effect is strongest in small stocks and high book-to-market stocks. In addition, two-year cumulative CSR produces 3.84-19.2% annual positive returns over the long term between two and two and half years after CSR engagement. Our results are robust to various risk-adjusted asset pricing models and are inconsistent with an interpretation of CSR as a proxy for risk. Our results are rather consistent with an interpretation of CSR as a proxy for social norm and conflict-resolution mechanism.[1] More importantly, we consider that our negative CSR-short-term return association is closer to the agency cost- or CSR cost-based negative CSR-value view while our

[1] Although there are various definitions of the concept of a social norm, we define a social norm as an act whose utility to the agent performing it depends in some way on the beliefs or actions of other members or other stakeholders of the community, following Akerlof (1980) and Hong and Kacperczyk (2009).

positive CSR-long-term return association is consistent with a positive CSR-value relation found in earlier literature. We interpret these results to mean that our combined time-series results reconcile, at least partially, the conflicting evidence on the long-lasted CSR-value debate.

We consider that CSR-asset pricing context is an ideal setting in which to study the effects of CSR on markets for several reasons. A first reason why the stock market is ideally appropriate for an investigation of market effects of CSR as social norms or market externality is that there can be substantial financial costs associated with norm-constrained investing, that is, investors pay for their discriminatory tastes of CSR engagement.[2] To examine whether CSR as discriminatory norm-constrained investing or CSR as market externality, we take the CSR portfolio approach, that is, low vs. high CSR investor returns based on quintile or decile portfolio classifications sorted by CSR index. Friedman (1970) suggests that viewing CSR as market externality, CSR has a negative effect on corporate financial performance because a firm's CSR entails costs. Renneboog, Ter Horst, and Zhang (2008) study the performance of socially responsible investment (SRI) funds and find that SRI funds underperform the benchmarks, supporting the argument that socially responsible investments are costly. Even if a good firm produces a benefit for the society, there is little benefit for the firm itself – and the market knows it and values the firm negatively because of the cost of CSR.

Second, there is clearly a social norm for (against) funding operations that promote socially or environmentally beneficial (harmful) activities, and consequently many investors may want (shun) themselves or others to support these companies by investing in their stocks. Anecdotal

[2] Cahan, Chen, and Chen (2017) define norm-constrained institutions as institutions such as pension funds, universities, religious, charitable, and not-for-profit institutions that are exposed to social norm and public scrutiny. Following Cahan et al. (2017), we define norm-constrained institutions as those interested in how social norms affecting investment decisions.

evidence supporting this premise can be found in the 2016 Social Investment Forum (SIF) report. The US SIF Foundation (2016) suggests that the value of assets that takes into account environment, social, and governance (ESG) factors in investment analysis reach to US $8.72 trillion or more—or one out of every five dollars under professional asset management. Third, the stock market provides us with an ample dataset on investor behavior, stock pricing and firm performance, which allows us to discern more concretely among alternative hypotheses over time than do the existing empirical studies of CSR.

Utilizing firms' CSR activities measured by social ratings from the KLD (MSCI ESG) Stats database, we find that lower CSR portfolios initially obtain higher risk-adjusted returns than higher CSR portfolios. In addition, the coefficients on the CSR composite index estimates are negative and statistically significant in Fama-MacBeth (1973) regressions. Furthermore, we find that the long-term effect of cumulative CSR investments become positive and significant between two and two and half years after the initial CSR investment. Moreover, the coefficients on CSR composite index estimates are positive and statistically significant in firm value/performance regressions. We further find that institutional ownership is a concave function of CSR. This evidence is consistent with the premise that institutional investors focus on economically optimal value rather than the social value of CSR activities. Together, our results are closer to the social norm pressure (for short term) and conflict resolution (for long term) hypothesis than the market externality hypothesis or Miller's optimistic pricing view. The results are neither supportive of CSR as market risk premium nor the unbiased hypothesis that views investors cannot generate abnormal returns based on publicly available CSR information.

The remainder of this paper proceeds as follows. The following section discusses related literature and our hypothesis on the relation between the social norm pressure, conflict resolution,

and portfolio returns. The next section presents our sample and measurement. Subsequent section presents our empirical results. The last section contains discussions and conclusion.

2. Literature Review and Hypotheses Development

2.1. Literature Review

Whether or not CSR performance generates value still remains controversial, some corporate finance studies find that it generates shareholder value (Dimson, Karakas, and Li, 2015; Flammer, 2015; Ferrell, Liang, and Renneboog, 2016; Krüger, 2015; Liang and Renneboog, 2017; Servaes and Tamayo, 2013) or that it is akin to insurance against potential negative outcome (Godfrey, 2005; Godfrey, Merrill, & Hansen, 2009) or financial crisis (Lins, Servaes and Tamayo, 2017). Others claim that CSR activities decrease value because managers opportunistically exploit valuable resources for their own private gains (Cronqvist et al., 2009; Masulis and Reza, 2015; Pagano and Volpin, 2005). Based on CSR strength and concern ratings, Lioui and Sisto (2017) sort stocks into portfolios based on their size and strength ratings and size and concern ratings, and find that the concern factor is consistently priced, while strength factor market price of risk varies considerably.

Still the remotely related socially responsible investing (SRI) literature is less positive. Statman and Glushkov (2009) examine whether and how portfolios sorted by KLD's measures generate Carhart four-factor alphas and suggest that firms having high ESG scores can earn positive abnormal investment return. In a follow up paper, Statman and Glushkov (2016) construct factor portfolios based on KLD data, offer the asset pricing model as a tool for classifying mutual funds as socially responsible vs. conventional mutual funds, and measure their performance. They claim that when they consider socially responsible factors, mutual funds' measured performance

differs from their performance when socially responsible factors are overlooked. Similarly, Kempf and Osthoff (2007) find high abnormal returns of up to 8.7% per year by buying stocks with high SRI ratings and selling stocks with low SRI ratings. However, Bauer, Koedijk, and Otten (2005) find no or a mixed effect of SRI screens on investment returns; Renneboog, Ter Horst, and Zhang (2008), and Hong and Kacperczyk (2009) find a negative effect. Edmans (2011) and Eccles, Ioannou, and Serafeim (2014) find a positive association among others.

This apparent mixed and inconclusive evidence could be because active management is costly or that CSR is combined with different styles or that the CSR-return relation over time considering both the short- and long-term return impact has been missing. Given the long-term nature of CSR investment, we maintain that we can potentially find a missing link between CSR engagement and future stock returns over time to reconciliate between the previous conflicting findings.

2.2. Hypotheses Development

We examine several competing hypotheses about the relation between a firm's CSR activities and its initial short-term future portfolio stock returns, and then between CSR and long-term returns. First, we focus on short-term returns. The social norm hypothesis views CSR activities as a proxy for an indication of social norm, similar to Hong and Kacperczyk (2009) who examined the effects of social norms on markets by studying the investing environment of sin stocks — publicly traded companies involved in the production of alcohol, tobacco, and gaming that are a subset of socially irresponsible stocks. This hypothesis suggests an inverse relation between CSR activities and stock returns of the firm: the higher the firm's level of CSR activities,

the higher its social norm pressure and hence the lower its future returns. We label this as the social norm pressure hypothesis.

While Hong and Kacperczyk (2009) provide evidence on negative screening focusing on discouraging bad practices of sin stocks, they do not consider positive screening — where they invest more in firms with better CSR performance and where they promote improvements in the CSR of existing investees. Cahan, Chen, and Chen (2017) show that social norms can lead norm-constrained institutions to engage in more positive screening. They find that increases in the shareholdings of norm-constrained institutions are associated with subsequent improvements in CSR.

We begin our investigation of social norm effects on investments in CSR stocks similar to Hong and Kacperczyk (2009) and Cahan, Chen, and Chen (2017). Different from them, however, we take the asset-pricing portfolio approach and examine whether CSR is priced in the stock market not only in the short term, but also over the long term, and whether CSR stock portfolio returns are different between low- and high-CSR stock portfolios. Because Shen and Benson (2014) have shown that CSR has increasingly become a social norm, we postulate that the initial short-term returns of lower CSR stock portfolios that are subject to relatively less social norm pressures should be higher than those of higher CSR stock portfolios that are subject to more social norm pressures.

Alternatively, Friedman (1970) suggests that viewing CSR as market externality, CSR has a negative effect on corporate financial performance because a firm's CSR entails costs. Even if a good firm produces a benefit for the society, there is little benefit for the firm itself – and the market knows it and values the firm negatively because of the cost of CSR. Thus, both social norm pressure and market externality models predict the negative relation between observed CSR

activities and future stock returns.

One could also argue that the inverse relation between CSR activities and future stock returns of the firm might be, perhaps, due to Miller's (1977) optimistic pricing. Specifically, Miller (1977) argues that asset prices will err on the side of optimistic valuation if pessimistic investors are kept out of the market because of high short-sale costs. In Miller's model, optimists hold the stock because they have a higher valuation for the firm than an average market expectation. This price-optimism model suggests that the bigger the disagreement about a true value of the firm, the higher the market price relative to the true value of the stock, and the lower its future returns. To the extent that market externality explanation or the Miller's optimistic pricing explanation is valid, the stock market incorporates public information of CSR activities rapidly. Thus, we expect that the negative effect of CSR activities on future stock returns over time would dramatically decrease and we would observe no relation between the two at certain stage.

Next, the risk premium hypothesis considers CSR activities as a proxy for the firm's non-diversifiable risk. Investors who are not well diversified will demand compensation for the idiosyncratic risk of the securities they hold (Fu, 2009; Goyal and Santa-Clara, 2003; Merton, 1987). Since higher CSR activities likely indicates a more volatile and less predictable earnings stream, stocks with higher CSR activities should earn higher expected returns. Alternatively, Merton (1987) and Heinkel, Kraus, and Zechner (2001) maintain that when socially conscious investors prefer not to include firms with low CSR in their investment portfolio, the expected returns for these excluded firms (i.e., high CSR portfolio) will increase.

Last, the unbiasedness hypothesis views the market prices will be unbiased even when CSR levels differ across firms, and future returns will be independent of the current level of CSR activities. The key assumption in this hypothesis is similar to Diamond and Verrecchia (1987) who

assume that the market-maker has perfect knowledge of his economic environment and can perform Bayesian updating in the short time between consecutive trades. Hong and Stein (2003), similarly, achieve unbiased pricing by introducing competitive, risk-neutral, and perfectly rational arbitrageurs who can correctly infer the expected asset prices. Both of these models predict that no excess trading profits can be made based on publicly available information, and that there is no relation between observed CSR activities and future returns.

In summary, regarding the initial short-term stock return and CSR linkage, the social norm hypothesis or the market externality hypothesis or Miller's (1977) optimistic pricing model predicts a negative relation between CSR activities and future returns. The risk premium hypothesis predicts a positive relation. And the unbiasedness hypothesis predicts no relation.

Hypothesis 1 (H1-1) A firm's future short-term stock return is negatively associated with its CSR engagement.

Hypothesis 1 (H1-2) A firm's future short-term stock return is positively associated with its CSR engagement.

Hypothesis 1 (H1-3) A firm's future short-term stock return is not associated with its CSR engagement.

Next, we contemplate the impact of a firm's CSR activities on its long-term future returns. In general, there are three streams of research related to the investment planning horizon of CSR. The first stream of research pertaining to the investment planning horizon of CSR is conflict resolution based on monitoring theory. A large body of literature has investigated the long-term perspective of CSR. Previous studies argue that sound monitoring mechanism forces managerial decisions to align with shareholders' long-term interests, thus encouraging firms to engage actively in CSR (e.g., Harjoto and Jo, 2011; Jo and Harjoto, 2011, 2012; Kassinis and Vafeas, 2002; Neubaum and Zahra, 2006; Sethi, 2005; Shleifer and Vishny, 1997). They also suggest that CSR

could mitigate the conflicts of interest between stakeholders and managers to the extent that CSR engagement can be used as a conflict-resolution mechanism, and therefore, can lead to positive long-term performance. Specifically, these studies document that effective CSR demands long-term effort and costly investments (Graves and Waddock, 1994; Johnson and Greening, 1999) in order for firms to maintain sustainable relationships with stakeholders, satisfy implied claims, interact consistently with local communities, and foster a productive long-term firm culture. Hence, firms that engage in CSR can decrease the risk of explicit claims (Hong and Kacperczyk, 2009; Waddock and Graves, 1997), reduce the potential conflicts of interest between stakeholders and managers (Harjoto and Jo, 2011; Jo and Harjoto, 2011, 2012), and enhance a firm's reputation (Brine et al., 2007; Turban and Greening, 1997).

As time passes by, we maintain that various stakeholders learn the firm's true intent and extent of CSR engagements, put more pressure to managers, and therefore, managers continue to engage in CSR activities to reduce potential conflicts-of-interest between managers and stakeholders, eventually leading to a positive relation between the long-term CSR engagement and long-term stock returns. We label this as the combined social norm pressure and conflict resolution hypothesis. To the extent that long-term CSR engagements align various stakeholders' long-term perspectives and corporate decisions (Sethi, 2005), we expect a positive effect of CSR on long-term stock returns.

The second stream of research follows the "managerial myopia" paradigm (see Bushee, 1998, 2001; Lundstrum, 2002; Stein, 1988; Wahal and McConnell, 2000). Managers may prefer short-term gains stemming from their own efficiency-seeking decisions, thus hindering CSR and long-term returns. Previous studies have suggested the existence of managerial myopia, short-term investments, and quick payoffs, which are likely to suppress long-term investments that do not

yield material long-term returns (Lundstrum, 2002; Wahal and McConnell, 2000). The literature also highlights the short-term pressure placed on management by investors with short-term investment horizons. Thus, investor focusing on the short-term return can force managers to sacrifice long-term investments for better short-term performance, leading to a negative relation between CSR and long-term stock returns.

The third stream of research related to the investment planning horizon of CSR is that of information asymmetry theory. Managers who are responsible for CSR activities are better informed than stakeholders are on the potential impact of CSR on the long-run financial prospects of the firm. In addition, asymmetric information between managers and investors may incur extra costs in terms of explaining a long-term uncertain investment (Hitt et al., 1996; Laverty, 1996), and investors may not understand (or be interested in) the long-term outcomes of a corporate investment (Carpenter and Sanders, 2004; Lazonick and O'Sullivan, 2000). In combination, information asymmetry between managers and investors (Hitt et al., 1996; Laverty, 1996) may impede a firm from engaging proactively in long-term CSR activities, leading to potentially no (or even negative) relation between CSR and long-term stock returns. In summary, CSR activities may have a positive or a negative or an insignificant effect on a firm's long-term stock returns. Thus, we have the following competing hypotheses.

Hypothesis 2 (H2-1) A firm's future long-term stock return is positively associated with its CSR engagement.

Hypothesis 2 (H2-2) A firm's future long-term stock return is negatively associated with its CSR engagement.

Hypothesis 2 (H2-3) A firm's future long-term stock return is not associated with its CSR engagement.

3. Data and Measurement

To gauge firms' CSR engagement level, we use an extensive data set from the Kinder, Lydenberg, and Domini's (KLD's) Stats database. KLD's Stats inclusive social rating criteria covers approximately 80 strengths and concerns ratings in seven major qualitative issue areas including community, corporate governance, diversity, employee relations, environment, human rights, and product. KLD has exclusionary screens, such as alcohol, gambling, military, nuclear power, and tobacco. Because KLD's exclusionary screens differ from the inclusive screens in that only concern ratings, but no strength ratings, are available, we only use the inclusive screens in our main tests, such as community, diversity, employee relations, environment, human rights, and product.

Prior to 2001, KLD contained data from approximately 650 firms listed on the S&P 500 or Domini 400 Social Indexes as of August of each year. For 2001 and 2002 (2003 and thereafter), the KLD's ratings are a summary of strengths and concerns assigned to approximately 1,100 (3,100) firms listed on the S&P 500, the Domini 400 Social Indexes, or the Russell 1,000 (Russell 3,000) Indexes as of December 31st of each year. In 2002, KLD renamed the other category as corporate governance and reassigned the presentation of data in non-U.S. operations from the community category. New ratings in the human rights area began in 2002, mostly taken from the former Non-U.S. Operations category. To focus on more recent periods, we choose the sample period of 2000–2013.

KLD strength and concern criteria are given binary codes of zero or one, and as the number of measures varies across the years, an index is used to aggregate the individual activities, which are rated under different categories. Based on the ratings, following Harjoto, Jo, and Kim (2017), the index $C_{i,kt}$ of CSR composite is calculated as:

$C_{i,kt}$ index for firm i in year t

$$= \frac{(C_{i,kt}\ net\ count\ for\ firm\ i\ in\ year\ t - Min.C_{i,kt}\ net\ count\ for\ firm\ i's\ industry\ in\ year\ t)}{(Max.C_{i,kt}\ net\ count\ for\ firm\ i's\ industry\ in\ year\ t - Min.C_{i,kt}\ net\ count\ for\ firm\ i's\ industryin\ year\ t)}$$

The index $C_{i,kt}$ of CSR composite has five components: 1) community, 2) environment, 3) diversity, 4) employee relations, and 5) product quality. The CSR-FF12 index is computed as (community index + environment index + diversity index + employee relations index + product quality)/5. See the list of the CSR composite calculations, strength, and concern items in the KLD database in Appendix A.[3]

Having described our procedures for computing the CSR composite index, we now characterize our data collection for our universe of stocks. Our data for the U.S. firms comes from CRSP and Compustat. From CRSP, we obtain daily closing stock prices and daily shares outstanding for NYSE, Amex, and NASDAQ stocks over the period of 2000-2013. From Compustat, we obtain annual information on a variety of accounting variables over the same time period. To be included in our sample, a firm must have the necessary financial data from both CRSP and Compustat. We follow other studies in focusing on companies with CRSP share codes of 10 or 11 and excluding firms with a one-digit SIC code of 6, which belongs to the financial services industry.

To examine the relative importance of various competing hypotheses, we also use institutional ownership structures from the CDA Spectrum Database of 13-Filings by institutional investors, defined as those managing at least US $100 million in assets. This database reports holdings of a particular stock in terms of shares held by various classes of institutional investors. The five institution types include type 1 (banks), type 2 (insurance companies), type 3 (mutual

[3] We also follow Hillman and Keim (2001), Baron, Jo, and Harjoto (2011), and Jo and Harjoto (2011, 2012) to construct alternative *CSR Index* and find that our main results remain intact (unreported).

funds), type 4 (independent investment advisors), and type 5 (others including pension plans, endowments, and employee-ownership plans). Our analysis will focus on the end-of-year filing.

4. Empirical Results

4.1. Descriptive Statistics

First, we present the sample distribution of unique number of firms by year and industry in Table 1. Each firm is assigned into one of the Fama-French 12 industries (FF1~FF12) classification based on its SIC code. The sample period covers January 2000 to December 2013. Panel A shows the unique number of firms each year. Panel B and C report the average and standard deviation of the CSR-FF12 index. As both the average and standard deviation of CSR-FF12 numbers are widely dispersed, we can conduct various regression tests.

[Table 1 about here]

4.2. Baseline Portfolio Regression Results

To investigate whether the CSR-FF12 index explains the cross-sectional variation of expected future stock returns, we estimate the equal-weighted average monthly returns of quintile (decile) portfolios formed based on the CSR-FF12 index. We form five (ten) portfolios according to the CSR-FF12 index value in each year. Quintile 1 is composed of stocks with the lowest CSR-FF12 index while Quintile 5 (Quintile 10) is composed of stocks with the highest CSR-FF12 index. These portfolios are equally weighted, rebalanced every year, and assumed to be held for the subsequent next twelve-month period. Besides the equal-weighted average monthly returns of portfolios,[4] we also report FF-3 alphas and Carhart (1997)-4 alphas, whereas FF-3 alphas and Carhart-4 alphas are

[4] Our results remain unchanged when we use value-weighted average monthly returns of portfolios.

obtained by running the time-series regressions for monthly excess returns on five (ten) portfolios sorted by CSR- FF12 index as below;

$$(R_{pt} - R_{ft}) = \alpha_{FF3} + \beta_1(R_{mt} - R_{ft}) + \beta_2 SMB_t + \beta_3 HML_t + e_{pt}$$

$$(R_{pt} - R_{ft}) = \alpha_{FF4} + \beta_1(R_{mt} - R_{ft}) + \beta_2 SMB_t + \beta_3 HML_t + \beta_4 UMD_t + e_{pt}$$

where R_{pt} is the monthly portfolio return constructed by the CSR-FF12 index and $R_{mt} - R_{ft}$ is the market excess return in month *t*. SMB_t is the difference between the month t return on a value-weighted portfolio of small stocks and one of large stocks. HML_t is the difference between month t return on a value-weighted portfolio of high book-to-market and low book-to-market stocks. UMD_t (the momentum factor) is the difference between month t return on a value-weighted portfolio of high prior returns and one of low prior returns portfolios. All Fama-French factors, SMB_t, HML_t, $and\ UMD_t$, are obtained from Kenneth French's website. In addition, we also examine whether a hedging strategy with a long position in a low CSR-FF12 index portfolio and a short position in a high CSR-FF12 index portfolio (Q1-Q5) can or cannot earn significantly positive profits.

Table 2 presents average monthly returns for equal-weighted quintile portfolios formed on the CSR-FF12 index. Portfolios are formed at every year by sorting all firms according to the magnitude of the CSR-FF12 index and we assume that stocks are held for the next twelve-month-period. This process is repeated every year. Monthly stock returns are obtained from the Center for Research in Security Prices (CRSP) with stocks traded on the NYSE (exchcd=1), Amex (exchcd=2), and NASDAQ (exchcd=3). We use only common shares. Stocks price less than five dollars are excluded from the sample reported in Panel A. "Q1-Q5" denotes an arbitrage portfolio that buys the lowest quintile CSR-FF12 index portfolio (Q1) and sells the highest quintile CSR-FF12 index portfolio (Q5). Besides the average raw returns of portfolios, we also report FF-3 alphas and Carhart-4 alphas. The results suggest that all equally weighted returns, FF-3 alphas, and Carhart-4 alphas of

low CSR-FF12 index portfolio (Q1) are statistically higher than those of the highest CSR-FF12 index portfolio (Q5), earning 3.96 percent annual return on average. The results from excluding stock price less than five dollars and excluding the financial industry are reported in Panel B, which closely mimic the Panel A results earning 3.36 percent annual return on average. Thus, the baseline results are supportive of the prediction made by social norm pressure hypothesis or the market externality hypothesis, or Miller's (1977) optimistic pricing model (H1-1), but neither the risk premium hypothesis (H1-2) nor the unbiased hypothesis (H1-3).

As before, besides the average raw returns of portfolios, we examine FF-3 alphas and Carhart-4 alphas. Similar to the quintile portfolio results, both monthly decile portfolio results from excluding stock prices less than five dollars and further excluding financial industry results suggest similar outcomes. Our untabulated results suggest that all average returns, FF-3 alphas, and Carhart-4 alphas of the lowest CSR-FF12 index portfolio (D1) are statistically higher than those of the highest CSR-FF12 index portfolio, again supporting H1-1.[5]

[Table 2 about here]

Table 3 present double-sort portfolio analysis based on Size-CSR-FF12 index and Book-to-market Ratio-CSR-FF12 index to test whether we are simply capturing a size effect or a Book-to-Market effect. Each month we assign stocks to one of five quintiles base on the level of market capitalization (in Panel A) and Book-to-Market Ratio (in Panel B) at the end of previous month. We rank stocks in each SIZE (BtM) quintile into further quintiles based on CSR-FF12 index at the end of previous year. Panel A shows that the average monthly return differential between low- and high-CSR-FF12 index portfolios declines as the average size increase. While the return differential

[5] The results remain qualitatively the same when we exclude Microsoft from the sample because Micorosoft has engaged in CSR for a long period of time in a big scale.

between the low- and high-CSR-FF12 stocks is positive and highly significant for the smaller stocks, it becomes insignificant for stocks in the high market- capitalization quintiles. Thus, it does not appear that we are simply picking up firm size effect, because 'D1-D4' arbitrage portfolio that buys low CSR-ff12 index portfolio (D1) and sells high CSR-FF12 index portfolio (D4) is significantly positive.

Panel B presents the monthly average return of BtM-CSR-FF12 portfolios. We observe that the average monthly return differential between low- and high-CSR-FF12 index portfolios declines as the average BtM increases. While the return differential between the low- and high-CSR-FF12 stocks is positive but insignificant for the low Book-to Market ratio stocks, it becomes strongly significant for stocks in the high Book-to Market portfolios. Thus, it does not appear that we are simply picking up the Book-to-Market effect either. Again, 'D1-D4' arbitrage portfolio is significantly positive.

[Table 3 about here]

We repeat the same portfolio analysis for robustness check based on decile portfolio formation in which "D1-D10" denotes an arbitrage portfolio that buys the lowest CSR-FF12 index portfolio (D1) and sells the highest CSR-FF12 index portfolio (D10). Hong and Kacperczyk (2009) find that sin stocks have higher expected returns than comparable stocks. Our baseline portfolio regression results, therefore, could be contaminated by sin stocks. Thus, we examine the average equal-weighted return results of the decile portfolios formed by the CSR-FF12 index for subsamples excluding sin stocks including alcohol, tobacco, and gaming.[6] The results excluding sin stocks

[6] Sin stocks are categorized by three groups: 1) Stocks with SIC codes 2100–2199 belong to the Alcohol group and 2) those with SIC codes of 2080–2085 are in the tobacco group. We adopt NAICS classification for gaming stocks so 3) stocks with NAICS codes in 7132, 71312, 713210, 71329, 713290, 72112, and 721120 are in the gaming group.

reported in Table 4 are qualitatively identical to the Table 2 results that include all stocks including sin stocks, earning 5.40 percent annual return on average. Therefore, our baseline portfolio regression results are not sensitive to the exclusion of sin stocks. Our untabulated results based on quintile portfolio formation suggest that all average returns, FF-3 alphas, and Carhart-4 alphas of the lowest CSR-FF12 index portfolio (D1) are statistically higher than those of the highest CSR-FF12 index portfolio, again supporting H1-1.

[Table 4 about here]

Next, to examine the sources of CSR-FF12 index results, we investigate the subsets of KLD CSR components. Our untabulated results indicate that most of the main effects come from environment and diversity. In contrast, the decile (quintile) portfolio return differentials are largely not significant in community, employee relations, and product quality.

Because our sample period includes the financial-crisis period of 2008-2009, we are curious whether our main results are mainly due to the financial crisis effect and find that our main effects come from all period, including or excluding financial crisis period, and more significant in financial-crisis period (unreported). We also divide the entire sample period into the expansion and contraction periods based on the Chicago FED National Activity Index (CFNAI)[7] and the National Bureau of Economic Research (NBER) recession dummy taking the value of one if the U.S. economy is in recession as determined by the NBER and zero otherwise and conduct the portfolio analysis using sub-sample dataset. Our untabulated suggest that our main effect is more pronounced during the contraction period than the expansion period.

[7] The CFNAI, the weighted average of 85 monthly indicators of national economic activity, is a monthly index designed to assess overall economic activity and related inflationary pressure. It is constructed to have an average value of zero and a standard deviation of one. A positive index reading corresponds to growth above the trend and a negative index reading corresponds to growth below the trend. Its time-series data is available from the following URL: https://www.chicagofed.org/research/data/cfnai/historical-data.

4.3. Fama-MacBeth Regression results

In this section, to examine whether the CSR-FF12 index effect on stock returns still holds after controlling for other risk factors, we regress cross-sectional excess returns on factor loadings using the Fama-Macbeth (1973) two-stage methodology framework at the firm level. In the first stage, we estimate factor loadings, $\beta(\cdot)$, at the end of each month by running a time-series regression with respect to the Fama-French 3 (Carhart 4, Fama-French 5) factor model using the past 36-months (60 months as well) of data as detailed below;

$$(R_{it} - R_{ft}) = \alpha_i + \widehat{\beta_{MKT}}(R_{mt} - R_{ft}) + \widehat{\beta_{SMB}}SMB_t + \widehat{\beta_{HML}}HML_t + e_{it}$$
$$(R_{it} - R_{ft}) = \alpha_i + \widehat{\beta_{MKT}}(R_{mt} - R_{ft}) + \widehat{\beta_{SMB}}SMB_t + \widehat{\beta_{HML}}HML_t + \widehat{\beta_{UMD}}UMD_t + e_{it}$$
$$(R_{it} - R_{ft}) = \alpha_i + \widehat{\beta_{MKT}}(R_{mt} - R_{ft}) + \widehat{\beta_{SMB}}SMB_t + \widehat{\beta_{HML}}HML_t + \widehat{\beta_{RMW}}RMW_t + \widehat{\beta_{CMA}}CMA_t + e_{it}$$

where RMW_t is the average return on the robust operating profitability portfolios minus the average return on the weak operating profitability portfolios and CMA_t is the average return on the conservative investment portfolios minus the average return on the aggressive investment portfolios. All Fama-French factors, SMB_t, HML_t, UMD_t, RMW_t, and CMA_t are obtained from Kenneth French's website. We require at least 10 months for time-series regression. In the second stage, we run the cross-sectional regression on next month's returns. We repeat the procedure by rolling the beta estimation window by one month.

$$(R_{it} - R_{ft}) = \gamma_{i,0,t} + \gamma_{i,1,t}CSR - ff12\ index + \gamma_{i,0,t}\widehat{\beta_{\iota,MKT,t-1}} + \gamma_{i,0,t}\widehat{\beta_{\iota,SMB,t-1}} + \gamma_{i,0,t}\widehat{\beta_{\iota,HML,t-1}} + e_{it}$$
$$(R_{it} - R_{ft}) = \gamma_{i,0,t} + \gamma_{i,1,t}CSR - ff12\ index + \gamma_{i,2,t}\widehat{\beta_{\iota,MKT,t-1}} + \gamma_{i,3,t}\widehat{\beta_{\iota,SMB,t-1}} + \gamma_{\iota,4,t}\widehat{\beta_{\iota,HML,t-1}} + \gamma_{\iota,5,t}\widehat{\beta_{\iota,UMD,t-1}} + e_{it}$$
$$(R_{it} - R_{ft}) = \gamma_{i,0,t} + \gamma_{i,1,t}CSR - ff12\ index + \gamma_{\iota,2,t}\widehat{\beta_{MKT}} + \gamma_{i,3,t}\widehat{\beta_{SMB}} + \gamma_{\iota,4,t}\widehat{\beta_{HML}} + \gamma_{\iota,5,t}\widehat{\beta_{RMW}} + \gamma_{i,6,t}\widehat{\beta_{CMA}} + e_{it}$$

In Table 5 Panel A, we regress next-month excess firm returns on the Fama-French (1993) three-factor model, the Carhart (1997) four-factor model, and the Fama-French (2015) five-factor

model. In the first stage, we estimate betas at the end of each month by running a time-series regression using the past 36 and 60 months of data. We require at least 10 months for time-series regression. We then run the cross-sectional regression on next month's returns. We repeat the procedure by rolling the beta estimation window by one month. Table 5 results suggest that the coefficients on the CSR-FF12 index estimates are significant and negative, at least, at the 10% (5%) significance level, using the past 36 (60) months of data, respectively, further supporting our H1-1. Our unreported results remain robust even when we exclude sin stocks.

[Table 5 about here]

Next, we repeat the same Fama-French regression analysis using CSR strengths and CSR concerns. The results reported in Table 6 suggest that the coefficients on CSR strengths (csr_str_ff12_index) are significantly negative at the 1% significance level, but the coefficients on CSR concerns (csr_con_ff12_index) remain negative, but insignificant. The results indicate that the supporting evidence of our short-term effect mainly comes from CSR strengths, but not from CSR concerns.

[Table 6 about here]

4.4. Additional Tests of Norm-Constrained Investing

To examine the effect of social norm on future stock returns more directly, we use alternative proxy of norm constrained institutions. Cahan, Chen, and Chen (2017) base their classifications for norm-constrained institutions (hereafter, *NormCon*) on the CDA Spectrum database of 13-F filings. While the CDA Spectrum 13-F filings classifies institutional investors into five types: banks, insurance companies, mutual funds, investment advisors, and others, Cahan, Chen, and Chen (2017) find some banks, insurance companies, mutual funds, and investment advisors are

incorrectly classified. Accordingly, they reassign these institutional investors into the appropriate group, and the group 'others' turns out to include pension funds, university endowments, and religious, charitable, and other non-for-profit organizations.

Hong and Kacperczyk (2009) include banks and insurance companies in their definition of norm-constrained. Brickley, Lease, and Smith (1988) and Chen, Hartford, and Li (2007), however, maintain that banks and insurance companies may be less independent due to existing or potential business relationships with investee firms, whereas Cahan, Chen, and Chen (2017) argue that they are natural arbitrageurs that are mostly driven by financial objectives. Thus, we exclude banks and insurance companies from our additional tests. Instead, we use the group of 'others' including pension funds, university endowments, and religious, charitable, and other non-for-profit organizations as our measure of *NormCon*.

Adopting Cahan, Chen, and Chen's (2017) alternative measure of *NormCon*, we compute the *NormCon* as the number of institution shareholders categorized by type 5 "others" in the 13-F filings. Portfolios are formed at every year by sorting all firms according to the magnitude of the *NormCon* and we assume stocks are held for the next twelve-month-period. This process is repeated every year. Taking the same approach as in our baseline portfolio approach used in Table 2, our *NormCon*-based results reported in Table 7 show that all equally weighted returns, FF-3 alphas, and Carhart-4 alphas of low CSR-FF12 index portfolio (Q1) are statistically higher than those of the highest CSR-FF12 index portfolio (Q5). For instance, Carhart-4 alphas produce 19.2 (24.7) percent annual return on average when stock price less than five dollars (stock price less than five dollars and financial industry) are excluded. Thus, when we use more direct measure of norm constrained institutions, the quintile hedging strategy yields much higher annual returns. The unreported decile

hedging strategy provide similar (i.e., much higher) results. The results further reinforce the validity of the social norm pressure hypothesis.

[Table 7 about here]

4.5. Long-Term Return Tests

Thus far, our main results of the negative relation between CSR activities and future short-term stock returns could be either due to the social norm pressures or market externality or due to the Miller's (1977) optimistic pricing. To determine the relative importance between the three competing explanations as well as to examine the long-term CSR-future return relation, we examine the effect of CSR activities on future stock returns over time. To the extent that the combined social norm pressure and conflict resolution hypothesis is valid, we expect to observe that CSR activities will decrease the future stock returns initially. However, as CSR investments are long-term oriented, and provide conflict-resolution mechanism to various stakeholders, we anticipate the CSR-future long-term stock returns will become positive as time passes. In contrast, if the Miller's optimistic pricing explanation or the market externality explanation is correct, we anticipate that the effect of CSR activities on future stock returns over time would dramatically decrease and we would observe no relation or even an inverse association between the two at certain stage.

Notably, our results reported in Table 8 suggest that although the negative relation between future stock returns and CSR activities continues to be significant over the next few months up to one year after CSR engagement and after controlling for Fama-French factors, the relation between future stock returns and CSR activities becomes insignificant between one year after and two year after CSR engagement, but becomes positive slightly after two years, supporting the combined social

norm pressure and conflict resolution hypothesis (H1-1 and H2-1).[8]

[Table 8 about here]

Shiu and Yang (2017) extend Godfrey's (2005) model and suggest that even in the face of negative events, consistent long-term engagement in CSR can provide insurance-like benefits to firms' market valuation. Firms will benefit from the reservoir of goodwill and positive attributions built through CSR activity (Godfrey, 2005; Godfrey et al., 2009; Shiu &Yang, 2017), resulting in positive outcome in the long term. Thus, to better capture the long-term nature of CSR investment, we repeat the same procedure of long-term tests using the cumulative CSR activities over the next two years after initial CSR engagement and the results are reported in Table 9. Cumulative CSR based results are almost identical to Table 8 results, but with much stronger positive coefficients on cumulative CSR activities. Our unreported Fama-French three factor and Carhart four factor models provide almost identical results with Fama-French five factor models. Overall, our cumulative CSR based results further reinforce the validity of the combined social norm pressure and conflict resolution hypothesis (H2-1), but neither the Miller's optimistic pricing nor the market externality explanation.

[Table 9 about here]

4.6. Firm Value/Performance Regressions on CSR

So far, our analysis focuses on an asset-pricing portfolio approach. Using characteristics or betas is still a controversial topic. Chordia, Goyal & Shanken (2015) argue that characteristics explain more variation in expected returns than factor loadings, and Harvey, Liu and Zhu (2015)

[8] We compute cumulative stock return cum_t+2_t as follows. For instance, cum_3_1=(1+lead1_ret)*(1+lead2_ret)*(1+lead3_ret)-1; cum_6_4=(1+lead4_ret)*(1+lead5_ret)*(1+lead6_ret)-1; and cum_9_7=(1+lead7_ret)*(1+lead8_ret)*(1+lead9_ret)-1, respectively, where lead1(2, 3…)_ret is one (two, three…)-month ahead stock return.

claim that some of the portfolio sort results appear relatively weak in the return spread and only marginally significant for some of the sorts. If characteristics were truly better, then allowing CSR to be a characteristic while all the other factors to use betas would be unfair towards the significance of alternative factors relative to their CSR factor. In other words, the result could arise due to the characteristics vs. beta issue rather than the relevance of the CSR vs other factors. For this reason, to compare with previous corporate finance studies and further determine the relative importance between the combined social norm pressure and conflict resolution effect and the market externality effect or Miller's optimistic pricing effect, we examine the effect of CSR on firm performance and institutional ownership after controlling for firm characteristics instead of factor loadings. We first examine whether the CSR-FF12 index influences firm value/performance and run the following Fama-Macbeth OLS regression:

$$VALUE/PERFORMANCE_{i,t} = \alpha_i + \beta_1 CSR\_ff12\_IDX_{i,t-1} + \beta_2 Z_{i,t-1} + e_{i,t}$$

VALUE/PERFORMANCE$_{it}$ is firm value/performance of stock i at the end of each year. Similar to Hong and Kacperczyk (2009) and Edmans (2011), we use four performance ratios as dependent variables: the log market-to-book ratio (M/B), Tobin's Q (firm value proxy), the log price-to-earnings ratio (P/EBITDA), and the log of the ratio of aggregate value to earnings before interest, tax, depreciation, and amortization (AV/EBITDA). CSR_ff12_IDX$_{i,t-1}$ is the CSR-FF12 index of the previous year. We combine control variables $(Z_{i,t-1})$from Hong and Kacperczyk (2009), Servaes and Tamayo (2013), and Ioannou and Serafeim (2014), and measure them at December of the previous year. LOGTA is Log of total asset, SGROWTH is sales growth rate from t - 1 to t, DEBTR is Long-term debt divided by total asset, CAPXR is Capital expenditure expense divided by total sales, ADVR is Advertising expense divided by total sales, ROE is the

return on equity, RNDRSALE is the ratio of R&D to sales, and RNDMISS is a dummy variable if R&D is missing.

Hong, Kubik, and Stein (2008) suggest that the Fama-MacBeth (1973) approach may produce understated standard error problems. Thus, they use the pooled- plus-clustering approach to handle the understated standard error problem and include some future control variables to adjust the estimated coefficient as well as the standard errors of their main independent variable. Using this procedure, they find that the future firm-level variable has stronger positive effects on stock prices and firm value. Following Hong, Kubik, and Stein (2008), we include the returns on equity for the next three years (F1ROE, F2ROE, and F3ROE) in our cross-sectional regression.

The results of firm value/performance are reported in Table 10. Models (1) through (4) suggest that the coefficients on the CSR_ff12_index are positively associated with all four measures of firm performance. Models (5) through (8) report the same results after controlling the future ROE variables adjusting for the understated standard error problems. The results are qualitatively the same with models through (1) through (4). Together, our results of positive CSR_FF12_index-firm value/performance association is consistent with the previous CSR-firm value literature (Dimson, Karakas, and Li, 2015; Ferrell, Liang, and Renneboog, 2016; Flammer, 2015; Krüger, 2015; Liang and Renneboog, 2017; Servaes and Tamayo, 2013). The results do neither support the market externality view nor Miller's optimistic pricing model.

[Table 10 about here]

4.7. Institutional Ownership Regressions on CSR

Next, to further determine the relative importance between the combined social norm pressure and conflict-resolution effect, the market externality effect, and Miller's optimistic

pricing effect, we run the following OLS regression to examine the effect of the CSR-FF12 index on institutional ownership:

$$Institutional\ Ownership_{i,t} = \alpha_i + \beta_1 CSR\_ff12\_IDX_{i,t-1} + \beta_2 Z_{i,t-1} + e_{it}$$

We run the regression of institutional ownership by two subgroups. The first group is the fraction of shares held by institutions of type 1 (banks), type 2 (insurance companies), and type 5 (others including pension plans, endowments, and employee-ownership plans). The other subgroup is the fraction of shares held by type 3 (mutual funds) and type 4 (independent investment advisors) institutions. We follow Hong and Kacperczyk (2009), Servaes and Tamayo (2013), and Ioannou and Serafeim (2014) in selecting the control variables. The control variables are all measured at December of the previous year. SIZE is log market equity, MB is the log market- to-book ratio, PRCINV is the inverse of the stock price, NASDAQ and SP500 are dummy variables for inclusion in the Nasdaq and S&P500 indexes (all measured at year-end), RETSTD is the standard deviation of daily stock returns, and AVGRET is the average monthly return (all measured over the previous year). The coefficients are estimated using a panel regression with year dummies.

The results of institutional ownership are reported in Table 11 that reports the results of OLS Regressions of a stock's aggregate ownership by institutions conducted at year-end on the CSR-FF12 index and various control variables. In models (1) and (2), the dependent variable is institutional ownership ratio. Models (3) through (6) report the results, in which the dependent variable is ownership by two subgroups. In models (3) and (4), the dependent variable is the fraction of shares held by institutions of type 1 (banks), type 2 (insurance companies), and type 5 (others including pension plans, endowments, and employee-ownership plans). In models (5) and (6), the dependent variable is shares held by type 3 (mutual funds) and type 4 (independent

investment advisors) institutions. The coefficients on CSR_ff12_index estimates of entire institutional ownership (model (1)) and types 1, 2, and 5 (model (3)) are significantly negative. The same coefficients on types 3 and 4 (model (5)) are negative, but insignificant. The results reported in models (1) and (3), however, appear different from the norm-constrained effect of Hong and Kacperczyk (2009). They find an inverse association between the ownership of norm-constrained institutions such as, banks, insurance companies, and others (including pension plans, endowments, and employee-ownership plans), and sin stocks (that is, socially *irresponsible* stocks). Hence, our findings of a negative association between CSR-FF12 index estimates and institutional ownership is in direct contrast to Hong and Kacperczyk (2009), and rather suggest that norm-constrained institutions tend to avoid *responsible* stocks.

Given the contrast between our findings and Hong and Kacperczyk (2009), we further examine a potential non-linear relation between CSR and institutional ownership. Harjoto, Jo, and Kim (2017) find a non-linear relation between CSR and institutional ownership. Thus, we add a quadratic term to examine a potential non-linear relation between CSR and institutional ownership:

$$Institutional\ Ownership_{i,t} = \alpha_0 + \alpha_1\, CSR\_ff12\_IDX\_C_{i,t-1} + \alpha_2\, CSR\_ff12\_IDX\_C2_{i,t-1} + \sum_{j=3}^{n} \alpha_j\, CONTROL\ VARIABLES + \varepsilon$$

where CSR_ff12_IDX_$C_{i,t-1}$ and CSR_ff12_IDX_$C2_{i,t-1}$ are the centered CSR-FF12 index and the centered CSR-FF12 index squared in year *t-1*, where year *t* is the year that institutional ownership is measured. Since there is a high correlation between the CSR-FF12 index and the CSR-FF12 index squared, we transform our CSR-FF12 index by subtracting its mean value from each value to mitigate the structural multicollinearity problem in our regression. This method is known as centering the predictor (Rupert, 2004). By centering the CSR-FF12 index, we can evaluate whether the institutional ownership is increasing or decreasing at the mean value of the

CSR-FF12 index.

Table 11 models (2), (4), and (6) examine this possibility and finds that the coefficients on the CSR squared term, CSR_ff12_IDX_C2, are negative in models (2) and (6), suggesting the existence of a non-linear relation between CSR and institutional ownership. This result suggests that there is a concave relation between institutional ownership and CSR, implying that institutional investors do not see CSR as strictly value enhancing activities. Thus, we presume that the negative association between sin stocks and norm-constrained institutions found by Hong and Kacperczyk (2009) is derived mainly from the increasing portion of quadratic relation between CSR and institutional ownership, whereas our findings of the negative association between CSR-FF12 index estimates and the institutional ownership is derived from the decreasing portion of quadratic relation. Overall, our empirical results demonstrate that institutional investors adjust their shareholdings according to their value-maximizing view and consider that beyond the optimal level, additional CSR investment is value reducing activities. This evidence further refutes the market externality hypothesis and Miller's optimistic pricing.

[Table 11 about here]

5. Conclusion

This study is motivated by questions about whether the CSR behaviors of the U.S. firms are *priced* in financial markets, and if so, whether and how such behaviors are related to the social norm pressure and conflict resolution, an important feature of stakeholder theory. We make contributions in two research domains. First, we believe ours is the first study that examines the nexus between CSR and equity pricing in a portfolio context systematically in the U.S over the long term. Our usage of stock returns for the asset-pricing portfolio approach is less susceptible to

the reverse causality and endogeneity problems relative to other corporate finance measures because stock returns are market driven, and relatively free from endogeneity issues. Although some studies examine the relation between sin stocks and equity price (Hong and Kacperczyk, 2009) and the relation between employee relation and firm value (Edmans, 2011), we are unaware of any study that focuses on the CSR-equity portfolio pricing-firm performance linkage over time.

Second, we find that while the CSR-future stock return relation is negative initially up to about one year after CSR engagement, the relation becomes insignificant between one and two years after CSR engagement, and becomes positive between two and two and half years after CSR engagement, supporting the combined social norm pressure and conflict resolution hypothesis. We consider this finding is *new* and potentially connect the missing link between the two schools; the first supporting the positive CSR-value relation and the other arguing the negative CSR-value association.

Next, we show that while CSR initiatives are positively associated with the social norm pressure, there is also a positive relationship between CSR and firm value/performance. We also find that the social norm pressure effect is more pronounced in CSR strengths than in CSR concerns. Furthermore, we find that CSR activities are value-additive especially during the time of negative events, buffering negative outcomes, such as financial crisis or economic contraction, consistent with Lins, Servaes, and Tamayo (2017). This evidence refutes both the market externality hypothesis and Miller's (1977) optimistic pricing effect. We argue and provide supporting evidence that such an effect is more pronounced for lower CSR stock portfolios in the short term.

We also confirm the non-linear relation between CSR and institutional ownership. Institutional investors adjust their percentage of ownership when CSR activities go beyond the perceived optimal level. Overall, our results are neither consistent with the unbiased hypothesis

nor the risk premium hypothesis. Rather, our evidence is the closest to the social norm pressure and conflict resolution hypothesis, suggesting time-varying pattern of CSR pricing.

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Appendix A. Description of the construction of the variables.

Variables	Calculation	Data Source
CSR-ff12 index (i, t)	(community index + environment index + diversity index + employee relations index + product quality index)/5	KLD
Five components		
Community index (i, t)	$\frac{(Community_{i,t}\ net\ count\ for\ firm\ i\ at\ year\ t - Min.Community_{i,t}\ net\ count\ firm\ i's\ industry\ at\ year\ t)}{(Max.Community_{i,t}\ net\ count\ for\ firm\ i's\ industry\ at\ year\ t - Min.Community_{i,t}\ net\ count\ for\ firm\ i's\ industry\ at\ year\ t)}$	
Environment index (i, t)	$\frac{(Environment_{i,t}\ net\ count\ for\ firm\ i\ at\ year\ t - Min.Environment_{i,t}\ net\ count\ firm\ i's\ industry\ at\ year\ t)}{(Max.Environment_{i,t}\ net\ count\ for\ firm\ i's\ industry\ at\ year\ t - Min.Environment_{i,t}\ net\ count\ for\ firm\ i's\ industry\ at\ year\ t)}$	
Diversity index (i, t)	$\frac{(Diversity_{i,t}\ net\ count\ for\ firm\ i\ at\ year\ t - Min.Diversity_{i,t}\ net\ count\ firm\ i's\ industry\ at\ year\ t)}{(Max.Diversity_{i,t}\ net\ count\ for\ firm\ i's\ industry\ at\ year\ t - Min.Diversity_{i,t}\ net\ count\ for\ firm\ i's\ industry\ at\ year\ t)}$	
Employee Relations index (i, t)	$\frac{(Employee\ Relations_{i,t}\ net\ count\ for\ firm\ i\ at\ year\ t - Min.Employee\ Relations_{i,t}\ net\ count\ firm\ i's\ industry\ at\ year\ t)}{(Max.Employee\ Relations_{i,t}\ net\ count\ for\ firm\ i's\ industry\ at\ year\ t - Min.Employee\ Relations_{i,t}\ net\ count\ for\ firm\ i's\ industry\ at\ year\ t)}$	
Product Quality index (i, t)	$\frac{(Product\ Quality_{i,t}\ net\ count\ for\ firm\ i\ at\ year\ t - Min.Product\ Quality_{i,t}\ net\ count\ firm\ i's\ industry\ at\ year\ t)}{(Max.Product\ Quality_{i,t}\ net\ count\ for\ firm\ i's\ industry\ at\ year\ t - Min.Product\ Quality_{i,t}\ net\ count\ for\ firm\ i's\ industry\ at\ year\ t)}$	
Strength (Concerns) Index (i, t)	(community strength (concerns) index + environment strength (concerns) index + diversity strength (concerns) index + employee relations strength (concerns) index + product quality strength (concerns) index)/5	KLD
Five components		
Community strength (concerns) index (i, t)	$\frac{(Community_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i\ at\ year\ t - Min.Community_{i,t}\ \text{strength (concerns)}\ count\ firm\ i's\ industry\ at\ year\ t)}{(Max.Community_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i's\ industry\ at\ year\ t - Min.Community_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i's\ industry\ at\ year\ t)}$	
Environment strength (concerns) index (i, t)	$\frac{(Environment_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i\ at\ year\ t - Min.Environment_{i,t}\ \text{strength (concerns)}\ count\ firm\ i's\ industry\ at\ year\ t)}{(Max.Environment_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i's\ industry\ at\ year\ t - Min.Environment_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i's\ industry\ at\ year\ t)}$	
Diversity strength (concerns) index (i, t)	$\frac{(Diversity_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i\ at\ year\ t - Min.Diversity_{i,t}\ \text{strength (concerns)}\ count\ firm\ i's\ industry\ at\ year\ t)}{(Max.Diversity_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i's\ industry\ at\ year\ t - Min.Diversity_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i's\ industry\ at\ year\ t)}$	
Employee Relations strength (concerns) index (i, t)	$\frac{(Employee\ Relations_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i\ at\ year\ t - Min.Employee\ Relations_{i,t}\ \text{strength}\ count\ firm\ i's\ industry\ at\ year\ t)}{(Max.Employee\ Relations_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i's\ industry\ at\ year\ t - Min.Employee\ Relations_{i,t}\ \text{strength}\ count\ for\ firm\ i's\ industry\ at\ year\ t)}$	
Product Quality strength (concerns) index (i, t)	$\frac{(Product\ Quality_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i\ at\ year\ t - Min.Product\ Quality_{i,t}\ \text{strength (concerns)}\ count\ firm\ i's\ industry\ at\ year\ t)}{(Max.Product\ Quality_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i's\ industry\ at\ year\ t - Min.Product\ Quality_{i,t}\ \text{strength (concerns)}\ count\ for\ firm\ i's\ industry\ at\ year\ t)}$	

Appendix B. Variable definitions and data source

Variables	Definition	Data Source
CFNAI (Chicago FED National Activity index)	The weighted average of 85 monthly indicators of national economic activity, is a monthly index designed to assess overall economic activity and related inflationary pressure. It is constructed to have an average value of zero and a standard deviation of one. A positive index reading corresponds to growth above the trend and a negative index reading corresponds to growth below the trend.	https://www.chicagofed.org/research/data/cfnai/historical-data.
NBER(National Bureau of Economic Research) recession dummy	NBER recession dummy taking the value of one if the U.S. economy is in recession as determined by the NBER.	Federal Reserve Bank of St. Louis Economic Research
Fama-French 3, 4, and 5 Factors	Fama-French 3, 4, and 5 Factors	http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html
Institutional Ownership Ratio	Aggregate ownership held by institutions at the end of the year. There are five different type of institutional shareholders, type 1 (banks), type 2 (insurance companies), type 3 (mutual funds), type 4 (independent investment advisors) and type 5 (others including pension plans, endowments, and employee-ownership plans) institutions	CDA Spectrum Database of 13-F filing
MB	Market value of equity/Book value of equity. Book value of equity = shareholders' equity-preferred stock + balance sheet deferred taxes Shareholders' equity=stockholders' equity if not missing, else total common equity + preferred stock par value(130) if both are present , else total assets -total liabilities , if both are present. Preferred stock = redemption value, liquidating value, or carrying value , in that order, as available.	CSRP & COMPUSTAT
PEBITDA	Price/ EBITDA EBITDA =operating income before depreciation.	CSRP & COMPUSTAT
AVEBITDA	Aggregate value/EBITDA Aggregate value = market value of equity +net debt. Net debt = long term debt + debt in current liabilities -cash and short-term investments. EBITDA =operating income before depreciation.	CSRP & COMPUSTAT
Tobin's Q	Market Value of the firm / replacement costs of the asset = (market value of equity +liquidating value of preferred stock + net debt) / total asset	CSRP & COMPUSTAT
SIZE	Log of market value of equity	CRSP
INDU BETA	The market betas for the period of 1926–2015 of the different industry portfolios, using data from Fama and French (1997). The market betas are calculated using the time-series of monthly returns on the 48 (value-weighted industry portfolios (the 48 Industry Fama and French,1997)	http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html
PRCINV	The inverse of the stock price at the end of the year	CRSP
RETSTD	The standard deviation of daily stock returns of the year	CRSP
AVGRET	The average monthly return of the year	CRSP
NSDAQ	A dummy variable for inclusion in the NASDAQ	CRSP
SP500	A dummy variable for inclusion in the S&P500 index	CRSP
ROE	Return on equity: Income before extraordinary items for common shareholders /average book equity.	COMPUSTAT
RNDRSALE	The ratio of R&D to sales	COMPUSTAT
RNDMISS	A dummy variable for whether R&D is missing	COMPUSTAT
F1ROE , F2ROE, F3ROE	The returns on equity for the next three years	COMPUSTAT

Table 1. Sample distribution and summary statistics

This table reports the sample distribution of unique number of firms by year and industry. Each firm is assigned into one of the Fama-French 12 industries (FF1-FF12) classification based on its SIC code. The sample period covers January 2000 to December 2013. Panel A shows the unique number of firms each year. Panels B and C report the average and standard deviation of the CSR-FF12 index, respectively.

Panel A. The number of firms

YEAR	FF1	FF2	FF3	FF4	FF5	FF6	FF7	FF8	FF9	FF10	FF11	FF12
2000	60	29	90	25	24	82	15	51	67	28	98	91
2001	69	30	102	45	30	185	54	70	105	66	199	152
2002	72	33	99	44	32	155	37	64	116	65	242	149
2003	136	58	235	98	60	497	91	91	296	263	699	439
2004	133	65	245	100	60	517	96	89	305	295	673	455
2005	137	67	248	114	65	470	90	90	310	273	706	444
2006	134	64	250	129	68	441	89	93	304	260	668	462
2007	130	60	245	133	66	434	102	89	296	259	657	465
2008	133	61	253	142	65	431	94	91	289	266	632	466
2009	147	54	250	141	63	441	88	91	298	282	584	473
2010	138	63	248	138	66	419	78	85	291	281	626	529
2011	131	58	240	128	64	399	72	84	279	272	601	519
2012	130	48	237	128	62	381	68	83	270	235	610	543
2013	108	38	205	119	58	332	53	77	234	180	499	510

Panel B. Average of CSR-ff12 index

YEAR	FF1	FF2	FF3	FF4	FF5	FF6	FF7	FF8	FF9	FF10	FF11	FF12
2000	0.4760	0.4634	0.4317	0.5340	0.5615	0.3043	0.4944	0.4271	0.3799	0.4248	0.4754	0.5027
2001	0.4651	0.4963	0.3933	0.6579	0.4933	0.3763	0.5790	0.4485	0.4355	0.4776	0.4574	0.4989
2002	0.4930	0.4219	0.3826	0.6040	0.4792	0.4272	0.5899	0.4434	0.5167	0.4596	0.5167	0.4960
2003	0.4558	0.3674	0.3856	0.5969	0.4478	0.3624	0.6264	0.5183	0.5206	0.4087	0.4936	0.4373
2004	0.4608	0.4564	0.4402	0.5161	0.4600	0.3922	0.6069	0.4429	0.5446	0.4419	0.4643	0.4510
2005	0.4549	0.3510	0.4445	0.5541	0.4105	0.3625	0.6541	0.4421	0.4948	0.4773	0.4791	0.4625
2006	0.4698	0.3818	0.4290	0.5749	0.4388	0.3694	0.6097	0.5332	0.4949	0.4281	0.4999	0.4597
2007	0.4538	0.3919	0.4201	0.5122	0.4464	0.3529	0.6614	0.5548	0.4730	0.4303	0.4644	0.4826
2008	0.4455	0.4573	0.4918	0.5196	0.4656	0.3697	0.4983	0.5029	0.4517	0.4281	0.4988	0.4939
2009	0.4480	0.4583	0.4931	0.5163	0.4474	0.3507	0.5971	0.5022	0.4482	0.4152	0.5114	0.4959
2010	0.4402	0.4300	0.4174	0.4871	0.4497	0.3607	0.3092	0.4713	0.3822	0.2915	0.3800	0.4050
2011	0.4220	0.3474	0.3929	0.4804	0.4390	0.3372	0.3526	0.4278	0.3597	0.2327	0.3615	0.3961
2012	0.3327	0.3375	0.3487	0.3818	0.3348	0.3152	0.3600	0.4130	0.3403	0.2575	0.3671	0.3703
2013	0.3735	0.2346	0.3334	0.5021	0.4579	0.3317	0.3000	0.4320	0.3650	0.2198	0.3295	0.3300

Panel C. Standard deviation of CSR-ff12 index

YEAR	FF1	FF2	FF3	FF4	FF5	FF6	FF7	FF8	FF9	FF10	FF11	FF12
2000	0.1136	0.1186	0.1016	0.1086	0.1424	0.1003	0.1421	0.1034	0.0985	0.1272	0.0987	0.1153
2001	0.1053	0.1170	0.0991	0.0999	0.1385	0.0743	0.0981	0.0988	0.0869	0.0810	0.0764	0.0823
2002	0.1116	0.0868	0.0979	0.1162	0.1510	0.0829	0.1243	0.0995	0.0816	0.0913	0.0682	0.0944
2003	0.0831	0.0952	0.0556	0.0963	0.1144	0.0592	0.1039	0.0879	0.0637	0.0574	0.0533	0.0651
2004	0.0828	0.0806	0.0610	0.0702	0.1071	0.0560	0.0758	0.0894	0.0707	0.0592	0.0579	0.0603
2005	0.0873	0.0859	0.0655	0.0618	0.0923	0.0635	0.0773	0.0899	0.0693	0.0635	0.0527	0.0678
2006	0.0846	0.0797	0.0725	0.0636	0.0823	0.0671	0.0717	0.1151	0.0749	0.0671	0.0636	0.0663
2007	0.0895	0.0826	0.0732	0.0678	0.0967	0.0665	0.0765	0.1033	0.0771	0.0681	0.0573	0.0650
2008	0.0858	0.0947	0.0666	0.0699	0.0846	0.0640	0.0709	0.1006	0.0728	0.0675	0.0498	0.0675
2009	0.0806	0.0973	0.0657	0.0709	0.0902	0.0634	0.0792	0.1002	0.0732	0.0670	0.0520	0.0673
2010	0.1079	0.0878	0.0725	0.0655	0.1270	0.0847	0.0740	0.0992	0.0754	0.0902	0.0676	0.0617
2011	0.1270	0.1212	0.0777	0.0691	0.1478	0.0892	0.0789	0.1140	0.0887	0.1033	0.0762	0.0704
2012	0.1155	0.1144	0.0932	0.0987	0.1240	0.1078	0.1163	0.1185	0.1027	0.0815	0.0770	0.0706
2013	0.1355	0.1205	0.0991	0.0938	0.1441	0.1092	0.1101	0.1216	0.1104	0.1335	0.0840	0.0781

Table 2. Quintile Portfolio Returns Sorted by CSR-ff12 index

This table presents average monthly returns for equal-weighted quintile portfolios formed on the CSR-FF12 index within a month. The index $C_{i,kt}$ of the CSR composite is calculated as:

$$C_{i,kt} \text{ index for firm i in year t} = \frac{(C_{i,kt}\ net\ count\ for\ firm\ i\ in\ year\ t - Min.C_{i,kt}\ net\ count\ for\ firm\ i's\ industry\ in\ year\ t)}{(Max.C_{i,kt}\ net\ count\ for\ firm\ i's\ industry\ in\ year\ t - Min.C_{i,kt}\ net\ count\ for\ firm\ i's\ industryin\ year\ t)}$$

The index $C_{i,kt}$ of CSR composite has five components: 1) community, 2) environment, 3) diversity, 4) employee relations, and 5) product quality. The CSR-FF12 index are computed as (community index + environment index + diversity index + employee relations index + product quality)/5. Portfolios are formed at every year by sorting all firms according to the magnitude of the CSR-FF12 index and we assume stocks are held for the next twelve-month-period. This process is repeated every year. Monthly stock returns are obtained from the Center for Research in Security Prices (CRSP) with stocks traded on the NYSE (exchcd=1), Amex (exchcd=2), and NASDAQ (exchcd=3). We use only common shares (shrcd in 10, 11). Stock price less than five dollars are excluded from the sample. "Q1-Q5" denotes an arbitrage portfolio that buys low CSR-FF12 index portfolio (Q1) and sells high CSR-FF12 index portfolio (Q5). Besides the average raw returns of portfolios, we also report FF-3 alphas and Carhart-4 alphas. The t-statistics (reported in parentheses) are adjusted by the Newey-West method. The sample period includes January 2000 to December 2013. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Panel A: Excluding stock price less than five dollars						Panel B: Excluding stock price less than five dollars and financial industry					
Quintile	Avg # of firms	Mean	Stdev	EW Return	FF3 alpha	FF4 alpha	Avg # of firms	Mean	Stdev	EW Return	FF3 alpha	FF4 alpha
Q1 (Low)	410	0.31	0.06	1.48	0.59	0.61	333	0.30	0.06	1.50	0.62	0.65
Q2	405	0.38	0.05	1.39	0.50	0.51	336	0.37	0.05	1.41	0.51	0.52
Q3	409	0.43	0.06	1.27	0.35	0.37	335	0.42	0.05	1.43	0.49	0.50
Q4	405	0.47	0.06	1.15	0.25	0.27	340	0.46	0.05	1.29	0.38	0.39
Q5 (High)	409	0.58	0.08	1.08	0.27	0.28	334	0.58	0.08	1.15	0.36	0.37
Q1-Q5				0.39**	0.32**	0.33**				0.35*	0.26*	0.28**
t-statistic				(1.98)	(2.53)	(2.58)				(1.77)	(1.93)	(2.05)

Table 3. Quintile Portfolio Returns Sorted by Size, Book to Market ratio and CSR-FF12 index

This table presents average monthly returns for equal-weighted portfolios formed on firm size measured by market capitalization, Book-to-Market ratio (*BtM*) and CSR-FF12 index within a month. Panel A report the monthly equal weighted returns of portfolios sorted by 5 size portfolios based on market capitalization at the end of previous month. Stocks in each size portfolio are then sorted into four CSR index portfolios based on CSR-FF12 index in previous year. Panel B report the monthly equal weighted returns of portfolios sorted by Book-to-Market ratios and CSR-FF12 index. Each month, stocks are sorted into 5 *BtM* portfolios based on Book-to Market ratios. And each *BtM* portfolio is sorted into 3 CSR-FF12 index Portfolios. The *BtM* ratios are computed by matching the yearly book to equity ratio for year t-1 to returns starting in July year t; this figure is then divided by market capitalization in month t-1, so that *BtM* is updated every month. 'D1-D4' denotes an arbitrage portfolio that buys low CSR-FF12 index portfolio (D1) and sells high CSR-FF12 index portfolio (D4). The t-statistics (reported in parentheses) are adjusted by the Newey-West method. The sample period includes January 2000 to December 2013. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A: Monthly average returns of portfolios sorted by Size and CSR-FF12 index

CSR Index	Small				Large	All
Quintiles	S1	S2	S3	S4	S5	Stocks
D1(low)	2.07	1.03	1.21	1.06	0.79	1.11
D2	2.23	0.91	0.94	1.15	0.89	1.06
D3	1.56	0.71	0.91	0.90	0.85	0.91
D4(high)	1.24	0.83	0.94	0.88	0.74	0.88
D1-D4	0.83**	0.20	0.27*	0.18	0.05	0.23***
t-statistics	(2.21)	(1.14)	(1.85)	1.55	0.57	(3.36)

Panel B: Monthly average returns of portfolios sorted by Book to Market ratios and CSR-FF12 index

CSR Index	Low				High	All
Quintiles	B1	B2	B3	B4	B5	Stocks
D1(low)	0.71	0.95	1.12	1.14	1.80	1.08
D2	0.72	0.97	1.04	1.47	1.64	1.06
D3	0.69	0.89	0.88	1.08	1.21	0.91
D4(high)	0.74	0.86	0.87	0.90	1.10	0.86
D1-D4	-0.03	0.09	0.25*	0.24*	0.70***	0.23***
t-statistics	(-0.21)	(0.70)	(1.97)	(1.85)	(3.25)	(3.53)

Table 4. Decile Portfolio Returns Excluding Sin stocks

This table reports the average equal-weighted returns of the decile portfolios formed on CSR-FF12 index for subsamples excluding sin stocks. Sin stocks are categorized by three groups: 1) Stocks with SIC codes 2100–2199 belong to the Alcohol group, and 2) those with SIC codes of 2080–2085 are in the smoke group. And we adopt NAICS classification for gaming stocks so 3) stocks with NAICS code in 7132, 71312, 713210, 71329, 713290, 72112, and 721120 are in the gaming group. We exclude those sin stocks in the sample. The index $C_{i,kt}$ of CSR composite is calculated as:

$$C_{i,kt} \text{ index for firm i in year t} = \frac{(C_{i,kt}\ net\ count\ for\ firm\ i\ in\ year\ t - Min.C_{i,kt}\ net\ count\ for\ firm\ i's\ industry\ in\ year\ t)}{(Max.C_{i,kt}\ net\ count\ for\ firm\ i's\ industry\ in\ year\ t - Min.C_{i,kt}\ net\ count\ for\ firm\ i's\ industryin\ year\ t)}$$

The index $C_{i,kt}$ of CSR composite has five components: 1) community, 2) environment, 3) diversity, 4) employee relations, 5) product quality. CSR-FF12 index are computed as (community index + environment index + diversity index + employee relations index + product quality)/5. Portfolios are formed at every year by sorting all firms according to the magnitude of CSR-FF12 index and we assume stocks are held for the next twelve-month-period. This process is repeated every year. Monthly stock returns are obtained from Center for Research in Security Prices (CRSP) with stocks traded on the NYSE (exchcd=1), Amex (exchcd=2) and NASDAQ (exchcd=3). We use only common shares (shrcd in 10, 11). Stock price less than five dollars are excluded from the sample. 'D1-D10' denotes an arbitrage portfolio that buys low CSR-FF12 index portfolio (D1) and sells high CSR-FF12 index portfolio (D10). Besides the average raw returns of portfolios, we also report FF-3 alphas and Carhart-4 alphas. The t-statistics (reported in parentheses) are adjusted by the Newey-West method. The sample period includes from January 2000 to December 2013. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	D1 (Low)	D2	D3	D4	D5	D6	D7	D8	D9	D10 (High)	D1-D10 (Low-High)
Average ret	1.59	1.42	1.48	1.24	1.37	1.41	1.18	1.35	1.21	1.10	0.49**
											(2.10)
FF-3 Alpha	0.85	0.67	0.68	0.44	0.49	0.56	0.30	0.54	0.41	0.43	0.43**
											(2.04)
Carhart-4 Alpha	0.89	0.78	0.74	0.47	0.50	0.58	0.31	0.57	0.52	0.45	0.43**
											(2.13)

Table 5. Fama-Macbeth Regression Results

This table reports the averages of month-by–month Fama and Macbeth (1973) cross-sectional regression coefficient estimates for individual stock returns using different factor loadings estimation periods. We regress next-month excess firm returns on a constant; CSR-FF12 index, factor loadings, $\beta(\text{MKT}), \beta(\text{SMB}), \beta(\text{HML})$ with respect to the Fama-French 3 factor model, $\beta(\text{MKT}), \beta(\text{SMB}), \beta(\text{HML}), \beta(\text{UMD})$ with respect to the Carhart 4 factor model, $\beta(\text{MKT}), \beta(\text{SMB}), \beta(\text{HML}), \beta(RMW), \beta(CMA)$ with respect to the Fama-French 5 factor model. In the first stage, we estimate betas at the end of each month by running a time-series regression using the past 36-months (60-months) of data. We require at least 10 months for time-series regression. We then run the cross-sectional regression on next month's returns. We repeat the procedure by rolling the beta estimation window by one month. The index $C_{i,kt}$ of CSR composite is calculated as:

$$C_{i,kt} \text{ index for firm i in year t} = \frac{(C_{i,kt} \ net\ count\ for\ firm\ i\ in\ year\ t - Min.C_{i,kt}\ net\ count\ for\ firm\ i's\ industry\ in\ year\ t)}{(Max.C_{i,kt}\ net\ count\ for\ firm\ i's\ industry\ in\ year\ t - Min.C_{i,kt}\ net\ count\ for\ firm\ i's\ industryin\ year\ t)}$$

The index $C_{i,kt}$ of CSR composite has five components: 1) community, 2) environment, 3) diversity, 4) employee relations, 5) product quality. CSR-FF12 index are computed as (community index + environment index + diversity index + employee relations index + product quality)/5. Newey and West t-statistics with 4 lags are reported in parentheses. The sample period is Jan 2000–December 2013. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	Using Factor Loadings Estimation Periods of 36 months						Using Factor Loadings Estimation Periods of 60 months					
	All stocks			Excluding sin stocks			All stocks			Excluding sin stocks		
	FF3	Carhart4	FF5	FF3	Carhart4	FF5	FF3	Carhart4	FF5	FF3	Carhart4	FF5
Intercept	0.0128**	0.0124**	0.0135**	0.0126**	0.0122**	0.0133**	0.0136***	0.0126**	0.0144***	0.0136***	0.0124**	0.0141***
.	(2.53)	(2.41)	(2.56)	(2.47)	(2.35)	(2.50)	(2.92)	(2.57)	(3.02)	(2.92)	(2.45)	(2.91)
csr_ff12_index	**-0.0095***	**-0.0094***	**-0.0100***	**-0.0092***	**-0.0090***	**-0.0096***	**-0.0107****	**-0.0107*****	**-0.0111*****	**-0.0107****	**-0.0103****	**-0.0107*****
.	**(-1.80)**	**(-1.81)**	**(-1.90)**	**(-1.73)**	**(-1.73)**	**(-1.82)**	**(-2.57)**	**(-2.71)**	**(-2.88)**	**(-2.57)**	**(-2.55)**	**(-2.72)**
β(MKT)	0.0030	0.0034	0.0026	0.0030	0.0035	0.0027	0.0029	0.0039	0.0024	0.0029	0.0039	0.0025
.	(1.28)	(1.42)	(1.14)	(1.30)	(1.44)	(1.16)	(1.18)	(1.37)	(1.06)	(1.18)	(1.38)	(1.09)
β(SMB)	0.0015**	0.0015**	0.0016**	0.0015**	0.0015**	0.0016**	0.0014*	0.0015**	0.0012*	0.0014*	0.0015**	0.0012*
.	(2.22)	(2.16)	(2.42)	(2.24)	(2.17)	(2.43)	(1.97)	(2.04)	(1.80)	(1.97)	(2.02)	(1.78)
β(HML)	0.0023*	0.0024*	0.0020*	0.0023*	0.0024*	0.0020*	0.0021***	0.0023**	0.0022**	0.0021***	0.0022**	0.0022**
.	(1.89)	(1.97)	(1.74)	(1.89)	(1.95)	(1.73)	(2.69)	(2.43)	(2.57)	(2.69)	(2.42)	(2.56)
β(UMD/RMW)/		-0.0023	-0.0008		-0.0023	-0.0008		-0.0021	-0.0009		-0.0022	-0.0009
.		(-1.30)	(-0.75)		(-1.31)	(-0.77)		(-1.05)	(-1.17)		(-1.07)	(-1.20)
β(CMA)			0.0005			0.0005			0.0006			0.0006
			(0.68)			(0.66)			(1.35)			(1.36)
$\overline{Adj}\ R^2$	0.0373	0.0412	0.0431	0.0372	0.0410	0.0430	0.0240	0.0289	0.0297	0.0240	0.0286	0.0293

Table 6. Fama-Macbeth Regressions of CSR Strengths vs CSR Concerns

This table reports the averages of month-by–month Fama and Macbeth (1973) cross-sectional regression coefficient estimates for individual stock returns. In model (1), we regress next-month excess firm returns on a constant; CSR-ff12 index, factor loadings, $\beta(\text{MKT}), \beta(\text{SMB}), \beta(\text{HML})$ with respect to the Fama-French 3 factor model. In model (2), we regress next-month excess firm returns on a constant; CSR-FF12 index, factor loadings, $\beta(\text{MKT}), \beta(\text{SMB}), \beta(\text{HML}), \beta(\text{UMD})$ with respect to the Carhart 4 factor model. In model (3), we regress next-month excess firm returns on a constant; CSR-ff12 index, factor loadings, $\beta(\text{MKT}), \beta(\text{SMB}), \beta(\text{HML}), \beta(RMW), \beta(CMA)$ with respect to the Fama-French 5 factor model. In the first stage, we estimate betas at the end of each month by running a time-series regression using the past 36-months of data. We require at least 10 months for time-series regression. We then run the cross-sectional regression on next month's returns. We repeat the procedure by rolling the beta estimation window by one month. The strength (concerns) index $C_{i,kt}$ of CSR composite is calculated as:

$$C_{i,kt} \text{ strenth(concerns) index for firm i in year t} = \frac{(C_{i,kt} \text{ strenth(concerns) } count\ for\ firm\ i\ in\ year\ t - Min.C_{i,kt} \text{ strenth (concerns) } count\ for\ firm\ i's\ industry\ in\ year\ t)}{(Max.C_{i,kt} \text{ strenth (concerns) } count\ for\ firm\ i's\ industry\ in\ year\ t - Min.C_{i,kt} \text{ strenth (concerns) } count\ for\ firm\ i's\ industryin\ year\ t)}$$

The strength (concerns) index $C_{i,kt}$ of CSR composite has five components: 1) community, 2) environment, 3) diversity, 4) employee relations, 5) product quality. CSR-FF12 strength (concerns) index are computed as (community strength (concerns) index + environment strength (concerns) index + diversity strength (concerns) index + employee strength (concerns) relations index + product strength (concerns) quality)/5. Newey and West t-statistics with 4 lags are reported in parentheses. The sample period is January 2000–December 2013. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) Fama-French 3 factor model		(2) Carhart 4 factor model		(3) Fama-French 5 factor model	
	Strengths	Concerns	Strengths	Concerns	Strengths	Concerns
Intercept	0.0088**	0.0083**	0.0087**	0.0081**	0.0092**	0.0087**
.	(2.04)	(2.02)	(2.04)	(1.99)	(2.10)	(2.07)
csr_str_ff12_index	**-0.0094*** **		**-0.0098*** **		**-0.0097*** **	
.	**(-2.62)**		**(-2.74)**		**(-2.68)**	
csr_con_ff12_index		-0.0029		-0.0029		-0.0026
.		(-0.79)		(-0.83)		(-0.76)
β(MKT)	0.0038	0.0039	0.0040	0.0041	0.0034	0.0034
.	(1.49)	(1.51)	(1.51)	(1.54)	(1.33)	(1.35)
β(SMB)	0.0016**	0.0016**	0.0015**	0.0016**	0.0017**	0.0018***
.	(2.18)	(2.24)	(2.12)	(2.23)	(2.57)	(2.73)
β(HML)	0.0025*	0.0025*	0.0026*	0.0026*	0.0023*	0.0023*
.	(1.83)	(1.81)	(1.93)	(1.91)	(1.81)	(1.79)
β(UMD/RMW)/			-0.0030	-0.0030	-0.0012	-0.0012
.			(-1.58)	(-1.57)	(-1.00)	(-1.02)
β(CMA)					0.0005	0.0005
					(0.67)	(0.66)
$\overline{Adj}\ R^2$	0.0400	0.0398	0.0445	0.0442	0.0464	0.0461

Table 7. Quintile Portfolio Returns Sorted by Alternative Measure of Norm Constrained Institutions

This table presents average monthly returns for quintile portfolios formed on the *norm constrained institutions* (*NormCon*) within a month. The *NormCon* is computed as the number of institution shareholders categorized by type 5 "others" in the Thomson Financial Institutional Holdings (13F) database. Portfolios are formed at every year by sorting all firms according to the magnitude of the *NormCon* and we assume stocks are held for the next twelve-month-period. This process is repeated every year. Monthly stock returns are obtained from the Center for Research in Security Prices (CRSP) with stocks traded on the NYSE (exchcd=1), Amex (exchcd=2), and NASDAQ (exchcd=3). We use only common shares (shrcd in 10, 11). Stock price less than five dollars are excluded from the sample. "Q1-Q5" denotes an arbitrage portfolio that buys the lowest *NormCon* portfolio (Q1) and sells the highest *NormCon* portfolio (Q5). Besides the average raw returns of portfolios, we also report FF-3 alphas and Carhart-4 alphas. The t-statistics (reported in parentheses) are adjusted by the Newey-West method. The sample period includes January 2000 to December 2013. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

NormCon	Panel A: Excluding stock price less than five dollars						Panel B: Excluding stock price less than five dollars and financial industry					
Quintile	Avg # of firms	Mean	Stdev	EW Return	FF-3 alpha	Carhart-4 alpha	Avg # of firms	Mean	Stdev	EW Return	FF-3 alpha	Carhart-4 alpha
Q1 (Low)	423	10.31	7.33	2.71	1.98	1.99	333	14.46	10.10	3.32	2.47	2.49
Q2	423	36.26	15.79	2.19	1.20	1.24	334	45.11	17.16	2.15	1.14	1.18
Q3	423	70.76	20.16	1.54	0.59	0.62	334	79.24	20.25	1.52	0.58	0.61
Q4	423	121.16	31.41	1.27	0.44	0.47	334	130.73	32.91	1.30	0.49	0.53
Q5 (High)	423	316.71	183.17	0.99	0.37	0.40	334	327.09	188.21	0.97	0.40	0.43
Q1-Q5				1.72***	1.61***	1.60***				2.35***	2.07***	2.06***
t-statistic				(6.04)	(7.33)	(7.36)				(6.97)	(8.40)	(8.27)

Table 8. Long-Term Return Test: CSR-FF12 Index and Cumulative Returns

This table presents the results from firm and year fixed effects regressions of cumulative 3 months ahead stock returns and CSR-ff12 index. We regress Cumulative 3 months ahead returns (cum_3_1, cum_6_4, cum_9_7…etc) on a constant; CSR-FF12 index, the Fama & French (1993) three factors (market (MKT), size (SMB), book-to-market (HML)), the Carhart (1997) four factors (market (MKT), size (SMB), book-to-market (HML), momentum (UMD)), Fama & French (2014) five factors (market (MKT), size (SMB), book-to-market (HML), robust minus weak (RMW), conservative minus aggressive (CMA)). This table shows the results with respect to Fama-French 5 factors. Firm fixed effects are controlled. Standard errors are clustered at the firm level. P-values are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
VARIABLES	cum_3_1	cum_6_4	cum_9_7	cum_12_10	cum_18_16	cum_21_19	cum_24_22	cum_27_25	cum_30_28	cum_33_31	cum_36_34	cum_45_43	cum_48_46
csr_ff12_index	-0.0446***	-0.0479***	-0.0595***	-0.0361***	-0.00299	-0.0124	-0.00705	0.0179**	0.0145*	0.0241***	0.0132*	0.0213***	0.0480***
	(-5.750)	(-6.300)	(-7.751)	(-4.620)	(-0.407)	(-1.602)	(-0.880)	(2.188)	(1.847)	(3.077)	(1.709)	(2.692)	(5.665)
ff5_mktrf	0.0382***	-0.200***	-0.200***	-0.110***	-0.267***	0.154***	-0.00156	-0.300***	0.129***	0.227***	0.279***	-0.0432***	-0.0717***
	(3.057)	(-16.21)	(-18.01)	(-10.11)	(-26.89)	(15.95)	(-0.164)	(-28.34)	(14.01)	(23.36)	(29.34)	(-4.586)	(-7.253)
ff5_smb	-0.433***	-0.609***	0.410***	0.314***	0.0751***	-0.180***	-0.0345***	0.209***	0.558***	-0.136***	-0.232***	-0.0299**	0.128***
	(-27.50)	(-35.04)	(22.41)	(19.94)	(5.332)	(-13.55)	(-2.774)	(13.90)	(36.60)	(-9.427)	(-14.80)	(-2.052)	(9.394)
ff5_hml	-0.399***	-0.305***	0.269***	0.475***	0.127***	-0.190***	-0.585***	-0.163***	-0.404***	-0.101***	-0.335***	0.117***	0.0808***
	(-17.60)	(-15.27)	(15.92)	(28.29)	(7.285)	(-12.21)	(-37.04)	(-9.619)	(-25.38)	(-6.525)	(-21.71)	(7.505)	(5.170)
ff5_rmw	-0.710***	-0.409***	-0.0466**	0.00178	-0.264***	0.198***	0.190***	0.0494***	0.769***	0.108***	0.339***	-0.341***	-0.0609***
	(-33.91)	(-19.85)	(-2.418)	(0.0849)	(-15.06)	(11.26)	(11.12)	(2.831)	(42.60)	(6.336)	(20.58)	(-19.15)	(-3.786)
ff5_cma	0.308***	0.372***	0.0701***	-0.582***	-0.511***	-0.246***	0.194***	0.158***	0.287***	0.206***	0.485***	-0.0939***	0.144***
	(11.16)	(14.98)	(3.107)	(-24.43)	(-21.58)	(-10.49)	(8.507)	(6.507)	(12.63)	(9.113)	(20.32)	(-4.001)	(5.565)
Observations	339,108	336,248	332,191	327,165	316,173	310,749	305,430	300,215	295,080	289,970	284,866	256,193	247,071
R-squared	0.009	0.009	0.004	0.004	0.003	0.003	0.005	0.005	0.007	0.002	0.004	0.001	0.001

Table 9. Long-Term Return Test: Cumulative CSR-FF12 Index and Cumulative Returns

This table presents the results from firm and year fixed effects regressions of cumulative 3 months ahead stock returns and cumulative 2 year CSR-ff12 index. We regress Cumulative 3 months ahead returns (cum_3_1, cum_6_4, cum_9_7…etc) on a constant; cumulative 2 year CSR-FF12 index (cum_csr2), the Fama & French (1993) three factors (market (MKT), size (SMB), book-to-market (HML)), the Carhart (1997) four factors (market (MKT), size (SMB), book-to-market (HML), momentum (UMD)), Fama & French (2014) five factors (market (MKT), size (SMB), book-to-market (HML), robust minus weak (RMW), conservative minus aggressive (CMA)). This table shows the results with respect to Fama-French 5 factors. Firm fixed effects are controlled. Standard errors are clustered at the firm level. P-values are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
VARIABLES	cum_3_1	cum_6_4	cum_9_7	cum_12_10	cum_18_16	cum_21_19	cum_24_22	cum_27_25	cum_30_28	cum_33_31	cum_36_34	cum_45_43	cum_48_46
cum_csr2	-0.0123***	-0.0149***	-0.0258***	-0.0209***	-0.00838***	-0.00466	-0.000622	0.00962***	0.00755**	0.0114***	0.0124***	0.0144***	0.0266***
	(-3.975)	(-4.948)	(-8.221)	(-6.582)	(-2.695)	(-1.430)	(-0.189)	(2.936)	(2.436)	(3.744)	(4.057)	(4.500)	(7.787)
ff5_mktrf	0.0480***	-0.169***	-0.214***	-0.119***	-0.293***	0.138***	0.0319***	-0.352***	0.168***	0.235***	0.284***	-0.00632	-0.0685***
	(3.667)	(-13.09)	(-18.44)	(-10.65)	(-28.75)	(13.89)	(3.280)	(-32.01)	(17.92)	(23.10)	(29.21)	(-0.643)	(-6.807)
ff5_smb	-0.454***	-0.679***	0.476***	0.390***	0.101***	-0.183***	-0.114***	0.258***	0.520***	-0.145***	-0.234***	-0.0588***	0.134***
	(-27.58)	(-36.83)	(23.56)	(24.45)	(6.785)	(-13.17)	(-8.675)	(15.88)	(31.38)	(-9.374)	(-13.94)	(-3.837)	(9.501)
ff5_hml	-0.363***	-0.270***	0.289***	0.445***	0.159***	-0.156***	-0.577***	-0.225***	-0.381***	-0.107***	-0.363***	0.107***	0.0665***
	(-15.30)	(-12.80)	(16.94)	(26.01)	(8.755)	(-9.968)	(-35.70)	(-13.03)	(-23.17)	(-6.731)	(-23.04)	(6.601)	(4.193)
ff5_rmw	-0.726***	-0.340***	-0.0567***	0.0713***	-0.161***	0.0968***	0.192***	0.106***	0.800***	0.134***	0.317***	-0.371***	-0.0905***
	(-31.69)	(-15.72)	(-2.780)	(3.154)	(-8.836)	(5.283)	(10.51)	(5.602)	(42.33)	(7.516)	(18.34)	(-19.69)	(-5.307)
ff5_cma	0.0539*	0.406***	0.0960***	-0.478***	-0.531***	-0.392***	0.162***	0.0782***	0.276***	0.215***	0.588***	-0.0405	0.230***
	(1.870)	(15.79)	(3.971)	(-18.96)	(-21.62)	(-16.21)	(6.689)	(3.025)	(11.29)	(8.780)	(23.37)	(-1.613)	(8.747)
Observations	297,881	295,605	292,352	288,230	279,044	274,484	269,982	265,542	261,169	256,847	252,574	226,727	218,468
R-squared	0.010	0.010	0.006	0.005	0.003	0.003	0.006	0.008	0.007	0.002	0.004	0.002	0.002

Table 10. Firm Performance Regressions: Characteristics approach

This table presents the Fama-MacBeth OLS regressions of firm performance on CSR-FF12 index and various control variables. The four performance measures are the log market-to-book ratio (M/B), the log price-to-EBITDA (P/EBITDA), the log ratio of aggregate value to EBITDA (AV/EBITDA), and the ratio of market value to replacement cost of asset (Tobin's Q). All four measures are measured at the end of each year. We remove the observations if the denominator of the valuation ratio is negative. The control variables are all measured at December of the previous year: the return on equity (ROE), the returns on equity for the next three years (F1ROE, F2ROE, and F3ROE), the ratio of R&D to sales (RNDRSALE), a dummy variable for whether R&D is missing (RNDMISS), and a dummy variable for inclusion in the S&P500 index (SP500). The coefficients are estimated using Fama-Macbeth (1973) regressions and standard errors are clustered at two-digit SIC industry grouping. P-values are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	M/B	Tobin's Q	P/EBITDA	AV/EBITDA	M/B	Tobin's Q	P/EBITDA	AV/EBITDA
CSR_ff12_index	0.6266***	0.8767***	0.2134**	0.1231**	0.5261***	0.6958***	0.2376**	0.1196*
	(0.001)	(0.000)	(0.039)	(0.049)	(0.001)	(0.001)	(0.028)	(0.063)
LOGTA	-0.0771***	-0.2012***	-0.0998***	-0.0284***	-0.0802***	-0.2120***	-0.0970***	-0.0221**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.016)
RNDRSALE	0.7387**	1.5169	2.3416***	1.1080***	1.0669**	1.9339*	2.4177***	1.4625***
	(0.042)	(0.156)	(0.000)	(0.000)	(0.012)	(0.090)	(0.000)	(0.000)
RNDMISS	-0.2943***	-0.3931***	-0.1538***	-0.0441**	-0.2703***	-0.3679***	-0.1282***	-0.0263
	(0.000)	(0.000)	(0.000)	(0.042)	(0.000)	(0.000)	(0.001)	(0.147)
SGROWTH	0.2919***	0.5560***	0.0039	0.0781	0.2824***	0.6017***	-0.0041	0.0808*
	(0.000)	(0.000)	(0.944)	(0.105)	(0.000)	(0.000)	(0.948)	(0.079)
DEBTR	0.1860*	-0.2485	-1.3523***	-0.0193	0.0203	-0.3952**	-1.3052***	-0.0574
	(0.079)	(0.123)	(0.000)	(0.661)	(0.831)	(0.033)	(0.000)	(0.280)
CAPXR	-0.1378*	0.2375**	0.0320	-0.0597	-0.1169	0.3184***	0.0158	-0.0279
	(0.062)	(0.024)	(0.695)	(0.332)	(0.106)	(0.005)	(0.836)	(0.599)
ADVR	2.7899***	3.8912***	1.0938***	0.1538	2.2678***	3.6768***	0.9466***	0.0481
	(0.000)	(0.000)	(0.000)	(0.286)	(0.000)	(0.000)	(0.000)	(0.702)
ROE	0.6309***	0.8359***	-0.0682	-0.0965***	0.4987***	0.7438***	-0.2113***	-0.0811
	(0.004)	(0.001)	(0.163)	(0.001)	(0.005)	(0.001)	(0.002)	(0.195)
F1ROE					0.5813***	0.6694***	0.0412	-0.0121
					(0.000)	(0.000)	(0.390)	(0.774)
F2ROE					0.2593***	0.2317***	0.0828	0.0051
					(0.000)	(0.004)	(0.102)	(0.853)
F3ROE					0.1944***	0.2635***	0.0786	0.0437
					(0.000)	(0.000)	(0.123)	(0.144)
Constant	1.0051***	2.5007***	2.9859***	2.3986***	1.0317***	2.6032***	2.9549***	2.3436***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	29,565	29,838	24,673	24,510	23,258	23,311	19,457	20,492
Adj. R-squared	0.206	0.252	0.359	0.126	0.302	0.292	0.353	0.150

Table 11. Institutional Ownership Regressions

This table presents the OLS regression results of a stock's aggregate ownership by institutions and analyst coverage at year-end on CSR-FF12 Index and various control variables. In models (1) and (2), the dependent variable is institutional ownership ratio at the end of the year. Models (3) through (6) report the results, in which the dependent variable is ownership by two subgroups. In models (3) and (4), the dependent variable is the fraction of shares held by institutions of type 1 (banks), type 2 (insurance companies), and type 5 (others including pension plans, endowments, and employee-ownership plans). In models (5) and (6), the dependent variable is shares held by type 3 (mutual funds) and type 4 (independent investment advisors) institutions. SIZE is log market equity, MB is the log market- to-book ratio, PRCINV is the inverse of the stock price, NASDAQ and SP500 are dummy variables for inclusion in the Nasdaq and S&P500 indexes (all measured at year-end), RETSTD is the standard deviation of daily stock returns, and AVGRET is the average monthly return (all measured over the previous year). CSR_ff12_index_C and CSR_ff12_index_C2 are the centered CSR index and the centered CSR index squared. The coefficients are estimated using a panel regression with year dummies. Robust standard errors are clustered at the industry level. P-values are in parentheses. The institutional ownership and analyst data are from the period 2000–2013. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Institutional Ownership	Institutional Ownership	Type (1+2+5)	Type (1+2+5)	Type (3+4)	Type (3+4)
CSR_ff12_index	-0.0983***		-0.0851***		-0.0131	
	(0.009)		(0.006)		(0.226)	
CSR_ff12_index_C		-0.0822**		-0.0765**		-0.0055
		(0.035)		(0.016)		(0.650)
CSR_ff12_index_C2		-0.4505**		-0.2394		-0.2123***
		(0.032)		(0.139)		(0.003)
SIZE	0.0484***	0.0486***	0.0380***	0.0381***	0.0104***	0.0105***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
INDU BETA	0.0591*	0.0575*	0.0472*	0.0463*	0.0119*	0.0111
	(0.072)	(0.083)	(0.086)	(0.095)	(0.075)	(0.102)
MB	-0.0216***	-0.0214***	-0.0212***	-0.0212***	-0.0003	-0.0003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.861)	(0.886)
PRCINV	-0.2097***	-0.2083***	-0.1455***	-0.1448***	-0.0640***	-0.0633***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
RETSTD	-0.5365	-0.5422	-0.3018	-0.3048	-0.2364**	-0.2391**
	(0.284)	(0.286)	(0.468)	(0.468)	(0.037)	(0.039)
AVGRET	-0.1425**	-0.1443**	-0.0761	-0.0770	-0.0654***	-0.0662***
	(0.017)	(0.016)	(0.125)	(0.120)	(0.010)	(0.009)
NSDAQ	-0.0279**	-0.0274**	-0.0218**	-0.0215**	-0.0061**	-0.0059*
	(0.014)	(0.016)	(0.013)	(0.014)	(0.044)	(0.053)
SP500	-0.0702***	-0.0692***	-0.0431***	-0.0426***	-0.0269***	-0.0264***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.2640***	0.2258***	0.2466***	0.2120***	0.0267	0.0238
	(0.000)	(0.001)	(0.000)	(0.000)	(0.130)	(0.142)
Observations	27,931	27,931	27,931	27,931	27,923	27,923
R-squared	0.215	0.216	0.210	0.210	0.406	0.406
YEAR FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	YES	YES	YES	YES	YES	YES
Adj. R-squared	0.213	0.213	0.207	0.207	0.404	0.405
Cluster Industry	48	48	48	48	48	48