

Social Norms and CSR Performance

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Abstract Some institutional investors (e.g., pensions, universities, and religious, charitable, and not-for-profit institutions) are exposed to social norms and public scrutiny. Prior research indicates that these norm-constrained institutions engage in negative screening and invest less in firms operating in ‘sin’ industries. We examine whether social norms also motivate these institutions to engage in positive screening—where they invest more in firms with better corporate social responsibility (CSR) performance—and CSR-related activism—where they promote improvements in the CSR of existing investees. We find that firms with superior CSR performance have greater ownership by norm-constrained institutions, consistent with positive screening, and we use a natural experiment to establish causality. We also find that increases in the shareholdings of norm-constrained institutions are associated with subsequent improvements in CSR, consistent with activism. Further, we rule out an alternative explanation for our results where the positive screening and activism are ‘profit-driven’ rather than driven by social pressure. Thus, our results suggest that the influence of social norms on stock markets is more pervasive than documented in the prior literature.

Keywords Social norms · Institutional investors · Corporate social responsibility · Positive screening · Activism

Introduction

Social norms have long been of interest to social psychologists (e.g., Sherif 1936; Asch 1955; Cialdini et al. 1991; Fornara et al. 2011) as well as economists (e.g., Becker 1957; Akerlof 1980; Romer 1984; Glaeser and Sheinkman 2003). However, the effect of social norms on investors has received much less attention. One exception is Hong and Kacperczyk (2009) who find that institutional investors who are constrained by social norms are more likely to avoid investing in ‘sin’ stocks, i.e., alcohol, tobacco, and gaming. In particular, they argue that institutions such as pension funds, universities, charities, and religious organizations are ‘norm-constrained’ because their stock positions may be known publicly, because they have diverse constituents, or because they are exposed to public scrutiny. Thus, the cost of investing in sin stocks is greater for these institutions because doing so can lead to reputational loss.

However, the negative screening that Hong and Kacperczyk (2009) examine is only one dimension of socially responsible investing. Hylton (1992) identifies three approaches to socially responsible investing—negative screening, positive screening, and activism. While negative screening focuses on avoiding questionable corporate behavior, positive screening focuses on identifying investments that are attractive in terms of social responsibility, e.g., companies that have progressive employment practices or that are environmentally sound. Activism reflects the institution’s desire to change the investee’s behavior once the investment is made. While Hong and Kacperczyk (2009) provide evidence on negative screening, they do not consider *positive screening* or *activism*. Whether social norms are powerful enough to motivate norm-constrained institutions to engage in positive screening and activism is an open question.

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Fundamentally, this question is important because the objectives of negative screening and positive screening/activism are diametric—negative screening focuses on discouraging ‘bad’ practices while positive screening and activism focus on encouraging ‘good’ practices. Also, negative screening is a much narrower concept as only certain industries or practices are singled out for avoidance. In contrast, positive screening and activism can theoretically be applied to any industry or any practice.

It is not obvious that social norms will motivate norm-constrained institutions to engage in positive screening and activism. Derwall et al. (2011) argue that socially responsible investors may be values-oriented (i.e., investors base their investment decisions on social and personal values and are willing to accept a loss in financial performance in exchange for the nonfinancial utility) or profit-oriented (i.e., investors strive to meet their financial goals). Derwall et al. (2011) expect that negative screens will be primarily “values-driven” where investors impose filters that reflect social and personal beliefs or values. In contrast, they expect positive screens will be “profit-driven” where investors use screens to identify firms where superior CSR performance can lead to superior returns. If so, we would not expect a relation between the shareholdings of norm-constrained institutions and positive screening or, by extension, activism because it is hard to envision a setting where norm-constrained institutions are more profit-driven than other institutions.

In this study, we address two specific questions. First, in line with positive screening, do norm-constrained institutional investors prefer firms with superior performance in terms of corporate social responsibility (CSR)? Second, in line with shareholder activism, do increases in shareholdings by norm-constrained institutional investors precede improvements in CSR performance?

We use data from 1991–2011 and ratings of CSR performance from the KLD STATS (now MSCI) database. We define pensions, universities, and religious, charitable, and not-for-profit institutions as norm-constrained institutions.¹ In the first part of the study, we find that, consistent with positive screening, norm-constrained institutions hold more shares in firms with high CSR performance when compared to institutions that are not constrained by social norms. When we split CSR performance into strengths and

concerns, we find that norm-constrained investors hold more (less) shares in firms with more strengths (concerns).

We recognize that endogeneity is a threat in this setting. We address this in two ways. First, to address omitted variables, we estimate our models using firm fixed effects to control for time-invariant firm characteristics that could potentially affect both CSR performance and the shareholdings of norm-constrained institutions. Second, to address reverse causality, in the spirit of Gormley et al. (2013) and Vig (2013), we conduct a natural experiment using an exogenous regulatory shock that impacted the CSR of affected firms, but at the same time had no direct effect on institutional shareholdings. Using a difference-in-differences research design, we find that the pre-post difference in the shareholdings around the regulatory change is greater for norm-constrained institutions that were affected by the shock than for the non-norm-constrained institutions that were affected by this shock. This finding supports a causal relation where better CSR leads to greater investments by norm-constrained institutions.

In the second part of the study, to shed light on the activist role of norm-constrained institutions, we conduct a change-based analysis and examine the effect of lagged changes in institutional holdings on the current change in CSR performance of the invested firms. We find that the 1-year lagged and 2-year lagged changes in shareholdings of norm-constrained institutions are related to the current changes in CSR performance. These results are consistent with norm-constrained institutions promoting or agitating for CSR improvements in firms that they hold shares in, a view consistent with shareholder activism. We also show that norm-constrained institutions with long-term and substantial holdings, which have the most incentive to take an active interest in the firm, have a stronger influence on firms’ CSR performance than other norm-constrained institutions, or other institutions with long-term and substantial holdings. Last, we rule out an alternative explanation for our findings related to activism where norm-constrained institutions try to predict future improvements in CSR by focusing on recent trends in a firm’s CSR performance.

We make three distinct contributions to the literature. First, although there is a significant body of literature examining the relation between institutional ownership and CSR performance (e.g., Coffey and Fryxell 1991; Graves and Waddock 1994; Johnson and Greening 1999; Cox et al. 2004; Cox and Wicks 2011; Borghesi et al. 2014; Chen and Gaviglio 2015), aside from Hong and Kacperczyk (2009), this research has not considered the role of social norms. Hong and Kacperczyk (2009, p. 15) argue that “there is a societal norm against funding operations that promote vice and that some investors, particularly institutions subject to norms, pay a financial cost in abstaining from these

¹ Our sample includes all types of institutional investors, not just those funds that follow a socially responsible investment (SRI) strategy, e.g., the Calvert Social Index funds. That is, we are interested in how social norms affect investment decisions of institutions in general. Thus, our study differs from studies that focus on SRI funds (e.g., Renneboog et al. 2008). Unlike SRI funds, in the absence of social norms, it is difficult to predict why some institutions would prefer firms with good CSR performance more than other institutions.

stocks.” Rather than focus on avoidance, we focus on whether these institutions engage in proactive approaches to address societal norms related to CSR.

Second, to our knowledge, we are the first to conduct a natural experiment to identify a causal effect between CSR performance and institutional ownership. A natural experiment allows identification because it relies on an exogenous shock that affects CSR performance, but does not directly affect institutional shareholdings. We use an executive order issued by President Obama in 2012 that imposed constraints on human-trafficking by federal contractors and sub-contractors as an exogenous shock because the order forced these firms to improve their performance in employee relations. Thus, we provide novel evidence that supports a causal relation running from CSR performance to investments by norm-constrained institutions, consistent with positive screening. However, we note that this causality does not preclude these institutions from engaging in CSR-related activism as positive screening and activism are not mutually exclusive.

Third, we address De Colle and York’s (2009) concerns about the shortcomings of negative screening. De Colle and York (2009) argue that negative screening in socially responsible investing is a flawed approach since it fails to influence the direction of the firms that are most in need of re-directing. They propose a new framework for responsible investing that is more in line with positive screening and activism. Our results suggest that norm-constrained investors pursue a multi-prong CSR investment strategy approach that emphasizes proactivity in addition to negative screening.

The remainder of the paper is divided as follows. The second section reviews the literature and develops our hypothesis. The third section describes the research design. The fourth section provides the results, and the last section is the conclusion.

Literature and Hypotheses Development

An extensive literature examines the association between institutional investor ownership and CSR performance, and generally finds a positive relation.² For example, Coffey and Fryxell (1991) finds a positive relation between institutional ownership and the proportion of women on the board, but not between institutional ownership and charitable giving or adherence to the Sullivan principles. Graves and Waddock (1994) find a positive relation between

institutional ownership and CSR performance measured using KLD data. Johnson and Greening (1999) examine the relation between institutional ownership and CSR for different types of institutions. Cox et al. (2004) find a positive relation between institutional ownership and CSR for long-term institutional investors, but not short-term institutional investors. Similarly, Cox and Wicks (2011) find that CSR is a more important factor in stock selection than market liquidity for dedicated institutional investors while CSR is the least important factor for transient institutional investors. While this literature acknowledges that different institutional investors have different incentives in selecting stocks, these differences have been linked to the investing horizon or type of institution. Our study differs from this line of research as we classify institutions based on their exposure to social norms.

Hylton (1992) summarizes two distinct, but non-mutually exclusive, mechanisms that can lead to a positive relation between institutional holdings and CSR performance: portfolio screening and shareholder activism. We use Hylton’s (1992) framework to review prior literature and develop our hypotheses.

Portfolio Screening

Portfolio screening in socially responsible investing includes negative and positive screening (Hylton 1992). Negative screening, or investor boycott, is an approach of investment marked by an emphasis on separation and avoidance of ethically questionable corporate behaviors. A common example is that socially responsible investors may refuse to invest in firms that engage in sin industries such as alcohol, tobacco, and gaming. Hong and Kacperczyk (2009) focus on negative screening and investigate certain types of institutions and their ownerships of the sin stocks. They argue that pension funds, universities, religious organizations, banks and insurance companies are subject to social norms, and find that these institutions hold less sin stocks than other types of institutions. However, De Colle and York (2009) argue negative screening is a flawed approach. By predetermining “sinners” and “saints”, negative screening fails to positively influence those firms that need the most improvement.

Positive screening, on the other hand, is to identify desirable firms. For example, the forum for Sustainable and Responsible Investment in the US states that positive screening involves including strong CSR performers—profitable companies that contribute positively to society—in an investment portfolio. The organization notes that ‘buy’ lists may include “enterprises with, for example, good employer–employee relations, strong environmental practices, products that are safe and useful, and operations

² Exceptions include Borghesi et al. (2014) who find a negative relation between CSR performance and institutional ownership and Chen and Gavius (2015) who find that CSR performance and institutional ownership are unrelated.

that respect human rights around the world”.³ Thus, positive screening is proactive in that it rewards or encourages certain ‘good’ behavior.

Positive screening is also a broader concept than negative screening since positive screening can be applied to any firm. That is, all firms have some responsibilities as corporate citizens (e.g., all firms have employees, all firms impact the environment). However, positive screening is also more costly and difficult to apply. Unlike negative screening which requires a binary decision in relation to a simple criterion (e.g., industry membership), positive screening requires that the institution identifies selection criteria, determines suitable measures of the criteria, and establishes benchmarks to identify ‘good’ or ‘best’ practice.

While prior research indicates that institutional investors care about CSR (e.g., Coffey and Fryxell 1991; Graves and Waddock 1994; Johnson and Greening 1999; Cox et al. 2004; Cumming and Johan 2007; Cox and Wicks 2011), we are interested in whether social norms can exert sufficient pressure to lead certain institutions to engage in positive screening. If norm-constrained institutional investors positively screen for good CSR performance, we expect that the level of CSR performance will be positively associated with the level of holdings by norm-constrained institutional investors relative to other institutional investors. However, Derwall et al. (2011) argue that the underlying motive for using positive screens is to identify firms that have superior CSR performance as this will result in superior returns in the long-run. If so, there is no reason to expect that norm-constrained institutions would be more concerned about future profitability of their investees than non-norm-constrained institutions, suggesting that the relation between institutional ownership and CSR performance would be similar for all institutions. This leads to our first hypothesis stated in null form:

H1 Shareholdings of institutions that face more norm constraints are not more positively associated with firms’ CSR performance than the shareholdings of institutions that face fewer norm constraints.

Shareholder Activism

With respect to the shareholder activism mechanism, activist shareholders not only want to avoid ‘bad’ firms and choose ‘good’ firms, they also want to promote improvement in firms they have invested in. Institutional investors’ roles in influencing firms’ daily business are well documented in the prior literature (e.g., Brickley et al. 1988; Agrawal and Mandelker 1990; Hartzell and Starks 2003; Chen et al. 2007).

Investments by norm-constrained institutions may promote subsequent improvement in CSR performance. This could be because, once invested, the institutions are in a better position to monitor and evaluate CSR performance. For instance, they can appoint their representatives in the corporate board. Also, they may develop closer relationships with the firm’s managers which gives them more influence (e.g., Useem 1996). Given that shareholder activism is documented in the normative CSR literature (e.g., Guay et al. 2004) with real-world cases, e.g., Ralph Nader’s campaigns against General Motors (Hylton 1992), surprisingly there is lack of empirical research on shareholder activism in the CSR context.

The evidence on the relation between institutional ownership and CSR-related shareholder activism is sparse. Dimson et al. (2015) find evidence that an investee is more likely to be targeted by a CSR-related shareholder proposal when the shareholdings of the initiating and other institutional investors are greater, but they do not find that institutional holdings are related to whether the proposal is successful. However, they examine CSR engagements by a single institutional investor; thus, it is difficult to generalize these findings to other institutional investors. In different contexts, Gillan and Starks (2000) find that when ‘success’ is defined as the percentage of votes in favor of a shareholder proposal, those proposals are more likely to be successful when their institutional ownership is higher. Ertimur et al. (2011) examine compensation-related shareholder proposals and find that they are successful in reducing the CEO’s year-ahead excess compensation only when they are initiated by an institutional investor. Finally, Aggarwal et al.’s (2011) results are consistent with increases in institutional ownership being a driving force in improving corporate governance (also see Aggarwal et al. 2015). Thus, there is evidence that institutions are effective activists, but none of these studies examine norm-constrained institutional investors separately.

If social norms create pressure for norm-constrained institutions to become involved in shareholder activism and if such activism is effective, we should observe a relation between the current change in CSR performance and prior changes in the shareholdings of norm-constrained institutions. This result is consistent with CSR-activism being values-driven. On the other hand, if CSR-activism is profit-driven in that institutional investors engage in activism to improve the investee’s long-run profitability, consistent with Derwall et al. (2011), there should be no difference in the CSR-activism of norm-constrained and non-norm-constrained institutions. This leads to a second hypothesis related to shareholder activism (in null form):

H2 Increases in shareholdings of institutions that face more norm constraints are not more positively associated

³ See <http://ussif.org/resources/sriguide/srifacts.cfm>.

with firms' subsequent CSR performance than increases in shareholdings of institutions that face fewer norm constraints.

Research Design

Data and Sample

We obtain data on firms' CSR performance for the period between 1991 and 2011 from the KLD STATS database. KLD evaluates the environmental, social, and governance performance for firms it covers along a variety of dimensions. From 1991–2000, KLD covered approximately 650 firms every year. In 2001 and 2002, KLD included the largest 1000 US firms by market capitalization. Since 2003, it has expanded its coverage to the largest 3000 US firms by market capitalization. Our data on shareholdings come from the CDA Spectrum database of SEC Form 13-F filings by institutional investors, defined as those managing at least \$100 million in assets. We focus on the end-of-year holdings of a particular stock in terms of shares held by various types of institutional investors. We extract data from the Compustat and CRSP databases to calculate the necessary control variables in our models. Our final sample comprises 36,225 firm-year observations for 4071 firms that have requisite data from the KLD STATS, CDA Spectrum, Compustat, and CRSP databases.

Measurement of Variables

CSR Scores

KLD evaluates firms' CSR performance in seven qualitative issue areas, specifically, corporate governance, community, diversity, employee relations, environment, human rights, and product. Within each area, KLD provides strength and concern ratings for multiple indicators. Since institutional investors may prefer firms with good corporate governance due to non-CSR related incentives, as documented in the prior literature, we construct a CSR score (*CSR*), measured as total strengths minus total concerns in KLD's six social rating categories: community, diversity, employee relations, environment, human rights, and product.⁴ That is, we exclude KLD's corporate governance

category in computing our CSR score. Instead, consistent with Kim et al. (2012), we include the net score for the corporate governance category as a control variable in our regression models.^{5,6}

Institutional Ownership and Norm-Constrained Institutional Investors

Institutional ownership (*IO*) is the percentage of a firm's shares outstanding held by institutions in the CDA Spectrum database at the end of year *t*. We calculate *IO* by aggregating the shareholdings for different types of institutions at the end of the year and then dividing this amount by total shares outstanding at the end of the year.

We construct an indicator variable to indicate whether an institution is norm-constrained (*NormCon*).⁷ Consistent with prior research, we consider mutual funds and investment advisor to be non-norm-constrained as they are natural arbitrageurs that are motivated purely by financial objectives.⁸ Thus, our measure of norm-constrained institutions, *NormCon*, is equal to 1 for pensions, universities, and religious, charitable, and not-for-profit institutions and 0 for mutual funds and investment advisors.

We based our classifications for *NormCon* on the CDA Spectrum database which contains information from 13-F filings. The CDA Spectrum database classifies institutional investors into five types: banks, insurance companies, mutual funds, investment advisors, and others. We search

⁴ For example, firms with good corporate governance (1) provide strong internal monitoring mechanism that serve as a substitute for institutions' costly monitoring activities (e.g., Bushee and Noe 2000), (2) exhibit higher firm value, better operating performance, and potentially less wasteful investment (e.g., Gompers et al. 2003; Brown and Caylor 2006; Larcker et al. 2007), and (3) can reduce the possibility of losses due to managerial fraud or negligence (e.g., Del Guercio, 1996).

⁵ Kim et al. (2012) excluded the human rights area in constructing CSR scores because this area was added from 2002. However, we include this area for two reasons: (1) as stated in KLD's ratings definitions, ratings in this area were mostly taken from the former non-US operations and community category, which have been embedded in the net score before 2002, and (2) to the extent that investors may view human rights as an important aspect of firms' CSR performance, a CSR score including this area will reflect a more complete CSR image of firms.

⁶ We also compute a second measure of CSR performance that excludes the KLD product category since this category include indicators such as quality, R&D/innovation, and product safety, which may be correlated with firms' financial performance. Our results are unchanged using this alternative measure.

⁷ Hong and Kacperczyk (2009) include banks and insurance companies in their definition of norm-constrained. Brickley et al. (1988) and Chen et al. (2007) argue that banks and insurance companies may be less independent due to existing or potential business relationships with investee firms so we exclude them from our main tests. In sensitivity tests, we include banks and insurance companies as norm-constrained institutions and our results hold.

⁸ Similar to Hong and Kacperczyk (2009), we argue that while certain mutual funds and hedge funds may specially practice socially responsible investing, other mutual and hedge funds still focus solely on achieving financial goals.

the internet for detailed information on institutions classified as ‘others’ and find some banks, insurance companies, mutual funds, and investment advisors are incorrectly classified. Accordingly, we reassign these institutional investors into the appropriate group.⁹ After being reclassified, the group ‘others’ includes pension funds, university endowments, and religious, charitable, and other non-for-profit organizations.

Regression Models

Positive Screening (H1)

To test H1, i.e., the association between CSR performance and ownership by norm-constrained institutions versus other institutions, we estimate the following models:

$$IO_t = \alpha_0 + \beta_1 CSR_t + \beta_2 NormCon + \beta_3 (CSR_t \times NormCon) + \sum_{k=1}^n \beta_{k+3} Controls_k + \varepsilon_t \quad (1)$$

where *IO*, *CSR*, and *NormCon* are as defined above. Based on Del Guercio (1996), Bushee (2001), and Dhaliwal et al. (2011), we control for variables that capture firms’ characteristics that can affect the investment decisions of institutional investors, including corporate governance (*CG*), size (*LMV*), reputation (*SP500*), financial and stock performance (*ROE*, *AnnRet*), liquidity (*TV*), risk (*Lev*, *Beta*, *IRisk*), and fundamentals (*EP*, *DP*, *BP*, *SaleChg*).¹⁰ See the Appendix for the variable definitions.

If norm-constrained institutions are values-driven and invest more in firms with better CSR performance relative to other institutions, we expect β_3 , the coefficient of interest, to be positive. If norm-constrained institutions’ approach to positive screening is profit-driven, we expect no difference in the relation between CSR and the shareholdings of norm- and non-norm-constrained institutions, i.e., β_3 will be insignificant.

Since we measure CSR performance using a total score of strengths minus concerns, it is possible that differences in *CSR* are driven by differences in either strengths or concerns. For example, if two firms have the same number of strengths but firm A has more concerns than firm B, the variation in *CSR* will be due to concerns. If so, the results

may be driven by norm-constrained institutions seeking to *avoid* investing in firms with poor CSR performance. In other words, we might just be detecting another form of negative screening.

To isolate the effect of positive screening, we separate the strengths and concerns into two separate measures. If negative screening is the prominent effect, we expect that the results will be significant for the interaction between concerns and *NormCon*, but not strengths and *NormCon*. This is because negative screening is a non-compensatory decision rule, i.e., if a firm is performing badly in some CSR areas, it does not matter if the firm is performing well in other CSR areas. For instance, if a firm is involved in alcohol production, using a negative screening rule, a norm-constrained institution would not invest in the company, regardless of the positive contributions that firm might make to the community. On the other hand, positive screening focuses on the overall CSR performance, selecting firms that follow best practice. Thus, a positive screen takes in account a firm’s CSR strengths as well as its CSR weaknesses.

Consequently, we replace the total CSR score in Eq. (1) with separate variables for strengths and concerns, and examine whether institutional investors care about both positive and negative aspects of firms’ CSR performance, i.e.,

$$IO_t = \alpha_0 + \beta_1 Strengths_t + \beta_2 Concerns_t + \beta_3 NormCon + \beta_4 (Strength_t \times NormCon) + \beta_5 (Concerns_t \times NormCon) + \sum_{k=1}^n \beta_{k+5} Controls_k + \varepsilon_t \quad (2)$$

where *Strengths* (*Concerns*) is the total CSR strengths (concerns) of a firm’s ratings in six areas: community, diversity, employee relations, environment, human rights, and product. All other variables are defined as in Eq. (1). As strengths and concerns in the KLD database are both count numbers, if negative screening predominates, we expect that β_4 on *Strength* $\times$ *NormCon* will be insignificant and β_5 on *Concerns* $\times$ *NormCon* will be negative and significant. If positive screening predominates and if norm-constrained institutions are values-driven, we expect β_4 to be positive and significant, and β_5 to be negative and significant.

Shareholder Activism (H2)

H2 examines whether activism by norm-constrained institutions leads to greater improvement in the CSR performance of investees than activism by non-norm-constrained institutions. We estimate the following model that examines the effect of current and lagged changes in holdings of

⁹ We removed a small number of fund managers for which we do not have sufficient information to make an accurate classification.

¹⁰ In this setting, financial and stock performance, and reputation can control for good management which is relevant since good management and CSR performance could be related. However, we note that, in our tests, good management is unlikely to be an omitted correlated variable as that would require that norm-constrained institutions are more interested in good management than other institutions.

norm-constrained institutions versus other institutions on current changes in CSR performance:

$$\begin{aligned} \Delta CSR_t = & \alpha_0 + \beta_1 \Delta IOV_t + \beta_2 NormCon \\ & + \beta_3 (\Delta IOV_t \times NormCon) + \beta_4 \Delta IOV_{t-1} \\ & + \beta_5 (\Delta IOV_{t-1} \times NormCon) + \beta_6 \Delta IOV_{t-2} \\ & + \beta_7 (\Delta IOV_{t-2} \times NormCon) + \beta_8 IOV_{t-3} \\ & + \beta_9 (IOV_{t-3} \times NormCon) \\ & + \sum_{k=1}^n \beta_{k+9} \Delta Controls_k + \varepsilon_t, \end{aligned} \quad (3)$$

where Δ is the change from year $t-1$ to year t ; and IOV is the institutional ownership with voting rights held by norm-constrained institutions or other institutions at the end of year t , calculated as a percentage of a firm's shares outstanding. All the other variables are defined as in Eq. (1).

We use institutional ownership with voting rights (IOV) in order to concentrate on firms where institutions have the voting power to influence the decision-making process. We include the concurrent and previous two periods' changes in the test variable IOV (i.e., year t , $t-1$, and $t-2$). A positive and significant coefficient on changes in IOV , particular the lagged changes, will imply changes in voting shareholdings leading to changes in CSR performance. Further, positive and significant coefficients for the interactions (i.e., β_5 , β_7 , β_9) would indicate that the increase in CSR is greater when the shareholdings of norm-constrained institutions are greater, consistent with CSR-activism being values-driven.

The change in voting shares is affected by the level of voting shares (e.g., institutions holding a low level of shares have more room to increase their shareholdings), and firms may continue to improve their CSR performance based on historic—rather than current—holdings of norm-constrained institutions. Thus, we also include the IOV variable at the beginning of the first change period (i.e., the end of year $t-3$). We use a set of control variables that may affect firms' CSR performance, including firm-specific changes in S&P 500 status, leverage, book to market value of equity ratio, ROE, and sales growth. Since the changes specification uses each firm as its own control, we do not include firm fixed effects.

Results

Table 1 summarizes the distribution of relevant variables for the 1991–2011 period. We trim all continuous variables at 1 and 99 percentiles of that variable's distribution. For the institutional ownership variable (IO) and ownership with voting rights variable (IOV), we also present total IO

(IOV), IO (IOV) for norm-constrained institutions and other institutions, using three different measures, respectively. For the tests involving $NormCon$ institutions, the mean for total institutional shareholdings (holdings with voting rights) is 60 % (36 %).¹¹ The mean score for CSR is -0.206 . This indicates that concerns outweigh strengths on average, which is consistent with prior studies (e.g., Kim et al. 2012). Control variables are all consistent with prior studies.

Table 2 reports the correlation matrix for the main and control variables with Pearson correlations below the diagonal and Spearman correlations above the diagonal. The correlations between total IO (IOV) and CSR scores are not conclusive. Almost all control variables are significantly correlated with the total institutional shareholdings as well as voting shareholdings.

Results for H1

Table 3 reports the multivariate regression results from estimating Eqs. (1) and (2). The overall results show that our models are well specified with reasonably large R^2 values. The explanatory power is strong with a value of 89 % in the two regressions. Regarding Eq. (1) using an overall CSR measure, our coefficient of interest, β_3 for $CSR*NormCon$, is positive and significant, indicating that better CSR performance is associated with greater shareholdings by norm-constrained institutions relative to other institutions. Importantly, our results show that there is a significant incremental effect for social norms on the effect of CSR performance in investment decisions of institutions, consistent (inconsistent) with norm-constrained institutions engaging in positive screening for norm-related (profit-related) reasons.

In terms of economic magnitude, based on Eq. (1), a one standard deviation increase in the CSR score (s.d. for $CSR = 1.88$ from Table 1) would increase the shareholdings by norm-constrained institutions by 1.4 %. As the average shareholdings by norm-constrained institutions are 3.64 %, this equates to a 38 % increase in the portfolio holdings of the norm-constrained institutions. Thus, our results indicate that the effects of broad social norms on the shareholdings of institutions are economically significant.

To isolate positive screening from negative screening, we use Eq. (2) to separate CSR strengths and concerns. As shown in the last column of Table 3, the coefficient for $Strength*NormCon$ is significantly positive and the

¹¹ The mean institutional holdings in our sample is higher compared with the mean holdings in the full dataset from the CDA Spectrum database, which is 28 % for shareholdings and 12 % for shareholdings with voting rights. This implies that firms covered by KLD attract more institutional ownership than other firms, on average.

Table 1 Descriptive statistics

Variable	Mean	SD	Q1	Median	Q3
Institutional ownership variables					
<i>IO_total</i>	0.5975	0.1917	0.4610	0.6214	0.7514
<i>IO_NormCon</i>	0.0364	0.0222	0.0194	0.0357	0.0474
$\Delta IO_NormCon$	−0.0001	0.0142	−0.0061	0.0002	0.0059
<i>IO_non-NormCon</i>	0.5493	0.1861	0.4134	0.5721	0.7018
$\Delta IO_non-NormCon$	0.0213	0.0658	−0.0214	0.0181	0.0618
<i>IOV_total</i>	0.3614	0.2059	0.2336	0.4084	0.5204
<i>IOV_NormCon</i>	0.0231	0.0176	0.0105	0.0215	0.0335
$\Delta IOV_NormCon$	0.0014	0.0122	−0.0039	0.0000	0.0064
<i>IOV_non-NormCon</i>	0.3288	0.1928	0.2020	0.3723	0.4792
$\Delta IOV_non-NormCon$	0.0171	0.0652	−0.0170	0.0025	0.0510
CSR performance variables					
<i>CSR</i>	−0.2063	1.8809	−1.0000	0.0000	1.0000
ΔCSR	−0.0161	1.0747	0.0000	0.0000	0.0000
<i>Strengths</i>	1.1508	1.7157	0.0000	0.0000	2.0000
<i>Concerns</i>	1.3571	1.3990	0.0000	1.0000	2.0000
Control variables					
<i>CG</i>	−0.2417	0.6899	−1.0000	0.0000	0.0000
<i>LMV</i>	7.2294	1.4474	6.1244	7.1046	8.1761
<i>SP500</i>	0.2681	0.4430	0.0000	0.0000	1.0000
<i>Lev</i>	0.2111	0.1878	0.0422	0.1836	0.3261
<i>EP</i>	0.0238	0.1138	0.0201	0.0461	0.0665
<i>ROE</i>	0.0744	0.2592	0.0385	0.1041	0.1633
<i>DP</i>	0.0147	0.0207	0.0000	0.0062	0.0229
<i>BP</i>	0.5352	0.3479	0.2932	0.4677	0.6954
<i>TV</i>	0.1665	0.1310	0.0719	0.1293	0.2197
<i>SaleChg</i>	0.1094	0.2264	0.0000	0.0674	0.1774
<i>AnnRet</i>	0.0490	0.3580	−0.1778	0.0002	0.2128
<i>Beta</i>	1.2870	0.5397	0.9016	1.2374	1.6125
<i>IRisk</i>	0.0224	0.0100	0.0151	0.0202	0.0274

This table provides descriptive statistics for the institutional ownership, CSR performance, and control variables. ‘_NormCon’ indicates the subsample of norm-constrained institutions. ‘_non-NormCon’ indicates the subsample of non-norm-constrained institutions. The statistics for the change form of control variables are omitted for brevity but available upon request. See Appendix for variable definitions

coefficient for *Concern*NormCon* is significantly negative. Thus, institutions constrained by social norms invest more (less) in firms with more CSR strengths (concerns). This suggests that both strengths and concerns in CSR performance matter to norm-constrained institutional investors. Thus, we are not merely capturing a different aspect of the negative screening effect that Hong and Kacperczyk (2009) identify in their study. Instead, our results extend Hong and Kacperczyk (2009) by showing that social norms can lead norm-constrained institutions to engage in positive screening.

Most of the control variables are significant in both regressions in Table 3 except *SP500*, *Lev*, *ROE*, and *SaleChg*. For corporate governance (*CG*), norm-constrained institutions prefer firms with better governance

mechanism relative to other institutions, as implied by the significant and positive coefficient on $CG \times NormCon$.¹²

Our results are based on firm fixed effect regressions that control for time-invariant factors that could potentially be affecting our results. However, we acknowledge that another type of endogeneity—reverse causality—cannot be ruled out based on the results in Table 3. Specifically, it is not possible to determine if greater CSR leads to greater shareholdings by norm-constrained institutions or if greater

¹² We include the *CG*NormCon* interaction as a control variable to ensure that our variable of interest, *CSR*NormCon*, is not capturing a general preference among norm-constrained institutions for firms with good governance.

Table 2 Correlation matrix of main and control variables

Variable	<i>IO_total</i>	<i>IOV_total</i>	<i>CSR</i>	<i>CG</i>	<i>LMV</i>	<i>SP500</i>	<i>Lev</i>	<i>EP</i>	<i>ROE</i>	<i>DP</i>	<i>BP</i>	<i>TV</i>	<i>SaleChg</i>	<i>AnnRet</i>	<i>Beta</i>	<i>IRisk</i>
<i>IO_total</i>	1.000	0.788	-0.014	-0.234	0.227	0.047	0.054	-0.020	0.029	-0.217	-0.044	0.519	0.042	0.056	0.068	-0.032
<i>IOV_total</i>	0.692	1.000	-0.109	-0.162	0.001	-0.210	-0.016	-0.052	-0.064	-0.259	0.038	0.531	0.041	0.048	0.158	0.057
<i>CSR</i>	0.005	-0.124	1.000	0.022	0.226	0.236	-0.012	0.018	0.105	0.086	-0.099	-0.032	-0.034	-0.016	-0.113	-0.079
<i>CG</i>	-0.242	-0.147	0.006	1.000	-0.312	-0.229	-0.058	-0.006	-0.044	0.061	0.040	-0.211	0.027	0.019	-0.002	0.070
<i>LMV</i>	0.230	-0.037	0.250	-0.310	1.000	0.677	0.199	0.169	0.378	0.192	-0.327	0.139	0.034	0.146	-0.238	-0.442
<i>SP500</i>	0.085	-0.258	0.259	-0.230	0.700	1.000	0.149	0.116	0.238	0.228	-0.167	-0.024	-0.095	-0.018	-0.237	-0.242
<i>Lev</i>	0.067	0.010	-0.030	-0.058	0.141	0.095	1.000	0.082	0.000	0.285	0.078	-0.055	-0.081	-0.007	-0.150	-0.206
<i>EP</i>	0.029	-0.027	0.037	0.010	0.214	0.093	-0.029	1.000	0.664	0.274	0.126	-0.099	0.061	0.024	-0.206	-0.312
<i>ROE</i>	0.057	-0.026	0.072	-0.021	0.265	0.148	-0.032	0.651	1.000	0.118	-0.483	-0.037	0.185	0.176	-0.210	-0.295
<i>DP</i>	-0.183	-0.173	0.029	0.058	0.069	0.102	0.300	0.087	0.058	1.000	0.186	-0.339	-0.201	-0.049	-0.286	-0.426
<i>BP</i>	-0.042	0.053	-0.094	0.021	-0.329	-0.153	0.028	-0.169	-0.191	0.216	1.000	-0.076	-0.227	-0.264	0.045	0.053
<i>TV</i>	0.401	0.404	-0.007	-0.183	0.096	-0.009	-0.039	-0.092	-0.058	-0.199	-0.033	1.000	0.084	0.000	0.336	0.333
<i>SaleChg</i>	0.007	0.030	-0.041	0.039	-0.001	-0.098	-0.041	0.073	0.047	-0.133	-0.171	0.094	1.000	0.116	0.080	-0.006
<i>AnnRet</i>	0.042	0.052	-0.023	0.031	0.097	-0.041	-0.021	0.122	0.111	-0.097	-0.258	0.027	0.101	1.000	-0.022	-0.028
<i>Beta</i>	0.051	0.162	-0.101	0.002	-0.216	-0.218	-0.111	-0.183	-0.185	-0.219	0.058	0.340	0.094	0.031	1.000	0.452
<i>IRisk</i>	-0.079	0.054	-0.069	0.066	-0.412	-0.219	-0.133	-0.358	-0.305	-0.246	0.153	0.335	0.034	0.054	0.435	1.000

This table reports the correlation matrix for the main and control variables with Pearson correlations below the diagonal and Spearman correlations above the diagonal. Correlation coefficients in bold are significant at the 5 % level. See Appendix for variable definitions

Table 3 Association between CSR performance (strengths and concerns) and ownership by norm-constrained institutions versus other institutions

Variable	Equation (1) with an overall CSR measure		Equation (2) with strengths and concerns	
	Exp. sign	Coefficient (<i>t</i> statistic)	Exp. Sign	Coefficient (<i>t</i> statistic)
<i>Intercept</i>		0.5174*** (35.86)		0.5254*** (36.15)
<i>CSR</i>		−0.0047*** (−5.13)		
<i>Strength</i>				−0.0065*** (−6.32)
<i>Concern</i>				0.0019 (1.45)
<i>NormCon</i>		−0.5010*** (−145.49)		−0.5041*** (−111.56)
<i>CSR*NormCon</i>	+	0.0074*** (5.21)		
<i>Strength*NormCon</i>			+	0.0082*** (5.16)
<i>Concern*NormCon</i>			−	−0.0058*** (−2.92)
<i>CG</i>		−0.0298*** (−12.92)		−0.0299*** (−13.00)
<i>CG*NormCon</i>		0.0528*** (15.58)		0.0535*** (15.82)
<i>LMV</i>		0.0069*** (4.12)		0.0070*** (4.16)
<i>SP500</i>		−0.0052 (−1.42)		−0.0046 (−1.27)
<i>Lev</i>		0.0032 (0.49)		0.0035 (0.54)
<i>EP</i>		0.0105* (1.86)		0.0104* (1.83)
<i>ROE</i>		−0.0025 (−0.87)		−0.0027 (−0.95)
<i>DP</i>		−0.2232*** (−4.70)		−0.2230*** (−4.71)
<i>BP</i>		0.0157*** (4.77)		0.0153*** (4.66)
<i>TV</i>		0.1051*** (12.81)		0.1072*** (13.10)
<i>SaleChg</i>		0.0001 (0.04)		0.0000 (0.02)
<i>AnnRet</i>		0.0077*** (5.84)		0.0074*** (5.67)
<i>Beta</i>		0.0026** (1.97)		0.0024* (1.85)
<i>IRisk</i>		−0.8964*** (−8.95)		−0.9018*** (−9.00)
Firm fixed effects		Included		Included
Year fixed effects		Included		Included
Adj. <i>R</i> ²		0.886		0.886
<i>N</i>		36,225		36,225

This table reports coefficients and *t* statistics (in parentheses) from firm cluster, firm and year fixed effect, and heteroscedasticity adjusted regressions of institutional ownership on CSR performance (strengths and concerns), institutional investor type, two-way interaction terms, and control variables in Eq. 1 (Eq. 2). Results regarding each firm and year intercepts are not reported. See Appendix for variable definitions

***, **, and * denote significance at the 1, 5, and 10 % levels in a two-tailed test, respectively

shareholdings by norm-constrained institutions leads to better CSR. In the latter case, the interpretation is consistent with an activism story instead of a positive screening story. In reality, positive screening and activism are not mutually exclusive—and anecdotal evidence suggests that both are likely to occur together.¹³ Since we provide separate tests for activism in the next section (i.e., H2), we use the remainder of this section to address the reverse causality issue.

In the spirit of Gormley et al. (2013) and Vig (2013), we conduct a quasi-natural experiment in which a subset of our sample was affected by an exogenous regulatory shock that had an impact on CSR performance, but did not have a direct impact on institutional ownership. Specifically, on September 25, 2012, President Obama signed an executive order that prohibited human-trafficking-related activities by all federal contractors and subcontractors. This executive order established a set of compliance measures for these contractors and subcontractors and provided federal agencies with enforcement mechanisms to foster compliance. As a result, federal contractors and subcontractors who were not previously in compliance with the new requirements were forced to improve their performance in the employee relations area

¹³ For example, the UN's PRI website encourages signatories to consider principles of responsible investing both before they invest and later as on-going, active shareholders. See <http://www.unpri.org/signatories/become-a-signatory/>.

after the executive order was issued. However, critical for our natural experiment, the executive order had no direct effect on the shareholdings of institutional investors.¹⁴

Using a difference-in-difference research design, we examine the change in institutional holdings from norm-constrained and non-norm-constrained institutions before and after the executive order was issued. Specifically, we obtain firm's major customer information from the Compustat industry segment file, and we identify 2088 firm-year observations between 2009 and 2014 where the firm's major customer is the US government. As the US government is their major customer, these firms are required to comply with the executive order after September 25, 2012. We estimate the following regression model:

$$\begin{aligned}
 IO_t = & \alpha_0 + \beta_1 Post_t + \beta_2 NormCon \\
 & + \beta_3 (NormCon \times Post_t) + \sum_{k=1}^n \beta_{k+3} Controls_k \\
 & + \varepsilon_t
 \end{aligned} \quad (4)$$

We define a dummy variable *Post* to be equal to 1 if the year is 2012–2014 and 0 if the year is 2009–2011. The coefficient, β_3 , of the interaction item between *Post* and *NormCon* is of our interest. If the higher CSR in the post-executive order period led to greater institutional shareholdings for norm-constrained institutions than for non-norm-constrained institutions, this coefficient will be positive and significant.

Table 4 tabulates the results of the estimation of Eq. (4). The coefficient for the interaction item is significantly positive at the 5 % level, indicating that after the sample firms were forced to improve their employee relations from 2012, the shareholdings of norm-constrained institutions increased more than the shareholdings of non-norm-constrained institutions.¹⁵ Hence, these results support a causal relationship where better CSR performance attracts greater shareholdings by norm-constrained institutional holdings.

Overall, the results in Tables 3 and 4 support H1, suggesting that institutions affected by social norms seek out high performing CSR firms, which is consistent with a positive screening investing strategy that is driven by values (norms) rather than profits.

Table 4 Results for Eq. (4) using quasi-natural experiment based on a presidential executive order on human-trafficking

Variable	Expected sign	Coefficient (<i>t</i> statistic)
<i>Intercept</i>		−0.1273** (−2.07)
<i>Post</i>		−0.0374*** (−3.66)
<i>NormCon</i>		−0.5005*** (−15.22)
<i>NormCon</i> × <i>Post</i>	+	0.0224** (2.19)
<i>LMV</i>		0.0694*** (10.43)
<i>SP500</i>		−0.1656*** (−4.10)
<i>Lev</i>		−0.0691 (−1.47)
<i>EP</i>		0.0064 (0.71)
<i>ROE</i>		0.0002 (0.33)
<i>DP</i>		−0.0874 (−1.13)
<i>BP</i>		0.0059 (0.55)
<i>TV</i>		0.0000 (0.24)
<i>SaleChg</i>		−0.0288* (−1.88)
<i>AnnRet</i>		−0.0046 (−0.51)
<i>Beta</i>		0.0007 (0.18)
<i>IRisk</i>		−0.2094** (−2.54)
Industry fixed effects		Included
Adj. <i>R</i> ²		0.728
<i>N</i>		2088

This table reports the regression results for the effect of executive order signed by President Obama in Sep 2012. See Appendix for variable definitions. Industry fixed effects are included in the models. Robust standard errors clustered at the firm level are used to compute *t* statistics

***, **, and * denote significance at the 1, 5, and 10 % levels in a two-tailed test, respectively

Results for H2

Table 5 reports results from estimating Eq. (3) in which the change in CSR is the dependent variable. The coefficients of interest are β_3 , β_5 , and β_7 which measure the incremental effect of changes in voting shares by norm-constrained institutions versus other institutions on changes in firms' CSR performance. The results show that all three for ΔIOV and *NormCon* are positive (7.06, 7.13, and 9.61 for β_3 , β_5 , and β_7 , respectively) and strongly significant. In particular, the findings for β_5 and β_7 —the change in voting shares in previous 2 years—suggest that an increase in voting shares held by norm-constrained institutions, when compared with other institutions, leads to greater improvement in the investee firm's CSR performance one and 2 years down the track. This evidence is consistent with the investor activism by norm-constrained institutions, i.e., the institutions that are subject to social norms take an active interest in improving the CSR performance of firms they have invested in. Further, since there is no reason to expect that norm-constrained

¹⁴ The *t* test shows the mean of CSR performance for our treatment sample increases by 0.415 after 2012, and it is significant at the 5 % level.

¹⁵ The results are robust when we include the year fixed effects in the model or use shareholdings with voting rights as a dependent variable.

Table 5 Change analysis of increased institutional ownership with voting rights leading to improved CSR performance

Variable	Expected sign	Coefficient (<i>t</i> statistic)
Intercept		0.3715*** (−2.89)
ΔIOV_t		−0.1773 (−0.87)
<i>NormCon</i>		0.3169*** (2.45)
$\Delta IOV_t * NormCon$	+	7.0555*** (5.90)
ΔIOV_{t-1}		0.3764 (0.95)
$\Delta IOV_{t-1} * NormCon$	+	7.1342*** (6.13)
ΔIOV_{t-2}		0.3998 (1.16)
$\Delta IOV_{t-2} * NormCon$	+	9.6066*** (7.57)
IOV_{t-3}		0.2347 (1.36)
$IOV_{t-3} * NormCon$		10.2148*** (9.12)
CSR_{t-1}		−0.1466*** (−21.41)
CG_{t-1}		−0.0037 (−0.19)
ΔCG_t		−0.2455*** (7.61)
$\Delta SP500$		0.1034 (1.06)
ΔLev		0.1587 (0.97)
ΔBP		0.0326 (0.71)
ΔROE		−0.0001 (−0.05)
$\Delta SaleChg$		−0.0000 (−1.15)
Industry fixed effects		Included
Year fixed effects		Included
Adj. R^2		0.090
<i>N</i>		18,693

This table reports coefficients and *t* statistics (in parentheses) from firm cluster, industry and year fixed effect, and heteroscedasticity adjusted regressions of change in CSR performance on change in institutional ownership with voting rights, institutional investor type, two-way interaction terms between change in voting shares and investor type, and control variables (Eq. 3). Results regarding industry and year intercepts are not reported. See Appendix for variable definitions

***, **, and * denote significance at the 1, 5, and 10 % levels in a two-tailed test, respectively

institutions are more profit-driven than non-norm-constrained institutions, this result is inconsistent with their activism being motivated by profits rather than social pressure.

In terms of economic significance, a one standard deviation increase in *IOV_NormCon* change variable (s.d. for $\Delta IOV_NormCon = 0.0122$ from Table 1) in the previous 1 or 2 years would lead to an average increase in CSR performance by 0.08 and 0.11, respectively. As the average change in CSR performance is negative (−0.01), the effects of the holdings by norm-constrained on CSR performance are economically significant.

Overall, Table 5 provides evidence consistent with H2, suggesting that norm-constrained institutions use their

influence to improve the CSR performance of their invested firms in subsequent periods.^{16,17,18}

Additional Analyses

Long-term and Substantial Holdings in Tests of Shareholder Activism

Chen et al. (2007) document that institutional investors with long-term (at least 1 year) and substantial holdings in a firm specialize in monitoring activities rather than gaining profit from short-term trades. We now consider the size of the stake and the length of investment when estimating Eq. (3) for the investor activism hypothesis (i.e., H2). Specifically, we identify institutions which are among the five largest institutional investors of a firm and at the same time hold the shares in that firm for more than 4 years.¹⁹ Consequently, we have a matrix of institutions sorted by ‘norm-constrained’ and ‘long-term and substantial’.

First, we focus on norm-constrained investors only, and compare long-term and substantial institutions with other institutions. The underlying rationale is that, while all norm-constrained institutions may care about firms’ CSR performance, those with long-term and substantial holdings will have stronger power in influencing firms’ operations and, hence, will engage in a higher level of shareholder activism than other norm-constrained institutions. Second, we focus on long-term and substantial institutions only, and compare norm-constrained institutions with other institutions. We reason that while long-term and substantial institutions prefer to exert monitoring effort, norm-constrained institutions will be more willing to put effort in improving firms’

¹⁶ With respect to the institutional ownership measure, since there is a large difference in the mean and standard deviations of the IO measures between norm-constrained and non-norm-constrained groups, we use the natural log of the IO measures in our tests and find the results in Tables 4 and 5 still hold. We also include banks and insurance companies in the norm-constrained group (*NormCon* = 1) and recalculate the IO measure. These findings are also qualitatively similar.

¹⁷ To rule out possibilities that results in Table 5 may be affected by observations with zero changes in CSR performance, we estimate Eq. (3) again while requiring the dependent variable ΔCSR_t to be non-zero. The untabulated results show no statistically significant difference from those reported in Table 5.

¹⁸ In an untabulated analysis, we investigate whether the effectiveness of shareholder activism on CSR performance vary with the economic conditions. Hong et al. (2012) finds firms do good only when they have sufficient financial slack. We find that the positive association between changes in CSR performance and current and previous changes in ownership by norm-constrained institutions is less pronounced in recessionary periods than expansionary periods, consistent with shareholder activism being affected by economic conditions.

¹⁹ Our results remain similar if we relax this criterion to at least 2 or 3 years.

CSR performance than other institutions. Finally, we use the long-term and substantial and norm-constrained institutions only to re-examine Eq. (3) to provide further evidence of their role in monitoring firms' CSR performance.

Table 6 reports results from three analyses. In the first comparison analysis shown in column 1, we only look at the concurrent change in *IOV* on changes in *CSR*, because it is not sensible to examine lagged changes when some institutions hold their shares for less than 4 years. The coefficient of the interaction term, $\Delta IOV_t * Dum$, is significantly positively associated with the current change in *CSR* performance, indicating that compared to other norm-constrained investors ($Dum = 0$), long-term and substantial norm-constrained investors ($Dum = 1$) have larger influences on firms' *CSR* performance. With respect to the results of the second

analysis shown in column 2, the coefficients of three interaction terms, $\Delta IOV_t * Dum$, $\Delta IOV_{t-1} * Dum$, and $\Delta IOV_{t-2} * Dum$ are all significantly positively associated with the current change of *CSR* performance. This suggests that compared to other long-term and substantial institutions ($Dum = 0$), the long-term and substantial and norm-constrained institutions ($Dum = 1$) are more likely to affect investees' *CSR* performance. Column 3 presents results for the estimation of Eq. (3) for the subsample of norm-constrained institutions with long-term and substantial holdings. The results show that these institutions exhibit an influence on their investees' *CSR* performance as all the coefficients on the change in the current and lagged shareholdings are significantly and positively related with the change in firms' *CSR* performance.

Table 6 Change analysis of increased institutional ownership with voting rights leading to improved *CSR* performance: Long-term and substantial holdings

Variable	Exp. sign	(1) Norm-constrained: Long-term and substantial vs. others	(2) Long-term and substantial: Norm-constrained vs. others	(3) Norm-constrained and long-term and substantial
Intercept		0.0714 (0.91)	0.4121 (1.25)	−0.0043 (−0.05)
ΔIOV_t		3.7306*** (3.88)	0.619 (1.07)	9.887*** (4.51)
<i>NormCon</i>		0.0695** (2.37)	−0.0217 (−0.28)	
$\Delta IOV_t * Dum$	+	6.8231** (2.01)	2.9520** (2.17)	
ΔIOV_{t-1}			0.4875 (0.30)	4.432** (2.05)
$\Delta IOV_{t-1} * Dum$	+		2.1176** (1.99)	
ΔIOV_{t-2}			−0.7916 (−1.41)	6.569*** (2.75)
$\Delta IOV_{t-2} * Dum$	+		2.8816*** (3.35)	
IOV_{t-3}			0.3196 (0.58)	8.455*** (4.13)
$IOV_{t-3} * Dum$			3.6157*** (5.12)	
IOV_{t-1}		6.3055*** (10.27)		
$IOV_{t-1} * Dum$		1.0205 (0.53)		
Control variables		Included	Included	Included
Industry fixed effects		Included	Included	Included
Year fixed effects		Included	Included	Included
Adj. R^2		0.049	0.073	0.127
<i>N</i>		22,031	15,338	2225

This table reports coefficients and *t* statistics (in parentheses) from firm cluster, industry, and year fixed effects, and heteroscedasticity adjusted regressions of change in *CSR* performance on change in institutional ownership and other variables (Eq. 3), where the institutional ownership variables are allowed to vary depending on whether the institution's holding is long-term and substantial. Results regarding industry and year intercepts are not reported. Results regarding control variables are qualitatively similar to those reported in Table 5 and hence not reported. See Appendix for definitions of other variable in Eq. (3) except for *Dum*. In Column 1, *Dum* is an indicator variable that equals 1 if an institution is a pension fund, university, or religious, charitable or non-for-profit organizations and has long-term and substantial holdings in one particular firm, and 0 if an institution is a pension fund, university, or religious, charitable or non-for-profit organizations but does not have long-term and substantial holdings. In Column 2, *Dum* is an indicator variable that equals 1 if an institution is a pension fund, university, or religious, charitable or non-for-profit organizations and has long-term and substantial holdings in one particular firm, and 0 if an institution is a mutual fund or an independent investment manager and has long-term and substantial holdings in one particular firm. In Column 3, the sample is restricted to pension funds, universities, religious, charitable, and non-for-profit organizations that have long-term and substantial holdings in one particular firm

***, **, and * denote significance at the 1, 5, and 10 % levels in a two-tailed test, respectively

Overall, our findings suggest that norm-constrained institutional investors with long-term and substantial holdings have stronger influence on improving investees' CSR performance, when compared to other norm-constrained institutional investors or other long-term and substantial institutional investors. This provides additional insight about the activist role of norm-constrained institutions and further supports the conclusion that the investing behavior of norm-constrained institutions is values-driven.

Alternative Explanation for Results in Table 5

In Table 5, we find evidence that the changes of the shareholdings of such institutions lead changes in the firms' CSR performance, suggesting that norm-constrained institutions improve the CSR performance of firms they have already invested in. While this is consistent with a values-driven shareholder activism interpretation, an alternative explanation for this finding is that norm-constrained institutions can predict firms' future CSR performance, and accordingly, invest in firms that will have an improved CSR performance in future. Following this thought, if an institution forecasts a firm's CSR performance based on the firm's historic CSR performance, and subsequently, if the institution forms its investment portfolio based on the forecast, then we would observe a relation between changes in the investees' previous CSR performance and the change in the institutions' current shareholdings. In this subsection, we more closely examine this alternative explanation.

Similar to Eq. (3), we specify the following model based on changes:

$$\begin{aligned} \Delta IO_t = & \alpha_0 + \beta_1 \Delta CSR_t + \beta_2 NormCon \\ & + \beta_3 (\Delta CSR_t \times NormCon) + \beta_4 \Delta CSR_{t-1} \\ & + \beta_5 (\Delta CSR_{t-1} \times NormCon) + \beta_6 \Delta CSR_{t-2} \\ & + \beta_7 (\Delta CSR_{t-2} \times NormCon) \\ & + \beta_8 CSR_{t-3} + \beta_9 (CSR_{t-3} \times NormCon) \\ & + \sum_{k=1}^n \beta_{k+9} \Delta Controls_k + \varepsilon_t \end{aligned} \quad (5)$$

where Δ denotes a change from year $t-1$ to year t . All variables are defined as in previous equations. We include the concurrent and previous two periods' changes in CSR performance (i.e., year t , $t-1$, and $t-2$). If improved CSR performance attracts more shareholdings by norm-constrained institutions than other institutions, then the coefficients β_3 , β_5 and β_7 on interaction terms should be positive. We also include the CSR level variable at the beginning of the first change period (i.e., the end of year $t-3$) as a control variable since the change in CSR is

affected by the level of CSR (e.g., firms with poor CSR have more room for improvement).

We find that β_3 , β_5 , and β_7 are not significant, which indicates the effect of recent changes in CSR on the change in current shareholdings by norm-constrained institutions is not different compared to non-norm-constrained institutions (results untabulated). These results are inconsistent with the alternative explanation where norm-constrained institutions anticipate future improvements in CSR and invest in firms that recently improved their CSR.²⁰

Conclusion

In this study, we examine how the concept of social norms affects institutional shareholders' investment behavior in relation to CSR performance. Using levels tests, we find evidence of a positive association between norm-constrained institutions (i.e., pensions, universities, and religious, charitable, and not-for-profit institutions) and their holdings in firms with better CSR performance. Using a natural experiment, we document that the direction of causality is from CSR performance to shareholdings of norm-constrained investors. These findings are consistent with positive screening, and we show that this effect is distinct from the negative screening that Hong and Kacperczyk (2009) identify.

We further explore norm-constrained institutions' monitoring role in driving their invested firms' CSR performance. In particular, we regress the current change in CSR performance on the 1-year lagged and 2-year lagged changes in holdings of norm-constrained institutions. We find that the current change in CSR performance is more positively related to both lagged and current changes of norm-constrained institutions' ownership. This evidence suggests that firms improve their CSR performance because of encouragement or pressure from their norm-constrained institutional shareholders, consistent with these institutions taking an activist role. In further analyses, we show that norm-constrained institutional investors with long-term and substantial holdings exhibit stronger influence on firms' CSR performance than other norm-constrained institutions, or other long-term and substantial institutional investors. Our results are economically significant.

Overall, our results suggest that norm-constrained institutions engage in positive screening and activism that

²⁰ In the shareholder activism analyses, we use voting share ownership (*IOV*) in Eq. (3) because voting shares more closely reflect the institution's influence. On the other hand, we use common shareholdings *IO* in Eq. (5) to examine whether institutional shareholdings change in response to previous changes in CSR performance. Our results are still hold if we replace *IO* with *IOV* in Eq. (5).

is related to CSR, and that this behavior is values-driven rather than profit-driven. Thus, our study complements Hong and Kacperczyk's (2009) findings for negative screening. Given that De Colle and York (2009) argue that negative screening is a flawed approach, our results are important because they suggest that norm-constrained institutions follow a broader investing strategy that includes positive screening and shareholder activism. Thus, the influence of social norms on stock markets is more pervasive and more enduring than documented in prior research.

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Appendix: Variable Definitions

Main Variables

<i>IO</i>	Institutional ownership by norm-constrained and other institutions at the end of year t , calculated as a percentage of a firm's shares outstanding.
<i>IOV</i>	Institutional ownership with voting rights held by socially responsible or non-norm-constrained institutions at the end of year t , calculated as a percentage of a firm's shares outstanding.
<i>CSR</i>	Total CSR score for a firm at the end of year t . There are two measures under this variable. <i>CSR1</i> is the net score (strengths minus concerns) of community, diversity, employee relations, environment, human rights, and product. <i>CSR2</i> is similar except excludes the net score of product ratings.
<i>NormCon</i>	Indicator variable that equals 1 if the institution is a pension fund, university, or religious, charitable or non-profit organization, and 0 if the institution is a mutual fund or investment advisor.
<i>Rec</i>	Indicator variable equal to 1 if the period is identified as a recessionary period by NBER, and 0 otherwise.

Control Variables

<i>CG</i>	Net score of corporate governance ratings for a firm at the end of year t .
<i>LMV</i>	Natural log of the market value of equity.

<i>SP500</i>	Indicator variable being 1 if a firm is in the S&P500 index, and 0 otherwise.
<i>Lev</i>	Ratio of debt to total assets.
<i>EP</i>	Ratio of income before extraordinary items to the market value of equity.
<i>ROE</i>	Ratio of income before extraordinary items to the book value of equity.
<i>DP</i>	Ratio of dividends to the market value of equity.
<i>BP</i>	Ratio of the book value of equity to the market value of equity.
<i>TV</i>	Average monthly trading volume relative to total shares outstanding measured over the year.
<i>SaleChg</i>	Percentage change in sales.
<i>AnnRet</i>	Market adjusted buy-and-hold stock returns measured over the year.
<i>Rating</i>	Measure of the S&P stock rating (9 = A+, ..., 1 = not rated).
<i>Beta</i>	Market model beta calculated from daily stock returns measured over the year.
<i>IRisk</i>	Standard deviations of the market model residuals of daily stock returns measured over the year.

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