

Institutional Investors and Socially Responsible Investments: It Just Makes (Economic) Sense

John R. Nofsinger
Professor and William H. Seward Chair in International Finance
Accounting and Finance Department
College of Business & Public Policy
University of Alaska Anchorage
3211 Providence Drive
Anchorage, AK 99508-4614
TEL 907-786-4148
john.nofsinger@uaa.alaska.edu

Johan Sulaeman
Assistant Professor of Finance
Department of Finance
NUS Business School
National University of Singapore
15 Kent Ridge Drive, Singapore 119245
TEL (+65) 6546-1403
sulaeman@nus.edu.sg

Abhishek Varma
Associate Professor
Department of Finance, Insurance & Law
College of Business
Illinois State University
Normal, IL 61790-5480
TEL 309-438-5659
avarma@ilstu.edu

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Abstract:

Do institutional investors align their portfolios with social values? If so, why? We study institutional ownership in firms with environmental and social (ES) strengths and concerns. Institutions in general underweight stocks with ES concerns and are mostly ambivalent to ES strengths. Indeed, firms often offset ES concerns with strengths in the same category. In this case, the presence of concerns is what matters to institutions. In addition, institutional ownership of controversial stocks (e.g., alcohol, tobacco, and firearm) appears to be related to the economic dynamics of the industries, rather than any social virtues. Thus, we conclude that any alignment of institutional portfolios with socially responsible investing is most likely driven by risk management and economic motives rather than social values.

Keywords: Institutional investors; socially responsible investments; environmental and social concerns; risk management.

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I. Introduction

“It’s not a manifesto for saving the planet, it’s a tool for better assessing risk.”

- Charles Cronin, head of the CFA Institute Centre for Financial Market Integrity, EMEA
Quote from Sophia Grene, *Financial Times*, November 2, 2008

Do institutional investors deploy their assets for greater society or economic reasons? Can they do both? There is much research examining the risk adjusted returns of socially responsible investments (SRI) in stock indices, stocks, and mutual funds. Other studies examine specific aspects emphasized in the SRI industry of environment, social (ES), and governance (ESG). However, these studies use the frame that investors tilt their portfolios toward more socially responsible firms because they value “doing good.” USSIF (2014) reports that over \$4 trillion are being managed in the United States using sustainable criteria. We posit a different framework in which the explanation for institutional investors’ association with ESG is mostly about economic incentives and risk management.

The most fundamental theory in finance is that expected return and systematic risk are positively correlated. However, expected return is not correlated with firm specific risk. Thus, the trick is determining which risks are systematic in nature and which are diversifiable. In this regard, Hong and Kacperczyk (2009) illustrate how the risk characteristics of entire industries with negative social characteristics, like tobacco, can end up resulting in high expected returns. But not all ES firm concerns may be characterized as a systematic risk. For example, the risks of a firm with a history of human rights problems might be characterized as diversifiable risks. Thus, investors may want to avoid companies with a higher probability of a negative event. In the quote at the beginning of this article from Grene (2008), Mr. Cronin goes on to say, “People don’t want any surprises these days. The issues are not new, but an ESG framework helps you manage an aspect of risk.”

By tilting portfolios away from firms with ES concerns, institutional investors may simply be trying to minimize negative event risks that have no associated risk premiums. In addition, firms with relatively high probabilities of adverse ES events may have lower long-term returns because of an underestimation of future losses associated with litigation expenses, reputational consequences, and related write offs. For example, BP's Deepwater Horizon oil spill occurred on April 20, 2010. The stock price took two months to reach its low on June 25, 2010, a 55 percent decline. During the five years after reaching that low price, BP's stock significantly underperformed the S&P 500, with settlement costs toward the oil spill reaching almost \$55 billion by the second quarter of 2015 (Kent, 2015). This is exactly the situation an institutional investor would want to avoid.

While the existence of an ES concern could heighten fears of an adverse scenario such as BP's, investments in firms with ES strengths will not necessarily avoid negative events. The recent Volkswagen scandal illustrates that 'best in class' firms can experience adverse scenarios too. News of Volkswagen's diesel emissions scandal broke September 18, 2015 when the U.S. Environmental Protective Agency issued a notice of a Clean Air Act violation. At that time, Volkswagen was touting on its corporate website that it was one of only two automakers to be listed in both the Dow Jones Sustainability Index (DJSI) World and DJSI Europe. We therefore note that investing in ES strength rated firms does not eliminate this type of event risk.

The regulatory framework for institutional investors such as pension funds has shifted to the incorporation of ESG factors in the investment process as long as they appear consistent with an economic rationale. In its Interpretative Bulletin (IB 1994-01) in 1994, the U.S. Department of Labor (DOL) consistently states that Employee Retirement Income Security Act of 1974 (ERISA) does not permit fiduciaries to sacrifice the economic interests of pension plan participants to promote collateral goals such as social, environment, or other public policy causes. DOL's follow-up bulletin (IB 2008-01) in 2008 mentioned that consideration of collateral, non-economic factors in selecting plan

investments should be rare and, when considered, should be compliant with ERISA's rigorous fiduciary standards. However, in its recent bulletin (IB 2015-01) in 2015, the DOL noted that this may have unduly discouraged fiduciaries from considering ESG factors unless they were viewed as economic factors. IB 2015-01 clarified that collateral non-economic ESG goals can be used as tie-breakers between otherwise equal investment alternatives as ESG issues may be "proper components of the fiduciary's primary analysis of the economic merits of competing investment choices" (page 6; DOL IB 2015-01). From this perspective, our analysis of ES factors within an economic framework is timely.

In order to conduct our analysis, we carefully examine the ways to identify firms with positive and negative ES attributes. In order to identify firms with positive ES attributes, previous papers have used membership in sustainability indices, or the number of positive ESG ratings in the MSCI ESG Research database (formerly called the KLD data). Firms with negative ES attributes have been identified by the number of ESG concern ratings in the database or are producers of so-called sin products, like alcohol, tobacco, and gambling. Most studies then proceed to use the 'net' ratings of the number of strengths less the number of concerns. However, these measures of positive and negative aspects are problematic. For example, there are more positive ES categories than concern categories. Thus, net measures are biased to positive attributes. Also, we do not view all of the categories to be of the same importance. For example, using recycled paper does not seem to offset human rights violations. Lastly, we notice that many firms with an ES concern will work to generate strengths in the same area. Thus, the presence of some strengths can be a signal that concerns may also be present. Therefore, we examine the ES strengths and concerns separately in this paper.

We find that institutional investor portfolios are tilted away from stocks with ES concerns, but are not tilted toward ES strengths. Note that 'netting' out the ratings (i.e., strengths-minus-concerns) might give the impression that institutional portfolios tilt toward SRI. This is not necessarily

the case. When firms have both strengths and concerns, it is the presence of concerns that drives ownership behavior. This suggests that institutional investors use concerns as a signal to help them avoid event risks.

In addition, institutions have both under-weighted and over-weighted stocks associated with controversial products over time. The explanation appears to be that investors over-weight controversial stocks when the economic dynamics of the controversial industry are favorable and underweight them when the dynamics are economically problematic.

Thus, we conclude that any tilt of institutional portfolios toward SRI is driven by economic incentives instead of social values. We illustrate this point by showing that companies with ES concerns have lower firm values (Tobin's Q). ES strength firms also have *lower* value, although the magnitude is smaller and at times statistically significant. This is consistent with our institutional ownership pattern.

In order to more directly examine the impact of institutional investors avoiding investments in ES concern firms, we examine the fraction of each institutional portfolio that is invested in ES concern stocks, and how that fraction is related to fund performance. We find that institutional portfolios that contain lower amounts of ES concern stocks have higher alphas. More importantly, we find that portfolios that avoid ES concern stocks tend to do well in non-ES concern stocks, suggesting that institutions sophisticated enough to recognize these risks are also good investors. In contrast, institutions that invest a higher portfolio portion in ES concern stocks perform relatively poorly in the non-ES concern stocks. Thus, avoiding ES concern stocks seems to be related to overall investment performance.

The rest of this paper is outlined as follows. The next section summarizes the literature in SRI performance and the role of institutional investors. Section III describes the data, the identification of ES ratings, and our methods. In Section IV, we present our findings on institutional ownership of

firms with ES strengths and concerns. An exploration into institutional ownership of firms with controversial products follows in Section V. In Section VI, we report the association of ES ratings with firm value and institutional portfolio performance. We conclude the paper in Section VII.

II. Socially Responsible Investing

A. Performance

Our conjecture is that most institutional investors' interest in ES ratings stems from an economic framework, not a socially responsible mindset. One aspect of that economic interest could be the possibility of earning higher returns from positively ES rated stocks. Historically, there have been two ways to test for positive SRI abnormal returns: examining SRI mutual funds or indexes, and examining stocks with varying ESG ratings.

Early analysis reports that SRI mutual funds and indexes show no performance difference from conventional funds (Hamilton, Jo, and Statman, 1993; Statman, 2000, 2006). More recent research confirms that domestic SRI funds do not outperform conventional funds (Borgers, et al., 2015; Nofsinger and Varma, 2014; Adler and Kritzman, 2008) and neither do international SRI funds (Renneboog, Horst, and Zhang, 2008a; Bauer et al., 2005). These papers argue that higher costs are associated with SRI because they exclude attractive firms from their portfolios and possibly limit the ability to fully diversify.

Research that examines the stocks with positive ESG ratings and stocks with concerns often focus on a specific aspect, like green stocks or firms in the tobacco industry. Most of these studies show positive abnormal returns in these narrowly focused categories. For example, positive abnormal returns, but not always statistically significant, are found in environmentally clean firms (Derwall et al., 2005), other measures of environmental performance (Statman and Glushkov, 2009), high employee satisfaction (Edmans, 2011; Statman and Glushkov, 2009; Derwall et al., 2011), and good corporate governance (Bebchuk et al., 2013). Ioannou and Serafeim (2015) find that financial analysts

mostly view CSR as an agency cost and therefore issue more pessimistic recommendations for highly rated CSR firms. Interestingly, positive abnormal returns are also found in narrowly focused groups of stocks that are listed as negative ESG attributes, like tobacco stocks (Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011).

So, while some narrowly focused SRI fields may earn positive abnormal returns, the SRI mutual funds fail to do so. Guenster (2012) explains that this contradiction occurs because SRI mutual funds include some high return stocks from specific categories, but also avoid some high returns stocks from industries like tobacco. The net effect is that SRI funds do not outperform conventional funds. Bebchuk et al. (2011) suggests that positive alphas from highly rated governance firms has mostly dissipated in the last decade. A similar decline in abnormal returns seems to have occurred for the social dimension of SRI favored firms (Derwall, et al., 2011) and for the ESG stakeholder index (Borgers et al. 2013). Flammer (2013) argues that external pressure to behave responsibly towards the environment has increased dramatically over recent decades and this exacerbates the punishment for environment concern behavior and reduces the rewards for environment strength initiatives. Thus, it appears that an expectation of positive alphas from investing in SRI stocks is not likely to form the economic motivation for institutional investors' portfolio choices.

B. Institutional Investors

Several papers investigate institutional investors' interest in ESG rated stocks. There are good reasons why an institutional investor would want to be identified as an SRI investor. A non-exhaustive list of these reasons includes: (1) there seems to be a strong demand from individual investors that has caused a significant growth in the number of SRI funds and assets under management (Nofsinger and Varma, 2014; Bialkowski and Starks, 2015), (2) fund managers may have a multi-attribute utility function that incorporates social values (Bollen, 2007; Renneboog et al., 2008b), (3) fund investors are more loyal

to SRI funds (Renneboog et al., 2011; Benson and Humphrey, 2008), and (4) SRI funds exhibit a return distribution valued by prospect theory investors (Nofsinger and Varma, 2014).

However, we are interested in whether institutional investors are generally interested in ES characteristics, and not just those who explicitly advertise themselves as focused on SRI. Borgers, et al. (2015) points out that many mutual funds' portfolios exhibit the characteristics of being an SRI investor, but do not market themselves as such. This suggests that many institutional investors are clandestine SRI investors. Why would they do this? Portfolio managers may value social attributes of the portfolio, even without the associated economic benefits. Alternatively, there may be important economic reasons to engage in investment activities that happen to be correlated with ESG investing.

Fernando et al. (2013) investigate the institutional ownership of environmentally green firms and those with concerns. They argue that institutions shun stocks with high environmental risk exposure because of their higher systematic risk and lower valuations. Surprisingly, they also show that institutions shun stocks that display green characteristics. Although their paper shares some similarities with ours, there are many important differences. We believe that institutional investors typically do not avoid systematic risks as they have associated risk premiums. Instead, we argue that the possibility of a negative environmental event is better characterized as a firm specific (or diversifiable) risk with no risk premium. Thus, shunning stocks with such risks is a risk management strategy. While Fernando et al. (2013) only look at environmental issues, we cover a broad spectrum of sustainability issues that include numerous social issues and involvement with controversial products. Our data and methods are also substantially different. For example, they use a sample (1996 to 2007) that starts earlier than ours, but ends before the disappearance of positive alphas associated with SRI. Our paper chooses a sample period (2001-2013) that allows for more firms to be included in the analysis. Prior to 2001, KLD used a sample of S&P 500 Index, Domini 400 Index, and 200 midcaps. There is a large overlap with the Domini firms and the S&P 500 and midcap firms. Thus,

their sample is skewed toward firms with positive SRI attributes in the first half of their sample and then significantly changes after 2000. By starting our analysis in 2001, the MSCI data allows us to use a consistent sample of Russell 1000 stocks throughout.

C. Our Risk Management Hypothesis

We posit that, with the potential exceptions of institutions marketing themselves as SRI investors, institutional investors are more interested in firms' financial and risk characteristics than their social aspects. We argue that any correlation between institutional portfolios and ESG characteristics are actually driven by the underlying economics. For example, a textile firm could manufacture clothes in the United States, where regulation and labor costs are high. An alternative is to manufacture in an underdeveloped country where regulation is minimal and child labor is often used at very low cost. The possibility of the firm using child labor would result in a Human Rights concern in the MSCI rating system. However, it is plausible that this firm would also be more efficient and more profitable. Bénabou and Tirole (2010) argue that this business model creates contingent liabilities "down the road" in the nature of future lawsuits and consumer boycotts. We posit that these potential liabilities generate a high probability firm-specific event risk, which would deter institutional investors from owning this firm's stock. In particular, if firms with these types of risks do not have associated risk premiums, they may not be financially viable for institutional investors. In addition, another practical consideration is that portfolio managers may simply want to avoid the hassle of having to answer questions from stakeholders on why they hold shares of a firm that polluted the Gulf or employed children in factories.

Thus, our hypothesis is that most institutional investors do not care much about the social values aspects of firms from the perspective of doing good. Therefore, they will be ambivalent toward positive ES ratings. These investors do care about risk management, however. As such, they will avoid stocks with a high chance of very public negative events. In the sense that ES concerns happen to

identify this possibility, institutional investors' portfolios will appear to tilt away from ES concern stocks. However, we argue that the underlying correlation is driven by risk management, not social values. While Gillan et al. (2010) focus on why firms adopt corporate social responsibility and ESG policies, they do conclude that institutional investors are less likely to own firms with *high* positive environmental or social ratings, but also tend to avoid firms with fewer governance concerns—consistent with our hypothesis.

To test our hypothesis, we implement several tests on its different ramifications. First, we examine whether or not institutions tilt their portfolios toward or away from ES characteristics. Several categories of environmental and social aspects are examined. We expect institutions to be indifferent to ES strengths and tilt their portfolios away from ES concerns. In particular, we predict that firms with both strengths and concerns would be avoided because of institutional investors' aversion to concerns and their relative ambivalence to strengths. Note that the common practice of subtracting the number of concerns from the number of strengths would not be useful if our hypothesis is accurate.

We then examine institutional ownership by investor types, those with long versus short term horizons. We posit that long-term horizon investors are more sensitive to the risk management issue and more susceptible to the negative event pressure from stakeholders. Thus, we expect long-term horizon investors' aversion to ES concern stocks to be more prominent than short-term investors'.

Several industries produce products that are considered harmful to society, such as tobacco, alcohol and gambling. Also, there may be divergent views on the negative impact of products of some industries like nuclear, military and firearms. However, these controversial products may not pose event risks like other ES concern categories. Therefore, we examine the institutional ownership in these controversial stocks (sometimes called 'sin' stocks) over time. If institutions value sustainability issues per se, they should always tilt their portfolios away from these sin stocks. In contrast, we expect

them to change their ownership depending on the changing economic incentives if they instead focus on economic characteristics.

Our last tests involve firm value and investment returns. We examine the relationship between firm value and ES ratings – still continue to diligently separate strengths and concerns. Last, we estimate the abnormal returns of institutional portfolios with different fractions of ES concern stocks. To more directly examine the economic concern hypothesis, we also evaluate the distinct alphas for the concern stock component and the non-concern component of each portfolio.

III. Data and Methods

We examine the ES ratings and institutional holdings of the Russell 1000 Index constituents, which provide a wide cross-section of firms across a reasonable time period (2001-2013). The USSIF (2014) report states that the assets under management which considers ESG criteria expanded from \$136 billion in 2001 to \$4,306 billion in 2014. Also, the United Nations' supported Principles of Responsible Investment (UNPRI) was created in 2006. Thus, our sample period seems appropriate.

A. MSCI ESG Ratings

The MSCI ESG Research Data (previously referred as KLD Data) is one of the most extensively used datasets on ES (Environment and Social) ratings. The MSCI data measures a different subset of firms across time with the earliest data reporting beginning in 1991. In their efforts to capture slightly longer time series, recent studies using the data ignore the sample selection issues associated with a changing sample of firms. We attempt to alleviate this issue by using annual ES ratings data for a large sample of Russell 1000 firms whose ratings are available from 2001 to 2013.

We perform a comprehensive analysis on the relevance of environmental and social issues to institutional investors. In addition, to support our conjecture of economic incentives driving institutional preferences of various ES categories, we present institutional investors' vacillating

holdings in firms with controversial products as a case study. In the context of social issues, we highlight Human Rights (HUM) and Community (COM) issues as these relate to external impacts of a firm's activities. We also consider several other miscellaneous issues primarily related to social aspects of a firm's internal operations such as employee health and safety (HLT), labor union relations (UNI), diversity at workplace (DIVW), supply chain (SCH), and anti-corruption practices (ACPT). We picked these miscellaneous issues because they have interesting dynamics for social values and economic efficiency. For example, if you consider employees as stakeholders, then improving their health and safety, maintaining cooperative labor union relations, and promoting workplace diversity classify as positive social values, yet may increase economic costs to the firm. Similarly, supply chain labor issues, like using child labor, can be cost effective, but also a social pariah. For example, Nike has been plagued with supply chain issues due to sub-contracted facilities abroad. In 2005, Nike started reporting supply chain issues in its corporate social responsibility report and since then we observe Nike receiving strength ratings in supply chain issues. Transparency has not led to Nike solving its sweat shop issues in Bangladesh (Nisen, 2013). Thus, loss averse institutional investors are likely to worry about the efficacy of supply chain strengths. It appears plausible that the existence of supply chain policies may even alert investors to the possible occurrence and recurrence of supply chain concerns in the future.

While considering ratings, we picked only those broad issues that were last evaluated by MSCI in 2013. With a few minor exceptions, ratings on most issues were available for the entire 2001-2013 period.¹ Please refer to Appendix A1 for more details on these ratings. We do not focus on governance issues as the MSCI data on governance issues appears insufficient (several previous governance ratings

¹ The exception are ACPT strengths as well as concerns (only available for 2012-2013), HLT strengths (unavailable for 2001-2002) and SCH strengths (unavailable for 2001).

were re-classified by MSCI/KLD as social ratings), particularly in light of the extensive literature on various corporate governance issues such as board structure and compensation practices.

We characterize the existence of strengths or concerns for each individual ES issue using two dummy variables: Strength and Concern. *Strength* takes the value 1 for the presence of strength in the specific issue, and 0 otherwise. Similarly, *Concern* takes the value 1 for the presence of concern in the specific issue, and 0 otherwise. This methodology associated with using the MSCI's strengths and concerns ratings is new to the literature and may provide useful insights. We adopt it to explore the impact of ES ratings across various issues and over time.

First, the MSCI's proprietary indicators mention the presence of a strength or concern (1 for presence and 0 for absence), but cannot be used to measure the *intensity* of the strength or concern. All prior studies that use the MSCI Data sum up the number of strengths and concerns studied annually for each (and across) ES rating(s). This creates an unintended effect of measuring the intensity of the strengths and concerns based on the number of strengths or concerns. Second, there are a different number of potential strengths and concerns measured across various ES ratings, which makes the summed measures incomparable across ES issues. Third, there are often an unequal number of strengths and concerns measured within each ES issue. Also, the numbers of strengths and concerns vary across time as some strengths or concerns may be either merged, removed (due to irrelevance) or new ones may be added. Thus, the summed measure makes the ES ratings incomparable across time. Lastly, the ES ratings are not symmetric. A strength on a particular sub-issue for an ES issue may not have a corresponding concern. Given the drawbacks of summing strengths or concerns, dummy variables seem more appropriate to capture these ES ratings.

To get a sense of how many firms have a given strength or concern in each area, we report a summary Table 1 that illustrates their prevalence in the Russell 1000 Index firms. In our analysis, we study each ES issue individually. Pooling them together induces noise, due to potential correlations

between several ratings, and also does not allow us to observe the relevance of each ES issue individually.

[Table 1 about here]

In Panel A of Table 1, we report the percentage of Russell 1000 firms that have no strengths or concerns for a particular ES rating. We also report the percentage of firms that have only a strength, only a concern, and both a strength and concern. For example, for the Environment (ENV) category, 71.5% of the Russell 1,000 firms have no reported strengths or concerns. Less than ten percent have only a concern, over twelve percent have only a strength, and 6.6% have both.

Many firms in the Russell 1000 are small relative to the largest companies. Thus, we report the same statistics for the percent of market capitalization in each group. The second row in the Environment category shows that 50.5% of the Russell market cap has neither strengths nor concerns in that category. The difference between this market cap statistic and the number of firms' statistic suggest that the larger firms are more likely to have strength or concern ratings than the smaller firms in Russell 1000. Overall, there are more firms with no ratings than with ratings. For some categories, namely Environment, Employee Health & Safety, Union Relations, Supply Chain and Anti-Corruption, we observe a greater number of firms with concerns compared to strengths.

As a preliminary investigation into institutional investor ownership and ES rated firms, we also report the aggregate institutional ownership and the average institutional ownership as a percentage of market capitalization. We use the 13F filings from Thompson Reuters for institutional investors' quarter-end portfolio holdings. Note that a few institutional investors explicitly market themselves as SRI mutual funds. We expect that the holdings of those investors would appear to be highly related to social values. By leaving these institutions in our sample, we bias our estimates toward finding social values as the reason for ES preferences. As we argue that the preferences are actually due to economic incentives, our findings thus represent conservative estimates.

For the environmental category, institutions own 71.09% of the firms with neither strengths nor concerns for ENV rating. Institutions own less of the firms with ENV concerns than those with strengths (63.9% to 68.5%) and the least of the firms with both, at 62.1%. In fact, institutions own fewer of the firms with concerns than those with strengths for all three of our primary categories: Environment, Human Rights, and Community. That is not the case for two of our miscellaneous categories: Employee Health & Safety and Workplace Diversity.

Panel B of Table 1 reports the correlations between the various concerns. All correlations are significant at the five percent level or better. Two correlations are larger than 0.25. The highest correlation is between Environment concern and Community concern, 0.38. The correlation between Environment concern and Employee Health and Safety is also very high at 0.31. Panel C reports the correlations among strengths. The highest correlations show that Community strength is highly correlated with strengths in Environment and Workplace Diversity. Lastly Human Rights strength is highly correlated with Anti-Corruption strength.

B. Empirical Methods

To study the relationship between institutional ownership and ES ratings, we use two alternate regression methodologies, a variant of the cross-sectional Fama-Macbeth (1973) approach and a panel data approach. The dependent variable in our regression is aggregate excess (i.e., firm size-adjusted) institutional ownership (EX_IO).²

For the Fama-Macbeth (FM) approach, we conduct cross sectional regressions each quarter and then present an average for the time-series of coefficients with Newey-West (1987) corrected standard errors. EX_IO in the FM approach for each firm-quarter is calculated as the residual from

² Our results are robust to using unadjusted aggregate level of institutional ownership instead of the excess institutional ownership.

the cross-sectional regression of the fraction of institution ownership on firm size (measured as log of market capitalization) of firm.

For the Panel approach, pooled panel regressions are conducted for the entire sample. EX_IO in the Panel approach is calculated as the residual obtained from the pooled regression of institution ownership on firm size. In this approach, we also include fixed time effects (year-quarters) to capture time related trends in institutional ownership.

We adopt the following regression specification for our analysis:

$$EX_IO_{i,t} = \alpha + \sum_{j=1}^{N_j} \beta_j ESVar_{j,i,t} + \sum_{k=1}^{N_k} \gamma_k Control_{i,k,t} + \varepsilon_{i,t}, \quad (1)$$

where EX_IO is the excess institutional ownership for firm i in at the end of each quarter t , $ESVar$ refers to environment or social ratings related variable(s) and $Control$ refers to various firm specific controls. The coefficient β_j represents the abnormal aggregate institutional ownership attributable to a specific ES characteristic.

The firm-specific control variables are calculated for each quarter-end using data from CRSP and Compustat, and include the following: age, book-to-market ratio, dividend yield, price, return over the quarter, return over the previous 3 quarters skipping current quarter, turnover, volatility and industry fixed effects. *Age* is the log of number of years since the first appeared on the CRSP database. *BM* refers to the log of book-to-market ratio. *Dividend yield* (in %) refers to the previous 12 month dividends divided by quarter-end price. *Price* refers to the log of the quarter-end price. $Ret_{(t-1, 0) qtr}$ (in %) refers to the return over the current quarter. $Ret_{(t-4, t-1) qtr}$ (in %) refers to the return over the previous 3 quarters (i.e. excluding current quarter). *Turnover* refers to the daily turnover (volume by shares outstanding) measured over the previous 12 months. *Volatility* refers to the log of standard deviation of daily returns measure over the previous 12 months. The fixed industry effects are formed using Fama and French's (1997) 48 industry classification.

IV. Institutional Ownership and Environmental & Social Characteristics

A. Index Membership

Instead of using individual ES ratings to separate strengths and concerns in various areas, investors could simply use an aggregate measure that combines all social values, such as a social index. We start our empirical analysis by examining one such index. The MSCI KLD 400 Social Index (DS400 index), formerly referred to as the Domini 400 Social Index in its inception in May 1990, comprises of 400 US securities that have outstanding Environmental, Social and Governance (ESG) ratings and excludes companies whose products have negative social or environmental impacts. It excludes companies involved in Nuclear Power, Tobacco, Alcohol, Gambling, Military Weapons, Civilian Firearms, GMOs and Adult Entertainment.

We estimate Equation 1 where the only ES variable is DS400 membership, which takes the value of 1 for a firm's inclusion in the Domini Social 400 Index and 0 otherwise. Table 2 reports the estimates for the Fama-Macbeth and Panel methods. The initial results indicate that sustainability as measured by the MSCI 400 Social (DS400) index membership seems to matter. In both of the estimation methods, the coefficient for the DS400 membership is significantly positive. In addition, the coefficient for the DS400 appears to weaken from the first half of the time period to the second half. However, it would be an over-simplification to draw any strong conclusions based on these results as institutional investors may view sustainability issues differently from the methodology used in generating the DS400 index. For example, this analysis cannot differentiate between investors seeking firms with ESG strengths or avoiding firms with concerns, or both. In addition, DS400 excludes certain controversial stocks, like tobacco firms. As we will show later, institutional investors show time varying preferences regarding controversial stocks when they appear to have an economic justification, like high risk premiums.

[Table 2 about here]

B. ES Ratings: Strengths and Concerns

To investigate whether institutions prefer stocks with ES strengths, or avoid those with concerns, or both, we conduct separate analysis for individual ES issues, namely environmental (ENV), community (COM), human rights (HUM), employee health and safety (HLT), union relations, workplace diversity (DIVW), supply chain (SCH) and anti-corruption (ACPT) issues. We use strength and concern variables to measure the relationship between firm level ES ratings and institutional ownership. The Strength and Concern variables are placed together in a regression for each specific ES issue. Strength (Concern) is dummy variable that takes the value 1 for the presence of a Strength (Concern) for a particular ES issue and 0 otherwise.

We start with an analysis following previous studies where we use a Net variable for each ES issues (calculated as Strengths minus Concerns) as the only ES variable in Equation 1. We report the ES variable coefficients in the regressions in Table 3. We omit the coefficients for the control variables in Equation 1 to conserve space. Note that all of the coefficients for the Net variable is positive in all cases and statistically positive in most cases. This relates to most studies that use the ESG ratings data and variables derived from strengths minus concerns. However, that does not help determine whether strengths or concerns (or potentially both) are relevant to investors.

[Table 3 about here]

The most vivid finding in the table is that all concerns have a significant negative sign across both approaches. Institutions avoid firms with ES concerns. This result is robust in most specifications, in contrast to the findings with regards to strengths. In the Fama-Macbeth method, the strength coefficients are positive and significant for our main categories (ENV, HUM, and COM). However, they are negative and sometimes significantly negative in the miscellaneous categories. In the Panel method, the strength coefficients are negative in most categories and statistically significant

in many. In particular, the estimates of the impact of strengths for the key issues of ENV, HUM, and COM are inconsistent across the two approaches.

Concern averse institutions may value the presence of a strength if it could reduce the occurrence of related concerns. For example, in the case of workplace diversity, we see a consistent positive loading for strength. However, that does not hold true for other ratings. In the case of supply chain and anti-corruption, superficial policies may have been promulgated to camouflage concerns or the policies themselves are statements of intent with little impact on prevention of concerns. As such, it is not surprising that we see a consistent *negative* effect for these strengths.

In summary, these results provide clear interpretations that institutions avoid firms with ES concerns. However, it is not clear that institutions seek firms with ES strengths. Indeed, this is consistent with our “SRI as risk management” hypothesis. To further explore this conjecture, we study whether institutional investors differentiate between a firm that only has ES concerns (i.e., no strength) as opposed to one that has both concerns and strengths.

B.1. ES Ratings: Strengths Only and Concerns Only

For this analysis, we use the following three ES variables together in the regression Equation 1 for analysis of each ES issue: *ConcernOnly*, *StrengthOnly*, and *Both*. *ConcernOnly* is a dummy variable that takes the value 1 when a particular ES concern is present without a corresponding strength for the same ES issue, and 0 otherwise. *StrengthOnly* is a dummy variable that takes the value 1 when a particular ES strength is present without a corresponding concern for the same ES issue, and 0 otherwise. *Both* is a dummy variable that takes the value 1 when strengths and concerns are present together for a particular ES issue, and 0 otherwise.

We again estimate Equation 1, but this time we use the three variables above as the ES variables. We report these estimates in Table 4 and omit the control variable coefficients to conserve space. The results of both Fama-Macbeth and Panel approaches provide consistent evidence that

institutions avoid firms with concerns and no strengths. ConcernsOnly columns show statistically significant and negative estimates across our two approaches, except for Workplace Diversity concerns.

In contrast, the pattern of institutional ownership of firms with ES strengths is more difficult to interpret. Several estimates for StrengthOnly are significantly positive. However, a larger number of coefficients are significantly negative, indicating that institutions own less of firms that display only ES strengths. The negative estimate seems plausible if we entertain the possibility that one of the many reasons for a company to strengthen a particular aspect of its CSR is that the company has exposures to potential issues, e.g., supply chain or corruption issues, and therefore has to attempt to mitigate them by putting procedures in place. While these procedures may give an impression of a “strength” – and consequently indicated as such in the MSCI ratings, they may actually indicate an attempt to shore up potential issues. As such, it is not surprising that institutional investors consequently avoid these stocks. Our interpretation is consistent with the evidence in Krüger (2015) that while negative CSR events are unsurprisingly associated with negative abnormal returns, positive CSR events are also associated with (weak) negative returns.

Lastly, the results on firms with both concerns and strengths indicate that institutions seem to be swayed more by the negative consequences of concerns, as only negative estimates for the “Both” variable are consistently significant across our two approaches (FM and Panel). This negative effect is observed for two of the three main issues, and three of the five miscellaneous issues. These results again emphasize that netting strengths and concerns is not a sound approach.

[Table 4 about here]

B.2. ES Ratings: New and Existing Concerns

Our results so far indicate that institutional investors exhibit an aversion to ES concerns. We argue that this is associated with risk management motives. If so, do institutional investors’ avoidance of

concerns appear soon after new concerns are identified? Conversely, are their avoidance mitigated when old concerns are resolved? To explore this issue, we use the following three ES variables together in the Equation 1 regression for analysis of each ES issue using the Fama-Macbeth method: New Concern (*NewCon*), Continuing Concern (*ContCon*), and Removal of Concern (*RemCon*). *NewCon* takes the value 1 if a concern exists in the current year, but not in the previous year, and 0 otherwise. *ContCon* takes the value 1 if a concern exists in the current year and previous year, and 0 otherwise. *RemCon* takes the value 1 for a firm whose concern is non-existent in the current year, but existed in the previous year, and 0 otherwise. The results are reported in Panel A of Table 5.

[Table 5 about here]

Most of the concerns in the ES ratings persist over time. Therefore, it is not surprising that institutions underweight firms with Continuing Concerns. That is, all coefficients for *ContCon* are significantly negative. When a new concern is identified, institutions appear to underweight those firms. For example, institutions underweight firms that are recently identified as having environmental concerns. Six of the seven *NewCon* coefficients are negative, though only ENV and UNI are statistically significant. The lack of significance may be due to the small proportion of firms with new concerns. None of the coefficients for the Removal of Concerns variable are statistically significant. The relatively low frequency (quarterly institutional holdings) of our data does not allow us to determine whether institutions are slow to react to the removal of a concern or whether they react in advance of the MSCI ESG rating change.

C. Robustness Tests

C.1. Methods

Our approach so far has been to study each ES issue in isolation, as opposed to studying them together for two reasons. First, some firms may have multiple concerns/strengths and it may become difficult to isolate their impact, due to potential confounding effects. Second, some ratings are not available

for the entire 2001-2013 period leading to loss of information in a single regression that considers all ratings together. For example, ACPT strengths and concerns are available only from 2012, whereas SCH strengths are available only from 2002. In Panel B of Table 5, we compare the results for regressions on concerns in individual issues (Individual) as was done earlier to a single regression that includes all concerns in various issues together (Joint). The results show that only environment concerns, human rights concerns, and union relations concerns retain their significance between the Individual and Joint regression results. The other estimates become statistically insignificant, potentially due to multi-collinearity. Environmental, human, and union concerns seem to have a dominant influence on institutional investors' portfolio decisions, while other issues have a confounding impact.

C.2. Time period and institution type analysis

Table 3 suggests that there might be a difference in institutional ownership of SRI characteristics between the early period of our sample and the later period. We explore this issue in Panel A of Table 6. Again, we split the 13 year sample into two halves to examine differential effects of ES ratings. All significant coefficients are consistent across both the FM and panel approach, but we only report the Fama-Macbeth estimates in the table. We observe consistent (negative) pattern for concerns across both sub-periods.

However, the positive impact for strengths is driven by the first half of the sample, but it does not appear in the more recent period. One interesting result is regarding Union strength, which refers to a firm having a high union density. While this may be viewed positively from a perspective of labor rights protection, it could also lead to concerns about the inflexibility imposed by collective bargaining. We find evidence of both effects across sub-periods. Union strength has a positive effect in the first half of the sample, consistent with institutional investors appreciating labor rights protection. However, the second half of the sample seems to be associated with increased concerns about high

union density. For example, GM and Chrysler declared the largest corporate bankruptcies in the United States in April 2009 and June 2009 in the midst of significant battles with unions. While unions may not be responsible for a firm's operating performance, they may exacerbate the impact of poor business conditions. As a result, institutional investors seem to avoid firms with strong union presence in the second half of the sample.

[Table 6 about here]

In Panel B, we classify institutions based on their investing horizon. Using the methodology in Yan and Zhang (2009), we classify institutional investors into two categories - short and longer-term (includes medium and long-term) investors. Our results are robust to using Bushee's (1998) classification of institutions into transient and non-transient (quasi-indexers and dedicated) investors. There are more (and larger) institutions classified as longer-term horizon as noted by their average institutional ownership of 55.1%, whereas the short-term group only controls 11.1%.

Longer-term investors invest significantly less in firms with concerns in *all* of our categories. In contrast, they do not consistently seek firms with ES strengths. While the coefficients for ENV and HUM strengths are significantly positive, the coefficients for HLT, SCH, and ACPT strengths are significantly negative. The latter indicates that long-term investors underweight stocks with these ES strengths.³ The short-term horizon institutions, on the other hand, are clearly not affected by ES issues. For example, they hold disproportionately more of firms with environmental concerns, human rights concerns, and community concerns. This pattern is consistent with their ability to avoid long term risk associated with these concerns.⁴

³ A recent study by Kecskes, Mansi and Nguyen (2015) concludes that the presence of long-term investors increases the value of stakeholder capital investment as they can mitigate the cash flow risk. While this bodes well for the positive value impact of ESG investments of longer term institutional investors, our results indicate that many firms with ES strengths do not benefit from the presence of these long-term shareholders.

⁴ In Appendix A2, we also present results for ES preferences across the following types of institutional investor: banks, insurers, pension funds, mutual funds, independent investment advisors and others. The key results are that banks, mutual funds and pension funds appear to avoid ES concerns. Banks have fiduciary responsibilities and are longer term investors. Pension funds are generally long term investors. Moreover, the investment policy and proxy voting guidelines of state

V. Institutional Ownership and Controversial Stocks

There are entire industries that the socially responsible investor group considers harmful to society because they produce controversial products (Hood et al., 2014). These industries include Alcohol, Tobacco, Gambling, Nuclear, Military, and Firearm. Should institutional investors avoid firms in these industries? From a social investor perspective, the answer is yes. From our framework, the answer depends on the economic dynamics.

First, we replicate Table 1 using these controversial stocks instead of the ES ratings. Panel A of Table 7 shows that the alcohol firms make up about 1.49% of the Russell 1000 and 2.85% of its market capitalization. Institutional investors underweight alcohol stocks. Specifically, the aggregate institutional ownership is 61.82% for alcohol stocks, which is lower relative to 67.27% for all other stocks. The table shows that institutions also underweight tobacco, and nuclear stocks. They overweight military stocks and seem neutral to gaming and firearms. We examine whether these perceived differences are statistically significant in Panel B.

[Table 7 about here]

We estimate Equation 1 with a slight variation. First, instead of an ES variable, we conduct individual regressions for each controversial product. We use a *Controversial Product (CPROD)* dummy variable that takes the value 1 for a firm involved with a particular controversial product and 0 otherwise. Second, we follow a methodology similar to Hong and Kacperczyk (2009) and use a similar/related industry dummy instead of the 48 industry effects used in our earlier analysis. Similar industries are defined specifically for each controversial stock being studied and refers to firms

pension funds in many U.S. states – for example, those of the New York State Common Retirement Fund, California Public Employees’ Retirement System and the Connecticut Retirement Plans and Trust Fund – require considerations of ESG factors (Caplan, Griswold and Jarvis (2013)). Mutual funds manage substantial amount of retirement assets through defined contribution plans, which may lead to the consideration of longer term risk factors in the investment process.

operating in a broad set of industries considered somewhat similar to each controversial product type (including the relevant controversial product industry itself).⁵

Panel B of Table 7 presents the results using the cross-sectional Fama-Macbeth approach described above.⁶ The significantly negative coefficients for alcohol and its similar industry indicate that institutions underweight these stocks, but more so for alcohol stocks. The same is true for nuclear firms. Institutions shun gaming stocks, but not their similar industries. It also appears that institutions overweight tobacco compared to its similar industry. The estimates for the military and firearm firms are not statistically significant.

However, observing institutional investors holding tobacco stocks or avoiding nuclear firms does not really tell us whether these over or under-weights are related to economic motivations. To examine this issue, we look for significant news that changes the economic dynamics of these industries during our sample period and then examine how institutional investors react in their holdings of these stocks.

Consider the increasing regulation of the tobacco industry. On June 22, 2009, the Family Smoking Prevention and Tobacco Control Act (FSPTC Act) was signed into law. This law gave the U.S. Food and Drug Administration (FDA) comprehensive control to regulate the sale of tobacco products. This was a significant step toward stronger regulation of the tobacco industry. At present, nearly every state has a statewide ban in smoking in public spaces. Therefore, we compare institutional ownership in tobacco stocks before June of 2009 to ownership afterward. We report this analysis and other similarly motivated analyses in Table 8.

⁵ The similar/related set industries for each controversial products category are identified using following sets of industries among the Fama and French (1997) 48 industry classification: [1] Alcohol: Food, soda, beer, fun and meals, [2] Tobacco: Food, soda, beer, tobacco, fun and meals, [3] Gambling: Fun, personal services, business services, computers and meals, [4] Nuclear: Medical equipment, chemical ,coal ,oil and utilities, [5] Military: Steel, fabricated parts, machinery, electrical equipment, auto, air , ship, guns, business services, computers, electronic equipment, and measuring & control equipment, [6] Firearm: Machinery, electrical equipment, auto, air, ship, guns, wholesale and retailing.

⁶ The results are similar to the panel approach, which have not been presented to conserve space.

[Table 8 about here]

In addition, we classify investors based on their time horizon (similar to Table 6, Panel B) as longer term investors may be more sensitive to the possible long term economic of regulation compared to the short term opportunities sought by short-term institutions. The table shows that before the FSPTC Act, the estimates for institutional ownership is significantly positive for all institutions and particularly for those with longer term horizons. We consider the passing of the Act and increasing regulation to be a negative economic event for the tobacco industry, so we label the post FSPTC Act as a period of “Worse” economic incentives. Indeed, institutions (especially long term investors) significantly underweight tobacco after the Act. This behavior suggests institutional ownership of tobacco firms is related to economic incentives rather than just social issues.

We next investigate the gambling industry. Commercial casino revenues across the US were at \$27 billion in 2001 and increased to hit a historic peak of \$37.4 billion in 2007. Then the financial crisis occurred and the U.S. experienced a recession. Revenues declined in the recession and during the sluggish economic rebound, partly due to the emergence of Asian gambling hubs like Macau. The industry finally rebounded to its previous revenues level in 2012.⁷ Thus, the gaming industry experienced three economic environments during our sample. We analyze the ownership differences in the initial period (2001 to 2007), a period that is economically worse (2008 to 2011), and then back to a better period (2012 to 2013). The ownership estimates for the longer horizon investors shows that they significantly underweight gambling stocks in all three periods. However, the underweight is of much higher magnitude in the worse economic period. The change in ownership from the initial period to the difficult period and the subsequent change from the difficult period to the final better period are both statistically significant. While it is possible that the general underweight of gambling

⁷ David G. Schwartz. United States Commercial Casino Revenues. Las Vegas: Center for Gaming Research, University Libraries, University of Nevada Las Vegas, 2015: http://gaming.unlv.edu/reports/national_annual_revenues.pdf.

stocks is due to social stigmas, the dynamics of the changes in ownership appear to be linked to the economic dynamics of the gambling industry.

Our findings for the nuclear industry are similar to that of the gambling industry. Institutional investors heavily under allocate to firms with nuclear concerns prior to 2005. On August 8, 2005, the Energy Policy Act of 2005 was signed into law by President George W. Bush. This signals an important shift in the nuclear energy policy that benefits nuclear energy producers and consumers. After 2005, long term horizon institutions seemed to own more nuclear stocks as the magnitude of their underweighting is reduced by more than half.

The economic environment changed for military stocks between the Bush presidency and Obama presidency. The two presidencies have very different foreign policies and related military spending policies.⁸ Thus, we use the election of Obama on November 4, 2008 as our time period delineator. In the Bush period, there was a general positive excess allocation to military stocks by all institutions, though the long-term horizon investor coefficient is not significant. In contrast, we observe an under-allocation to military stocks during the Obama period. The difference between the two periods is statistically significant. These results suggest that institutions do not have preference for or against military stocks from a social values perspective, but instead make portfolio decisions based on an economic framework.

Last, we examine the change in ownership in firearms stocks. The Federal Assault Weapons Ban (FAWB), a key federal law enacted by the Bill Clinton administration, expired on September 13, 2004. This was good news for the firearms industry as the expiration of FAWB eases restrictions on sale of certain firearms, although it can be viewed as a negative development from the social values perspective. Before 2004, long term horizon investors underweighted firearm firms by -9.69%,

⁸ Military spending and procurement figures that can be obtained by looking at historical budgetary figures available at: <https://www.whitehouse.gov/omb/budget/Historicals>.

consistent with these investors avoiding those stocks. But after 2004, there was a large jump in allocation to firearm related stocks. This large and significant change results in 6.63% *over-weight* in institutional investors' portfolios. We also note another reversal in ownership starting in 2013 as the Obama administration announced a plan to reduce gun violence in January 2013, in response to shooting incidents such as Sandy Hook school shooting the month before.

The dynamic of the firearm industry is too nuanced for the coarseness of this table. The fascinating dynamic started with the Virginia Tech shooting on April 16, 2007, the deadliest shooting in U.S. history. That incident temporarily brought back the focus on gun legislation. In the third quarter of 2007 the excess allocation for firearm stocks dropped to 5.86% from 13.89% in the previous quarter. There was also a change in the ownership trend in 2010 due to significant uncertainty regarding gun laws with a key legal case, McDonald vs. City of Chicago. Initially, a lower circuit court upheld an ordinance that banned the sale of certain firearms, but this decision was reversed in June 2010 by the Supreme Court. Hence the excess allocation of -3.90% in first quarter of 2010, rose to 4.27% in the second quarter of 2010.⁹ Much of these ownership dynamics is driven by longer horizon investors, indicating that these investors react swiftly to long term economic incentives.

In summary, institutional investors appear to respond to economic incentives even in the presence of possible stigmas attached to certain products. The longer horizon investors respond in the same direction as the economic impact of policies on the controversial stocks. On the other hand, short horizon investors sometimes act as natural arbitrageurs by changing their allocations in the opposite direction.

Our analysis in this section provides a complementary time-series investigation to the cross-sectional result in Hong and Kostovetsky (2012) that Democratic-related investment managers are

⁹ Table 8 does not include the alcohol industry because we could not document any major changes in economic fortunes or regulatory actions that impacted the industry during the 2001-2013 period.

more likely to invest in socially responsible manners even when they are not managing SRI funds. Our time-series results indicate that there is a substantial economic component driving socially responsible investments in addition to value-based rationales.

VI. Economic Incentive: Firm Values and Portfolio Returns

A. Firm Value and ES Concerns

We argue that, in general, institutional investors' attitudes toward ES issues stem from economic incentives rather than social values. So far, we have examined the link between institutional ownership, ES issues, and controversial products. In this section, we examine two economic measures that may interest institutional investors, namely firm value and portfolio returns.

Heinkel et al. (2001) develop a model in which green investors would not invest in polluting firms. The fewer investors available to own polluting stocks provides for less risk sharing among investors and leads to lower stock prices and higher costs of capital, in the spirit of Merton (1987). El Ghoul et al. (2011) empirically examine the relationship between CSR and the cost of equity for the firm. They report that positive CSR policies are associated with lower equity costs. Although they do not directly include firm value in their analysis, they conclude that lower costs support higher valuations. Similarly, Dhaliwal et al. (2011) also finds that voluntary disclosure of CSR strengths is associated with lower cost of capital. In addition, Goss and Roberts (2011) find that the cost of bank loans is higher for CSR concern firms.

Several studies attempt to link CSR with firm value directly. Jiao (2010) studies the relationship between firm value and net strengths (i.e., number of strength minus concerns) for various ES issues, and finds a positive association between the stakeholder welfare measure and Tobin's Q. Gillan et al. (2010) examine the relationship between ESG ratings and corporate governance issues. They conclude that firms with ESG strengths have higher valuations than their peers. This contrasts with Fernando et al. (2013), who exclusively focus on environmentally green firms and those with concerns. They

report that both groups have lower values, but it is more severe for those with environmental concerns. A major difference between Fernando et al. (2013) and the other papers is that they separate the strengths and concerns instead of creating a ‘net’ measure. This is similar to our approach of separating strengths and concerns, and investigating the contribution of each separately.

We use Tobin’s Q as a measure of firm value and follow Gompers, Ishii and Metrick (2003) by calculating the industry median adjusted Tobin’s Q (Kaplan and Zingales, 1997).¹⁰ We identify industries using Fama and French’s (1997) definition of 48 industries. To study the relationship between ES ratings and firm value, we conduct Fama-Macbeth (1997) type analysis by estimating a cross sectional regression each year and then calculating the averages of the time-series of coefficients and the Newey-West (1987) corrected standard errors. Since our ES measures do not vary considerably over time, the cross-sectional approach is preferred, though the unreported results from the Panel approach are similar. Our regression specification for analysis of each ES issue is as follows:

$$Q_{i,t} = \alpha + \sum_{j=1}^{N_j} \beta_j ESVar_{i,j,t} + \sum_{k=1}^{N_k} \gamma_k Control_{i,k,t} + \varepsilon_{i,t}, \quad (2)$$

where Q refers to the industry median adjusted Tobin’s Q (defined above), *ESVar* refers to the ES variable(s) of interest, and Control refers to control variables for firm *i* in year *t*. Only the ESVar coefficients are reported to conserve space.

Specifications (1) and (2) in Table 9 include both concern and strength ratings, while specifications (3) and (4) include only concern rating since our previous analyses suggest that ES concerns seem to matter more for institutional investors. Additionally, in specifications (1) and (3), we exclude all firm level controls. In specifications (2) and (4), we control for the following firm specific characteristics (from Gompers, Ishii and Metrick, 2003 and Jiao, 2010): Size, Age, Delaware

¹⁰ Tobin’s Q is calculated as market value of assets by the book value of assets where the market value of assets is calculated as the book value of assets plus the market value of equity less book value of common equity and balance sheet deferred taxes. All book values for fiscal year *t* are combined with the market value of common equity at the calendar end of year *t*.

incorporation dummy, SP500 dummy, Sales growth, Leverage, ROA, R&D/Sales, Advertising/Sales and Missing dummies for R&D Expenses and Advertising.¹¹

[Table 9 about here]

We find that all ES concern estimates are significantly negative once we incorporate the control variables, indicating that ES concerns are associated with a lower Q. Thus, ES concerns have negative correlation with firm value. The results for ES strengths shows that they are also associated with lower firm value, albeit only weakly so. Specification (1) shows that only three of the eight ES strengths (ENV, HLT, and DIVW) have significant coefficients, and they are all negative. Thus, stronger ES policies do not seem to increase the firm's Q.

The reason our results differ from Jiao (2010) is that ES concern firms are associated with lower valuations than ES strength firms in most cases – although ES strengths are also weakly associated with lower valuations. So netting out concerns from strengths makes it appear that CSR is positively associated with firm value. Our findings on firm valuation show a similar pattern to the institutional ownership (especially long-term horizon investors) of firms with ES ratings, and particularly those tainted with ES concerns.

B. Returns of Institutional Portfolios and ES Concerns

So far we have documented that institutional investors generally avoid stocks associated with ES concerns. This section explores the cross-sectional variation of institutional investors' avoidance of ES concerns, and whether this variation is related to the cross-sectional variation in the performance

¹¹ *Delaware Dummy*: Takes value 1 if the firm is registered in Delaware and 0 otherwise. *SP500 Dummy*: Takes value 1 if the firm is included in the S&P500 index in year t and 0 otherwise. *Size* is calculated as the log of market capitalization at end of calendar year t. *Age* is calculated at the end of calendar year t as log of the number of years since the firm first appeared on the CRSP database. The remaining variables are calculated for fiscal year t. *Sales Growth* is the ratio of change in total sales in fiscal year t from previous year t-1. *Leverage* is the ratio of debt to book value of assets. *Return on Assets (ROA)* is the ratio of earnings before extraordinary items to book value of total assets for fiscal year t. *R&D/Sales* is the ratio of research & development (R&D) expenses to sales. The *missing dummy for R&D Expenses* is included to prevent significant loss of observations and to control for any characteristics for non-reporting firms. *Advertising/Sales* is the ratio of advertising expenses to sales. Similar to R&D expenses, we also include a *missing dummy for advertising expenses*.

of institutional investors' portfolios. For this analysis, we begin with classifying institutional investors based on the strength of their avoidance of ES concerns, followed by an analysis of portfolio performance across these classifications. We further examine two mutually exclusive portfolio sub-components: concern (C) and non-concern (NC) holdings. For terminology, the NC (C) component refers to the portion of portfolio invested in stocks without any ES concerns (with at least one ES concerns).¹²

We first compute the fraction of each institutional investor's portfolio that is allocated to stocks without any ES concerns, i.e., the NC fraction. We then classify institutional investors annually based on the average of quarterly NC fractions.¹³ To capture the extreme portfolios that contain only one type of stocks, we use the following annual institutional classifications: [1] Only Concern: Managers that invest the entire portfolio only in concern stocks (i.e., 0% in NC stocks), and [2] Only Non-Concern: Managers that invest the entire portfolio only in non-concern stocks (i.e., 100% in NC stocks). The remaining portfolios, in which managers invest in some NC stocks and some C stocks, are ranked into quintiles, with 1 being the smallest NC fraction quintile and 5 being the largest NC fraction quintile.

We measure portfolio performance using raw monthly returns as well as abnormal returns using several factors models: CAPM, Fama and French (1993) 3-factor model, and Carhart (1997) 4-factor model. Given that institutional holdings are reported quarterly, we calculate each institution's monthly portfolio performance assuming that the portfolio holdings for each institution remain static each quarter. While the results are robust across raw returns and various factor/style models, in the

¹² Any ES Concern refers to the presence of concerns in any ES issues, namely environmental (ENV), community (COM), human rights (HUM), employee health and safety (HLT), union relations, workplace diversity (DIVW), supply chain (SCH) and anti-corruption concerns.

¹³ The 13F filings data is only available quarterly and the annual frequency of institutional classification measure is consistent with the annual frequency of our ES ratings data.

interest of brevity, we only present abnormal performance calculated using the Carhart (1997) 4-factor model with the following specification:

$$R_{i,t} - R_{f,t} = \alpha + \beta_1(R_{m,t} - R_{f,t}) + \beta_2SMB_t + \beta_3HML_t + \beta_4WML_t + \varepsilon_{i,t}, \quad (3)$$

where $R_{i,t}$ is the equally weighted average monthly fund returns for a particular institutional category i at time t ; α refers to the monthly alpha; $R_{m,t}$ is the market return; $R_{f,t}$ is the risk free rate (one month T-bill rate); the beta coefficients ($\beta_1, \beta_2, \beta_3, \beta_4$) measure the loading for systematic risk, size (SMB), value (HML), and momentum (WML) factors, respectively; and $\varepsilon_{i,t}$ refers to the idiosyncratic return component. To account for any possible time-series correlation of regression residuals, we estimate standard errors for the regression coefficients using the Newey-West procedure (Newey and West, 1987). The data for $R_{m,t}$, $R_{f,t}$, SMB, HML, and WML are obtained from Kenneth French's (2015) web page.

[Table 10 about here]

We present the following monthly portfolio returns in Table 10: [1] Full: Entire portfolio (i.e., both non-concern and concern stocks), [2] NC: Non-Concern component, and [3] C: Concern component. Alphas are only significantly positive for the three categories of institutions that have the least amount of ES concern stocks. Moreover, the alphas are driven by the positive alphas stemming from the non-concern (NC) portion of the portfolio. In fact, on average, institutions do not earn positive alphas from the concern (C) portion of their portfolio.

While most institutional investors do not display significant difference in the performance of their Concern and Non-concern sub-portfolios, we find that those who are the most averse to ES concerns have superior alphas in their holdings of non-concern stocks – which seem to outperform their concern holdings (when they have those). In particular, investors that completely avoid concern stocks perform very well in their (fully) non-concern holdings. They earn about 0.34% alpha per

month, or around 4% per year. Those in the highest quintile of NC holdings also perform well in their NC holdings (around 2.5% in annualized alphas), but not in their C holdings.

We next refine our analysis by expanding the quintiles of concerns into deciles of concerns. The results are shown in Figure 1. The vertical bars show the percent of the portfolio invested in non-concern stocks. The lines illustrate the alphas for the total portfolio, and for the non-concern and concern portion of the portfolios, respectively. In general, institutions that display greater avoidance of concerns, perform better.¹⁴ Note that the difference in alpha between the non-concern minus concern portions of the portfolio is nearly monotonically increasing in the portion of non-concern stocks. Therefore, we conclude that investors who tend to avoid ES concerns appear to perform better than their counterparts. Their performance is driven by their ability to earn superior returns on their non-concern stocks (ES avoidance component).

The performance patterns that we observe are consistent with performance related economic incentives explaining the avoidance of ES concerns. One potential explanation is that investment managers who do well in non-concern stocks can afford to avoid the (riskier) concern stocks. Another potential explanation is that investment managers who are strongly concern averse can pursue higher risk/return strategies (that are not captured by the factor models) given their low risk exposure to sustainability concerns. Both of these arguments align with our conjecture that economic incentives drive the avoidance of ES concern stocks.

[Figure 1 about here]

VII. Conclusions

We examine the preferences of institutional investors in stocks with environmental and social ratings, as well as in firms with controversial products like tobacco and alcohol. USSIF (2014) claims that over

¹⁴ The “Only Concern” investor category appears to be an exception to the trend, but the alphas are statistically insignificant (refer Table 10).

\$4 trillion is being managed in the United States using sustainable criteria. Is this money being managed because of the social values of the investors, or are there really economic reasons underlying this behavior? We argue that most of this money is actually being driven by economic incentives and risk management motives. This is timely because the U.S. Department of Labor has recently emphasized that economically targeted investments, and using ESG factors can be done as tie-breakers between otherwise economically acceptable investment alternatives.

We find that, in general, institutions underweight stocks with ES concerns. This effect is particularly strong for environmental and human rights concerns, but also in the subset of firms with poor labor union relations. However, institutions appear to be mostly ambivalent to ES strengths. This non-linear pattern is particularly strong for long-term horizon institutions, who account for the majority of institutional ownership.

We also investigate ownership in firms with controversial products, namely, alcohol, tobacco, gambling, nuclear, military, and firearms. We show that aggregating institutional ownership over long periods of time misses much of the dynamics of institutional ownerships. For example, the full sample results show a strong institutional investors' over-weighting toward tobacco stocks. However, further analysis shows that this over-weighting comes exclusively from the period before 2009. After Family Smoking Prevention and Tobacco Control Act of 2009, institutions dramatically reduce their holdings and end up underweighting tobacco firms. They also seem to react to the economics of other industries with changing regulations. The firearm industry provides an important example. Institutions underweight these firms through 2004, then over-weight them when the Federal Assault Weapons Ban expired. The Sandy Hook school shooting and its aftermath cause institutions to underweight this industry again. This time-series dynamics lead us to the conclusion that institutional ownership of controversial products is driven by economic incentives, and not merely due to the lack of social values of these products.

One issue we find is that some ES strengths seem to be initiated by the firm to offset concerns in the same area. For example, strengths for supply chain and anti-corruption measures may merely indicate the existence of policies with positive intent, but may not satisfy a loss averse investor when the firm has had problems with child labor issues abroad. In other words, these strengths may be an attempt to camouflage concerns. However, most previous studies of ESG ratings tend to ‘net’ out the sustainable characteristic by subtracting concerns from strengths. We argue that a firm with both supply chain strengths and concerns is quite different from a firm with neither strength nor concern, even though both firms may net the same zero rating. Therefore, our analysis separates strengths and concerns. This allows us to capture institutional investors’ ability to identify the interplay between strengths and concerns. In particular, we find that institutional investors avoid firms displaying both strengths and concerns in the same ES category.

This methodology also allows us to document many novel findings, some of which stand in contrast to previous studies. For example, using the netting out approach to measure ES criteria, Jiao (2010) and Gillan et al. (2010) find that high ESG ratings are associated with higher firms value (Tobin’s Q). By separating strengths and concerns, we find that firms with ES concerns are associated with lower firm values. But we also find that firms with ES strengths are associated with milder lower values. Thus, the netting out approach may make it appear that ESG ratings are positively related to firm value, but it misses an important non-linearity.

We complete our study by examining the portfolio returns of institutions as related to the amount of their holdings in stocks with ES concerns and those without concerns. We find that portfolios that completely avoid concern stocks earn the highest alphas. Portfolios with very few concern stocks also earn significantly positive alphas. Separating the holdings of concern stocks from those of non-concern stocks indicates that superior portfolio alphas are driven by superior performance in non-concern stocks.

We conclude that institutional investors' attitudes toward ES criteria are mostly based on economic incentives rather than social values. Institutions avoid firms with ES concerns (regardless of whether they have strengths) as a risk management tool. They switch from overweighting to underweighting controversial product firms and vice versa depending on the economic characteristics of the industries. Finally, institutional ownership is not strongly linked to firms with ES strengths. This might stem from the reality that the strengths are often used to offset prevailing concerns. At the end of the day, ES concerns seem to be the driver of institutional investors' attitudes toward ES issues and their portfolio decisions. Our results point to economic incentives playing a critical role in the adoption of SRI practices by institutional investors.

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Table 1: Summary of ES Ratings

% No (% Cap) refers to percentage of firms (market capitalization) in the Russell 1000 with a given ES (Environment/Social) rating. *Agg IO (Avg IO)* refers to aggregate (average) institutional ownership expressed as percentage of market capitalization. Each statistic was averaged across the quarters during the period 2001-2013. *None* in Panel A refers to existence of neither strength nor concern. *Both* in Panel A refers to existence of both, strength and concern. Panel B and C present correlations (all correlations are statistically significant at 5 percent level) among various ES Concerns and Strengths, respectively.

Panel A: ES Ratings Across Firms and Institutions					
ES Rating	Statistic	None	Concern Only	Strength Only	Both
Environment (ENV):	% No	71.50	9.65	12.24	6.60
	% Cap	50.53	12.95	17.70	18.82
	Agg IO	71.09	63.91	68.48	62.10
	Avg IO	75.07	70.13	73.61	68.06
Human (HUM):	% No	94.59	3.27	1.68	0.59
	% Cap	76.08	17.08	3.67	4.12
	Agg IO	69.13	59.31	70.71	63.22
	Avg IO	73.99	69.51	71.84	67.73
Community (COM):	% No	79.71	5.67	12.59	2.03
	% Cap	48.87	8.16	31.48	11.49
	Agg IO	71.58	64.94	65.00	56.16
	Avg IO	74.60	70.61	71.80	64.80
<u>Miscellaneous Issues:</u>					
Emp. Health Safety (HLT):	% No	78.19	13.84	4.32	3.66
	% Cap	62.68	15.39	10.49	11.44
	Agg IO	70.77	65.82	65.07	60.93
	Avg IO	76.04	74.05	72.41	71.81
Union Relations (UNI):	% No	93.63	3.42	2.73	0.42
	% Cap	89.89	6.45	3.33	0.61
	Agg IO	67.86	58.96	66.76	75.23
	Avg IO	74.02	70.89	70.70	80.51
Workplace Diversity (DIVW):	% No	64.04	3.65	26.95	5.36
	% Cap	29.60	3.05	47.71	19.65
	Agg IO	72.50	72.73	66.41	58.51
	Avg IO	74.15	75.48	73.19	68.61
Supply Chain Emp. (SCH):	% No	93.66	4.22	2.26	1.08
	% Cap	84.63	8.61	4.66	4.83
	Agg IO	68.93	63.14	70.69	67.62
	Avg IO	74.75	74.29	78.18	73.70
Anti-Corruption (ACPT):	% No	85.81	8.50	4.13	1.55
	% Cap	62.58	20.96	7.75	8.72
	Agg IO	72.37	64.08	65.57	58.27
	Avg IO	76.68	72.15	76.37	66.56

**Table 1: Summary of ES Ratings
(Continued)**

Panel B: Correlations between ES Concerns							
	ENV	COM	HUM	HLT	UNI	DIVW	SCH
ENV	1.00						
COM	0.38	1.00					
HUM	0.16	0.15	1.00				
HLT	0.31	0.21	0.11	1.00			
UNI	0.12	0.11	0.08	0.17	1.00		
DIVW	0.11	0.11	0.11	0.13	0.15	1.00	
SCH	0.03	0.07	0.05	0.08	0.07	0.13	1.00
ACPT	0.11	0.08	0.17	0.11	0.07	0.11	0.10

Panel C: Correlations between ES Strengths							
	ENV	COM	HUM	HLT	UNI	DIVW	SCH
ENV	1.00						
COM	0.28	1.00					
HUM	0.13	0.19	1.00				
HLT	0.23	0.14	0.09	1.00			
UNI	0.10	0.05	0.02	0.10	1.00		
DIVW	0.24	0.37	0.07	0.17	0.07	1.00	
SCH	0.18	0.22	0.21	0.10	-0.01	0.14	1.00
ACPT	0.08	0.18	0.27	0.23	-0.02	0.11	-0.02

Table 2: Relevance of Social Index Membership

This table presents coefficients from regressions for DS400 index membership. The dependent variable in the regression is the *excess institutional ownership* (EX_{IO}). This table presents results for two regression approaches, namely the Fama-Macbeth (FM) and Panel approach. For the *FM* approach we conduct a cross sectional regression each quarter and then calculate the averages for the time-series of coefficients with Newey-West (1987) corrected standard errors. EX_{IO} in the FM approach for each firm-quarter is calculated as the residual from the cross-sectional regression of the fraction of institution ownership on firm size (measured as log of market capitalization). For the *Panel* approach, pooled panel regressions are conducted for the entire sample. EX_{IO} in the Panel approach is calculated as the residual obtained from the pooled regression of institution ownership on firm size. The PD approach also includes fixed effects for year-quarters. The t-statistic for the coefficient is presented in brackets. The statistical significance at the 1%, 5% and 10% levels are indicated using the ***, ** and * asterisks notation, respectively.

Variable	FM Approach			Panel Approach		
	Full Period [1]	Jan 2001 to Jun 2007 [2]	July 2007 Dec 2013 [3]	Full Period [4]	Jan 2001 to Jun 2007 [5]	July 2007 Dec 2013 [6]
DS400	1.71*** (7.98)	2.27*** (8.99)	1.16*** (7.09)	1.56*** (10.12)	2.48*** (11.16)	0.51** (2.39)
Age	-0.10 (-0.54)	0.42** (2.27)	-0.63*** (-3.87)	-0.07 (-0.68)	0.60*** (3.80)	-1.01*** (-6.69)
Price	6.09*** (10.71)	7.44*** (8.98)	4.74*** (30.61)	5.05*** (32.68)	6.65*** (23.36)	4.09*** (21.90)
BM	0.98*** (3.80)	1.82*** (9.75)	0.14 (1.08)	1.06*** (8.10)	1.67*** (8.69)	0.32* (1.86)
Volatility	3.08*** (2.68)	4.89*** (3.65)	1.26 (0.85)	1.49*** (3.93)	1.95*** (3.31)	0.90 (1.61)
Dividend Yield	-0.10*** (-4.01)	-0.11*** (-3.59)	-0.09** (-2.32)	-0.00*** (-3.56)	-0.03*** (-3.50)	-0.00*** (-5.00)
Turnover	4.57*** (7.98)	5.16*** (10.19)	3.97*** (4.48)	4.04*** (20.47)	4.70*** (15.87)	3.80*** (14.14)
Ret _(t-1, 0) qtr	-0.01 (-0.57)	-0.01 (-1.00)	0.00 (0.12)	-0.01*** (-2.72)	-0.02** (-2.12)	-0.01** (-2.07)
Ret _(t-4, t-1) qtr	-0.00 (-0.14)	-0.00 (-0.44)	0.00 (0.27)	0.00* (1.68)	0.01*** (3.25)	-0.00 (-1.34)
Intercept	-20.15*** (-13.16)	-18.92*** (-9.63)	-21.39*** (-9.73)	-22.19*** (-18.56)	-12.77*** (-8.37)	-22.11*** (-15.09)
Industry FE	✓	✓	✓	✓	✓	✓
Time FE				✓	✓	✓
R-square	0.24	0.27	0.21	0.26	0.28	0.19
Obs	49213	24791	24422	49213	24791	24422

Table 3: Institutional Preferences Across ES Ratings

This table presents coefficients from regressions for various ES issues considered individually. The dependent variable in the regression is the excess institutional ownership (EX_IO). The *Strength* and *Concern* variables are placed together in separate regressions for each ES issue. *Strength* is dummy variable that takes the value 1 for the presence of a strength for a particular ES issue and 0 otherwise. *Concern* is dummy variable that takes the value 1 for the presence of a concern for a particular ES issue and 0 otherwise. The *Net* variable, calculated as Strength minus Concern, is also placed in a separate regression for each ES issue. We present results for two approaches, namely the Fama-Macbeth (FM) and Panel approaches. For the FM approach we conduct a cross sectional regression each quarter and then calculate the averages for the time-series of coefficients with Newey-West (1987) corrected standard errors. EX_IO in the FM approach for each firm-quarter is calculated as the residual from the cross-sectional regression of the fraction of institution ownership on firm size (measured as log of market capitalization) of firm. For the Panel approach, pooled panel regressions are conducted for the entire sample. EX_IO in the Panel approach is calculated as the residual obtained from the pooled regression of institution ownership on firm size. The Panel approach includes fixed effect for year-quarters. A detailed description of the methodology for the FM and Panel approaches is presented in the caption for Table 2. Each regression includes control variables (Age, Price, BM, Volt, Div Yield, Turnover, $Ret_{(t-1, 0) \text{ qtr}}$, $Ret_{(t-4, t-1) \text{ qtr}}$ and Industry fixed effects); their parameter estimates have been suppressed. The t-statistic for the coefficient is presented in brackets. The statistical significance at the 1%, 5% and 10% levels are indicated using the ***, ** and * asterisks notation, respectively.

ES Issue	FM Approach			Panel Approach		
	Net	Strength	Concern	Net	Strength	Concern
Environment (ENV)	1.79*** (8.01)	0.99*** (2.83)	-2.76*** (-11.19)	1.29*** (8.30)	-0.18 (-0.94)	-3.31*** (-15.02)
Human (HUM)	3.46*** (4.73)	6.51*** (3.53)	-3.33*** (-4.78)	2.26*** (7.19)	-1.58*** (-3.39)	-4.32*** (-11.33)
Community (COM)	1.03*** (3.06)	0.94* (1.93)	-1.36*** (-3.73)	0.43** (2.47)	-0.45** (-2.15)	-2.08*** (-7.06)
Miscellaneous:						
Emp. Health and Safety (HLT)	0.32 (1.42)	-0.48 (-1.16)	-0.98*** (-3.29)	0.58*** (3.24)	-1.42*** (-5.54)	-1.70*** (-7.81)
Union Relations (UNI)	1.18* (1.93)	0.09 (0.08)	-2.64*** (-5.49)	0.19 (0.63)	-3.19*** (-7.29)	-2.87*** (-7.18)
Workplace Diversity (DIVW)	1.02*** (3.26)	1.01** (2.49)	-1.49** (-2.47)	0.61*** (4.18)	0.39** (2.39)	-1.27*** (-4.93)
Supply Chain Emp. (SCH)	0.40 (1.14)	-2.27*** (-4.45)	-1.44*** (-3.16)	0.31 (0.98)	-4.07*** (-8.56)	-1.90*** (-5.27)
Anti-corruption (ACPT)	1.36*** (3.86)	-1.09*** (-3.83)	-2.61*** (-4.15)	2.25*** (4.45)	-1.75** (-2.50)	-4.28*** (-7.01)

Table 4: Relevance of a Concern in the Presence of Strength

This table presents coefficients for regression coefficients obtained from separate regressions for each ES issue. *Con_only* is a dummy variable that takes the value 1 when a particular ES concern is present without a corresponding strength for the same ES issue, and 0 otherwise. *Str_only* is a dummy variable that takes the value 1 when a particular ES strength is present without a corresponding concern for the same ES issue, and 0 otherwise. *Both* is a dummy variable that takes the value 1 when strengths and concerns are present together for a particular ES issue, and 0 otherwise. The regressions include control variables. For more details on the methodology please refer to caption for table 3. The t-statistic for the coefficient is presented in brackets. The statistical significance at the 1%, 5% and 10% levels are indicated using the ***, ** and * asterisks notation, respectively.

ES Issue	FM Approach			Panel Approach		
	Con_Only	Str_only	Both	Con_Only	Str_only	Both
Environment (ENV)	-3.18*** (-8.42)	0.55 (1.38)	-1.52*** (-3.07)	-3.45*** (-12.75)	-0.3 (-1.33)	-3.34*** (-11.93)
Human (HUM)	-3.41*** (-4.57)	6.40*** (3.30)	3.51** (2.30)	-4.28*** (-10.56)	-1.48*** (-2.80)	-6.27*** (-8.03)
Community (COM)	-0.53 (-1.15)	1.30** (2.54)	-2.31*** (-4.57)	-1.24*** (-3.66)	-0.04 (-0.19)	-4.63*** (-9.09)
Miscellaneous:						
Emp. Health and Safety (HLT)	-1.08*** (-3.26)	-1.06* (-1.75)	-1.90** (-2.48)	-1.84*** (-7.75)	-1.78*** (-5.12)	-2.76*** (-8.12)
Union Relations (UNI)	-3.07*** (-6.00)	-0.34 (-0.29)	1.53 (1.26)	-3.23*** (-7.86)	-3.64*** (-8.09)	-0.85 (-0.52)
Workplace Diversity (DIVW)	0.08 (0.09)	1.11*** (2.82)	-1.22 (-1.17)	-0.26 (-0.66)	0.58*** (-3.36)	-1.46*** (-4.44)
Supply Chain Emp. (SCH)	-0.89** (-2.50)	-1.02** (-2.14)	-3.84*** (-4.67)	-1.60*** (-4.14)	-2.99*** (-4.88)	-7.09*** (-10.86)
Anti-corruption (ACPT)	-2.56*** (-3.55)	-0.83*** (-7.03)	-4.27*** (-8.78)	-4.10*** (-6.12)	-1.38* (-1.69)	-6.89*** (-6.30)

Table 5: Relevance of ES Concerns

We present analysis for the relevance of various ES Concerns (i.e., no strengths considered). Only coefficients based on the Fama-Macbeth approach are presented here. Please refer to caption for Table 3 for more details on methodology. Panel A looks at the relevance of addition and removal of concerns. The variables *NewCon*, *ContCon* and *RemCon* are placed together in each regression for a particular ES Concern. *NewCon* take the value 1 if a concern exists in the current year, but not in the previous year, and 0 otherwise. *ContCon* take the value 1 if a concern exists in the current year and previous year, and 0 otherwise. *RemCon* take the value 1 for a concern that is non-existent in the current year, but existed in the previous year, and 0 otherwise. Panel B compares regression coefficients for each ES concern considered separately to a combined regression where all ES concern ratings included together. The only ES rating variable is the *Concern* variable, which is a dummy variable that takes the value 1 for existence of an ES concern, 0 otherwise. The column *Individual* refers to Concern coefficients obtained from regressions for each issue separately. *Joint* refers to coefficients for concern variables obtained from a single regression that includes all concern variables together. Due to data constraints, we did not include Anti-corruption in our analyses. The t-statistic for the coefficient is presented in brackets. The statistical significance at the 1%, 5% and 10% levels are indicated using the ***, ** and * asterisks notation, respectively.

ES Concern	Panel A: Response to addition or removal			Panel B: Individual Vs Joint	
	NewCon	ContCon	RemCon	Individual	Joint
Environment (ENV)	-3.12*** (-5.47)	-2.82*** (-9.78)	-0.80 (-0.99)	-2.63*** (-9.99)	-2.29*** (-8.11)
Human (HUM)	-0.37 (-0.27)	-3.12*** (-4.52)	2.37 (0.80)	-3.21*** (-4.52)	-2.24*** (-3.47)
Community (COM)	-3.27 (-1.25)	-1.40*** (-3.44)	-2.50 (-1.15)	-1.28*** (-3.49)	-0.03 (-0.08)
Miscellaneous					
Emp. Health and Safety (HLT)	0.44 (0.71)	-0.85* (-1.92)	0.74 (0.70)	-0.87*** (-3.23)	-0.24 (-1.01)
Union Relations (UNI)	-3.82*** (-2.98)	-1.89*** (-3.04)	2.35 (0.97)	-2.62*** (-5.19)	-1.96*** (-3.90)
Workplace Diversity (DIVW)	-2.40 (-1.58)	-1.48*** (-2.74)	-0.42 (-0.46)	-1.34** (-2.05)	-0.48 (-0.73)
Supply Chain Emp. (SCH)	-0.57 (-0.57)	-1.56*** (-2.89)	-0.84 (-0.58)	-1.40** (-2.65)	-0.77 (-1.52)

Table 6: ES Preferences Across Sub-Periods and Horizons of Institutional Investors

This table presents the coefficients for Strength and Concern variables for each ES Issue, similar to Table 3. Only coefficients based on the Fama-Macbeth approach are presented here. Please refer to caption for Table 3 for more details. In Panel A, we split the 52 quarter (13 years) sample into two halves to analyze significant changes in preferences. In Panel B, we categorize institutions based on their investment horizon. We follow Yan and Zhang (2009) to classify institutional investors into the short and longer term investors. Agg IO (Avg IO) is calculated as institutional ownership aggregated (averaged) across all stock each quarter and then averaged across all quarters. The t-statistic for the coefficient is presented in brackets. The statistical significance at the 1%, 5% and 10% levels are indicated using the ***, ** and * asterisks notation, respectively.

ES Issue	Panel A: By Sub-periods				Panel B: By Institutional Horizon			
	First Half		Second Half		Longer Term		Short Term	
	(Jan 2001 - Jun 2007)		(Jul 2007 - Dec 2013)		Agg IO = 55.13% Avg IO = 57.05%		Agg IO = 11.16% Avg IO = 15.81%	
	Strength	Concern	Strength	Concern	Strength	Concern	Strength	Concern
Environment (ENV)	1.79*** (5.16)	-3.06*** (-8.18)	0.19 (0.47)	-2.46*** (-9.08)	1.13*** (4.04)	-3.23*** (-14.48)	-0.21 (-1.05)	0.42** (2.34)
Human (HUM)	9.62*** (4.12)	-3.48*** (-2.95)	3.40 (1.55)	-3.17*** (-4.18)	4.09*** (2.79)	-4.11*** (-8.22)	2.28*** (4.78)	0.67** (2.33)
Community (COM)	1.26 (1.44)	-1.06* (-2.01)	0.62* (1.78)	-1.66*** (-3.51)	0.24 (0.47)	-2.08*** (-4.95)	0.64** (2.23)	0.76** (2.60)
Miscellaneous								
Emp. Health and Safety (HLT)	-0.16 (-0.47)	-0.71*** (-4.81)	-0.71 (-1.10)	-1.17** (-2.47)	-1.27*** (-4.10)	-0.95** (-2.28)	0.75*** (2.88)	-0.20 (-1.01)
Union Relations (UNI)	2.90*** (2.97)	-2.34*** (-4.15)	-2.72** (-2.41)	-2.94*** (-3.87)	0.87 (0.85)	-2.74*** (-5.51)	-0.81*** (-3.18)	0.07 (0.29)
Workplace Diversity (DIVW)	1.83*** (3.49)	-2.19** (-2.76)	0.19 (0.46)	-0.79 (-0.95)	0.33 (1.02)	-1.84*** (-3.52)	0.59*** (3.99)	0.33 (1.35)
Supply Chain Emp. (SCH)	-2.65** (-2.75)	-1.22** (-2.56)	-1.94*** (-4.36)	-1.63** (-2.24)	-3.35*** (-4.67)	-2.02*** (-3.89)	1.18 (1.33)	0.50** (2.22)
Anti-corruption (ACPT)	NA	NA	-1.09*** (-3.83)	-2.61*** (-4.15)	-0.93*** (-3.79)	-4.42*** (-6.81)	-0.18 (-0.52)	1.70*** (21.67)

Table 7: Institutional Preference for Controversial Products

This table presents the analysis of institutional ownership of stocks with controversial products. Panel A presents summary statistics on various controversial products. *% No* refers to percentage of firms the Russell 1000 that are associated with particular controversial products. *% Cap* uses market capitalization instead of number of firms. *Agg IO (Avg IO)* refers to aggregate (average) institutional ownership expressed as percentage of market capitalization. Each statistic was averaged across the quarters during the period 2001-2013. Panel B presents coefficients from regressions that include each individual controversial product separately. The columns, *ALC (Alcohol)*, *TOB (Tobacco)*, *GAM (Gambling)*, *MIL (Military)*, *NUC (Nuclear)* and *FIR (Firearm)*, refer to the controversial product in the regression. *Controversial Product* is an indicator variable that takes the value of 1 if the firm produces the controversial product in the column header, and zero otherwise. *Similar Industry* is an indicator variable that captures a broader set of industries considered somewhat similar to each controversial product type and includes the relevant controversial product itself. The dependent variable in the regression is the excess institutional ownership (EX_IO), which is calculated as the residual from the cross-sectional regression of the fraction of institution ownership on firm size (measured as log of market capitalization). We present results for Fama-Macbeth (FM) approach. Each regression includes unreported control variables (Age, Price, BM, Volatility, Dividend Yield, Turnover, $Ret_{(t-1, 0) \text{ qtr}}$, and $Ret_{(t-4, t-1) \text{ qtr}}$). The t-statistic for the coefficient as presented in brackets are calculated using Newey-West (1987) corrected standard errors. The statistical significance at the 1%, 5% and 10% levels are indicated using ***, ** and *, respectively.

Panel A: Summary Statistics			
Category	Statistic	Controversial Product	Other
Alcohol (ALC):	% No	1.49	98.51
	% Cap	2.85	97.15
	Agg IO	61.82	67.27
	Avg IO	67.69	73.82
Tobacco (TOB):	% No	0.99	99.01
	% Cap	2.67	97.33
	Agg IO	62.71	67.34
	Avg IO	73.58	73.74
Gaming (GAM):	% No	1.98	98.02
	% Cap	1.72	98.28
	Agg IO	68.07	67.10
	Avg IO	70.84	73.81
Nuclear (NUC):	% No	3.39	96.61
	% Cap	4.71	95.29
	Agg IO	58.59	67.50
	Avg IO	63.11	74.10
Military (MIL):	% No	0.23	99.77
	% Cap	0.35	99.65
	Agg IO	75.56	67.16
	Avg IO	82.31	73.72
Firearms (FIR):	% No	4.68	95.32
	% Cap	9.37	90.63
	Agg IO	65.24	67.36
	Avg IO	74.84	73.70

**Table 7: Institutional Preference for Controversial Products
(Continued)**

Panel B: Institutional Investor Preference						
Variable	ALC	TOB	GAM	NUC	MIL	FIR
Controversial Product	-1.64*** (-2.74)	3.26** (2.13)	-3.78** (-2.32)	-5.14*** (-5.52)	0.37 (0.56)	0.73 (0.29)
Similar Industry	-4.06*** (-7.95)	-4.58*** (-7.34)	3.38*** (8.55)	-2.84*** (-5.02)	2.19*** (7.56)	4.12*** (10.88)
R-square	0.14	0.14	0.14	0.14	0.14	0.14
Obs	49213	49213	49213	49213	49213	49213

Table 8: Controversial Product and Economic Incentives

This table presents regression coefficients for CPROD (refer caption for Table 7, Panel B for details) variable obtained from separate regressions to each sub-period for a given controversial product. The column *All* refers to coefficient for all institutions aggregated together. The columns *Longer* and *Short* refers to coefficient obtained from separate regressions conducted for institutions categorized based on their time horizon. We follow Yan and Zhang (2009) to classify institutional investors into the short and longer term (i.e. medium and long term) investors. *Industry News* refer to the type of news for the stock's industry relative to previous sub-period ("Better" or "Worse") with the first sub-period in our sample labelled as "Initial". The t-statistic for the coefficient is presented in brackets. The statistical significance at the 1%, 5% and 10% levels are indicated using the ***, ** and * asterisks notation, respectively. The significance level for test of differences (Ttest) across coefficient are determined based on a F-statistic.

Stock Type	Sub-periods	Description of Sub-periods	Industry News	By Horizon		
				All	Longer	Short
<u>Tobacco</u>	T1: Jan'01 to June'09	Prior to FSPTC Act (June 22, 2009)	Initial	6.70*** (7.09)	8.58*** (8.02)	-1.63*** (-3.06)
	T2: July'09 to Dec'13	Post FSPTC Act	Worse	-2.24*** (-9.15)	-2.61*** (-9.10)	0.26 (0.79)
	Test: T2 -T1			-8.94***	-11.19***	1.89***
<u>Gambling</u>	T1: Jan'01 to Dec'07	Growing U.S. gambling industry	Initial	-1.55 (-1.13)	-3.14** (-2.54)	1.52*** (5.20)
	T2: Jan'08 to Dec'11	Great recession and sluggish US gambling industry.	Worse	-8.57*** (-18.72)	-8.57*** (-17.86)	-0.14 (-0.63)
	T3: Jan'12 to Dec'13	Recovery and stabilization of revenue for U.S. gaming industry	Better	-1.98*** (-3.23)	-2.73*** (-4.87)	0.86*** (2.87)
	Test: T2 -T1			-7.02***	-5.43***	-1.66***
Test: T3 -T2			6.59***	5.84***	1.00***	
<u>Nuclear</u>	T1: Jan'01 to July'05	Prior to Energy Policy Act (Aug 8, 2005)	Initial	-8.51*** (-8.81)	-7.03*** (-10.48)	-1.36*** (-3.17)
	T2: Aug'05 to Dec'13	Post Energy Policy Act	Better	-3.35*** (-11.92)	-3.19*** (-13.32)	-0.20 (-1.29)
	Test: T2 -T1			5.16***	3.84***	1.16***
<u>Military</u>	T1: Jan'01 to Oct'08	President George W. Bush (1st and 2nd term)	Initial	1.64*** (3.46)	0.31 (0.90)	1.38*** (7.02)
	T2: Nov'08 to Dec'13	President Barack Obama elected on Nov 4, 2008	Worse	-1.50*** (-7.46)	-2.41*** (-16.18)	0.87*** (5.18)
	Test: T2 -T1			-3.14***	-2.72***	-0.51***
<u>Firearms</u>	T1: Jan'01 to Aug'04	Federal Assault Weapons Ban (FAWB) Act active.	Initial	-9.69*** (-11.69)	-12.56*** (-8.83)	2.88** (2.60)
	T2: Sep'04 to Nov'12	FAWB Act expired on Sept 13, 2004.	Better	6.63*** (5.57)	6.38*** (6.32)	0.62 (0.83)
	T3: Dec'12 to Dec'13	Presidential action after Sandy Hook School shooting in 12/2012.	Worse	-9.02*** (-8.95)	-6.37*** (-7.71)	-2.45*** (-3.82)
	Test: T2 -T1			16.32***	18.94***	-2.26***
Test: T3 -T2			-15.65***	-12.75***	-3.07***	

Table 9: ES Issues and Firm Value

This table presents relationship between ES ratings and firm value measured by the Tobin's Q (adjusted by median industry estimate) using the Fama-Macbeth approach. The regression coefficient presented below are obtained from separate analysis for each individual ES issue. We conduct annual cross-sectional regressions with Q being the dependent variable regressed on annual ES Concern and ES Strength variables. The time series averages of the coefficients with Newey-West corrected standard errors are presented below. Specifications (1) and (2) include both concern and strength ratings, while specifications (3) and (4) include only concern rating. In specifications (1) and (3) there are no firm level controls. In specifications (2) and (4) we control for the following firm specific characteristics: Sales Growth, Leverage, ROA, R&D/Sales, Advertising/Sales, Missing dummies for R&D expenditure and Advertising, Log(Age), Delaware incorporation dummy, SP500 dummy and Log(Mkt Cap). The statistical significance at the 1%, 5% and 10% levels are indicated using the ***, ** and * asterisks notation, respectively.

Issue	(1) [No Controls]		(2) [Controls]		(3) [No Controls]	(4) [Controls]
	Concern	Strength	Concern	Strength	Concern	Concern
ENV	-0.43*** (-11.56)	-0.06* (-1.82)	-0.26*** (-8.24)	-0.09** (-2.62)	-0.45*** (-11.46)	-0.27*** (-9.01)
HUM	-0.25*** (-4.36)	-0.14 (-1.12)	-0.43*** (-9.01)	-0.13 (-1.20)	-0.25*** (-4.27)	-0.43*** (-9.38)
COM	-0.35*** (-8.23)	-0.06 (-1.56)	-0.20*** (-4.96)	-0.25*** (-6.53)	-0.36*** (-8.83)	-0.21*** (-4.98)
Miscellaneous:						
HLT	-0.33*** (-12.52)	-0.15** (-2.69)	-0.20*** (-7.41)	-0.26*** (-6.08)	-0.39*** (-9.76)	-0.26*** (-6.69)
UNI	0.05 (1.66)	-0.02 (-0.29)	-0.14*** (-4.55)	-0.21*** (-4.39)	0.07*** (3.18)	-0.17*** (-6.23)
DIVW	-0.27*** (-4.27)	-0.29*** (-6.02)	-0.18*** (-3.18)	-0.16*** (-6.03)	-0.29*** (-5.16)	-0.19*** (-3.48)
SCH	-0.24*** (-4.03)	0.01 (0.16)	-0.19*** (-3.25)	-0.10*** (-4.21)	-0.24*** (-5.09)	-0.20*** (-3.47)
ACPT	-0.42** (-24.57)	-0.19 (-4.43)	-0.34** (-15.57)	-0.20 (-3.06)	-0.44** (-25.85)	-0.35** (-16.99)

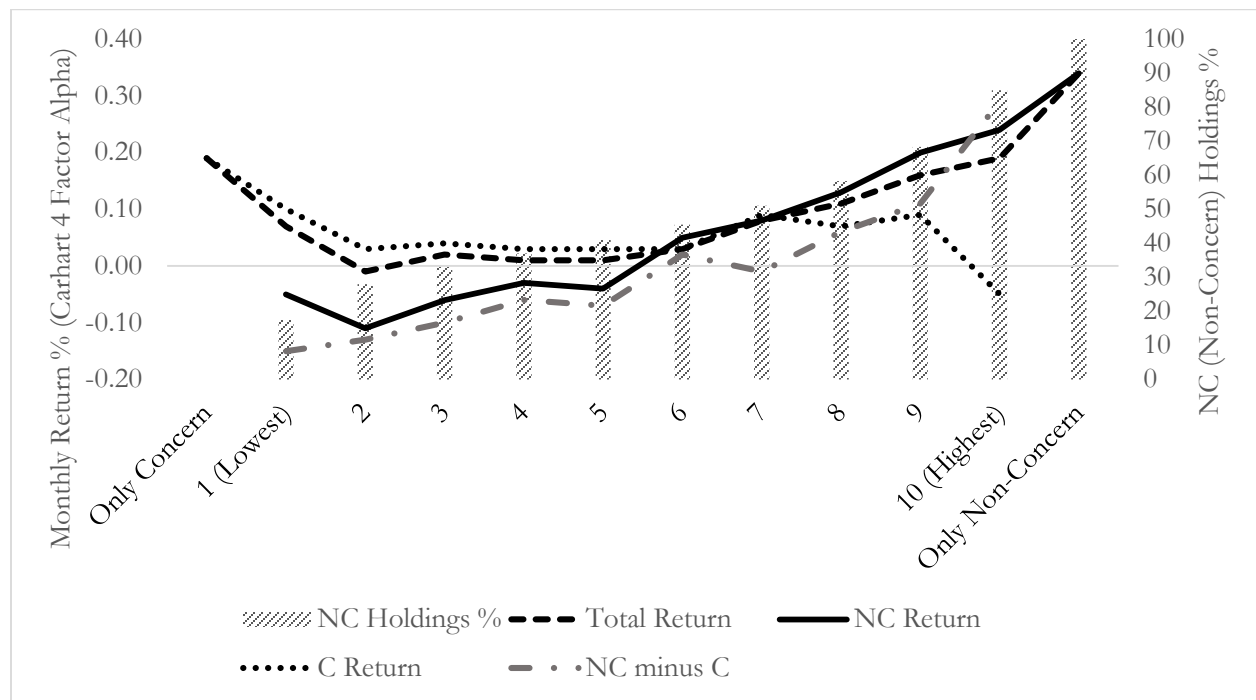
Table 10: Institutional Performance and ES Concern Avoidance

This table presents monthly Carhart (1997) four factor abnormal returns for institutional investor categories across the following portfolios components: [1] *Full*: Entire portfolio (i.e. both non-concern and concern stocks), [2] *NC*: Non-Concern component, [3] *C*: Concern component. Concern stocks are stocks with at least one EC concerns; the remainder are categorized as Non-Concern stocks. *Total* refers to the performance for the entire portfolio (including both, NC and C). The paired difference (NC-C) can only be calculated by institutions that invest more than 0 percent and less than 100 percent in NC (Non-Concern stocks). As institutional holdings are reported quarterly, we calculate each institution's monthly portfolio returns assuming that the portfolio holdings for each institution remain static each quarter. *Manager Category* refers to annual classification of institutional investors based on *NC Fraction*, which is the portion of each institution's quarterly portfolio invested in Non-Concern stocks. We average the fraction annually, consistent with the annual frequency of our ES ratings data. We classify institutional investors annually across the following categories: [1] *Only Concern*: Managers that invest the entire portfolio only in concern stocks (i.e. 0% in NC stocks), [2] *Only Non-Concern*: Managers that invest the entire portfolio only in non-concern stocks (i.e. 100% in NC stocks), and [3] *Quintiles 1 (Low NC) to 5 (High NC)*: Managers that invest more than a 0% but less than 100% in NC stocks are ranked into quintiles based on NC Fraction, with 1 being the lowest and 5 being the highest quintile. *Avg NC Fraction* refers to the average of the annual NC fraction across institutions in each category, which is then averaged across all 13 years in our sample. *Obs (Manager yrs)* refers to number of managers-years observations. The statistical significance at the 1%, 5% and 10% levels are indicated using the ***, ** and * asterisks notation, respectively.

Manager Category	Avg NC Fraction (%)	Obs (Manager yrs)	Total	Non-concern (NC)	Concern (C)	Diff: (NC - C)
Only Concern	0	700	0.19 [0.98]		0.19 [0.98]	
1 (Low)	22.73	6886	0.03 [0.84]	-0.08 [-1.20]	0.06 [1.15]	-0.14 [-1.37]
2	35.04	6896	0.01 [0.50]	-0.04 [-0.71]	0.04 [0.71]	-0.08 [-0.78]
3	43.26	6894	0.02 [0.63]	0.00 [0.05]	0.03 [0.55]	-0.02 [-0.27]
4	54.66	6896	0.10* [1.94]	0.11 [1.55]	0.08 [1.22]	0.03 [0.29]
5 (High)	76.63	6888	0.17** [2.22]	0.22** [2.51]	0.02 [0.25]	0.20** [2.25]
Only Non-Concern	100	1138	0.34** [1.99]	0.34** [1.99]		
Diff: High - Low			0.14* [1.67]	0.30*** [4.35]	-0.04 [-0.49]	0.34*** [3.49]
Diff: High minus Only Concern					-0.17 [-1.08]	
Diff: Only Non-Concern minus Low				0.42** [2.35]		

Figure 1: Portfolio Performance Based on Non-Concern (NC) Holdings

This figure presents monthly Carhart (1997) four factor abnormal returns of institutional investors in their overall portfolio (*Total*) as well as portfolio sub-components, Concern (C) and Non-Concern (NC) holdings. For details on methodology, please refer to caption for table 10. Institutions have been classified based on their NC holdings. *Only Concern* refers to managers that invest the entire portfolio only in concern stocks (i.e. 0% in NC stocks). *Only Non-Concern* refers to managers that invest the entire portfolio only in non-concern stocks (i.e. 100% in NC stocks). *Deciles 1 (Low) to 10 (High)* refers to managers that invest more than a 0% but less than 100% in NC stocks. They are ranked into deciles based on NC fraction, with 1 being the lowest and 10 being the highest decile. *NC Fraction* is the portion of each institution’s quarterly portfolio invested in Non-Concern stocks. We average the fraction annually, consistent with the annual frequency of our ES ratings data. Unlike Table 10, this figure presents details across institutions classified into deciles (as opposed to quintiles in table 10), to highlight the monotonic trends.



Appendix Table A1: List of Ratings

Rating Description	Available since
<u>Environment Strengths: (ENV_STR)</u>	
- Environmental Opportunities, Clean Technology	2001
- Toxic Emissions and Waste	2001
- Packaging Materials & Waste	2001
- Climate Change, Carbon Emissions	2001
<u>Environment Concerns: (ENV_CON)</u>	
- Toxic Emissions and Waste	2001
- Impact of Products and Services (includes ozone depletion and agricultural chemicals)	2001
- Regulatory Compliance	2001
<u>Human Strengths: (HUM_STR)</u>	
- Indigenous Peoples Relations	2001
- Human Rights Policies & Initiatives	2001
<u>Human Concerns: (HUM_COM)</u>	
- Human Rights Violations and Indigenous People Relations	2001
- Freedom of Expression and Censorship	2012
- Other Concerns	2001
<u>Community Strengths: (COM_STR)</u>	
- Innovative Giving	2001
- Community Engagement	2010
<u>Community Concerns: (COM_CON)</u>	
- Community Impact	2001
<u>Miscellaneous Issues:</u>	
Employee Health and Safety Strengths (HLT_STR)	2003
Employee Health and Safety Concerns (HLT_CON)	2001
Union Relations Strengths (UNI_STR)	2001
Union Relations Concerns (UNI_CON)	2001
Workplace Diversity Strengths (DIVW_STR)	2001
Workplace Diversity Concerns (DIVW_CON)	2001
Supply Chain Employee Strengths (SCH_STR)	2002
Supply Chain Employee Concerns (SCH_CON)	2001
Anti-Corruption Strengths (ACPT_STR)	2012
Anti-Corruption Concerns (ACPT_CON)	2012
<u>Controversial Products:</u>	
Alcohol (ALC)	2001
Tobacco (TOB)	2001
Gaming (GAM)	2001
Nuclear (NUC)	2001
Military (MIL)	2001
Firearm (FIR)	2001

Appendix Table A2: ES Preferences Across Types of Institutional Investors

This table reports ES preferences across various institutional investor types. The table follows the approach in Table 5, Panel B. Here institutional investors classified on the following structures: banks, insurers, mutual funds, independent investment advisors (IIA), pension funds and others. Only coefficients based on the Fama-Macbeth approach are presented here. Please refer to caption for table 3 for more details. The p-values for significance at the 1%, 5% and 10% levels are indicated using the ***, ** and * asterisks notation, respectively.

Classification by institutional structure												
	Banks		Insurers		Mutual Funds		IIAs		Pension Funds		Others	
Aggregate IO	14.65%		4.48%		12.06%		29.49%		3.33%		2.71%	
Average IO	12.66%		4.22%		13.12%		36.97%		3.26%		3.13%	
	Strength	Concern	Strength	Concern	Strength	Concern	Strength	Concern	Strength	Concern	Strength	Concern
ENV	0.22*** (2.81)	-0.83*** (-8.98)	0.15 (1.41)	-0.18 (-1.39)	0.16 (0.91)	-0.70*** (-4.47)	0.84** (2.35)	-0.53*** (-3.21)	-0.24*** (-6.43)	-0.47*** (-6.96)	-0.16*** (-5.28)	-0.28*** (-7.06)
HUM	-0.33 (-0.98)	-1.18*** (-5.45)	0.57** (2.25)	0.41 (1.06)	0.99*** (3.18)	-1.41*** (-6.70)	3.92*** (3.98)	-0.06 (-0.17)	-0.09 (-1.17)	-0.71*** (-6.50)	1.54*** (4.10)	-0.23** (-2.21)
COM	-0.27** (-2.39)	-0.99*** (-15.99)	0.21 (1.06)	0.03 (0.24)	-0.17* (-1.73)	-0.43*** (-4.00)	1.37*** (5.20)	0.49* (1.89)	-0.34*** (-10.83)	-0.40*** (-7.60)	0.03 (0.60)	-0.09 (-1.30)
Miscellaneous:												
HLT	-0.36*** (-3.61)	0.14 (0.96)	-0.10 (-0.71)	-0.17 (-1.20)	-0.02 (-0.10)	-0.40** (-2.15)	0.65 (1.57)	-0.66** (-2.35)	-0.39*** (-4.89)	0.14 (0.69)	-0.22*** (-3.41)	-0.10 (-0.89)
UNI	-0.35** (-2.04)	-1.07*** (-10.06)	-0.18 (-0.76)	-0.32*** (-2.80)	1.40** (2.50)	-0.56** (-2.02)	-0.27 (-0.51)	-0.27 (-0.87)	-0.12*** (-3.32)	-0.25*** (-9.23)	-0.28*** (-3.06)	-0.18 (-1.60)
DIVW	-0.20*** (-3.82)	-0.41** (-2.48)	0.12 (1.21)	-0.14 (-1.39)	-0.07 (-0.45)	-0.63*** (-3.15)	1.31*** (7.18)	-0.09 (-0.22)	-0.04 (-0.54)	-0.39*** (-6.88)	-0.17*** (-3.82)	0.23* (1.94)
SCH	-2.70*** (-5.19)	-0.30 (-1.01)	-0.84*** (-3.16)	0.38*** (4.51)	0.82 (1.27)	-0.72** (-2.41)	0.46 (0.82)	-0.89* (-1.74)	-0.10 (-1.51)	-0.21*** (-3.81)	0.03 (0.09)	0.26 (0.94)
ACPT	-0.65*** (-5.31)	-1.08*** (-8.78)	-0.35*** (-8.79)	-0.23** (-3.02)	-0.05 (-0.17)	-1.11*** (-10.49)	-1.42 (-1.81)	-0.12 (-0.32)	0.81** (3.47)	-0.45*** (-8.31)	0.33*** (4.24)	-0.13 (-1.07)