

A Tale of Values-Driven and Profit-Seeking Social Investors

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Abstract

A segmentation of the socially responsible investing (SRI) movement by values-versus-profit orientation solves the puzzling evidence that both socially responsible and controversial stocks produce superior returns. We derive that the segment of values-driven investors, who are willing to sacrifice financial return to derive non-pecuniary utility, is primarily served by “negative” screens that avoid controversial stocks. Consistent with values affecting stock prices, controversial stocks produce anomalously positive returns. The profit-driven segment is best served by specific “positive” screens involving environmental and social issues, which also have produced superior returns. The finding that each segment is served by a different form of SRI explains why the average SRI mutual fund, which adopts a mixture of screens, neither outperforms nor underperforms conventional peers. Our conclusions highlight that different views about SRI that are observed in the literature are complementary in the short run, which begs the question whether SRI should be the only term for different types of social investment practices. However, economic theory predicts that profit-generating opportunities disappear in the long run, which is supported by our empirical analysis over the period 1992-2008.

Keywords: Investor Behavior, Values, Socially Responsible Investing (SRI), Risk, Return.

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1. Introduction

Socially responsible investing (SRI) has undergone a tremendous development ever since it emerged as a faith-based initiative in the eighteenth century. SRI nowadays attracts the attention of governments, universities, foundations, public pension funds, and mainstream asset managers. Consequently, SRI extended from a religious investment to a broader concept, reflecting a wider range of investment criteria and objectives that meet the needs of different interest groups. These developments have caused confusion about what SRI nowadays constitutes and which purposes it serves.

SRI is typically understood as a “values-driven” investment approach, in which the decision to integrate corporate social responsibility (CSR) criteria into investment decisions is grounded in social and personal values instead of financial considerations.¹² This view implies that investors accept a loss of financial performance in exchange for nonfinancial utility derived from the SRI attribute of their investment. But according to the latest wave within the SRI movement, SRI can be seen as a “profit-seeking” approach that accommodates investors in their pursuit of traditional financial goals. The U.S. Social Investment Forum (SIF (2005, p. 2)), for example, defines SRI as “an investment process that considers the social and environmental consequences of investments, both positive and negative, within the context of rigorous financial analysis.”

Understanding which views are borne out in reality is crucial for research that focuses on the implications of SRI for financial markets. On the theory side, researchers have shown that investors who pursue nonfinancial goals affect asset prices and returns differently compared to the traditional wealth-maximizing investor (e.g., Heinkel, Kraus, and Zechner (2001), Fama and French (2007), Statman, Fisher and Anginer (2008), and Hong and Kacperczyk (2009)). The “shunned-stock hypothesis” says that socially controversial stocks have superior returns because they are shunned by values-driven investors who push their prices below those of responsible stocks, all else equal. In contrast, the “errors-in-expectations hypothesis” predicts that socially responsible stocks have higher risk-adjusted returns because

¹ The term “values-driven” is used throughout this paper to refer to any social investment that is rooted in non-pecuniary motivations.

² Carroll (1991) refers to CSR as “a business entity’s attention to and fulfillment of responsibilities to multiple stakeholders which exist at various levels: economic, legal, ethical, and philanthropic” SRI relates to CSR because socially responsible investors essentially evaluate companies’ CSR characteristics to determine the social responsibility level of their investment portfolios.

the market is slow to recognize the positive impact that strong CSR practices have on companies' expected future cash flows (e.g., Edmans (2009), Pantzalis and Park (2009)).

On the empirical side, an overwhelming body of research has tested these different predictions. Some evidence points out that socially controversial stocks have earned anomalously positive returns, but other evidence suggests that stocks of companies with high scores on environmental and social responsibility issues outperform companies with low scores. However, studies also conclude that SRI mutual funds neither outperform nor underperform their conventional peers, even after expenses.

In the debate about SRI performance, surprisingly little attention is given to the fact that SRI has over time been shaped by various movements. Much of the confusion emerges from researchers' implicit assumption that socially responsible investors form a homogeneous group, so that only one SRI doctrine can hold. The main contributions of this paper to the SRI literature are that we suggest that a breakdown of the SRI movement by values-versus-profit orientation solves the puzzling evidence that both controversial stocks and socially responsible stocks have produced anomalously positive returns. From a synthesis and reinterpretation of the SRI literature, we derive that the empirical evidence on SRI performance accords with an SRI movement that consists of *both* values-driven and profit-seeking investors. We base this insight on a common thread that runs through studies that investigate different motivations among socially responsible investors and their effects on firms' ownership structure, money flows, and stock prices. Finally, we examine empirically the economic consequences of the suggested segmented SRI market by testing the errors-in-expectations as well as the shunned-stock hypothesis over time. That is, although it is important to acknowledge that motives among socially responsible investors differ, economic logic teaches us that not all views of SRI can co-exist in the long-run. Values-driven motives among investors are arguably pervasive, whereas errors in expectations ultimately disappear as investors learn about the sources of firms' future cash flow.

The key insights that we derive can be summarized as follows. First, studies show that the market for SRI can broadly be broken up into a values-driven and a profit-seeking segment. Values-driven investors theoretically affect stock prices for reasons unrelated to firms' future cash flows because they appear to be present in significant numbers. Moreover, while most studies segment social investors based on personal characteristics, we introduce a segmentation based on investment screens that guides us in examining whether values affect

prices. We conclude that the non-pecuniary goals of the values-driven segment are served by so-called “sin screens” and other “ethical” SRI screens. In line with the shunned-stock hypothesis, studies consistently find that stocks excluded as a result of these types of screens produce positive abnormal returns.

Second, there is mounting evidence that socially responsible investment practices other than sin screens and ethical screens serve the needs of the profit-seeking segment of the SRI market. In support of the errors-in-expectations hypothesis, several studies indicate that companies that pass “positive screens”, with positive scores on environmental and responsibility issues, have produced superior stock returns and positive earnings surprises.

Third, the observation that each hypothesis finds support in a different form of SRI calls for an important reinterpretation of studies on the performance of socially responsible mutual funds. Finding that risk-adjusted returns of SRI funds are similar to those of their conventional peers is usually taken to imply that “the market does not price social responsibility characteristics” (Hamilton, Jo, and Statman (1993), p. 66). Because most SRI funds reflect a hybrid of negative and positive social responsibility screens, we contend that their performance implies further support, instead of a rejection, of both hypotheses.

Fourth, to strengthen our identification of the two SRI segments, we empirically show that values-driven SRI and profit-seeking SRI exhibits different patterns in risk-adjusted return over time. To distinguish values-driven SRI from profit-seeking SRI, we focus on two types of portfolio construction that have a distinct ability to earn positive abnormal returns according to earlier studies. The first portfolio comprises shunned stocks, while the second portfolio is composed of stocks that score high on employee relations. Our findings are that during the sample period 1992-2008 the abnormal returns on shunned stocks have been consistently positive, constant and economically significant across different periods, while those of stocks that score high on positive employment screens have decreased considerably over time. We discuss the implications of these conclusions for future research and for SRI in practice.

The paper proceeds as follows. In Section 2, we translate theoretical views on socially responsible investing into formal hypotheses about the performance of SRI. Since each hypothesis assumes on a specific type of socially responsible investor, Section 3 synthesizes the empirical evidence on the nature and goals of SRI, as witnessed from surveys, ownership

studies, and investments in mutual funds. Section 4 shows whether the different hypotheses and descriptions of the socially responsible investor find support in studies up to this point on the performance of SRI. In Section 5, we focus on the prevalence of values-driven and profit-seeking SRI in the short-run versus the long-run. Specifically, we present new empirical evidence on how the performance of controversial stocks and that of socially responsible stocks evolves over time. Section 6 summarizes and concludes this study.

2. SRI and stock prices: hypotheses

Studies that have attempted to explain how SRI relates to stock prices have proceeded along distinct fronts. In this section, we discuss different hypotheses on the performance of SRI relative to the performance of conventional stocks, which we label as follows: (i) the shunned-stock hypothesis, and (ii) the errors-in-expectations hypothesis.

2.1. The shunned-stock hypothesis

The shunned-stock hypothesis assumes that socially responsible investors choose asset holdings for reasons unrelated to the profit motive, i.e., a values-driven investor. When social investors care about the non-pecuniary aspects of their investments they will create a shortage of demand for irresponsible assets and/or excess demand for responsible assets, which can be consequential to the behavior of stock prices.³

Several studies suggest that the effect of values-driven SRI on stock prices can be understood by means of Merton's (1987) incomplete information model and related literatures on segmented capital markets. In Merton (1987), market segmentation is the result of an information asymmetry that causes a stock to be neglected by investors (because they are not aware of the stock), and these stocks trade at a discount because they have a smaller investor base, which implies limited risk sharing. Using this logic, Angel and Rivoli (1997) predict that a socially controversial stock that is shunned by investors has a higher expected return, and that the expected return increases with the proportion of socially responsible investors in the market.

³ Most theoretical views implicitly assume that the resulting transfer of wealth from values-driven investors to other investors is not large enough to weaken the effect on demand and supply.

Hong and Kacperczyk (2009) follow a similar reasoning but are more specific about the types of stocks that are disliked by socially responsible investors who care about more than wealth alone. They hypothesize that “sin” stocks (i.e., stocks of companies that profit from tobacco, alcohol, and gambling) are in conflict with societal norms and therefore shunned by institutional investors that are vulnerable to public opinion, such as public pension funds. They predict that by not buying sin stocks, these norm-constrained investors cause sin stocks to be relatively cheaper, all else equal, and to have higher expected returns.

Related to this logic is a theoretical paper by Heinkel, Kraus and Zechner (2001), in which the authors derive an equilibrium model that explains how a stock boycott by the so-called “green,” i.e., eco-conscious, investors limits the risk-sharing opportunities of those invested in environmentally controversial firms. Consequently, because of their inability to share risks with green investors, shareholders of controversial companies receive a compensation for holding more shares of environmentally controversial firms than they would if the market were free of boycotts.⁴

Because the CAPM may not hold under segmented markets, shunned stocks may also have a higher expected return because of higher idiosyncratic risk. Litigation risk is an example of a risk frequently associated with corporate social responsibility that can be diversified away under traditional models of expected return, but can be priced in a segmented market. According to Orlitzky and Benjamin (2001), the prevalence of litigation and regulatory-intervention risks associated with CSR is evident in the “lawsuits against various air and water polluters, cigarette manufacturers, harvesters of old-growth redwoods, and wetlands developers.” Although it is not entirely clear how economically meaningful litigation risk is from an investor’s perspective, Hong and Kacperczyk (2009) suggest that sin stocks’ returns might compensate investors for heightened litigation risk associated with tobacco, alcohol, and gaming products.

The shunned-stock hypothesis in the context of SRI rests on two assumptions that lay the groundwork for some important empirical tests. The first assumption is that social investors are values-driven, i.e., they receive a non-financial payoff from their decision to shun controversial stocks. Although it is unavoidably difficult to understand the breadth of

⁴ Also, Fama and French (2007) suggest that these and other models that describe the price effects of “tastes” for socially responsible investments have much in common with models of disagreement among investors about future payoffs on assets, with the exception that “tastes” are exogenous and pervasive while disagreement should eventually disappear.

motivations behind investors' trades, examples of non-pecuniary reasons for holding assets are plentiful: vulnerability to societal norms and public opinion (e.g., Malkiel and Quandt (1971), Teoh, Welch, and Wazzan (1998), Woidtke (2002), Hong and Kacperczyk (2009)), political values (Hong and Kostovetsky (2009)), the "psychic" and "emotional" return associated with assets (Beal and Goyen (1998)), "affect" (Statman, Fisher, and Anginer (2008)), faith-based principles (e.g., Statman (2005)), and the goal of encouraging responsible corporate behavior (e.g., Haigh and Hazelton (2004), and Landier and Nair (2008)).

The second assumption underlying the shunned-stock effect of SRI is that for values-driven investors to affect security prices, they must be large enough in number. Heinkel, Kraus and Zechner (2001), using their "green" investment model, suggest that 10 percent of the financial market should represent investors who engage in SRI for reasons unrelated to financial payoff.

The size of the SRI population also matters for determining whether the stock price effect of SRI is sufficiently large to encourage companies to improve their CSR. Heinkel, Kraus, and Zechner (2001) indicate that the proportion of green investors in the economy eventually decides whether a company will convert from a polluting technology to a clean one. As soon as the effects on the polluting firms' prices, and hence cost of capital, exceeds the cost of capital of firms that use a clean technology, the polluting firms will decide to turn to more environmentally friendly technology. A calibration of their model with empirically reasonable parameters indicates that about 25 percent of the investors who screen out stocks based on a set of criteria that they all agree upon is the level necessary to persuade a company to change behavior. This result implies that the 10 percent of total assets under professional management that is currently invested according to SRI guidelines is not sufficient to encourage firms to change, despite a potentially higher cost of capital for those firms. The Heinkel, Kraus, and Zechner (2001) model can be extended beyond green investment, but so far, the anecdotal evidence suggests that SRI screens have limited impact on corporate behavior. As Landier and Nair (2008) point out, tobacco exclusion has been a prevalent negative screen among U.S. social investors for several decades, yet despite the fact that these companies have higher capital costs than those from other industries, they continue to exist. As it turns out, tobacco companies have been engaging in diversifying acquisitions to mitigate expropriation against private litigations and politicians (see Beneish et al. (2008)).

2.2. The errors-in-expectations hypothesis

The idea that investors weigh pecuniary against non-pecuniary payoffs to an investment contrasts with an alternative body of research that hypothesizes that SRI is a case of “doing well while doing good”. The prediction that SRI can deliver anomalously high returns because CSR information is value-relevant and not well understood by the financial market is the essence of the “errors-in-expectations hypothesis”.

For this hypothesis to hold, several conditions must be met. First, firms’ expected future cash flows should be associated with their use of CSR practices. Second, stock prices should not reflect all of the value-relevant information related to CSR practices, since superior profits that firms generate through CSR can only be a source of abnormal stock return to the extent that they are unexpected. SRI produces a superior risk-adjusted return when investors underestimate the degree to which CSR enhances future expected cash flows, or overestimate associated costs. (Strictly speaking, errors in expectations could manifest in the form overestimation as well underestimation concerning the gains or costs associated with CSR.)

The question of whether CSR practices are positively associated with future cash flow is the subject of considerable debate. Some management studies argue that CSR is purely a cost, but others see CSR as a “win-win” opportunity in the tradition of Porter and Van der Linde (1995), in which the “Porter hypothesis” says that strong environmental management results in superior resource efficiency that could outweigh the associated costs. A review of the relation between CSR practices and proxies for expected future cash flow is beyond the scope of this paper. The CSR-financial performance relation is extensively reviewed by Griffin and Mahon (1997) and Margolish, Elfenbein and Walsh (2007), among others. The conservative conclusion that follows from these studies is that some, but not all, CSR practices are sources of greater productivity and higher profitability.⁵ Specifically, it appears that, in line with the “resource-based view” towards CSR (e.g., Wernerfelt (1984), Barney (1991) and Russo and Fouts (1997)), proactive forms of CSR involving environmental and human resources management are needed to achieve a competitive edge. The underlying rationale is that basic compliance with CSR-related regulation will not deliver competitive advantages to the firm because compliance affects industry-peers in a similar way. But CSR can be shaped in such a way that it becomes a valuable asset that is unique to the firm and not

⁵ See, for example, Huselid (1995), Russo and Fouts (1997), Waddock and Graves (1997), Dowell, Hart, and Yeung (2000), King and Lenox (2002), Edmans (2009), and Guenster et al. (2009).

easily replicated by competitors (see, e.g., Hart and Ahuja (1996), Russo and Fouts (1997), and Dowell, Hart, and Yeung (2000)). This shaping requires more proactive forms of CSR that involve changes in production and manufacturing processes and a forward-looking management style.

Because superior profits affect stock returns only to the extent that they are unexpected, an important issue is whether the market is slow to recognize the economic value of CSR practices. There are some reasons to expect that the market fails to value some CSR practices properly. First, CSR is a multidimensional and partially subjective concept, and investors lack the tools needed to adequately measure CSR practices and their effects on the fundamental value of the firm.

Second, a sound judgment on the added value of CSR is clouded by accounting standards that have not adapted to a CSR-minded business environment. CSR is inherently costly at the outset, and much of the economic value that it creates, if any, is often intangible and likely to materialize slowly. Complications associated with measuring firms' long-term value creation potential under current accounting conventions, especially when it comes to intangible value, have been articulated by a substantial number of researchers (e.g., Lev and Schwartz (1971), Bassi et al. (2001), Damodaran (2002), Pantzalis and Park (2009)). For example, in examining employment practices by firms, accounting conventions often follow the logic that, given their unsure contribution to corporate performance, investments in human resources should not be capitalized but instead expensed through the income statement. Investment in employment practices is more difficult to capitalize than most other common sources of intangible value, because the key inputs needed for valuation are often not shown as one consolidated item in accounting statements.

Third, event studies hint that the financial market is less attentive to positive corporate social responsibility practices than to negative issues. Shane and Spicer (1983), Hamilton (1995), Klassen and McLaughlin (1996), and Karpoff et al. (2005) document that firms' stock prices change in reaction to news about environmental performance. But Klassen and McLaughlin (1996) suggest that positive returns after positive news are smaller than negative returns after negative news. Why these investors react to significantly negative news is a question that is addressed in Karpoff et al. (2005). They show that the decline in firms' market value subsequent to their environmental violations is equivalent to the size of the legal penalty imposed. In an interesting recent study, Krueger (2009) finds that a variety of

negative CSR related events are immediately followed by a decline in a firm's share price, but positive events are not significantly associated with share price increases. Taken together, the results of these studies could imply that investors fully anticipate the negative effects of poor CSR on future cash flows, but not the potentially positive effects associated with strong CSR.

So, while the shunned-stock hypothesis predicts that socially controversial stocks trade at relatively lower prices and offer higher expected returns due to e.g. lower risk sharing opportunities, the errors-in-expectations hypothesis predicts that SRI can deliver superior returns due to the fact that the market systematically undervalues the importance of CSR. However, economic logic predicts that only one hypothesis can survive in the long-run. Eventually, investors will improve their understanding of the impact of CSR on firms' future cash flows, and we expect that superior returns due to errors-in-expectations will disappear over time. This will empirically be tested in Section 5 of the paper, but first we will provide empirical evidence on the nature and goals of SRI.

3. The attitudes and investment decisions of socially responsible investors

The shunned-stock hypothesis leans on the assumption that a significant number of investors are values-driven and hence willing to sacrifice return in exchange for non-pecuniary utility, and that they agree about the criteria that identify a socially responsible investment. The errors-in-expectations hypothesis does not assume a values-driven investor, but instead suggests that SRI helps the profit-seeking social investor to outperform regular investments. In this section, we ask which types of socially responsible investors exist in reality, and we explore characteristics that help to distinguish them. This profiling and segmentation of the SRI movement deepens our understanding of the mechanisms through which social responsibility concerns among investors affect asset prices. To answer these questions, we discuss four different strands of research on social investors' attitudes, preferences, and behavior.

The first evidence revolves around interviews and surveys that investigate whether investors are willing to sacrifice return in exchange for the non-pecuniary benefits that the SRI attribute delivers. Table 1 shows that these studies have not reached consensus. For example, Beal and Goyen (1998) compare the characteristics of shareholders of an explicitly ethical Australian company with those of the general Australian shareholder population.

Shareholders responded that the primary motivation for investing in the ethical company is not financial return but instead the firm's role in the conservation of animals, plants and ecosystems as well as admiration of the firms' founder and the firms' ethical profile. However, these results contrast with those of Rosen, Sandler, and Shani (1991) who survey investors in two U.S. SRI mutual funds. Their respondents appear unwilling to sacrifice return: they not only value socially responsible behavior of the companies they invest in but also expect socially responsible investments to pay off as well as other types of investments.

Recent studies reconcile the mixed evidence by acknowledging different segments of socially responsible investors. That is, not all socially responsible investors share the same goals and hence various types of investors can co-exist. Nilsson (2009) is able to extract three different segments of investors in SRI mutual funds, based on their perception of the importance of financial return and social responsibility associated with the investment: socially responsible investors who are mostly concerned with financial return, those who primarily care about social responsibility, and those who value both return and social responsibility in the decision to invest responsibly.⁶

One problem with the survey method is that the respondents typically state attitudes, or hypothetical investment decisions instead of actual ones, and this problem is further exacerbated by the fact that people tend to give socially desirable answers. For example, Vyvyan, Ng, and Brimble (2007) emphasize the discrepancy between the attitudes to SRI and actual choices of the investors. They perform a conjoint analysis with employees and members of 2 Australian organizations, which revolves around extracting their preferences for the SRI and other attributes of different hypothetical mutual funds. While investors with environmentally most (least) active attitudes rated environmental features of a fund highest (lowest) and financial return moderately (more) important, their actual investment preferences suggest that wealth maximization is the main concern.

A relatively new set of studies avoids this problem by focusing on actual holdings and investment decisions of institutional and retail investors. Several of these studies, which are summarized in Table 2, derive actual differences in investment behavior between socially responsible and conventional investors from data on cash flow dynamics in mutual funds. The intuition is that investors who care about fund characteristics other than performance alone are differentially responsive to the returns of their mutual funds compared to the traditional

⁶ There is more agreement about the demographics and personal traits of the individual socially responsible investor: female, more educated, more altruistic, and more socially engaged people tend to be more involved with SRI.

wealth-maximizing investor. Bollen (2007) studies flows to and outflows from SRI and conventional mutual funds to find out whether investor behavior can be explained by a multi-attribute utility function, in which utility derived by conforming to personal or societal values can be separated from utility derived from the expected return and risk of the investment. He finds that during the period 1991-2002, the volatility of flow in socially responsible mutual funds was lower than the volatility of flow in conventional funds, which suggests that investors smooth consumption of the nonfinancial component. Bollen (2007) also reports that the sensitivity of fund flows to past negative returns is lower for SRI funds than for conventional funds. Hence, investors in SRI funds appear less inclined to discipline their funds by withdrawing cash after negative returns than those invested in conventional funds. This finding suggests that poor performance of SRI funds is mitigated by the utility the mutual fund investor derives by investing in a socially responsible manner.⁷

At first glance, there appears to be a contradiction between studies on mutual fund flows, which suggest that social investors are inelastic to financial losses, and the aforementioned surveys that indicate that different types of social investors co-exist. However, Bollen (2007) treats SRI funds and their cash flow dynamics as a homogeneous sample, whereas the SRI industry offers a rich array of retail investment funds that span investors' varying interests for many environmental and social responsibility issues. Renneboog, Ter Horst, and Zhang (2009) extract an interesting segmentation of socially responsible investors from the cross-section of SRI mutual funds, by showing that the fund flow-performance relation differs across the different types of social investment screens. Based on a sample of mutual funds around the world, they find that SRI funds that are characterized by negative screens (excluding sin stocks and other controversial stocks for ethical reasons) receive larger money inflows and have a weaker sensitivity to negative returns than do other types of SRI funds. We can interpret this result as evidence that "sin stock" screens and other exclusionary screens are the type of screens that serve social investors' non-pecuniary demands, which implies a willingness to accept a loss of wealth in exchange for non-pecuniary utility derived from the ethical investment screen.

This interpretation is supported by research that focuses on the holdings of institutions. Hong and Kacperczyk (2009) find that public pension funds are relatively less invested in sin

⁷ Benson and Humphreys (2008) perform an analysis that is similar in many respects to that of Bollen (2007), but also investigate persistence in SRI fund flows to examine whether search costs affect investment behavior. It appears that socially responsible investors are more likely to reinvest in funds they already own. One interpretation of this finding is that for socially responsible investors it may be relatively more difficult to find an alternative fund that adequately caters to their specific (non-financial) needs than for conventional investors.

stocks whereas mutual funds, hedge funds, and other relatively “independent” advisors do not limit their stakes in sin companies. Since all types of institutions are financially equally smart and equally informed, Hong and Kacperczyk (2009) deem it unlikely that pension funds would shun sin stocks for achieving better investment performance. Because pension funds are relatively more sensitive to public scrutiny, it is more likely that these institutions shun sin stocks to comply with societal norms.

In a similar way, Johnson and Greening (1999) and Neubaum and Zahra (2006) find that a firm’s scores on issues related to diversity, community involvement, employee relations, environmental performance and product quality are positively related to pension fund ownership but unrelated to ownership by mutual funds and investment banks. For these SRI criteria, Johnson and Greening (1999) and Neubaum and Zahra (2006) suggest that the long-term investment perspective of pension funds and the short-term focus of other investors underlies the observed differences in ownership between several types of institutions.

In summary, studies point out that not all socially responsible investors are alike. The conclusion that values-driven and profit-seeking socially responsible investors co-exist implies that the effects of SRI on portfolio choices and asset prices cannot be understood without acknowledging the distinct role that each segment of the SRI movement plays in financial markets.

Further disentangling these effects requires a mechanism that can segment socially responsible investors based on their pecuniary and non-pecuniary motivations, and which is directly linked to their investment decisions. As it turns out, sin screens and ethical screens are important instruments for distinguishing SRI practices that serve values-driven investors from SRI practices that serve profit objectives. Studies on the ownership structures of companies (Hong and Kacperczyk (2009)) and studies on the dynamics of investor cash flows in SRI mutual funds (Renneboog, Ter Horst and Zhang (2009)) suggest that investors’ non-profit objectives are served by these screens, which have typically revolved around tobacco, alcohol and gaming stocks, and stocks of weapon manufacturers. The literature on the cash flow dynamics in mutual funds points out that only sin and ethical screens attract capital that is less sensitive to negative return (Renneboog, Ter Horst and Zhang (2009)). This interpretation is in line with the fact that these types of screens are grounded in religious investing, in which faith-based principles override the financial motive. In fact, according to interviews among investors by Sandberg et al. (2008, p529), ethical investing is “still

regarded as a relevant term today, deeply rooted in individual ethics and designed to respond to the niche needs of religious investors, charities, and ethically minded...”.

4. Studies on SRI performance

In this section, we discuss how the return to socially responsible investing is affected by an SRI movement that consists of both values-driven and profit-seeking investors. To accomplish this objective, we distinguish studies on the returns of sin stocks and other controversial stocks from studies on SRI unrelated to negative screening. The previous section has pointed out that this separation implicitly distinguishes values-driven practices from profit-seeking objectives associated with SRI.

The research that we discuss has largely reached consensus on which multifactor performance measure model is suitable for performance evaluation. The three-factor alpha based on the Fama and French (1993) model and Carhart’s (1997) four-factor alpha are performance measures that are central to most of the recent equity SRI performance studies, and we abstain from discussing results of more elementary performance evaluation methods due to space constraints.

4.1. Values-driven exclusion: sin stocks’ returns

Earlier sections suggest that a values-driven approach to SRI leans heavily on negative screens that lead to the exclusion of sin stocks and other stocks that are controversial because of their inconsistency with investors’ personal values or social norms. Since these screens are also prevalent among a large portion of the social investor population, the shunned-stock hypothesis predicts that these stocks trade at prices below fundamental value and produce anomalously positive returns in the long run.

Consistent with this prediction, Table 3 shows that studies consistently find that socially controversial stocks produce returns that cannot be entirely explained by conventional factor models. The most pronounced evidence of a shunned-stock effect emerges from sin stock returns. Hong and Kacperzyck (2009) report that stocks in the U.S. had relatively higher expected returns over the period 1926-2004. Controlling for beta, size, book-to-market and

momentum effects, the authors find that a portfolio of sin stocks significantly outperformed otherwise comparable stocks by more than 4.5 percent per year.

A similar conclusion emerges from studies that identify controversial companies based on a CSR database that is widely used by SRI practitioners. Kempf and Osthoff (2007) and Statman and Glushkov (2009) build SRI portfolios based on information about firms' CSR practices, obtained from the investment research firm Kinder, Lydenberg, and Domini (KLD). This information includes indicators of "controversial business involvement". These businesses trace back to firms from the traditional sin sectors of alcohol, tobacco, and gaming, as well as to firms associated with firearms, military, and nuclear operations. Kempf and Osthoff (2007) find that an annually rebalanced portfolio of controversial sectors delivers a positive but statistically nonsignificant four-factor alpha over the period 1992-2004. Statman and Glushkov (2009) find that over the period 1992-2007, in terms of risk-adjusted returns a portfolio of controversial stocks outperforms "accepted stocks," but the reported risk-adjusted return differences lack statistical significance when they are measured with the four-factor performance attribution model. The lack of statistical significance could be attributable to the broader definition of controversial business involvement that KLD uses.⁸

Evidence that supports the shunned-stock hypothesis is not country-specific. In recent research, on 158 sin stocks in 18 European countries, after controlling for beta, size and book-to-market effects Salaber (2007) finds that a portfolio that comprises European sin stocks outperformed a "sin-free" portfolio over the period 1975-2006 by more than 4 percent annually. This performance difference is most pronounced in countries with higher litigation risk and higher excise taxation, and in countries dominated by members of protestant faiths, who, according to Salaber, have a relatively greater "sin aversion". It is important to note that Salaber's study makes two critical assumptions. The first assumption is that markets within Europe are segmented in the sense that people mainly invest in their home country.

The second assumption in Salaber (2007) is that European investors agree with their U.S. counterparts on what constitutes sin stocks, which is doubtful. But relaxing this assumption does not appear to hinder support for the shunned-stock hypothesis. Fabozzi, Ma, and Oliphant (2008) find that even a wider range of controversial industries earn relatively

⁸ Consistent with them having higher returns, sin stocks and other stocks that are deemed controversial through the lens of KLD trade at relatively lower value multiples; see, for example, Hillman and Keim (2001), Galema, Plantinga, and Scholtens (2008), and Hong and Kacperczyk (2009).

high returns, in many countries around the world. They study stocks classified in the six industries of alcohol, tobacco, defense, biotech, gaming, and adult services, involving 267 companies across 21 countries over the period 1970-2007. For stocks in every industry, they report a strong return in excess of the return predicted by a relevant national market index, and the excess returns are not concentrated in a particular country. In unreported tests, they find similar positive abnormal returns for sin stocks after controlling for size and book-to-market effects.

The evidence summarized in this section consistently supports the predictions of the shunned-stock hypothesis for a set of stocks that negative/ethical screens exclude, but one caveat here is that these stocks might have outperformed in line with the errors-in-expectations hypothesis. For example, tobacco manufacturers have been involved in a number of successful acquisitions, and the positive effects of these acquisitions on shareholders' wealth were perhaps not well understood by the financial market. To account for this critique, Hong and Kacperczyk (2009) examine whether sin companies realized profits that were higher than expected by investors. They reject this alternative explanation by showing that the sin stocks in their study do not outperform around earnings announcement dates, which indicates that the sin stocks' returns are not higher because of unexpected positive earnings news.

4.2. Environmental and social information and stock returns

In this section, we focus on SRI performance studies that have examined social responsibility criteria other than the aforementioned sin and ethical issues. Panels A and B of Table 4 summarize studies that evaluate the returns on portfolios that are formed based on various criteria.

Several studies find that stocks of firms that excel in certain environmental and social domains produce superior abnormal returns, consistent with the prediction of the errors-in-expectations hypothesis.

The first evidence in support of this hypothesis concerned the performance of environmentally responsible investment portfolios. Derwall et al. (2005) evaluate equity portfolios based on "eco-efficiency scores". They report that a best-in-class portfolio that

contained the top 30 percent of U.S. stocks of with highest eco-efficiency scores relative to industry peers delivered a four-factor alpha of 4.15 percent per year over the period 1995-2003. In contrast, a portfolio of firms with the lowest scores produced a negative but nonsignificant alpha of -1.8 percent. The performance difference withstands various transaction costs scenarios.

Subsequent studies provide important contributions by testing SRI portfolios with a wider range of social responsibility criteria. Three of those studies rely on very similar data. Kempf and Osthoff (2007) use various social investment indicators from KLD to form U.S. portfolios that score high and low on CSR characteristics. They find that over the period 1991-2004, several high-ranked portfolios earn a higher four-factor alpha than do their lowest-ranked counterparts. A portfolio comprising the 10 percent of companies with the strongest “employee relations” earns an abnormal return of 3.5 percent annually and outperforms the 10 percent of stocks with worst scores by almost 6 percent. A portfolio composed of stocks with best “community involvement” scores delivers an abnormal return of about 3 percent and outperforms its worst-ranked counterpart by 4.5 percent. These results continue to be significant under various transaction-costs scenarios. Other CSR dimensions that KLD covers in their assessment of companies, such as “environment”, “diversity”, “human rights”, and “product quality”, lead to performance differences between the best- and worst-scoring portfolios that are generally positive but are not always statistically significant. Kempf and Osthoff conclude that the largest abnormal returns are achieved when investors adopt best-in-class screening by using a combination of several screens at the same time, and when they restrict themselves to stocks with most extreme ratings.

Much of this conclusion is shared by Statman and Glushkov (2009), who perform a study similar to that of Kempf and Osthoff (2007) but use a narrower set of firms from the KLD universe. They exclude those firms that have received neither strengths nor weaknesses indicators in order to avoid the possibility that KLD staff have not evaluated these firms. Statman and Glushkov evaluate returns of portfolios that include the top and bottom thirds of companies based on a particular industry-adjusted score, as well as a top-overall (bottom-overall) portfolio that comprises firms that represent the top (bottom) third of all companies by two or more CSR characteristics and not in the bottom (top) third by any other characteristic. Although Statman and Glushkov find that equal-weighted top-ranked portfolios formed on the basis of “community involvement”, “employee relations,” and overall

performance outperform bottom-ranked portfolios over the period 1992-2007, the top and bottom portfolios based on employee relations and overall performance continue to display a significant risk-adjusted performance difference when the portfolios are value-weighted. In addition, much of the overall outperformance appears to be concentrated in the 1992-1999 subperiod.

The third study that uses the KLD information to test SRI portfolios is Galema, Plantinga and Scholtens (2008), but they evaluate abnormal returns of the different portfolios using a General Methods of Moments system, which accounts for the high correlations in return across the different portfolios. They find that an equal-weighted portfolio of leaders in “community involvement” outperforms laggards over the period 1992-2006, whereas leaders in “employee relations” outperform laggards when portfolios are value-weighted.⁹

The employment criteria attract most attention in the three performance studies that rely on KLD data, but to what extent do these studies lean on the proprietary methodology that KLD uses to measure employee relations? Edmans (2009) provides an answer to this question by finding that abnormal returns can be earned even with public data on employee satisfaction. He reports that an annually rebalanced portfolio of *Fortune Magazine's* "Best Companies to Work for in America" outperformed industry- and characteristics-matched benchmarks, and that the portfolio yielded a four-factor alpha of about 8 percent per year. A robustness check that extends the sample back to 1984 based on non-public information confirms that the abnormal returns are significant over an extended period.

There is less convincing evidence on errors in expectations from markets outside the United States. The few studies that focus on the European market provide less conclusive proof and are based on small samples. Van de Velde, Corten, and Vermeir (2005) use CSR ratings from the French research firm Vigeo to test SRI portfolios in the European Monetary Union (EMU) area. These authors estimate three-factor alphas for “best” and “worst” CSR portfolios for the period 2000-2004. Their results indicate that high-CSR-rated portfolios perform better than do low-rated portfolios, but not significantly so. Four of the five sub-ratings were useful in constructing best- and worst-rated portfolios that differ positively but are not statistically significant in performance. The four ratings cover human resources, society and community, environment, and governance.

⁹ Consistent with this finding Galema, Plantinga, and Scholtens (2008) find a positive relation between employee relations scores derived from KLD and individual stock returns using pooled cross-sectional regressions.

Brammer, Brooks, and Pavelin (2006) test the association between CSR criteria and stock returns based on a sample of firms in the United Kingdom. They base their portfolio tests on data from Ethical Investment Research Institute Services (EIRIS) that became available in July 2002 for approximately 450 companies. They examine portfolios formed on the basis of various CSR criteria over one-, two-, and three-year holding periods. The authors converted quantitative and qualitative CSR information into scores that cover three dimensions: environment, i.e., the quality of environmental policies, environmental management systems, and environmental reporting; employee responsibility, i.e., health and safety systems, employee training and development, equal opportunities, good employee relations, and job creation and security; and community responsiveness, which they use as an indicator variable. The lowest-ranked tercile portfolios earn higher returns than do high-ranked portfolios in the years after formation, but none of the reported performance differentials between the portfolios is statistically significant.

The risk-adjusted returns summarized in this section can be interpreted as evidence of expectational errors by investors, but they could also be taken to imply that stocks of firms with strong environmental and/or social performance experience price increases following increased demand by (values-driven) socially responsible investors. There is little empirical support for this explanation. To begin with, it is doubtful that environmental and social criteria are considered by a significant number of social investors, which would be needed to cause significant changes in demand. For example, SIF (2005) shows that tobacco and alcohol screens are far more common among mutual funds than other types of screens among mutual funds. In addition, Edmans (2009) shows that changes in the ownership of Best Companies to Work For by SRI mutual funds that explicitly adopt employment screens cannot explain the 4% abnormal return that these firms have historically produced in the equity market.

Another alternative explanation of the abnormal returns is that they reflect exposure to an unobserved risk factor. For example, firms might have strong employee relations because of their good relationship with unions, which can weaken firms' operating flexibility and influence expected returns (see, e.g., Chen, Kacperczyk, and Ortiz-Molina (2009)). Evidence does not support this explanation. Edmans (2009) demonstrates that Fortune's Best Companies to Work For exhibited significantly more positive earnings surprises and positive abnormal returns around the firms' earnings announcements. Finding that returns on strong

employee-relations portfolios are higher because of unexpected earnings news is an important verification of the errors-in-expectations hypothesis.

4.3. Studies on SRI mutual funds

The performance studies discussed so far are based on hypothetical SRI portfolios that mostly describe in isolation the effects of one particular social investment screen on portfolio performance. In what follows, we use the insights from those studies to deepen our understanding of the performance of SRI in practice, as evidenced by the performance of socially responsible mutual funds.

The socially responsible mutual fund industry has been an interesting practical setting for testing the effects of SRI screens on performance. Many SRI portfolios in practice cater to different types of investors by offering a mixture of negative and positive screens. For example, Kempf and Osthoff (2008) analyze the holdings of U.S. SRI funds and find that they score better along all of KLD's positive and negative social responsibility dimensions than do the holdings of conventional funds.

Table 5 summarizes the most recent and comprehensive studies on SRI mutual funds.¹⁰ The majority of these and earlier studies conclude that SRI and conventional mutual funds produce similar-risk adjusted returns (e.g., Bauer, Derwall, and Otten (2007), Bauer, Otten, and Tourani-Rad (2006), and Gregory and Whittaker (2007)). Renneboog, Ter Horst, and Zhang (2008a) report some weak evidence that SRI funds underperformed over the period 1993-2003. Specifically, for each of the 17 countries in their study, on average, SRI mutual funds underperformed their benchmark four-factor model. However, compared to conventional mutual funds, the underperformance of SRI funds was statistically not significant in fifteen out of the 17 countries.

There has been a tendency in the SRI literature to interpret these results as evidence that the social responsibility features of stocks are not priced in the financial market. But our derivation of values-driven and profit-seeking components of SRI yields an alternative

¹⁰ For earlier studies, see, Luther et al. (1992), Hamilton et al. (1993), Luther and Matatko (1994), Mallin et al. (1995), Gregory et al. (1997), Statman (2000), Bello (2005), Schroeder (2007), and Kreander et al. (2005). Renneboog, Ter Horst, and Zhang (2008b) provide a comprehensive survey of academic studies on SRI mutual funds around the world.

interpretation. It stands to reason that their avoidance of stocks deemed controversial gives SRI funds the performance disadvantage predicted by the shunned-stock hypothesis predicts, whereas tilts towards stocks with positive environmental and social responsibility scores contribute to higher returns according to the errors-in-expectations hypothesis. Under studies of SRI mutual fund performance, in aggregate, the two distinct effects could cancel out, possibly leading to a zero net effect. We therefore conclude that the multidimensional nature of SRI allows both hypotheses about performance to co-exist, at least in the short run.

5. The performance of values-driven and profit-seeking SRI over time

While we derive from the literature so far that values-driven and profit-seeking SRI have been distinct and feasible forms of socially responsible investing up to this point, economic logic teaches us that not all forms can be tenable in the long-run. The logic here is that values-driven motives among investors are arguably pervasive, whereas errors in expectations should ultimately disappear as investors improve their understanding of firms' future cash flow. In this section, we apply this logic to an empirical analysis of stock returns that helps to further reinforce identification of values-driven and profit-seeking SRI and their distinct implications for investment performance.

The shunned-stock hypothesis has been empirically tested by Hong and Kacperczyk (2009) amongst others. However, we expect that due to the pervasive nature of certain values, the effect of values-driven investments on stock prices will be robust over time. By contrast, we expect that stock returns caused by errors in expectations diminish over time. The market may be slow to recognize the economic value of CSR practices in the short-run, but in the long-run investors should be able to adequately measure the effects of CSR practices on the fundamental value of the firm. Therefore, in our analysis we pay particular attention to time-variation in the (risk-adjusted) returns on socially responsible and controversial portfolios.

In order to test our claim that the effect of errors in expectations will diminish over time, while the shunned-stock effect will be persistent, we form two portfolios. The first portfolio comprises socially controversial stocks, such as sin stocks. The literature teaches us that these stocks earn positive abnormal returns because they are shunned by investors largely because of values-driven motives, and not because of errors in expectations (see, e.g., Hong and Kacperczyk (2009)). The second portfolio that we examine is composed of stocks of

firms that score high on employee relations. According to recent evidence, these firms produce positive abnormal returns to shareholders because of profits that were underestimated by investors, not because of increased demand for these stocks by values-driven socially responsible investors (see, e.g., Edmans (2009)).

We follow earlier studies in the formation of the portfolios, using social responsibility information on publicly listed U.S. companies from the annually updated KLD STATS database. Shunned stocks are defined as stocks of companies that are mentioned by KLD's lists of controversial businesses. These businesses mainly revolve around tobacco, alcohol, gaming, nuclear operations, and firearms. The strong employee-relations portfolio comprises the top 30 percent of firms ranked by an employee-relations score, which is derived from the "strengths" and "weaknesses" indicators that belong to KLD's employee relations category.¹¹ Both portfolios are rebalanced annually based on the most recent information from KLD.

For both portfolios we measure abnormal returns by estimating the four-factor model of Fama and French (1993) and Carhart (1997):

$$r_t - r_{f,t} = \alpha_4 + \beta_{MKT}(r_t^m - r_{f,t}) + \beta_{SMB}r_t^{smb} + \beta_{HML}r_t^{hml} + \beta_{UMD}r_t^{umd} + \varepsilon_t \quad (1)$$

where r_t is the return of the portfolio in month t , $r_{f,t}$ is the return on a risk-free deposit (i.e. the 1-month treasury bill rate), r_t^m is the return of the market index, r_t^{smb} , r_t^{hml} , and r_t^{umd} are the SMB, HML and UMD factors¹², α_4 is the abnormal return of the shunned stock portfolio or the strong employee-relations portfolio, and β_{MKT} , β_{SMB} , β_{HML} , and β_{UMD} are the factor loadings, and ε_t stands for the idiosyncratic return.

Table 6 reports summary statistics on the two portfolios. On average, the shunned-stock portfolio returned about 11.7 percent annually, over the period 1992-2008. The strong employee-relations portfolio earned about 9.2 percent. These returns are not corrected for any exposure that the portfolios might have to common risk factors. To adjust for risk and other factors that drive returns for reasons unrelated to SRI, we report in Table 7 the results of evaluating monthly returns on the portfolios using the Fama and French (1993) and Carhart (1997) model (Equation (1)). We first estimate the abnormal return and factor loadings for

¹¹ Specifically, we follow the existing literature and define the employee relations score as the sum of all strengths minus the sum of all weaknesses; see Kempf and Osthoff (2007) and Verwijmeren and Derwall (2010) for more details on the construction of the employee-relations score.

¹² The four factors are taken from the Kenneth French Data Library.

each portfolio based on monthly returns over the period 1992-2008. To investigate the performance of the portfolios over time, we report how the estimated abnormal returns change as we enlarge the regression window by 24 months, starting with the period 1992-2002.

Two important conclusions emerge from Table 7. First, we confirm earlier studies' findings of abnormal returns associated with both socially responsible and socially controversial investments. Second, however, only abnormal returns on socially controversial stocks continue to be fairly stable and significant as we expand the performance evaluation period. The annualized abnormal return on the shunned-stock portfolio ranges from 2.58 to 2.86 percent and is always statistically significant, either at the 10% or 5% level. By contrast, the performance of the strong-employee relations portfolio declines rapidly as the performance evaluation horizon increases. During the period 1992-2002, the portfolio earned an abnormal return of 5.6 percent annually, which is significant below the 10% level. The portfolio also earned a significant abnormal return over the period 1992-2004, but delivered a much smaller and statistically not-significant abnormal return over the periods 1992-2006 and 1992-2008.

Hence, consistent with the logic that errors in expectations decrease over time, much of the full-sample risk-adjusted return on stocks of firms with strong employee relations is concentrated in earlier years of the sample period. Consistent with the notion that certain values are pervasive, stocks that are deemed inconsistent with these values have systematically outperformed on a risk-adjusted basis. Taken together, the full-sample and sub-sample performance associated with these portfolios confirm the conjecture that both values-driven and profit-seeking SRI can be witnessed in the short run, but also that profit-generating opportunities diminish in the long-run.

6. Discussion and concluding comments

It is often believed that the SRI literature provides results that conflict with each other, especially when it comes to the implications of SRI for asset prices and investment performance. However, studies up to this point rely in their description of SRI on just one particular doctrine but none of them acknowledges that SRI has become a multidimensional concept that now serves the needs of a heterogeneous group of investors who differ in the pecuniary and non-pecuniary benefits that they expect to derive from their investment. Based

on a synthesis of the SRI literature, we claim that the different pieces of theory and evidence about SRI performance are consistent with an SRI market that comprises *both* values-driven and profit-seeking investors.

The shunned-stock hypothesis predicts that socially controversial stocks trade at relatively lower prices because they are shunned by values-driven investors who refuse to hold stocks that are inconsistent with, e.g., societal and personal values, even at the cost of lower financial return. We conclude that these investors appear to be large enough in number and sufficiently agree on a set of values that shape investment decisions and which can affect supply and demand for securities. Specifically, these investors form a subset of a larger SRI movement and their non-pecuniary needs are met by a subset of all available SRI practices. Based on a common thread that runs through different strands of the SRI literature, we derive that the non-pecuniary goals of the values-driven segment are served by sin and ethical SRI screens. This stylized fact makes it possible to identify in isolation the effect of values-driven investors on asset prices. Stocks that investors avoid using these types of screens have earned anomalously positive returns, consistent with the predictions of shunned-stock hypothesis.

The errors-in-expectations hypothesis predicts that SRI can deliver superior performance because the market systematically undervalues the importance of CSR in influencing the firm's expected future cash flows. There is also evidence that stocks of companies with positive scores on environmental and social issues outperform companies with low scores over specific periods, which supports the errors-in-expectations hypothesis. As for specific criteria, most studies suggest that positive screens regarding environmental and social issues have been relevant in achieving abnormal returns. There have been periods during which eco-efficient companies earned superior risk-adjusted returns, but this evidence should be weighed against more recent studies that fail to find such superior returns on environmentally responsible portfolios in recent years. More pervasive evidence suggests that the market did not fully value information related to employee satisfaction. There is much scope for additional research that investigates SRI portfolios in non-U.S. markets.

In an empirical analysis over the period 1992-2008 we examine the performance of values-driven and profit-seeking SRI over time. We find that a portfolio composed of shunned stocks earns consistently positive and constant abnormal returns of about 2.60% annually, indicating the pervasive nature of values-driven investments. In contrast, a portfolio of stocks with high scores on employee relations shows declining abnormal returns ranging from 5.62%

until 2.81%. This indicates that investors improve their ability to measure the effects of CSR practices on the fundamental value of the firm.

Because the shunned-stock effect and the errors-in-expectations appear to pertain to different forms of SRI, they could cancel out when SRI involves a hybrid of exclusionary screens and positive criteria, as is often the case in practice. This “no net-effect” is evidenced in studies on SRI mutual funds, which largely agree that SRI funds and conventional funds earn similar risk-adjusted returns.

The insights that we obtain from these studies have a number of interesting implications for future research and investment policy.

First, this paper makes a case for acknowledging that motives among socially responsible investors differ, and emphasizes that different views of SRI are complementary. This rethinking of the SRI movement begs the question whether SRI should be used as the sole term for describing investors who integrate social responsibility issues into their investment decisions. We also suggest that a breakdown of SRI by type of screen and social responsibility criterion yields a useful segmentation of socially responsible investors based on their pecuniary and non-pecuniary motivations. The advantage of this type of investment-specific segmentation compared to other common segmentation variables, such as gender and age, is that it allows researchers to examine whether values affect asset prices.

Second, we hasten to note that although the multidimensional character of SRI allows different views about SRI performance to co-exist in the short run, it is questionable whether they will co-exist in the long-run. Economic logic tells us that errors in investors’ expectations are temporary, whereas investors’ concerns for values and societal norms are unlikely to disappear. Our empirical analysis of the returns on socially responsible and controversial portfolios over time supports this prediction. Which types of values underlie the influence of values-driven investors on asset prices is an interesting empirical question that calls for more research.

Third, the prevalence of values-driven investors in the long run highlights the need for research that rethinks the role of values in investment management. The growing evidence that non-pecuniary characteristics matter to investors creates new challenges for investment policy and regulation. Research that explains how investment vehicles can adequately meet the various non-pecuniary needs of investors, possibly at the expense of a lower financial

return, is still in an embryonic stage. Moreover, many investors with fiduciary responsibilities are confronted with the question whether values align with "prudent-investor rules" that regard financial return as primary responsibility, which is a problem that could be of interest to regulators.

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Table 1. Surveys on SRI among individual investors

Study	Sample	Willing to sacrifice return		
		Yes	No	Comment
<i>Survey/conjoint analysis</i>				
Rosen, Sandler, and Shani (1991)	1493 investors in 2 U.S. SRI funds	X		Socially responsible investors are younger, better educated, and more involved with “avoidance” issues than with “affirmative” (positive) responsibility issues. Of six SRI categories, they most frequently mentioned concerns for environmental and labor relations issues. Respondents tend to agree that they expect socially responsible investments to pay off as well as other types of investments.
Beal and Goyen (1998)	318 employees/members of 2 Australian organizations	X		Decision to invest is more motivated by environmental feature than by financial return of investment. Female, more highly educated, and older investors are more likely to be environmentally responsible.
Vyvyan, NG, and Brimble (2007)	318 employees and members of 2 Australian organizations	X		Investors with environmentally most (least) active attitudes rate environmental features of a fund highest (lowest) and financial return moderately (more) important. But actual investment preferences show that most investors are concerned with wealth maximization. Still, shunning tobacco, alcohol, and gambling has a reasonable degree of importance according to investors' utility ranks.
Nilsson (2009)	563 investors in SRI funds	X	X	Identifies three investor segments: those primarily concerned about profit, those primarily concerned about social responsibility, and those concerned about both issues.
Lewis and Mackenzie (2000)	1146 investors of 2 U.K. ethical trusts	X		40 percent of social investors believe SRI earns lower return than conventional peers, and many are price inelastic for financial losses.
<i>Interviews</i>				
Lewis and Webley (1994)	100 people and 84 students	X		Green attitudes enhance positive attitude to SRI, but investors do not appear willing to accept sacrificing return that could be generated by conventional investments.
Mackenzie and Lewis (1999)	20 interviews	X	X	Suggests that only people who invest "surplus" money ethically are willing to sacrifice return.

Table 2. Behavior of socially responsible investors derived from institutional ownership and mutual fund flows.

Study	Sample	Willing to sacrifice return		
		Yes	No	Comment
<i>Ownership analysis</i>				
Graves and Waddock (1994)	430 U.S. firms in 1991	-	-	CSR relates positively to the number of institutions holding shares of the company.
Johnson and Greening (1999)	286 U.S. firms in 1993	-	-	Firms' scores regarding people (diversity, community, employees) and product quality (product and environment) are positively related to institutional ownership but unrelated to mutual fund and investment bank ownership.
Neubaum and Zahra (2006)	357 U.S. firms in 1995 and 383 firms in 2000	-	-	Composite CSR score based on KLD (diversity, community, employees, product quality, and environment) is positively related to institutional ownership but unrelated to mutual fund and investment bank ownership.
Hong and Kacperczyk (2009)	193 U.S. firms in "sin" industries	X		Sin stocks are held in smaller proportions by public pension funds compared to conventional stocks, but not in smaller proportions by mutual and hedge funds.
<i>Mutual fund flows</i>				
Bollen (2007)	205 U.S. SRI funds and matched sample of conventional funds	X		The monthly volatility of investor cash flows is lower in SRI funds than conventional funds. Flows into SRI funds are more sensitive to lagged positive returns than flows into conventional funds, and outflows from SRI funds are less sensitive to lagged negative returns.
Benson and Humphreys (2008)	144 U.S. SRI funds and 4449 conventional funds	X		SRI fund flow is less sensitive to returns than conventional fund flow, but unlike Bollen (2007), differences in the response to good and poor performance are not found. Also, SRI investors are more likely to reinvest in funds they already own.
Renneboog et al. (2009)	410 equity mutual funds in 21 countries	X		Consistent with investors deriving non-financial utility from SRI, SRI fund flows are less related to past fund returns. Ethical money is less sensitive to past negative returns than conventional fund flows, especially when funds adopt sin/ethical screens.

Table 3. Studies on the performance of socially controversial stock portfolios

Study	Region and Period	Tobacco	Alcohol	Gaming	Weapons	Nuclear	Biotech	Adult	Alpha
Hong and Kacperzyk (2009)	U.S. 1926-2006	X	X	X	X				Positive
Kempf and Osthoff (2007)	U.S. 1991-2004	X	X	X	X	X			Positive (non-significant)
Statman and Glushkov (2009)	U.S. 1992-2007	X	X	X	X	X			Positive (non-significant)
Salaber (2007)	Europe 1975-2006	X	X	X					Positive
Fabozzi et al. (2009)	21 countries 1970-2007	X	X	X	X	X	X	X	Positive
Visaltanachoti et al. (2009)	China 1975-2006	X	X	X					Positive

Table 4. Studies on the performance of portfolios formed using environmental and social responsibility factors.

Study	Region and period	Environment	Employee	Diversity	Human Rights	Community	Product	Governance
<i>Panel A: Studies on Environmental & Social SRI Criteria in the U.S. Market</i>								
Derwall et al. (2005)	1995-2003	P						
Kempf and Osthoff (2007)	1991-2004	P	P	P/NS	P/NS	P	N / NS	
Statman and Glushkov (2009)	1992-2007	NS	P	NS	N/NS	P/NS	NS	N/NS
Edmans (2009)	1984-2006		P					
Galema et al. (2008)	1992-2006	NS	P/NS	NS	NS	P/NS	NS	NS
<i>Panel B: Studies on Environmental & Social SRI Criteria in non-U.S. Markets</i>								
V/d Velde et al. (2005)	E.M.U., 2000-2003	NS	NS			NS	NS	NS
Brammer et al. (2006)	U.K., 2002-2005	NS	NS			NS		

Note: “P” indicates the study suggests a positive relation between the corporate social responsibility measure and abnormal stock return, “N” indicates a negative relation, and “NS” suggests a “nonsignificant” relation.

Table 5. Studies on SRI Mutual Funds

Study	Region and Period	# SRI (peer) Funds	Results
Bauer et al. (2005)	U.S., U.K., Germany 1990-2001	103 (309)	SRI funds and conventional funds differed in terms of style but produced similar alphas, in aggregate. SRI funds did deliver lower alpha than conventional funds in the early 90s but then caught up with conventional funds.
Bauer et al. (2006)	Australia 1994-2003	35 (291)	Australian SRI and conventional funds had different investment styles but produced similar alphas, in aggregate. Domestic (but not international) SRI funds had lower alphas during the 1992-1996 period but later caught up with conventional funds.
Bauer et al. (2007)	Canada 1994-2003	8 (267)	Canadian SRI and conventional funds earn similar alphas, in aggregate. Style differences between SRI and conventional funds are smaller compared to earlier studies.
Barnett and Salomon (2006)	U.S. 1972-2000	61 (-)	Concludes that losses due to poor diversification are offset by better security selection as screening intensifies. When the number of screens increases, alpha declines at first, but rebounds as number of screens reaches a maximum.
Renneboog et al. (2008a)	17 countries 1991-2003	463 (16036)	European and Asian SRI funds, mainly internationally oriented, underperform domestic factor models, but SRI funds do not underperform conventional funds in most countries.
Gregory and Whittaker (2007)	U.K. 1989-2002	32 (160)	SRI funds and conventional funds produce similar alphas. Short-term fund performance persists more within the SRI fund universe than in the conventional fund universe.
Geczy et al. (2006)	U.S. 1963-2001	35 (894)	“SRI constraint” on optimal fund investment is not significant for an investor who rules out skilled fund management and who believes in the CAPM, but is material when the investor believes in multifactor models. The constraint is large (1.5 percent per month) for investors with strong beliefs in stock picking.

Table 6. Summary statistics: shunned-stock portfolio and strong employee-relations portfolio

Portfolio	Annualized Statistics			Maximum	Minimum	Avg. # stocks
	Mean Return	St. Dev.	Sharpe			
Shunned Stocks	11.72%	15.80%	0.51	11.58%	-20.23%	129
Strong Employee Relations	9.19%	18.15%	0.31	11.86%	-17.22%	54

Reported are the mean annualized return, the annualized standard deviation of return, the annualized Sharpe ratio, the highest and lowest return observed in a month, and the average number of stocks for, respectively, the shunned-stock portfolio and a strong employee-relations portfolio. The shunned-stock portfolio is formed annually based on KLD's list of firms involved in controversial business practices. The strong employee-relations portfolio comprises the top 30 percent of firms ranked according to an employee-relations score, which is based on "strengths" and "weaknesses" indicators from KLD's "employee relations" category. All statistics correspond to the period 1992-2008.

Table 7. Performance of shunned-stock portfolio and strong employee-relations portfolio

Portfolio	Annual Abnormal Return				Full-Sample Factor Loadings			
	1992-2002	1992-2004	1992-2006	1992-2008	Rm-Rf	SMB	HML	MOM
Shunned stocks	2.86% * (0.08)	2.58% * (0.09)	2.67% ** (0.05)	2.64% ** (0.03)	0.93 *** (0.00)	-0.10 ** (0.02)	0.02 (0.71)	-0.09 *** (0.00)
Strong Employee Relations	5.62% * (0.07)	4.55% * (0.09)	2.94% (0.23)	2.81% (0.20)	1.04 *** (0.00)	-0.11 (0.12)	-0.20 *** (0.01)	-0.01 (0.88)

We regress, respectively, the value-weighted monthly returns of a shunned-stock portfolio and those of a strong employee-relations portfolio (in excess of the Ibbotson 30-day T-bill rate) on a constant, the Fama-French (1993) factors, and a momentum factor similar to Carhart's (1997). We run these regressions based on the full sample period 1992-2008, and based on subsamples (1992-2002, 1992-2004, and 1992-2006). Reported are annualized alphas, along with p-values in parentheses.

* Significant at 10% level; ** at 5% level; *** at 1% level.