When Doing Good Backfires:
The Effects of Corporate Social Responsibility Fit on Long- and Short-Horizon Investors

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February 2022

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We appreciate comments and feedback from Ryan Ball, Mark Beasley, Bradley Bennett, Jeremy Bentley, Rob Bloomfield, Joe Brazel, Marcus Doxey, Michael Durney, Lindsey Gallo, Ryan Guggenmos, Rick Hatfield, Cory Hinds, Kris Hoang, Rich Houston, Linda Isbell, Greg Miller, Heidi Packard, Kristina Rennekamp, Matt Sherwood, Scott Showalter, Matt Starliper, Quinn Swanquist, Rob Whited, Elaine Wang, Jaron Wilde, Yao Yu, Xinyu Zhang and workshop participants at Cornell University, the University of Iowa, the University of Michigan, North Carolina State University, the University of Alabama, the University of Massachusetts Amherst, and participants at the 2019 ABO Research Conference.

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ABSTRACT

We investigate how the perceived fit of corporate social responsibility (CSR) initiatives to a firm's core business operations affects the investment willingness of long- and short-horizon investors. Although so-called "sin firms" frequently use CSR as a tool to manage negative shareholder perceptions, our results indicate that doing so can backfire by reducing long-horizon investment willingness if the CSR initiative does not fit with the firms' core business operations. In contrast, more "virtuous" firms benefit from reporting any type of CSR initiative and can maximize long-horizon investment willingness by engaging in high-fit CSR. Short-horizon investors are not impacted by CSR fit and are most willing to invest in sin firms when no CSR is reported. Our findings provide important insights to researchers and can help guide managers as to the best CSR initiatives to engage in, and highlight, when communicating with investors.

Keywords: Corporate Social Responsibility (CSR); CSR Regulation; Sustainable Investing; Environments, Social, and Governance (ESG); Sin Stocks; Investment Horizon

JEL Classifications: M41; G30; G32; G41; D82

1. Introduction

Demand for socially responsible investments has dramatically increased in recent years, with 85 percent of individual investors now indicating interest in sustainable investments and over $17 trillion invested sustainably in the U.S. alone, an increase of 42 percent over the last two years (Morgan Stanley, 2019; USSIF, 2020). Engaging in the voluntary reporting of Corporate Social Responsibility (CSR) is a way that companies can signal their social intentions to shareholders (Graff and Small, 2005), and has been associated with positive corporate outcomes such as enhanced reputation, higher quality earnings, and reduced cost of equity capital (Dhaliwal et al., 2011; Kim et al., 2012; Chakravarthy et al., 2014). As a result, CSR reporting has become standard practice for most large- and mid-cap companies around the world (KPMG, 2020).[1] However, investors' perceptions of CSR activities could affect the extent to which companies benefit from engaging in CSR. Our study explores characteristics of investors, companies, and CSR initiatives that could influence investment preferences.

While traditional investor utility theory models incorporated only financial factors, recent research shows that investors seek to maximize their expected utility by considering both financial and *nonfinancial* investment factors (Bollen, 2007; Hong and Kacperczyk, 2009; Benabou and Tirole, 2010; Rubaltelli et al., 2015). "Dual utility theory" economic models indicate that investors care about more than just financial returns, and that they derive utility from a firm's socially responsible actions (Fama and French, 2007; Godker and Mertins, 2018). Investing in firms that behave in a socially responsible manner allows investors to obtain not only financial returns but also nonfinancial utility from engaging in altruistic activities, similar to

[1] The terms "CSR", "ESG", and "Sustainability" are defined similarly and often used interchangeably in prior research (Christensen, Hail, and Leuz, 2021). Consistent with the majority of academic research papers (Huang and Watson, 2015), we use the term "CSR" in this paper to describe corporate initiatives aimed at improving society.

the utility received from contributing to charities (Lancaster, 1996; Graff and Small, 2005).

Importantly, the length of time that investors intend to hold an investment may affect their perceptions of firms' socially responsible activities. Long-horizon investors hold equity for extended periods of time, increasing the likelihood that nonfinancial factors, such as a firm's impact on society, will affect the utility gained from an investment (Graff and Small, 2005; Friedman and Heinle, 2016; Starks et al., 2017). While long-horizon investors still derive utility from financial returns, theory suggests that they place a greater weight on the nonfinancial implications of an investment than do short-horizon investors. Short-horizon investors maximize utility by focusing primarily on financial returns, and they could view CSR initiatives as an unnecessary short-term cost that deviates from their primary goal of wealth maximization (Martin and Moser, 2016).

The extent to which long-horizon investors value a firm's socially responsible behavior may depend on various corporate characteristics, including a firm's corporate identity. The extant literature shows that investors use a variety of firm attributes to determine corporate identities, which influence both investor sentiment and firm value (e.g., Cooper et al., 2001; Gilchrist et al., 2005; Naughton et al., 2019). Corporate identities are multifaceted, and a single firm can have multiple corporate identities on different dimensions. While a company's "operational identity" is derived from the specific products and services it provides, its "ethical identity" is based on the impact that its core profit-generating business activities have on society (Balmer and Greyser, 2002; Fukukawa et al., 2007).

For example, so-called "sin firms" have core business practices widely believed to harm society (e.g., alcohol, tobacco, gambling) (Hong and Kacperczyk, 2009; Grougiou et al., 2016). While these firms' *operational* identities are linked to the specific products and services they

produce, they also tend to experience negative *ethical* identities stemming from their controversial core business practices (Oh et al., 2016). On the other hand, "virtue firms" are for-profit entities with core business practices that improve the wellbeing of society (Yuan et al., 2011). While their operational identities also stem from the specific products and services produced, their core business operations tend to have a positive impact on society, leading to positive ethical identities. Since CSR initiatives aim to have a positive impact on society, the reporting of *any* CSR initiative represents relatively high ethical fit for virtue firms and relatively low ethical fit for sin firms. For firms that choose to engage in CSR, the *type* of CSR initiative determines the operational fit, depending on how well the initiative fits with company-specific products and services (i.e., its operational identity). Given that prior research suggests that long-horizon investors are more likely to place greater weight on nonfinancial investment factors than short-horizon investors (Friedman and Heinle, 2016; Martin and Moser, 2016; Starks et al. 2017), we expect that long-horizon investors will have stronger reactions to the ethical fit and operational fit of firms' CSR initiatives than short-horizon investors.

We conduct a 2×2×3 between-participants experiment in which participants are asked to assume the role of investors and are presented with potential investment opportunities. We manipulate investment horizon as long or short, company ethical identity as relatively sinful or virtuous, and CSR type as low operational fit, high operational fit, or no CSR. The main dependent variable of interest is investors' *Willingness to Invest* (Elliott et al., 2015).

We predict and find that the low ethical fit of a sin firm engaging in CSR has a negative effect on long-horizon investment willingness when the CSR initiative has low operational fit, compared to both high operational fit and no CSR. We do not find significant differences in investment willingness between the high operational fit and no CSR conditions for the sin firm.

That is, while engaging in low operational fit CSR backfires on the sin firm by reducing long-horizon investment willingness, high operational fit CSR helps to mitigate the negative effect of low ethical fit. For the virtue firm, we predict and find that the high ethical fit of engaging in any CSR initiative increases long-horizon investment willingness compared to no CSR, and high operational fit maximizes this positive effect. Additional analyses indicate that these reactions are not exclusively driven by financial factors (i.e., a change in expected returns) and, consistent with prior CSR research, affective reactions to the nonfinancial implications of CSR reporting appear to play a role (e.g., Holm and Rikhardsson, 2008; Elliott et al., 2014). As expected, short-horizon investors do not react differently to a CSR initiative's operational fit, and they are most willing to invest in a sin firm that does not engage in any CSR.

Our study adds to the literature and contributes to practice on multiple dimensions. While most prior research has shown positive outcomes related to CSR reporting, we demonstrate that CSR initiatives are perceived differently depending on investors' intended investment horizon and perceptions of firms' corporate identities. Our results show that engaging in the exact same CSR initiative can be beneficial to some firms and backfire on others. Specifically, we identify situations in which CSR initiatives can actually reduce investment willingness. Thus, although sin firms frequently attempt to manage shareholders' negative perceptions by engaging in and advertising proportionally more CSR activities than other firms (Grougiou et al., 2016), we show that in some cases doing so can backfire by reducing firm value. These findings stress the importance of aligning corporate identities with socially responsible initiatives in order to maximize firm value while having a positive impact on society. As such, our study can help guide firms as to the best types of CSR initiatives to engage in, and emphasize, when communicating with investors.

Our results also demonstrate the importance of considering intended investment horizons, both for researchers investigating factors that influence investor decisions and firms interested in the characteristics of their investor base. While investor characteristics are widely known to influence investment decisions, our study suggests that long-horizon investors are more sensitive to nonfinancial investment factors and value CSR initiatives more than short-horizon investors. For researchers, our results demonstrate the importance of considering the impact of investment horizons. For firms, our findings suggest that engaging in CSR activities could help them develop a larger long-horizon investor base and mitigate the stock price volatility issues associated with short-horizon investors. Finally, a better understanding of how CSR affects investment decisions will provide insights into the ongoing debate regarding the regulation of corporate CSR reporting (Christensen et al., 2018). With respect to the SEC's forthcoming proposal to require CSR disclosures (SEC, 2021), this study suggests that mandating certain CSR disclosures could reduce the value of some firms, creating incentives to refrain from engaging in actions that would otherwise help society. As such, CSR reporting regulations could reduce the amount, or change the type, of CSR initiatives in which companies engage.

2. Literature review and theory

2.1. Utility theory and investment horizon

A large body of research shows that investors derive utility from both financial and nonfinancial investment attributes (e.g., Hong and Kacperczyk, 2009; Fama and French, 2007; Rubaltelli et al., 2015). Investments in socially responsible companies can be viewed as a bundle of two characteristics that provide both financial returns and nonfinancial returns (Graff and Small, 2005; Friedman and Heinle, 2016). The nonfinancial utility gained from acting in a prosocial manner stems from investors caring about their own social identity (Benabou and

Tirole, 2003, 2010) and can act as a substitute for financial returns, causing some investors to intentionally sacrifice financial returns for societal benefits (Graff and Small, 2005; Hong and Kacperczyk, 2009; Martin and Moser 2016; Riedl and Smeets, 2017; Barber et al., 2019). Importantly, the amount of nonfinancial utility gained from a socially responsible investment is driven by a complex set of motives (Benabou and Tirole, 2010) and depends on various investment factors, including an investor's intended investment horizon (Fama and French 2007; Kitzmueller and Shimshack 2012; Starks et al., 2017).

Research shows that investors' social identities, or perceptions of belonging to a particular social group, play an important role in determining the utility derived from investment decisions (Akerlof and Kranton, 2000, 2005; Riedl and Smeets, 2017). When individuals plan to invest in a company and support their operations for long periods of time, their social identity becomes more closely tied to the company. Bauer and Smeets (2015) find that social identification mediates the impact of return expectations on judgments, suggesting that a stronger social identity increases the likelihood that investors will sacrifice financial returns for nonfinancial benefits. Thus, a company's societal interactions become increasingly important to investors as their investment horizon increases. Consistent with this notion, empirical studies document time-horizon varying investor sentiment for CSR, such that socially responsible investors have longer investment horizons than traditional investors, and companies' inclusion in social responsibility indices increases the amount of equity held by long-horizon investors (Riedl and Smeets, 2017; Starks et al., 2017 Naughton et al., 2019; Durand et al., 2019).

Compared to long-horizon investors, short-horizon investors are expected to be more concerned about the financial implications of an investment (Lie et al., 2020). Short-horizon investors are likely to view a company's engagement in CSR as an unnecessary cost that deviates

from the investors' primary goal of short-run wealth maximization (e.g., Martin and Moser, 2016) and react negatively to CSR activities, particularly if they expect a company to maximize shareholder returns instead of positively impacting society, as is often the case for sin firms. Thus, short-horizon investors are less likely to derive nonfinancial utility from the prosocial actions of a company and, in turn, will place less weight on the nonfinancial implications of an investment, with their utility maximization function driven more by return maximization.

2.2. *Corporate identities*

Theory suggests that the extent to which long-horizon investors gain nonfinancial utility from the socially responsible actions of a company also depends on certain company characteristics (Benabou and Tirole, 2010). With a seemingly endless number of potential trading options, investors will often group companies by various corporate attributes to simplify investment decisions. For example, prior research shows that firm names (e.g., dotcom names) (Cooper et al., 2001, 2005), firm investment decisions (Gilchrist et al., 2005; Polk and Sapienza, 2009), and firm social responsibility performance (Friedman and Heinle, 2016; Naughton et al., 2019) can significantly affect investment decisions and firm value. Companies perceived to be "socially responsible" enjoy benefits such as reduced cost of equity capital and enhanced reputations (Jones, 1995; Porter and Kramer, 2006, 2011; Dhaliwal et al., 2011; Cho et al., 2012), which provide incentives for companies to engage in CSR activities to appear more socially responsible.

Using a mix of these corporate attributes, investors develop perceptions of companies across various dimensions, which lead to the formation of perceived corporate identities (Balmer and Greyser, 2002; Fukukawa et al., 2007). The perceived *ethical identity* of a company is developed using information about its core profit-generating business operations to understand

the impact that a company has on society, and a company's perceived *operational identity* is developed using information about its specific products and services (Fukukawa et al., 2007; Scherer et al., 2013; Seele and Gatti, 2017). Relatively sinful firms (e.g., companies involved in alcohol, tobacco, and gambling) are plagued with negative ethical identities due to the routinely harmful impact that they have society (Durand et al., 2013; Oh et al., 2016).[2] Consistent with theory that indicates nonfinancial returns can act as a substitute for financial returns (e.g., Graff and Small, 2005; Fama and French, 2007), empirical research shows that investors tend to avoid sin firm investments, creating superior risk-adjusted stock returns known as "the sin stock premium" (Hong and Kacperczy, 2009; Zhang, 2012; Richey, 2012).

In contrast to sin firms, many companies have core business operations designed have a positive impact on society. Also described as "authentic" companies, virtue firms have core profit-generating business operations designed to create positive social benefits for society at large (Crofts, 2005; Yuan et al., 2011; Lunenberg et al., 2016). The recent emergence of benefit corporations, a legal form of business that embraces the "triple-bottom line" of people, planet, and profits (Stecker, 2016), the independent "B Corp" certification (B LAB, 2020), and third-party social rating agencies (e.g., Sustainalytics, MSCI) all highlight the growing demand from investors to identify and invest in virtue firms (USSIF, 2020).[3] Research shows that stock returns of firms perceived to be more virtuous underperform relative to sin stock risk-adjusted returns

[2] For example, Altria Group produces and sells tobacco products (e.g., Marlboro Cigarettes, Cigars, E-vapes) and alcohol (e.g., Anheuser-Busch, Ste Michelle Wine Estates). Since Altria Group routinely profits from activities that are widely known to harm society, the company is likely to have a relatively negative perceived ethical identity; however, its operational identity is directly tied to its alcohol and tobacco products.

[3] Typically, virtue companies either provide products or services that inherently have a positive impact on society or they produce products that do not inherently provide a benefit to society, but do so in a way that does benefit society. For example, there are virtue firms that engage in fair trade practices when producing their products or services (e.g., Diageo, Xylem), there are virtue firms that provide products and services to support public health (e.g., Agilent Technologies; Ecolab), and there are virtue firms that provide (or produce products that provide) green energy (e.g., NextEra Energy, First Solar, Clearway Energy).

(Durand et al., 2013), and that investors are willing to forgo higher returns to invest in relatively more virtuous companies (Riedl and Smeets, 2017; Barber et al., 2019).

2.3. *Corporate social responsibility fit*

While we define virtue firms as those whose core profit-generating activities benefit society at large, we distinguish that from CSR, which also may benefit society at large but does not directly generate profits and is not part of the core profit-generating activities of a company. Thus, firms with inherently more sinful or more virtuous core profit-generating activities may or may not choose to engage in additional CSR activities.

Prior research has identified a broad range of potential CSR fit types and emphasizes the importance of distinguishing between them when assessing stakeholder behavior (Menon and Kahn, 2003; Becker-Olsen et al., 2006; Yuan et al., 2011; Jong and Meer, 2015). Drawing on prior work (Du et al., 2010; Yuan et al., 2011; Jong and Meer, 2015; Alhouti et al., 2016; Luenberg et al., 2016), we define two types of "fit" that are relevant to our study—*ethical fit* and *operational fit*. We define *ethical fit* as the extent to which reported CSR initiatives align with the initiating company's ethical identity. That is, any CSR initiatives that are aimed at doing good for society, irrespective of the type of CSR initiative, "fit" better with virtue firms, whose impact on society is also broadly positive (i.e., there is higher ethical fit). In contrast, any CSR initiatives aimed at doing good for society are much less of an ethical fit for sin firms that typically are viewed as producing negative externalities for society (i.e., there is lower ethical fit).[4] We define *operational fit* as the extent to which the topic of a company's CSR initiative

[4] Relatedly, regulators and investors have expressed concern about many companies' *strategic* use of CSR communications to improve the companies' image rather than to improve society, commonly referred to as greenwashing (FTC, 2013; Stecker, 2016; Seele and Gatti, 2017). Aligning with our ethical fit manipulation, Scheer and Moss (2013) argue that the most common form of greenwashing is where companies tout CSR initiatives when their core businesses are inherently sinful.

aligns with the company's operational identity (Du et al., 2010; Jong and Meer, 2015).[5] A CSR initiative that relates closely to a company's products and services (i.e., high operational fit) allows the company to leverage its expertise and/or corporate identity to more effectively benefit society (Porter and Kramer, 2006; Yuan et al., 2011).[6] Thus, engaging in any CSR initiatives results in relatively high ethical fit for virtue firms and relatively low ethical fit for sin firms and, irrespective of whether a firm is sinful or virtuous, it may engage in a type of CSR that is of relatively high or low operational fit.

Corporate identities can serve as pre-existing schemas that individuals use when considering a firm's CSR initiatives (Benabou and Tirole, 2010; Du et al., 2010). Initiatives that do not fit with perceived corporate identities can cause stakeholders react to this "false identity" by making negative attributions that trigger skepticism and create dissonance (Balmer and Greyser, 2002; Forehand and Grier, 2003; Fukukawa et al., 2007; Karaosmanoglu et al., 2016; Seele and Gatti, 2017). Consistent with this, related research in consumer behavior finds that various types of CSR fit can impact consumers' perceptions of CSR authenticity and purchase intentions (Kim, 2011; Elving, 2013; Chung, 2015; Alhouti et al., 2016). In general, this line of research confirms that high fit CSR elicits more positive consumer reactions than low fit CSR (Foreh and Grier, 2003; Becker-Olsen et al., 2006; Ellen et al., 2006; Kim, 2011). However, consumers and investors have different aims and, thus, the mechanisms driving their reactions to CSR communications may differ (Sen et al., 2006; Du et al., 2010). Further, while not exploring

[5] For example, Toms Shoes' "One for One" initiative where it donates a pair of shoes for every pair purchased results in relatively high operational fit, while its initiative to train individuals to safely deliver human babies results in relatively low operational fit (Toms, 2018).

[6] CSR initiatives can take the form of providing less of a public bad (e.g., reducing emissions) or providing more of a public good (e.g., donating a portion of the products produced) (Peifer and Jing, 2015). Graff and Small (2005) note that, conceptually, this distinction makes little difference as the ultimate outcome remains the same (i.e., in either case, society benefits). For example, a company willing to make a financial sacrifice for a cleaner environment could similarly achieve this end by reducing output, increasing costs, or supporting a third-party to deliver those benefits (Graff and Small, 2005).

the influence of fit, prior research examining *investor* reactions to CSR, more broadly, suggests the mechanisms that drive investors' reactions to CSR communications are often unclear and unconscious. For example, Elliott et al. (2014) show that investors' reactions to CSR are largely unintentional, consistent with the "affect-as-information" phenomenon. Similarly, Holm and Rikhardsson (2008) find that the effects of CSR communications are unintentional for both novice and experienced investors.

Prior research also examines how various characteristics of CSR initiatives influence investors' reactions. For instance, Guiral et al. (2020) find that CSR initiatives that are "material" to a firm's business activities (i.e., in their study, a CSR initiative relating to customer satisfaction and supply chain for an apparel firm) elicit more positive investor reactions than those that are not (i.e., environmental initiatives for an apparel firm). Similarly, Cheng et al. (2015) show that investors value CSR initiatives more when they have "strategic relevance" (e.g., an initiative to reduce waste for a firm whose strategy is to produce low-cost products) than when they do not, and Khan et al. (2016) find that positive CSR ratings only benefit firms for issues categorized as material. This research suggests that *other* characteristics of CSR initiatives, such as ethical and operational fit, could also affect investor reactions to CSR initiatives (Fukukawa et al., 2007; Seele and Gatti, 2017). Further, as alluded to earlier, prior research supports the notion that high ethical fit and high operational fit will elicit more positive reactions from investors than low ethical fit and low operational fit (e.g., Du et al., 2010; Kim and Venkatachalam, 2011; Karaosmanoglu et al., 2016; Seele and Gatti, 2017).

3. Hypotheses

3.1. *Sin firms*

3.1.1. *Long-horizon investors*

Recall that, relative to short-horizon investors, long-horizon investors tend to place more weight on nonfinancial investment factors such as social perceptions of the firm and other social issues (e.g., Riedl and Smeets, 2017; Naughton et al., 2019; Durand et al., 2019). Recall also that the extent to which long-horizon investors value a firm's socially responsible behavior may depend on various corporate characteristics such as a firm's corporate identity (e.g., Cooper et al., 2001; Gilchrist et al., 2005; Naughton et al., 2019), with a firm's ethical and operational (corporate) identities particularly relevant in our setting. As such, we now consider the influence of the ethical and operational fit of a CSR initiative on long-horizon investment willingness.

First, it is likely to be salient to investors whether engaging in *any* CSR initiative fits with the firm's ethical identity (i.e., the degree of ethical fit). As previously noted, the act of engaging in CSR is consistent with the positive ethical identities of virtue firms, resulting in relatively high ethical fit. However, when long-horizon investors view a CSR initiative reported by a sin firm, the ethical fit is low, and the apparent inappropriateness of the firm's engagement in CSR is expected to create dissonance. That is, we expect that the low ethical fit of a sin firm engaging in any CSR will make long-horizon investors feel the firm's decision to engage in the initiative is disingenuous, and they will view the initiative more skeptically. We further expect that this, in turn, will reduce the investment willingness of long-horizon investors, compared to when no CSR initiative is reported.[7]

H1a. *Long-horizon investors will be less willing to invest in a sin firm that engages in low operational fit CSR compared to no CSR.*

Once a sin firm has chosen to engage in a CSR initiative, we expect there are characteristics of the specific initiative that can help mitigate the effect of its poor ethical fit.

[7] We utilize the low operational fit CSR initiative condition to identify the impact of low ethical fit in the absence of the influence of high operational fit. Thus, H1a compares the low operational fit CSR and no CSR conditions. We next consider the incremental effect of high operational fit.

Specifically, we expect the operational fit of the CSR initiative to influence long-horizon investment willingness. By leveraging its operational identity to more effectively benefit society, a CSR initiative of high operational fit could favorably impact long-horizon investors. Thus, we predict that a sin firm can help to mitigate the effect of a CSR initiative's low ethical fit by engaging in an initiative that relates closely to its products and services (i.e., high operational fit). As a result, we expect long-horizon investors to be more willing to invest in a sin firm that engages in a high operational fit CSR initiative than in a low operational fit initiative.

H1b. *Long-horizon investors will be more willing to invest in a sin firm that engages in high operational fit CSR compared to low operational fit CSR.*

While prior research suggests that high operational fit CSR may help to mitigate the negative effects of low ethical fit, it is unclear how the combination of low ethical fit and high operational fit CSR will affect investment decisions in comparison to no CSR. Thus, we ask a research question to analyze the effects of high operational fit CSR relative to no CSR. A graphical representation of the expectations for long-horizon investors for the sin firm appears in Figure 1, Panel A.

RQ. *How will high operational fit CSR affect long-horizon investment willingness in a sin firm compared to no CSR?*

3.1.2. *Short-horizon investors*

Moser and Martin (2016) argue that some CSR activities can come at an expense to shareholders in the short-term. Since short-horizon investors place greater weight on the financial implications of CSR, they may view CSR initiatives as corporate giveaways that reduce short-term returns. Since CSR is closely associated with nonfinancial investment goals (Christensen et al., 2018), the ethical fit or operational fit of a CSR initiative is less likely to affect short-horizon investors. However, the mere *existence* of a CSR initiative may affect short-horizon investment preferences. Since sin firms are expected to focus on maximizing shareholder

wealth, often at the expense of society's welfare, the financial conflict between wealth maximization and CSR is likely to be heightened for short-horizon investors of sin firms. As such, we expect the existence of any CSR to reduce short-horizon investment willingness in a sin firm compared to when the firm does not engage in CSR (see also Figure 1, Panel A).

H2. *Short-horizon investors will be less willing to invest in a sin firm that engages in either high or low operational fit CSR compared to no CSR*

3.2. *Virtue firms*

3.2.1. *Long-horizon investors*

As noted previously, it is likely to be salient to investors whether engaging in a CSR initiative fits with a firm's ethical identity or not (i.e., the degree of ethical fit). For a virtue firm, the act of engaging in *any* CSR initiative (whether of high or low operational fit) is consistent with its positive ethical identity. This relatively high ethical fit should make long-horizon investors feel the firm's decision to engage in the initiative is genuine, and they will view the initiative more favorably. As a result, we expect that engaging in any CSR initiative (whether of high or low operational fit) will, in turn, increase the investment willingness of long-horizon investors, compared to when no CSR initiative is reported.

Similar to the case for sin firms, once a virtue firm reports engaging in a CSR initiative, we expect that an initiative with relatively high operational fit can augment the effect of its high ethical fit, favorably influencing long-horizon investment willingness. That is, by leveraging its operational fit, we predict that a virtue firm can help to enhance the positive effect of CSR's high ethical fit by engaging in an initiative that relates closely to its products and services (i.e., high operational fit). As a result, we expect long-horizon investors to be more willing to invest in a virtue firm that engages in a high operational fit CSR initiative than in a low operational fit initiative. Figure 1, Panel B graphically presents our predictions for the virtue firm.

H3a: *Long-horizon investors will be more willing to invest in a virtue firm that engages in low operational fit CSR compared to no CSR.*

H3b: *Long-horizon investors will be more willing to invest in virtue firm that engages in high operational fit CSR compared to no CSR.*

H3c: *Long-horizon investors will be more willing to invest in a virtue firm that engages in high operational fit CSR compared to low operational fit CSR.*

3.2.2. *Short-horizon investors*

Virtue firms that engage in CSR initiatives present a unique situation for short-horizon investors. On the one hand, research suggests that attempts to engage in CSR can come at the expense of short-term returns, working against the primary wealth maximization goals of short-horizon investors. On the other hand, these firms are already expected to do good for society and, unlike sin firms, CSR activities align with this expectation. As such, we do not make predictions regarding the effects of CSR on short-horizon investors' willingness to invest in virtue firms. However, consistent with our expectations for short-horizon investors of sin firms, we expect short-horizon investors of virtue firms to react less to the ethical fit and operational fit of a CSR initiative than long-horizon investors.

[INSERT FIGURE 1]

4. Method

4.1. *Participants and experimental design*

We recruit 654 participants using Amazon Mechanical Turk (AMT) to take the role of individual investors.[8] Fifty-five percent of participants are male and 45 percent are female. On average, participants are 35.4 years old with 14 years of professional work experience and over 6 years of investing experience. Consistent with prior investment judgment and decision-making

[8] Approximately 40 percent of US equities are held by US households (SIFMA, 2018; see also Liu et al., 2018), and some reports suggest that up to 25% of stock market activity is attributable to retail investors in (Mecane 2020).

research using AMT, participants have completed an average of 1.37 accounting courses and 1.26 finance courses (e.g., Rennekamp, 2012; Liu et al., 2020).[9] The study uses a 2×2×3 between-participants design, manipulating *Investment Horizon* as long or short, *Company Ethical Identity* as relatively virtuous or sinful, and *CSR Type* as low operational fit, high operational fit, or no CSR. Our main dependent variable is participants' *Willingness to Invest* (e.g., Elliott et al., 2015).[10]

4.2. *Investment horizon manipulation*

At the beginning of the experiment, participants are provided with a paragraph indicating that they have set aside money for the purpose of making an investment in the stock market. In the long-horizon investment condition, they are told that their investment "will be for a very long period of time" and that they "can expect to hold the investment for at least several years". In the short-horizon investment condition, they are told the investment "will be for a very short period of time" and that they "can expect to hold the investment for less than a month".

4.3. *Company ethical identity manipulation*

Participants are then given information about two fictional companies to consider as investment options. In order to provide participants with a more realistic investment scenario, as well as additional context for making their investment judgments, participants first read about MSL Direct Corporation, a manufacturing company that has neither a clearly positive nor clearly negative ethical identity (which we refer to as the "neutral" company). The case provides details

[9] We pay each participant $3.50 to complete the task, which took an average of 16.5 minutes. We require all participants to be at least 18 years old, located in the United States, and have completed over 100 approved HITs with an approval rate greater than 98%. Additionally, similar to Liu et al. (2020), we require that participants have invested in the past or plan to invest in the future. By allowing participants to participate if they plan to invest, we gain additional assurances that the actual investment experience indicated at the end of the survey is reported accurately. Further, using the Pro Features within TurkPrime, we block duplicate IP addresses and verify participant country location.

[10] The study was administered using Qualtrics software and Internal Review Board approval was received.

of MSL's products and operations, supplies key financial information, and describes analysts' ratings of its historical risks and returns as moderate. Instead of giving participants just one investment option manipulated to have a relatively negative or positive ethical identity, the neutral company is included to give participants an additional investment option and to provide a comparison that highlights the relative ethical identity of the manipulated company.

Participants are then given information about the second company, Vividec International Corporation, which is manipulated to have a relatively negative ethical identity (hereafter "the sin firm") or relatively positive ethical identity (hereafter "the virtue firm").[11] In the sin firm condition, Vividec is as a large multi-national corporation that has multiple segments with core business operations that are widely known to harm society, including tobacco, alcohol, casinos, and adult entertainment. We operationalize this company using multiple business segments to improve generalizability and minimize differences regarding individual perceptions of ethics and morality associated with any single industry. The sin firm's goals are built around their mantra, "profits to perfection", with a focus on providing shareholders with the highest return possible. Each participant is provided with key financial information and analyst risk and return ratings that characterize the company as a relatively low risk, high return investment.[12]

The choice to operationalize the sin firm with higher returns and lower risk is consistent with reality, as prior research demonstrates that investors can obtain persistently high returns with lower risk by investing in sin firms (Hong and Kacperczyk, 2009; Kim and Venkatachalam, 2011; Langis, 2016). Specifically, due to social norms that cause investors to avoid companies

[11] To distinguish the manipulated company from the neutral company, we refer to Vividec as the "target" company (i.e., the target of our participants' primary judgment).
[12] This sin firm is similar to Altria Group, which produces and sells tobacco products (e.g., Marlboro Cigarettes) and alcohol (e.g., Ste. Michelle Wine). Aligning with research on the sin stock premium, Altria Group was the best performing stock on the market from 1925 through the end of 2003 (Siegel, 2005).

believed to harm society, sin stocks are consistently underpriced purchase opportunities and have higher risk-adjusted returns than virtue stocks (Durand et al., 2013; Riedl and Smeets, 2017; Adler and Kritzman, 2008; Hong and Kacperczyk, 2009). Since investors have nonfinancial reasons to avoid investments in sin firms and to seek investments in virtue firms, the additional financial incentives associated with these investments complicate investors' decision making (Fabozzi et al., 2008; Adler and Kritzman, 2008). We operationalize the sin firm to be a financially dominant investment to capture the inherent tension in which avoiding sin firms or seeking virtue firms can come with a financial cost (Adler and Kritzman, 2008; Hong and Kacperczyk, 2009; Riedl and Smeets, 2017). Since we are examining factors that cause investors to invest in relatively sinful firms (H1a-b, H2) and relatively virtuous firms (H3a-c), our design allows us to see when investors prioritize profits over principles within each of these settings.[13]

In the virtue firm condition, Vividec is a large multi-national corporation that has multiple business segments with core business operations designed to have a positive impact on society. The firm's business operations include producing and selling commercial equipment to reduce energy consumption and harmful emissions, providing low-cost treatment and preventative measures for a variety of cancers and diseases, and building low-cost housing and clean water systems for communities in need. The virtue firm's goals are built around their mantra "doing well by doing good", and their mission statement puts "people above profits", with the aim of creating a better world while providing shareholders with sustainable financial

[13] We deliberately operationalize the risk and reward for the sin (virtue) firm to be superior (inferior) compared to the neutral firm to examine how our manipulations lead investors to avoid sin (seek out virtue) even when it is costly to do so. Importantly, while a main effect of investors' preferences for the sin firm *compared* to the virtue firm could be driven by differences in the risk and return, we test our sin firm hypotheses within the sin firm condition only (holding the risk and return of the sin firm constant), and we test our virtue firm hypotheses within the virtue firm condition only (holding the risk and return of the virtue firm constant).

returns.[14] In the same format used to portray information for the sin firm, all participants are given key investment financials that indicate a higher risk rating and lower returns for the virtue firm than the sin firm.[15]

4.4. *CSR type manipulation*

After reading about the target company, participants receive our *CSR Type* manipulation. Recall that ethical fit is defined by the extent to which the act of reporting any CSR initiative aligns with a company's ethical identity, and operational fit is defined by the extent to which a specific initiative fits with a company's operational identity. Our CSR type manipulation uses two pre-tested CSR initiatives. One CSR initiative is designed to be a relatively good fit with the products and services of the sin firm (high operational fit) and a relatively poor fit for the virtue firm (low operational fit). The other initiative is designed to be a relatively good fit with the products and services of the virtue firm (high operational fit) and a relatively poor fit with the sin firm (low operational fit). The high operational fit CSR initiative for the sin firm serves as low operational fit for the virtue firm, and the high operational fit CSR initiative for the virtue firm serves as low operational fit for the sin firm. In the no CSR condition, participants do not receive any information about a CSR initiative.

The high operational fit CSR initiative for the sin firm (low operational fit for the virtue firm) describes the company's commitment to improving the lives of individuals around the world by pledging to reduce drunk driving and ensuring that minors have less access to adult

[14] This company is similar to the publicly traded company, Ecolab Corporation (ECL), a global leader in water, hygiene, and energy technology. Ecolab's core mission is to provide "safe food, clean water, and healthy environments". In line with their core mission, they provide "eROI" metrics that aim to quantify the "triple-bottom-line" benefits of sustainability, and they are consistently ranked highly by social rating agencies (ECOLAB, 2020).
[15] The company ethical identity manipulations were designed to maximize systematic differences between treatment levels of a manipulation, following the approach recommended by Kerlinger and Lee (2000). As is often the case with this approach, theory would suggest that a more modest manipulation would generate directionally similar predictions, albeit with smaller effect sizes.

products. The low operational fit CSR initiative for the sin firm (high operational fit for the virtue firm) appears in a similar format to the other CSR initiative and describes the company's commitment to improving the lives of individuals around the world by pledging to reduce occurrences of skin cancer. The initiative's goal of skin cancer prevention is executed by launching campaigns aimed at raising awareness of skin cancer and providing easy access to broad-spectrum sunscreens and cancer screening.[16]

4.4.1. *Pretest of CSR initiatives*

In order to ensure that the two CSR initiatives are viewed similarly, we pretest each one absent of information regarding the initiating company. Pretest participants are exposed to one of the two CSR initiatives on a between-participants basis. The CSR pretest asks participants questions to measure their perceptions of the CSR initiatives' impact on society, impact on the participants' lives, genuineness, importance, and implementation difficulty. In addition, we measure participants' willingness to invest in a company with that CSR initiative (i.e., the dependent variable in our main study) as well as expected changes to investment risk and return due to the CSR initiative.[17] Participants for the pretest are 70 individuals recruited through AMT, none of whom participated in the final experiment. Table 1 presents results of the pretest.

[Insert Table 1]

The CSR pretest confirms that each of the two CSR initiatives are viewed similarly on every dimension measured (p's > 0.10, see Table 1) except for the extent to which participants believe the CSR initiatives would directly impact them on a scale from 0 (definitely will not impact me) to 10 (definitely will impact me) ($t = 2.39$, $p = 0.020$), and the perceived genuineness

[16] The instrument indicates that the CSR initiative was announced in the recent past, suggesting that any potential financial implications of the CSR initiative are already impounded into the stock risk and return information provided to participants, and this information is held constant across CSR conditions.
[17] See the Appendix for a comprehensive list of the questions used in the pretest.

of each initiative on a scale from 0 (not at all genuine) to 10 (very genuine) ($t = 1.75$, $p = 0.085$; Table 1).[18] Importantly, without being provided any information about the initiating company, pretest participants are asked to answer the same investment willingness dependent measure used in the main experiment (see the dependent variable section below). Pretest results indicate that participants' willingness to invest is similar whether the initiative relates to skin cancer or alcohol and tobacco (means = 6.15 versus 6.36, $t = 0.51$, $p = 0.611$). This provides additional assurance that the results of the main experiment are due to the operational fit of the CSR initiative with the initiating company rather than individual components of the CSR initiatives alone. Finally, on a scale from 0 (not at all related) to 10 (very related), pretest participants are asked the extent to which the CSR initiative relates to the business operations of either the sin firm or the virtue firm. They confirm that the alcohol CSR initiative is a better fit with the sin firm (mean = 7.36) than the virtue firm (mean = 5.83, $t = 1.76$, $p = 0.044$, one-tailed), and that the skin cancer CSR initiative is a better fit with the virtue firm (mean = 7.82) than the sin firm (mean = 1.35, $t = 10.97$, $p < 0.001$, one-tailed).[19]

4.5. *Dependent variable*

Our main dependent variable is participants' *Willingness to Invest* in the target (i.e., sin or virtue) firm, computed as the average of two questions. We ask participants to rate the

[18] In the main experiment, the perceived genuineness of each CSR initiative is viewed similarly ($t = 0.27$, $p = 0.786$) and, similar to the pretest, participants appear to believe the skin cancer CSR initiative would directly impact them more than the alcohol and tobacco CSR initiative (means = 3.78 versus 3.33, $t = 1.92$, $p = 0.056$). Including this variable as a control in the tests of hypotheses provides statistically similar results and does not change our inferences. Thus, our main analyses exclude this variable. Additionally, if investment willingness is driven by the extent to which participants perceive the CSR initiative impacts them rather than our manipulation, we would expect the skin cancer initiative to be viewed more positively in both conditions; however, the results indicate that the skin cancer initiative was viewed negatively when paired with the sin firm (i.e., low operational fit) and positively when paired with the virtue firm (i.e., high operational fit).

[19] In the main experiment, we also ask the extent to which the CSR initiative relates to the business operations of each company on a scale from -5 (very unrelated) to +5 (very related). Results are consistent with the pretest. The alcohol initiative is a better fit with the sin firm than the virtue firm (means = 1.60 versus 0.97, $t = 1.79$, $p = 0.037$, one-tailed), and the skin cancer initiative is a better fit with the virtue firm than the sin firm (means = 1.24 versus -1.16, $t = 6.62$, $p < 0.001$, one-tailed).

attractiveness of an investment in the neutral and target companies on scales from 0 (very unattractive) to 10 (very attractive), and the likelihood that they would invest in each company on 0 (very unlikely) to 10 (very likely) scales. The measures reliably capture the same construct (Cronbach's alpha = 0.948). Following prior research, we average the two for a single dependent variable, *Willingness to Invest* (e.g., Elliott et al., 2015). As discussed in our results section, capturing participants' willingness to invest in the neutral company (in addition to the target company) allows us to control for participants' tendency to invest more or less in general (i.e., across both companies) as opposed to more or less in the target company alone.

5. Results

5.1. *Manipulation checks*

To test the efficacy of our manipulations, we ask participants to indicate the length of time that they plan to invest their money and the type of CSR initiative that the firm announced. The intended manipulations were successful, as 98.2 percent of the participants answered the investment horizon manipulation check question correctly and 97.1 percent of the participants answered the CSR type manipulation check question correctly following the experiment.[20] We check our company ethical identity manipulation by asking participants to rate Vividec's impact on society from very negative (-5) to very positive (+5). Consistent with a successful manipulation, participants in the virtue firm condition rate the target firm's impact on society as significantly more positive than those in the sin firm condition (means = 2.48 versus 0.37, $t = 11.77$, $p < 0.001$, one-tailed).[21,22]

[20] Inferences remain the same when those who answer incorrectly are removed. Thus, analyses use the full sample.
[21] Participants also indicate that the sin firm has a more negative impact on society than the *neutral* firm (means = 0.37 versus 1.60, $t_{325} = -6.31$, $p = < 0.001$, one-tailed), and the virtue firm has a more positive impact on society than the *neutral* firm (means = 2.48 versus 1.07, $t_{327} = 10.55$, $p = < 0.001$, one-tailed).
[22] While both a firm's ethical identity and its engagement in CSR activities may affect investors' perceived impact on society, a firm's ethical identity is derived from its core *profit-generating* activities while CSR initiatives are *cost-center* activities and, consistent with theory, our results show that CSR initiatives are not simply substitutes for

5.2. *Descriptive statistics and analysis of variance*

Table 2 provides descriptive statistics for participants' *Willingness to Invest* in the target firm for each of the 12 experimental conditions, with those means plotted in Figure 2, Panel A for the sin firm and Figure 2, Panel B for the virtue firm. In Table 3, we analyze *Willingness to Invest* by experimental condition, within a repeated-measures ANOVA. While we focus on participants' investment judgments in the sin or virtue company separately for our hypotheses tests, we also analyze their investment judgments in the neutral company in supplementary analyses.

[Insert Tables 2 and 3 and Figure 2]

In addition to our hypothesized effects, participants' willingness to invest in the target firm could be higher or lower due to individual variance in their propensity to invest more or less in general (i.e., across both the target and neutral firms). We control for this possibility by gathering participants' willingness to invest in both the target firm and a neutral firm. This gives us the opportunity to analyze the data within a repeated-measures framework, where each participant's general propensity to invest more or less across both firms serves as its own control. To the extent that some participants tend to invest more across both firms (target and neutral) while others tend to invest less across both firms, this creates an additional source of variance in investors' willingness to invest in the target firm that has nothing to do with our manipulated variables or hypotheses tests. This source of variance is captured by the "Subjects" variation in Table 3, and the F-test ($F = 1.52$, $p < 0.001$) affirms that there is significant variation in

virtuous core profit-generating business operations. We confirm that perceptions of firms' ethical identities are not affected by our operational fit manipulation, as results indicate that long-horizon investors' perceptions of the target firm's impact on society are similar when CSR has high or low operational fit for the sin firm (means = 0.72 versus 0.89, $t = 0.39$, $p = 0.694$) and the virtue firm (means = 2.83 versus 2.79, $t = 0.10$, $p = 0.924$).

participants' propensity to invest more or less across both the target and the neutral firms.[23] This repeated-measures analysis allows us to disentangle how much of this variation in willingness to invest in the target firm is explained by our manipulations as opposed to being explained by individual variation in participant-level willingness to invest in both the target and neutral firms.

Table 3 shows significant interactions involving each of our three factors. Our hypotheses make more specific predictions than are tested by the two-degrees-of-freedom interaction tests in the ANOVA in Table 3 (cf., Guggenmos, Piercey, and Agoglia, 2018 pg. 221), and thus we turn to more specific contrast tests for our hypotheses. Further, our hypotheses do not directly compare the sin and virtue companies due to the large inherent differences between them. Instead, our hypotheses focus on specific predictions about the joint effects of investment horizon and CSR operational fit for sin firms (H1a, H1b, and H2) and virtue firms (H3a-H3c).[24]

5.3. *Test of sin firm hypotheses*

Figure 1, Panel A shows our hypothesized expectations for the sin firm, and Figure 2, Panel A plots the results of participants' *Willingness to Invest* in the sin firm by experimental condition. Our planned hypotheses tests for *Willingness to Invest* in the sin firm appear in Table 4, panel A. H1a predicts that low operational fit CSR will decrease long-horizon investment willingness in the sin firm compared to no CSR. Consistent with this expectation, we find that long-horizon investors are less willing to invest in a sin firm that reports a low operational fit

[23] Using this repeated measures design can potentially (but not necessarily) increase the power of hypotheses tests, depending on whether the variance explained by participants' propensity to be high or low across both measures exceeds the additional unexplained variance added by including the neutral company as a repeated measure in the analysis (Neter et al., 1996; Winer et al., 1991). In our case, it results in a net increase in statistical power. See the notes to Table 3 for more details.

[24] Since we manipulate the sin firm to be financially dominant over the virtue firm, investment willingness among all investors is higher for the sin firm than the virtue firm. Consistent with theory, this shows that both long- and short-horizon investors value financial returns; however, as expected, we find that nonfinancial considerations affect long- more than short-horizon investors within each firm condition.

CSR initiative compared no CSR (means = 7.57 versus 8.12; t = -1.61, p = 0.053).[25] Thus, the low ethical fit and low operational fit resulting from a sin firm reporting a CSR initiative that does not fit well with its business operations appears to backfire by reducing long-horizon investment willingness, compared to when the sin firm does not report any CSR. H1b predicts that long-horizon investors will be more willing to invest in a sin firm that reports high operational fit CSR compared to low operational fit CSR. Results show that long-horizon investors' *Willingness to Invest* in a sin firm is higher when the firm reports high compared to low operational fit CSR (means = 8.13 versus 7.57, t = 1.64, p = 0.051). These results support H1a and H1b.

[Insert Table 4]

Since theory does not lead to a directional prediction for the effects of a sin firm's use of high operational fit CSR compared to no CSR, we propose a research question for this comparison. Results for the research question suggest that, for a sin firm, long-horizon investors view engaging in a CSR initiative with high operational fit as similar to not engaging in CSR (means = 8.13 versus 8.12, t = 0.02, p = 0.984, two-tailed). This suggests that high operational fit CSR can mitigate some of the negative effects associated with low operational fit CSR, but it does not appear to overcome the negative effects of low ethical fit.

H2 predicts that, compared to no CSR, short-horizon investors will be less willing to invest in a sin firm engaging in either high or low operational fit CSR. Consistent with expectations, we find that short-horizon investors prefer no CSR to both high operational fit CSR (means = 8.04 versus 7.32, t = 2.13, p = 0.017) and low operational fit CSR (means = 8.04 versus 7.49, t = 1.61, p = 0.054). The effects of high versus low operational fit CSR on short-horizon

[25] Unless otherwise noted, all p-values for tests of hypotheses are one-tailed given directional predictions, and the degrees of freedom for each test are specified in the associated table.

investment willingness in the sin firm are similar (t = 0.51, p = 0.610, two-tailed). Consistent with theory, the type of CSR initiative reported by a sin firm appears to have little effect on short-horizon investors. Rather, the existence of either type of CSR initiative reduces short-horizon investors' willingness to invest in a sin firm.

5.4. *Test of virtue firm hypotheses*

Figure 2, Panel B shows participants' mean *Willingness to Invest* in the virtue firm by experimental condition, and Table 4, panel B presents the results of the hypotheses tests. H3a predicts that long-horizon investors will be more willing to invest in a virtue firm with low operational fit CSR compared to no CSR. We find that long-horizon investors are more willing to invest in the virtue firm when it reports low operational fit CSR compared to no CSR (means = 3.45 versus 2.60, t = 2.50 p = 0.006), providing support for H3a. Consistent with our ethical fit theory, we note that low operational fit CSR impacts long-horizon investment willingness in virtue and sin firms in opposite directions. That is, compared to no CSR, low operational fit CSR *increases* long-horizon investment willingness in a virtue firm (H3a), while it *decreases* investment willingness in a sin firm (H1a).

H3b predicts that long-horizon investment willingness will be higher for a virtue firm with high operational fit CSR compared to no CSR. In support of H3b, we find that long-horizon investors are more willing to invest in a virtue firm with high operational fit CSR than no CSR (means = 4.43 versus 2.60, t = 5.31, p < 0.001). H3c predicts that long-horizon investment willingness will be higher when a virtue firm reports high compared to low operational fit CSR. Results show that high operational fit CSR elicits higher long-horizon investment willingness than low operational fit CSR (means = 4.43 versus 3.45, t = 2.93, p = 0.002), supporting H3c. In contrast to long-horizon investors, short-horizon investors find the virtue firm to be relatively

unappealing, regardless of CSR condition ($F_{2,642} = 1.16$, $p = 0.314$, untabulated).[26]

Taken together, our findings show that, for sin firms, CSR initiatives can backfire among short-horizon investors, and also among long-horizon investors when operational fit is low. In contrast, both high and low operational fit CSR initiatives are viewed positively by long-horizon investors of virtue firms, though these firms can maximize their return on CSR investments by engaging in high operational fit CSR.[27]

5.5. *Supplementary analyses*

5.5.1. *Perceptions of the financial impact of CSR*

Notwithstanding that our instrument holds the financial implications of each CSR initiative constant across CSR type conditions (i.e., any effect of CSR activities should already be impounded in share price; see footnote 17), participants may still *perceive* differences in the profitability of CSR activities. Thus, to assess whether the perceived financial impact of CSR initiatives may influence investment willingness, we ask participants in the high and low operational fit CSR conditions "To what extent do you believe that your return for an investment in Vividec International will decrease or increase due to the CSR initiative?" on a scale from -5 (definitely decrease) to +5 (definitely increase). For the sin firm, we find that long-horizon investors' expected returns do not differ whether the sin firm engages in high (mean = 1.39) or

[26] Untabulated results also show that long-horizon investors are more willing to invest in a virtue firm with high operational fit CSR than short-horizon investors (4.43 versus 3.14; $t_{642} = 3.82$, $p < 0.001$). Similarly, long-horizon investors are more willing to invest in a virtue firm with low operational fit CSR than short-horizon investors (3.45 versus 2.70, $t_{642} = 2.24$, $p = 0.013$). In contrast, long- and short-horizon investors report similarly low levels of investment willingness in virtue firms with no CSR (2.60 versus 2.71, $t_{642} = 0.31$, $p = 0.753$, two-tailed). Figure 2, Panel B graphically depicts these means.

[27] We note that, consistent with theory, the pattern of results for CSR operational fit and investment horizon is consistent across firm type such that high operational fit CSR is always viewed more positively than low operational fit CSR, and short-horizon investors value CSR less than long-horizon investors, irrespective of operational fit. This pattern of results simply shifts relative to no CSR depending on whether the firm is more sinful or virtuous. It is also interesting to note that the exact same skin cancer CSR initiative that negatively impacts long-horizon investors when initiated by a sin firm (H1a) has the most positive effect when initiated by the virtue firm (H3b).

low operational fit CSR (mean = 1.29, p = 0.762, two-tailed). Further, even though long-horizon investors on average believe the low operational fit initiative will actually *increase* returns (mean = 1.29 > 0, t_{51} = 4.78, p ≤ 0.001, 95% CI = 0.75:1.83), they are *less* willing to invest when the sin firm engages in low operational fit CSR. That is, the low operational fit CSR initiative actually backfires among long-horizon investors evaluating the sin company (compared to no CSR or to high operational fit CSR) even though investors perceived it as being profitable (and similarly profitable to the high operational fit initiative). This suggests that our findings for investment willingness are not exclusively explained by the perceived financial implications of the CSR initiatives and that *nonfinancial* factors (e.g., social perceptions of the firm and other social issues) do come into play.

For the virtue firm, long-horizon investors do view the high operational fit CSR initiative as more profitable (mean = 0.75) than the low fit initiative (mean = 0.05, p = 0.033, two-tailed). As such, the difference in investment willingness for the high and low fit initiatives appears to be at least partly due to financial factors. However, long-horizon investors' do not believe that their returns will increase (or decrease) for the virtue firm engaging in low operational fit CSR (mean = 0.05, t_{56} = 0.23, p = 0.822, 95% CI = -0.41:0.52). That is, long-horizon investors do not view the low operational fit CSR initiative as profitable, yet the low fit initiative increases their investment willingness. This suggests that, similar to the sin firm, profit motives also do not exclusively explain investment willingness for the virtue firm.

5.5.2. *Perceived altruism and genuineness of CSR*

We also ask our participants two questions about how altruistic and genuine they feel the CSR initiative is, to see if ethical fit and/or operational fit appear to consciously affect participants' perceptions of the initiative. Specifically, participants indicate how much they

believe the company's CSR motivations are self-serving (-5) or altruistic (+5) and how genuine they feel the CSR report is, from very disingenuous (-5) to very genuine (+5). To explore the potential for a conscious effect of ethical fit, we compare long-horizon investors' responses to the altruism and genuineness questions across firm type (i.e., sinful/virtuous). We find that investors believe management's motives for engaging in CSR are more altruistic for the virtue firm than for the sin firm (means = 0.64 versus -0.43, $t_{430} = 4.12$, $p < 0.001$, two-tailed). Similarly, investors believe the CSR initiatives are more genuine when engaged in by the virtue firm than the sin firm (means = 2.08 versus 1.40, $t_{430} = 3.15$, $p = 0.002$, two-tailed). To examine the potential of a conscious effect of operational fit, we compare long-horizon investors' responses to the altruism and genuineness questions across CSR type (high or low operational fit). For the altruism question, we observe no differences between the high and low operational fit CSR initiatives for the sin firm (means = -0.75 versus 0.00, $t_{430} = 1.44$, $p = 0.151$, two-tailed) or the virtue firm (means = 0.92 versus 0.98, $t_{430} = 0.11$, $p = 0.911$, two-tailed). With respect to perceived genuineness, we also find no differences between the high and low operational fit initiatives for either the sin firm (means = 1.48 versus 1.56, $t_{430} = 0.17$, $p = 0.862$, two-tailed) or the virtue firm (means = 2.19 versus 2.63, $t_{430} = 1.03$, $p = 0.304$, two-tailed).

Thus, even though both ethical fit and operational fit influence long-horizon investors' investment willingness as predicted, these investors only appear to be consciously aware of the effects of ethical fit on how altruistic and genuine the CSR initiative appears (which, as noted earlier, is likely more salient to investors). That is, our findings suggest that participants have some awareness of how the ethical fit between a company and its CSR influences their judgments, but appear to lack awareness of how operational fit influences their deliberative processes. As Asay et al. (2021) note, even when individuals are trying to engage in quite

deliberative processes, they may often be unaware of how some factors (including drivers of item attractiveness and their own affective reactions) influence their judgment processes. Our findings suggest this is the case with the operational fit of a CSR initiative.

5.5.3. *Test of the neutral firm*

We also analyze participants' *Willingness to Invest* in the neutral firm within our repeated-measures ANOVA. Our primary purpose of including the neutral firm in the study is to provide participants with context for their investment choices. That is, including a more neutral alternative should help participants better understand the relatively sinful or virtuous nature of the target firm. We find a main effect of investor horizon on participants' *Willingness to Invest* in the neutral firm ($F_{1,642} = 32.38$, $p < 0.001$), such that long-horizon investors are generally more willing to invest in the neutral firm than short-horizon investors (means = 7.06 versus 6.27). We observe a similar main effect of investor horizon for the target firm manipulation ($F = 12.23$, $p = 0.001$, Table 3) and across both types of investments (target or neutral firm; $F_{1,642} = 27.76$, $p < 0.001$), suggesting that short-horizon investors generally exhibit greater caution than long-horizon investors, who more easily commit to investing in general. Otherwise, we find do not find other significant effects on participants' willingness to invest in the neutral company ($F_{10,642} = 1.18$, $p = 0.304$).[28]

6. Discussion and conclusions

In recent years, public companies have faced increasing pressure to engage in socially responsible initiatives and, as a result, most large- and mid-sized companies around the world now conduct and report on CSR initiatives on a regular basis (KPMG, 2020). Yet, our understanding of factors that influence how investors perceive and react to such disclosures is

[28] Participants' willingness to invest in the neutral firm is similar whether they are in the sin or virtue firm condition (means = 6.65 versus 6.70, $F_{1,652} = 0.13$, $p = 0.724$, two-tailed, untabulated).

limited. Our study explores several factors that could influence how investors view companies' CSR activities. We conduct an experiment to examine how CSR ethical fit, operational fit, and investor horizon affect investors' willingness to invest in sin and virtue firms. We find that, in certain circumstances, well-meaning CSR initiatives can backfire by reducing investment willingness, while in others they can serve to encourage investment.

Although sin firms have been shown to report and advertise a proportionally large number of standalone CSR initiatives in an attempt to improve their reputations (Grougiou et al., 2016; Oh et al., 2016), we find that reporting CSR initiatives that do not relate directly to their business operations (i.e., low operational fit) can reduce long-horizon investment willingness. Importantly, we provide evidence suggesting that these reactions are driven largely by nonfinancial investment factors. For virtue firms, we find that both high and low operational fit CSR initiatives increase long-horizon investment willingness relative to no CSR reporting. Yet, virtue firms benefit most from engaging in high operational fit CSR. These findings can help managers to more effectively determine the best types of CSR initiatives to engage in and to highlight when communicating with investors and, in turn, maximize the return on their CSR investment while simultaneously having a positive impact on society.

Our study also identifies consequences of CSR reporting based on investors' intended investment horizon. Although financial investment implications are important to both long- and short-horizon investors, long-horizon investors maximize their expected utility by weighing nonfinancial investment implications more heavily than do short-horizon investors. As a result, the effects of CSR ethical and operational fit are more pronounced for long-horizon investors than short-horizon investors. This finding informs researchers by documenting the importance of considering investment horizon in future studies that incorporate nonfinancial investment

information (e.g., the prosocial actions of a company). Interestingly, we also show that short-horizon investors of sin firms are most willing to invest when the firm does not report any CSR initiative. Consistent with concerns raised by Christensen et al. (2018), our findings suggest that a regulatory CSR reporting mandate could cause some managers to scale back CSR activities depending on the primary investment horizon of their investor base. Our results also suggest that that companies with a primarily long-horizon investor base may be rewarded more for engaging in CSR activities, and that CSR activities may help companies to attract more long-horizon investors.

References

Adler, T., Kritzman M., 2008. The cost of socially responsible investing. Journal of Portfolio Management 35 (1), 52-56.

Akerlof, G.A., Kranton, R.E., 2000. Economics and Identity. The Quarterly Journal of Economics 115 (3), 715–753.

Akerlof, G.A., Kranton, R.E., 2005. Identity and the Economics of Organizations. Journal of Economic Perspectives 19 (1): 9–32.

Alhouti, S., Johnson, C.M., Holloway B.B., 2016. Corporate social responsibility authenticity: Investigating its antecedents and outcomes. Journal of Business Research 69 (3), 1242–1249.

Andreoni, J., 1989. Giving with Impure Altruism: Applications to Charity and Ricardian Equivalence. Journal of Political Economy 97 (6), 1447–1458.

Andreoni, J., 1990. Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving. The Economic Journal 100 (401), 464–477.

Aqueveque, C., Rodrigo, P., Duran, I.J., 2018. Be bad but (still) look good: Can controversial industries enhance corporate reputation through CSR initiatives? Business Ethics: A European Review 27 (3), 222–237.

Asay, H.S., Guggenmos, R., Kadous, K., Koonce, L., Libby, R., 2021. Theory Testing and Process Evidence in Accounting Experiments. SSRN Scholarly Paper. Rochester, NY: Social Science Research Network.

Balmer, J.M., Greyser, S.A., 2002. Managing the multiple identities of the corporation. California management review 44 (3), 72–86.

Barber, B.M., Morse, A., Yasuda, A., 2019. Impact Investing. SSRN Scholarly Paper. Rochester, NY: Social Science Research Network, 3508561.

Bauer, R., Smeets, P., 2015. Social identification and investment decisions. Journal of Economic Behavior & Organization 117, 121–134.

Becker-Olsen, K.L., Cudmore, B.A., Hill, R.P., 2006. The impact of perceived corporate social responsibility on consumer behavior. Journal of Business Research 59 (1), 46–53.

Ben and Jerry's, 2019. Issues We Care About. https://www.benjerry.com/values/issues-we-care-about

Bénabou, R., Tirole, J., 2003. Intrinsic and Extrinsic Motivation. The Review of Economic Studies 70 (3), 489–520.

Bénabou, R., Tirole, J., 2010. Individual and Corporate Social Responsibility. Economica 77 (305), 1–19.

Cha, M.K., Yi, Y., Bagozzi, R.P., 2016. Effects of Customer Participation in Corporate Social Responsibility (CSR) Programs on the CSR-Brand Fit and Brand Loyalty. Cornell Hospitality Quarterly 57 (3), 235–249.

Chakravarthy, J., de Haan, E., Rajgopal, S., 2014. Reputation Repair After a Serious Restatement. Accounting Review 89 (4), 1329–1363.

Cheng, M.M., Green W.J., Ko, J.C.W., 2015. The impact of strategic relevance and assurance of sustainability indicators on investors' decisions. Auditing: A Journal of Practice & Theory 34 (1), 131–162.

Christensen, H.B., Hail, L., Leuz, C., 2018. Economic Analysis of Widespread Adoption of CSR and Sustainability Reporting Standards. SSRN Scholarly Paper. Rochester, NY: Social Science Research Network.

Christensen, H.B., Hail, L., Leuz, C., 2021. Mandatory CSR and sustainability reporting: economic analysis and literature review. Review of Accounting Studies, 1–73.
Cho, C.H., Guidry, R.P., Hageman, A.M., Patten, D.M., 2012. Do actions speak louder than words? An empirical investigation of corporate environmental reputation. Accounting, Organizations and Society 37 (1), 14–25.
Chung, E.J., 2015. Examining the effectiveness of using CSR communications in apology statements after negative publicity. New York: Syracuse University.
Crofts, N., 2005. Authentic business: How to create and run your perfect business. Capstone.
Cui, J., Jo, H., Na, H., 2016. Does Corporate Social Responsibility Affect Information Asymmetry? Journal of Business Ethics, 1–24.
Dhaliwal, D.S., Oliver, Z.L., Tsang, A., Yong, G.Y., 2011. Voluntary Nonfinancial Disclosure and the Cost of Equity Capital: The Initiation of Corporate Social Responsibility Reporting. Accounting Review 86 (1), 59–100.
Du, S., Bhattacharya, C.B., Sen, S., 2010. Maximizing Business Returns to Corporate Social Responsibility (CSR): The Role of CSR Communication. International Journal of Management Reviews 12 (1), 8–19.
Durand, R.B., Koh, S., Limkriangkrai, M., 2013. Saints versus Sinners. Does morality matter? Journal of International Financial Markets, Institutions and Money 24, 166–183.
Durand, R., Paugam, L., Stolowy, H., 2019. Do Investors Actually Value Sustainability Indices? Replication, Development, and New Evidence on CSR Visibility. SSRN Scholarly Paper. Rochester, NY: Social Science Research Network.
Ellen, P.S., Webb, D.J., Mohr, L.A., 2006. Building corporate associations: Consumer attributions for corporate socially responsible programs. Journal of the Academy of Marketing Science 34 (2), 147–157.
Elliott, W.B., Grant, S.M., Rennekamp, K.M., 2017. How Disclosure Features of Corporate Social Responsibility Reports Interact with Investor Numeracy to Influence Investor Judgments. Contemporary Accounting Research 34 (3), 1596-1621.
Elliott, W.B., Jackson, K.E., Peecher, M.E., White, B.J., 2014. The Unintended Effect of Corporate Social Responsibility Performance on Investors' Estimates of Fundamental Value. Accounting Review 89 (1), 275–302.
Elliott, W.B., Rennekamp, K., White, B., 2015. Does concrete language in disclosures increase willingness to invest? Review of Accounting Studies 20 (2), 839–865.
Elving, W.J.L., 2013. Skepticism and corporate social responsibility communications: The influence of fit and reputation. Journal of Marketing Communications 19 (4), 277–292.
Fama, E.F., French, K.R., 2007. Disagreement, tastes, and asset prices. Journal of Financial Economics 83 (3), 667–689.
Fabozzi, F.J., Ma, K.C., Oliphant, B.J., 2008. Sin Stock Returns. Journal of Portfolio Management 35(1), 82-94.
Farrell, A.M., Grenier, J.H., Leiby, J., 2017. Scoundrels or Stars? Theory and Evidence on the Quality of Workers in Online Labor Markets. The Accounting Review 92 (1), 93–114.
Fein, S., Hilton, J.L., Miller, D.T., 1990. Suspicion of ulterior motivation and the correspondence bias. Journal of Personality and Social Psychology 58 (5), 753.
Forehand, M.R., Grier, S., 2003. When is honesty the best policy? The effect of stated company intent on consumer skepticism. Journal of Consumer Psychology 13 (3), 349–356.
Friedman, H. L., Heinle, M.S., 2016. Taste, information, and asset prices: implications for the valuation of CSR. Review of Accounting Studies 21 (3), 740–767.

Federal Trade Commission (FTC), 2013. FTC Cracks Down on Misleading and Unsubstantiated Environmental Marketing Claims. Federal Trade Commission Press Release. https://www.ftc.gov/news-events/press-releases/2013/10/ftc-cracks-down-misleading-unsubstantiated-environmental.

Fukukawa, K., Balmer, J.M.T., Gray, E.R., 2007. Mapping the Interface Between Corporate Identity, Ethics and Corporate Social Responsibility. Journal of Business Ethics 76 (1), 1–5.

Gatti, L., Seele, P., 2015. CSR through the CEO's pen. UWF Umwelt Wirtschafts Forum 23 (4), 265–277.

Geczy, C., Stambaugh, R.F., Levin, D., 2005. Investing in Socially Responsible Mutual Funds (SSRN Scholarly Paper No. ID 416380). Rochester, NY: Social Science Research Network.

Gilbert, D.T., 1989. Thinking lightly about others: Automatic components of the social inference process. Unintended thought. (pp. 189–211). New York, NY, US: Guilford Press.

Global Sustainable Investment Alliance, 2014. Global Sustainable Investment Review. http://www.gsi-alliance.org/wp-content/uploads/2015/02/GSIA_Review_download.pdf

Gödker, K., Mertins, L., 2018. CSR Disclosure and Investor Behavior: A Proposed Framework and Research Agenda. Behavioral Research in Accounting 30 (2), 37–53.

Graff, Z.J., Small, A., 2005. A Modigliani-Miller Theory of Altruistic Corporate Social Responsibility. The B.E. Journal of Economic Analysis & Policy 5 (1).

Grougiou, V., Dedoulis, E., Leventis, S., 2016. Corporate Social Responsibility Reporting and Organizational Stigma: The Case of "Sin" Industries. Journal of Business Research 69 (2), 905–914.

Guggenmos, R.G., Piercey, M.D., Agoglia, C.P., 2018. Custom Contrast Testing: Current Trends and a New Approach. The Accounting Review 93 (5), 223-244.

Guiral, A., Moon, D., Tan, H.T., Yu, Y., 2020. What Drives Investor Response to CSR Performance Reports? Contemporary Accounting Research 37 (1), 101–130.

Hazen, T.L., 1991. Short-Term/Long-Term Dichotomy and Investment Theory: Implications for Securities Market Regulation and for Corporate Law, The North Carolina Law Review 70, 137–208.

Holm, C., Rikhardsson, P., 2008. Experienced and Novice Investors: Does Environmental Information Influence Investment Allocation Decisions? European Accounting Review 17 (3), 537–557.

Hong, H., Kacperczyk, M., 2009. The price of sin: The effects of social norms on markets. Journal of Financial Economics 93 (1), 15–36.

Huang, X.B., Watson, L., 2015. Corporate social responsibility research in accounting. Journal of Accounting Literature 34, 1–16

Jespersen, S., 2019. Purpose Is Not CSR, It's Just Good Business. Forbes, April.

Jin-Zhang, 2012. Are Sin Firms Less Likely to Manage Their Earnings? Journal of Theoretical Accounting Research, 8(1), 54–72.

Jong, M.D.T., Meer, M., 2015. How Does It Fit? Exploring the Congruence Between Organizations and Their Corporate Social Responsibility (CSR) Activities. Journal of Business Ethics, 1–13.

Junkus, J., Berry, T.D., 2015. Socially responsible investing: a review of the critical issues. Managerial Finance 41 (11), 1176–1201.

Karaosmanoglu, E., Altinigne, N., Isiksal, D.G., 2016. CSR motivation and customer extra-role behavior: Moderation of ethical corporate identity. Journal of Business Research 69 (10), 4161–4167.
Khan, M., Serafeim, G., Yoon, A., 2016. Corporate Sustainability: First Evidence on Materiality. The Accounting Review 91 (6), 1697–1724.
Kim, Y., Park, M.S., Wier, B., 2012. Is Earnings Quality Associated with Corporate Social Responsibility? Accounting Review 87 (3), 761–796.
Kim, I., Venkatachalam, M., 2011. Are Sin Stocks Paying the Price for Accounting Sins? Journal of Accounting, Auditing and Finance 26 (2), 415–442.
Kitzmueller, M., Shimshack, J., 2012. Economic Perspectives on Corporate Social Responsibility. Journal of Economic Literature 50 (1), 51–84.
Koonce, L., McAnally, M.L., Mercer, M., 2005. How Do Investors Judge the Risk of Financial Items? Accounting Review 80 (1), 221–241.
KPMG, 2020. The KPMG Survey of Sustainability Reporting 2020. http://www.home.kpmg/sustainabilityreporting
Lancaster, K., 1996. Mixing Government with Voluntaryism. Columbia University Department of Economics Discussion Papers, 9596-34.
Langis, B., 2016. Altria Group Inc. - One Of The Best-Performing Stocks Ever. http://seekingalpha.com/article/4026666-altria-group-inc-one-best-performing-stocks-ever
Liu, Y., Huang, Z., Jiang, L., Messier, W.F., 2020. Are Investors Warned by Disclosure of Conflicts of Interest? The Moderating Effect of Investment Horizon. Accounting Review 95 (6), 291–310.
Mace, M., 2019. Will 2020 be the year of mandatory climate disclosure? *Edie Newsroom*, December. https://www-edie-net.cdn.ampproject.org/c/s/www.edie.net/amp-news/7/Will-2020-be-the-year-of-mandatory-climate-disclosure-/
Martin, P.R., Moser, D.V., 2016. Managers' green investment disclosures and investors' reaction. Journal of Accounting and Economics 61 (1), 239–254.
Mecane, J., 2020. Citadel Securities Says Retail is 25% of the Market During Peaks. *Bloomberg*, July. https://www.bloomberg.com/news/articles/2020-07-09/citadel-securities-says-retail-is-25-of-the-market-during-peaks
Menon, S., Kahn, B.E., 2003. Corporate Sponsorships of Philanthropic Activities: When Do They Impact Perception of Sponsor Brand? Journal of Consumer Psychology 13 (3), 316.
Morgan Stanley, 2019. Sustainable Signals: Individual and Investor Interest Driven by Impact, Conviction, and Choice. Institute for Sustainable Investing.
Morningstar, 2016. Sustainable Investing Takes Off.
Moser, D.V., Martin, P.R., 2012. A Broader Perspective on Corporate Social Responsibility Research in Accounting. Accounting Review 87 (3), 797–806.
Naughton, J.P., Wang, C., Yeung, I., 2019. Investor Sentiment for Corporate Social Performance. Accounting Review 94 (4), 401–420.
Neter, J., Kutner, M.H., Nachtsheim, C. J., Wasserman, W., 1996. Applied Statistical Linear Models, 4th Ed. McGraw-Hill.
Oh, H., Bae, J., Kim, S.J., 2016. Can Sinful Firms Benefit from Advertising Their CSR Efforts? Adverse Effect of Advertising Sinful Firms' CSR Engagements on Firm Performance. Journal of Business Ethics, 1–21.

Peifer, J., Jing-Liu, 2015. The Morality of Socially Responsible Investing: Moral Foundations, Screening and Advocacy. Academy of Management Annual Meeting Proceedings, 1.
Plumlee, M., Brown, D., Hayes, R.M., Marshall, R.S., 2015. Voluntary environmental disclosure quality and firm value: Further evidence. Journal of Accounting and Public Policy 34 (4), 336–361.
Porter, M.E., Kramer, M.R., 2006. The link between competitive advantage and corporate social responsibility. Harvard Business Review 84 (12), 78–92.
Rennekamp, K., 2012. Processing Fluency and Investors' Reactions to Disclosure Readability. Journal of Accounting Research 50 (5), 1319–1354.
Revelli, C., Viviani, J.L., 2015., Financial performance of socially responsible investing (SRI): what have we learned? A meta-analysis. Business Ethics: A European Review 24 (2), 158–185.
Richey, G.M., 2012. Does Vice Pay? A Traditional Investigation of "Irresponsible" Investing. In The Business and Management Review 2, 321–328.
Riedl, A., and Smeets, P., 2017. Why do investors hold socially responsible mutual funds? Journal of Finance 72 (6), 2505-2550.
Rubaltelli, E., Lotto, L., Ritov, I., Rumiati, R., 2015. Moral investing: Psychological motivations and implications. Judgment and Decision Making 10 (1), 64–75.
Sabbaghi, O., Xu, M., 2013. ROE and Corporate Social Responsibility: Is There a Return On Ethics? Journal of Accounting and Finance 13 (4), 82–95.
Scherer, A.G., Palazzo, G., Seidl, D., 2013. Managing Legitimacy in Complex and Heterogeneous Environments: Sustainable Development in a Globalized World. Journal of Management Studies 50 (2), 259–284.
Securities and Exchange Commission (SEC), 2021. Public Input Welcomed on Climate Change Disclosures. https://www.sec.gov/news/public-statement/lee-climate-change-disclosures
Seele, P., Gatti, L., 2017. Greenwashing Revisited: In Search of a Typology and Accusation-Based Definition Incorporating Legitimacy Strategies. Business Strategy and the Environment 26 (2), 239–252.
Sherman, J.W., Gawronski, B., Gonsalkorale, K., Hugenberg, K., Allen, T.J., Groom, C.J., 2008. The self-regulation of automatic associations and behavioral impulses. Psychological Review 115 (2), 314-335.
Siegel, J.J., 2005. The Future for Investors: Why the Tried and the True Triumphs Over the Bold and the New. Crown Business.
Securities Industry and Financial Markets Association (SIFMA). 2018. SIFMA Fact Book 2018. New York, NY: SIFMA.
Sen, S., Bhattacharya, C.B., Korschun, D., 2006. The Role of Corporate Social Responsibility in Strengthening Multiple Stakeholder Relationships: A Field Experiment. Journal of the Academy of Marketing Science 34 (2), 158–166.
Sohn, Y.S., Han, J. K., Lee, S.H., 2012. Communication strategies for enhancing perceived fit in the CSR sponsorship context. International Journal of Advertising: The Quarterly Review of Marketing Communications 31 (1), 133–146.
Stecker, M.J., 2016. Awash in a Sea of Confusion: Benefit Corporations, Social Enterprise, and the Fear of "Greenwashing." Journal of Economic Issues 50 (2), 373–381.
Starks, L.T., Venkat, P., Zhu, Q., 2017. Corporate ESG Profiles and Investor Horizons. SSRN Scholarly Paper. Rochester, NY: Social Science Research Network.

Theroux, J., 1993. Ben & Jerry's Homemade Ice Cream, Inc: Keeping the Mission(s) Alive. Harvard Business Publishing, 9-392-025.
Toms, 2018. Gift of Safe Birth, TOMS Giving. http://www.toms.com/what-we-give-safe-births
USSIF, 2020. Report on US Sustainable, Responsible and Impact Investing Trends, Responsible and Impact Investing Trends. https://www.ussif.org/files/trends.
Vries, G., Terwel, B.W., Ellemers, N., Daamen, D.D.L., 2015. Sustainability or Profitability? How Communicated Motives for Environmental Policy Affect Public Perceptions of Corporate Greenwashing. Corporate Social Responsibility and Environmental Management 22 (3), 142–154.
Winer, B.J., Brown, D.R., Michels K.M., 1991. Statistical Principles in Experimental Design, 3rd Ed.
Yuan, W., Yongjian, B., Verbeke A., 2011. Integrating CSR initiatives in business: An organizing framework. Journal of Business Ethics 101 (1), 75-92.

Appendix

CSR initiative pretest questions

1) To what extent do you believe this CSR report will influence the level of risk investors will face, if at all? *(-5 Definitely Lower Risk, 0 Neither Decrease nor Increase Risk, 5 Definitely Increase Risk)*

2) To what extent do you believe this CSR report will influence investors' future returns, if at all? *(-5 Definitely Lower Returns, 0 Neither Decrease nor Increase Returns, 5 Definitely Increase Returns)*

3) How difficult or easy do you believe this CSR initiative will be to implement? *(-5 Very Difficult, 5 Very Easy)*

4) How sad or happy did the CSR report make you feel? *(-5 Very Sad, 5 Very Happy)*

5) How difficult or easy was it to read the CSR report? *(-5 Very Difficult, 5 Very Easy)*

6) How attractive would an investment in a company that recently announced this CSR initiative be? *(0 Very Unattractive, 10 Very Attractive)*

7) How likely would you be to invest in a company that recently announced this CSR initiative? *(0 Very Unlikely, 10 Very Likely)*

8) To what extent do you believe this CSR initiative would directly impact you? *(0 Definitely Will Not Impact Me, 10 Definitely Will Impact Me)*

9) What proportion of the population do you believe this CSR initiative would have a significant impact on? *(0 Very Small Proportion, 10 Very Large Proportion)*

10) How likely is it that this CSR initiative would have a positive impact on society? *(0 Very Unlikely, 10 Very Likely)*

11) How small or large of a positive impact do you believe this CSR initiative would have on society? *(0 Very Small Impact, 10 Very Large Impact)*

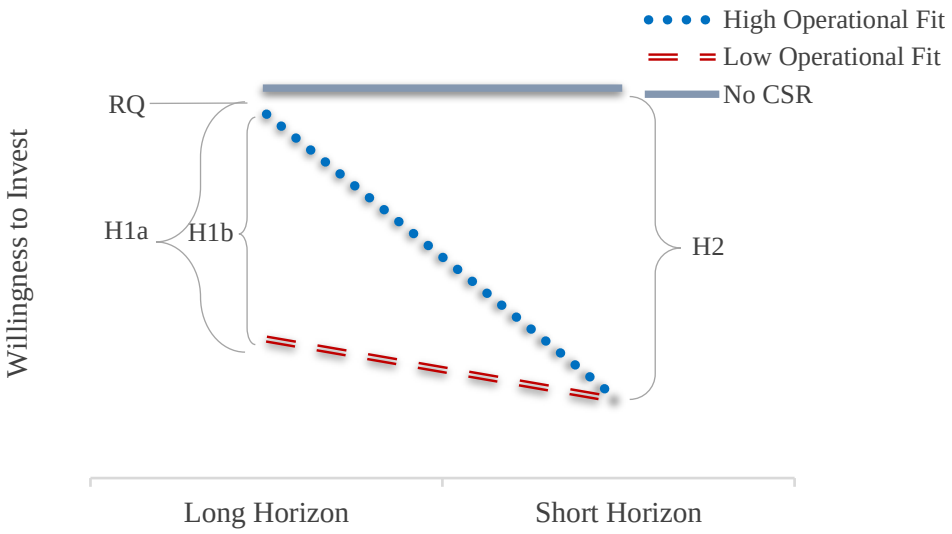
12) How important is this CSR initiative? *(0 Not at All Important, 10 Very Important)*

13) How genuine does this CSR report appear to be? *(0 Not at All Genuine, 10 Very Genuine)*

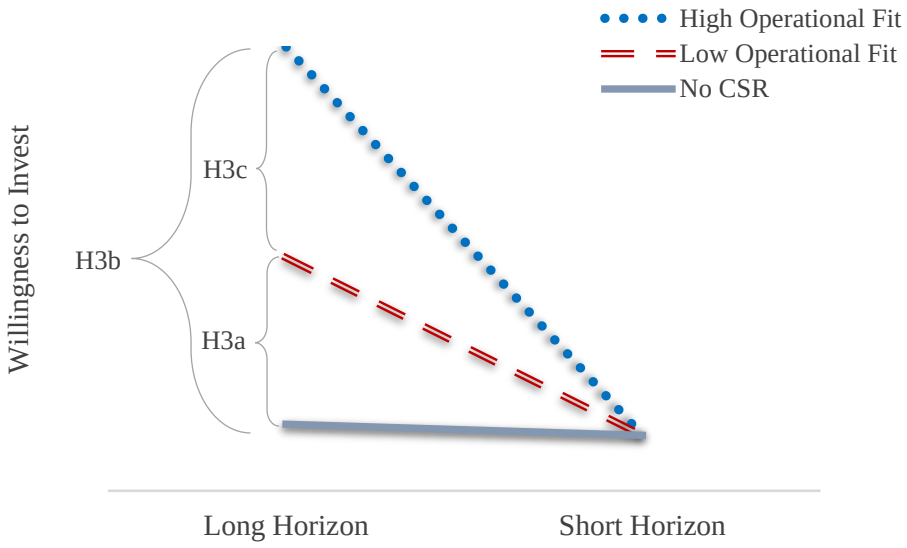
14) How persuasive was the CSR report? *(0 Not at All Persuasive, 10 Very Persuasive)*

Figure 1
Pattern of willingness to invest predictions

Panel A: Sin firm predictions



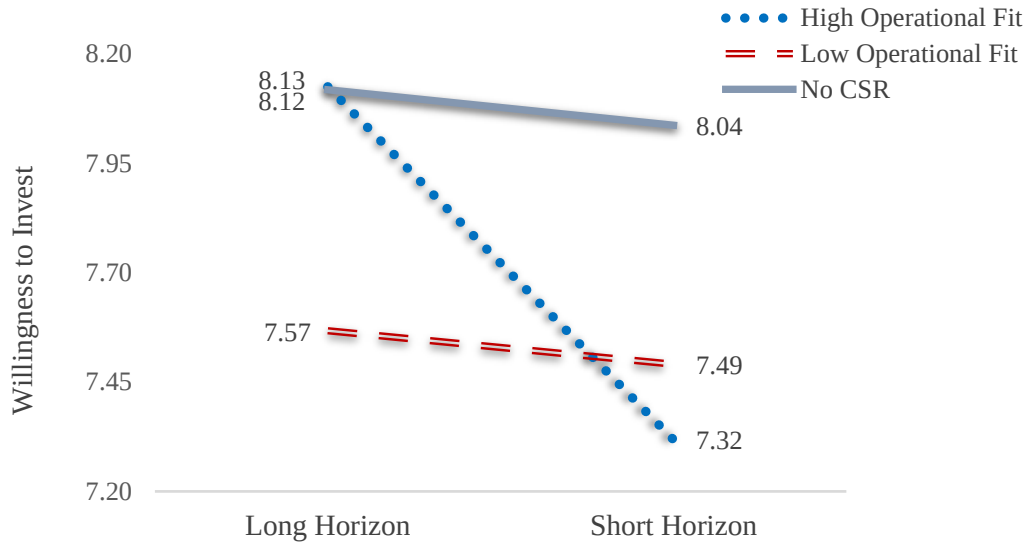
Panel B: Virtue firm predictions



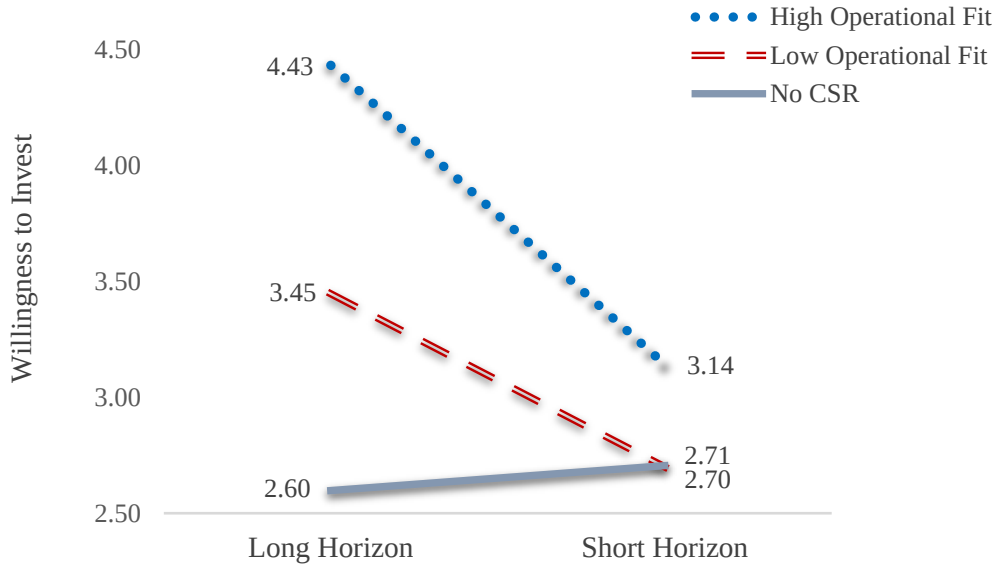
Participants' willingness to invest is the average of investment attractiveness and investment likelihood ratings. Investment attractiveness is captured on a scale from 0 "very unattractive" to 10 "very attractive", and investment likelihood is captured on a scale from 0 "very unlikely" to 10 "very likely".
High operational fit indicates that participants saw the sin firm and alcohol and tobacco CSR report, or they saw the virtue firm and the skin cancer CSR report.
Low operational fit indicates that participants saw the sin firm and skin cancer CSR report, or they saw the virtue firm and the alcohol and tobacco CSR report.
No CSR indicates that participants did not see any CSR report.
Long horizon investors were told that they intend to hold the investment for "at least several years".
Short horizon investors were told that they intend to hold the investment for "less than a month".

Figure 2
Pattern of willingness to invest results

Panel A: Sin firm results



Panel B: Virtue firm results



Participants' willingness to invest is the average of investment attractiveness and investment likelihood ratings. Investment attractiveness is captured on a scale from 0 "very unattractive" to 10 "very attractive", and investment likelihood is captured on a scale from 0 "very unlikely" to 10 "very likely".
High operational fit indicates that participants saw the sin firm and alcohol and tobacco CSR report, or they saw the virtue firm and the skin cancer CSR report.
Low operational fit indicates that participants saw the sin firm and skin cancer CSR report, or they saw the virtue firm and the alcohol and tobacco CSR report.
No CSR indicates that participants did not see any CSR report.
Long horizon investors were told that they intend to hold the investment for "at least several years".
Short horizon investors were told that they intend to hold the investment for "less than a month".

Table 1
CSR report pretest results

Question indicator	CSR report	Mean	p-value[a]	Question indicator	CSR report	Mean	p-value[a]
Risk*	CSR 1	-0.44	0.851	Impact you	CSR 1	3.19	0.020
	CSR 2	-0.35			CSR 2	4.59	
Future returns*	CSR 1	0.81	0.444	Impact proportion	CSR 1	4.22	0.137
	CSR 2	1.09			CSR 2	5.00	
Implementation*	CSR 1	0.31	0.949	Impact likelihood	CSR 1	6.61	0.498
	CSR 2	-0.06			CSR 2	6.94	
Affect*	CSR 1	2.14	0.565	Impact size	CSR 1	5.08	0.854
	CSR 2	2.38			CSR 2	4.97	
Readability*	CSR 1	3.61	0.124	Importance	CSR 1	6.75	0.887
	CSR 2	2.94			CSR 2	6.82	
Investment attractiveness	CSR 1	6.44	0.897	Genuineness	CSR 1	7.08	0.085
	CSR 2	6.50			CSR 2	7.76	
Investment likelihood	CSR 1	6.28	0.309	Persuasiveness	CSR 1	6.56	0.376
	CSR 2	5.79			CSR 2	6.94	

[a]The two CSR reports are designed to be as similar as possible on these dimensions, thus all p-values are two-tailed.
*Due to the type of question, each of these responses were recorded on scales from -5 to +5. The remaining responses were recorded on scales from 0 to 10. See the Appendix for the wording of each question.
CSR report 1 specifies that participants saw the alcohol and tobacco report.
CSR report 2 specifies that participants saw the skin cancer report.

Table 2
Descriptive statistics

Willingness to invest in the target company - mean (standard deviation), n = sample size				
	Long horizon		Short horizon	
	Sin firm	*Virtue firm*	*Sin firm*	*Virtue firm*
High operational fit CSR	8.13 (1.72) n = 56	4.43 (2.58) n = 53	7.32 (2.22) n = 55	3.14 (2.02) n = 56
Low operational fit CSR	7.57 (2.44) n = 52	3.45 (2.20) n = 57	7.49 (2.37) n = 54	2.70 (1.86) n = 55
No CSR	8.12 (2.36) n = 55	2.60 (1.82) n = 51	8.04 (1.81) n = 54	2.71 (2.17) n = 56

Participants' willingness to invest in the target company is the average of investment attractiveness and investment likelihood ratings. Investment attractiveness is captured on a scale from 0 "very unattractive" to 10 "very attractive", and investment likelihood is captured on a scale from 0 "very unlikely" to 10 "very likely".
Sin firm refers to the target company manipulated to have a relatively negative perceived ethical identity.
Virtue firm refers to the target company manipulated to have a relatively positive perceived ethical identity.
High operational fit CSR indicates that participants saw the sin firm and the alcohol and tobacco CSR report, or they saw the virtue firm and the skin cancer CSR report.
Low operational fit CSR indicates that participants saw the sin firm and the skin cancer CSR report, or they saw the virtue firm and the alcohol and tobacco CSR report.
No CSR indicates that participants did not see any CSR report.
Long horizon investors were told that they intend to hold the investment for "at least several years".
Short horizon investors were told that they intend to hold the investment for "less than a month".

Table 3
Analysis of target company effects within repeated-measures ANOVA[a]

Source	Sum of Squares	df	Mean Square	F	p-value
Target company effects[a]					
Horizon	38.04	1	38.04	12.23	< 0.001
Company ethical identity	3,463.43	1	3,463.43	1,113.28	< 0.001
CSR operational fit	26.43	2	13.22	4.25	0.015
Horizon × *Company ethical identity*	4.24	1	4.24	1.36	0.244
Horizon × *CSR operational fit*	31.15	2	15.58	5.01	0.007
Company ethical identity × *CSR operational fit*	62.37	2	31.19	10.02	< 0.001
Horizon × *Company ethical identity* × *CSR operational fit*	5.53	2	2.77	0.89	0.412
Subjects[a]	3,036.26	642	4.73	1.52	< 0.001
Error	1,997.26	642	3.11		

[a]Table 3 analyzes the variance in participants' willingness to invest in the target (sin or virtue) company by experimental condition, plotted in Figure 2 and tabulated in Table 2. Willingness to invest for the neutral company is analyzed within this Repeated-Measures ANOVA in supplementary analyses. In addition to our hypothesized effect, another reason why participants' willingness to invest in the target (sin or virtue) company may be high or low would be individual variance in participants' propensity to invest high or low amounts in general, across both the target company and the neutral company. Our experimental design controls for this possibility by gathering participants' willingness to invest in both the target company and a neutral company, giving us the opportunity to analyze the data within a repeated-measures framework. To the extent that some participants tend to invest high across both companies (target and neutral) while others tend to invest low, this creates an additional source of variance in investors' willingness to invest in the target company that has nothing to do with our manipulated variables or hypothesis tests. This source of variance is captured by the "Subjects" variation in the above table, and the F-test affirms that there is significant variance in participants' propensity to be either high or low across both the target and neutral company willingness to invest measures. Using this repeated measures designs can potentially (but not necessarily) increase the power of the hypotheses tests, if the variance explained by participants' propensity to be high or low across both measures exceeds the additional unexplained variance added by including the neutral company as a repeated measure in the analysis. In our case, individual investment willingness across both the target and neutral company covary enough within-subjects that it results in a net increase of the power of these tests (specifically, a repeated measures design adds 2,076.63 in unexplained sum-of-squares variation from the neutral company to 2,956.89 of unexplained sum-of-squares variation in the target company, an increase which is more than offset by the 3,036.26 of "Subjects" variation [above] explained by participants' individual willingness to invest across both companies). In such repeated measures designs, the Subjects sum-of-squares (3,036.26, above) is the appropriate error term for tests *across* both dependent variables (target and neutral), while the Error sum-of-squares of 1,997.26 (above) is the appropriate error term for tests that distinguish between the target and neutral companies as distinct dependent variables (as in this analysis and in Table 4). See Neter et al. (1996) and Winer et al. (1991).

Table 4
Tests of hypotheses

Panel A: Sin firm planned contrasts

	CSR operational fit	Mean	Mean	t_{642}	p-value[a]
Long horizon					
H1a:	Low vs. No CSR	7.57	8.12	-1.61	0.053
H1b:	High vs. Low	8.13	7.57	1.64	0.051
RQ:	High vs. No CSR	8.13	8.12	0.02	0.984
Short horizon					
H2:	Low vs. No CSR	7.49	8.04	-1.61	0.054
H2:	High vs. No CSR	7.32	8.04	-2.13	0.017
	High vs. Low	7.32	7.49	-0.51	0.610

Panel B: Virtue firm planned contrasts

	CSR operational fit	Mean	Mean	t_{642}	p-value[a]
Long horizon					
H3a:	Low vs. No CSR	3.45	2.60	2.50	0.006
H3b:	High vs. No CSR	4.43	2.60	5.31	< 0.001
H3c:	High vs. Low	4.43	3.45	2.93	0.002

Participants' willingness to invest is the average of investment attractiveness and investment likelihood ratings. Investment attractiveness is captured on a scale from 0 "very unattractive" to 10 "very attractive", and investment likelihood is captured on a scale from 0 "very unlikely" to 10 "very likely".
High operational fit CSR indicates that participants saw the sin firm and alcohol and tobacco CSR report, or they saw the virtue firm and the skin cancer CSR report.
Low operational fit CSR indicates that participants saw the sin firm and skin cancer CSR report, or they saw the virtue firm and the alcohol and tobacco CSR report.
No CSR indicates that participants did not see any CSR report.
Long horizon investors were told that they intend to hold the investment for "at least several years".
Short horizon investors were told that they intend to hold the investment for "less than a month".
[a]p-values are one-tailed for the directional predictions of the hypotheses, and two-tailed for the non-directional RQ.