



Engaging Employees for the Long Run: Long-Term Investors and Employee-Related CSR

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Abstract

This article explores whether and how long-term investors influence non-executive employees' incentives. While long-term investors benefit from long-term investments that create value over time, employees tend to be averse to long-term investments. We conjecture that long-term investors foster employee-related CSR to motivate employees to engage in long-term investment projects. Consistent with this prediction, we find that long-term investor ownership is a strong driver of employee-related CSR. Additional analyses indicate that this result is not driven by self-selection or reverse causality. We further show that employee-related CSR leads to increased long-term investments (R&D expenses and corporate innovation). Overall, our findings highlight that employee-related CSR is an important channel through which long-term investors encourage long-term investments.

Keywords Corporate social responsibility · Employee governance · Investment decisions · Institutional investors

JEL classification G23 · G32 · IJ28 · M14

Introduction

Many academics, corporate leaders, and policy-makers have expressed strong concerns about short-termism. In particular, short-termist pressures and the so-called quarterly capitalism may push managers to sacrifice long-term investments, innovation, or even financial stability. Several observers have argued that the solution to the threat posed by short-termism lies in the construction of a shareholder base of long-term committed investors (e.g., Beyer et al. 2014; Bolton and Samama 2013; Veldman et al. 2016). Consistent with this argument, previous literature shows that short-term investors influence managers to pursue corporate policies that destroy firm value (e.g., Bushee 1998; Chen et al. 2007; Gaspar et al. 2005; Stein 1996). On the contrary, the presence of long-term investors leads companies to improve

decision-making, to invest for the long run, and to innovate more (e.g., Aghion et al. 2013; Derrien et al. 2013; Edmans 2009; Harford et al. 2018).

While long-term investors play a crucial role in deterring short-termism and pushing companies to invest for the long run, our understanding of the channels through which they have such an influence is more limited. Previous literature posits that long-term investors influence the design of CEO incentives including pay-for-performance sensitivity, CEO turnover, and long-term oriented compensation (Aghion et al. 2013; Cadman and Sunder 2014; Gao et al. 2017; Hartzell and Starks 2003). There is, however, no evidence on whether and how long-term investors influence the incentives of non-executive employees. This question is all the more important that employees are often seen as a firm's most valuable asset and a key source of competitive advantage (e.g., Coff 1997; Pfeffer 1996).

Why is it necessary to motivate and incentivize employees to engage in long-term projects¹? Conceptually, employees

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¹ Here after, by long-term investments or projects, we refer to investments with remote and volatile cash flows. One archetypal example of a long-term investment with remote and volatile cash flows is corporate innovation. Innovation is an important corporate strategy that boosts a firm's long-term growth and enhances its competitiveness, but it bears fruit over a long horizon and involves a high probability of failure (e.g., Holmstrom 1989).

primarily hold a fixed claim on the firm, composed of wages and benefits, that has limited upside compared to an equity claim. Moreover, given that employees' careers with their firms are finite, they have a horizon limitation. Therefore, they are interested in investments generating cash flows within their time horizon but do not place value in investments generating cash flows beyond their time horizon (Fal-eye et al. 2006). By contrast, from the perspective of (long-term) shareholders, it is value-enhancing to reduce near-term cash flows if it raises future cash flows sufficiently over any time horizon. It implies that employees are generally more conservative than shareholders and prefer to avoid long-term projects with remote and volatile cash flows.² If long-term investors want to successfully induce companies to invest for the long run, it is thus crucial to figure out how to overcome employees' aversion for long-term projects.

What can motivate non-executive employees to engage in long-term investments? In this paper, we examine the role of employee-related corporate social responsibility (CSR). Employee-related CSR can be viewed as a set of employee-friendly initiatives that represent *relationship-based* incentives as opposed to pure monetary incentives (e.g., Flam-mer and Luo 2017). In theory, there are several reasons why employee-related CSR could be a powerful tool to engage employees in long-term projects. First, firms that implement employee-related CSR programs are able to attract and retain high-quality and talented employees more effectively (e.g., Albinger and Freeman 2000; Allen et al. 2010; Greening and Turban 2000; Griffeth et al. 2000; Lee et al. 1999).³ Second, prior studies show that employee-related CSR reduces voluntary turnover and increases employee intent to stay (e.g., Blasi et al. 2016; Krekel et al. 2019), lengthening workers' time horizon in the firm and making them less reluctant to engage in long-term investments.⁴ Third, while from a legal perspective, employees' contractual claims expire in the event of bankruptcy, firms can provide implicit human capital protection against shocks (Azariadis 1975; Baily 1974). Such risk-sharing arrangements however can break down because of moral hazard and limited commitment on the side of firms (Ellul et al. 2018). For employees to enter such implicit contracts, firms must therefore be trusted to honor

their promises in the event of a negative shock. Employee-related CSR may be particularly well suited to address this commitment problem. By making a firm's commitment to honor implicit contracts with its employees more credible (Cornell and Shapiro 1987), employee-related CSR may help engaging employees in long-term investments.⁵

The above arguments lay the foundation for our main hypothesis. We conjecture that long-term investors (who seek to push firms to invest for the long run) foster employee-related CSR to motivate employees to engage in long-term projects. We start our empirical analysis by studying whether long-term investor ownership is positively associated with employee-related CSR.

Our main measure of employee-related CSR is based on KLD ratings which are widely used in CSR studies (Bae et al. 2011; Chatterji et al. 2016; Flammer and Kacperczyk 2019; Flammer and Luo 2017). To measure the investment horizons of a firm's investors, we follow recent literature in corporate finance and measure investor horizons based on portfolio turnover (Derrien et al. 2013; Gaspar et al. 2005). Using a large sample of US firms, we find that the presence of long-term investors is associated with greater engagement in employee-related CSR. Following Chatterji et al.'s (2016) advice to use more than one measure of CSR to minimize potential issues of measurement error, we show that the presence of long-term investors is also associated with the probability to be included in the list of the "Best Companies to Work For" and with employees' reviews of their employers posted on Glassdoor website. These results suggest that long-term investors foster relationship-based incentives in the form of employee-related CSR, which plays a key role in engaging employees in long-term investments.⁶

We then examine the second component of our central conjecture, i.e., that employee-related CSR helps to engage employees in long-term activities. We focus on corporate innovation which represents a key long-term project. We find a strong empirical link between employee-related CSR and the investment, success, and value of innovative activities. Importantly, we also show that employee-related CSR mediates the relationship between long-term investor ownership and long-term investments (as proxied by R&D expenditures and corporate innovation). These results advance our understanding of the mechanisms through which long-term

² We further discuss empirical evidence supporting this argument in the next section.

³ Talented employees are more skilled and have more valuable human capital; as such they are less concerned with unemployment risk and less averse to long-term investments.

⁴ It could be argued that attracting and retaining employees may be value-enhancing per se independently from the fact that it contributes to lengthen employees' time horizon in the firm and to engage them in long-term projects. Long-term investors may have several motivations for fostering employee-related CSR, which are not mutually exclusive. To assess the relevance of our explanation, we analyze the role of employee-related CSR in engaging employees in innovation activities that represent a key long-term policy.

⁵ The idea that employee-related CSR may constitute a powerful tool to engage employees in long-term investments is consistent with the argument that CSR is not a goal to be pursued per se but, rather, an integral part of the day-to-day operations of a company that focuses on long-term value creation (Veldman 2018).

⁶ A lead-lag analysis using first-difference regressions and an instrumental variable approach using a measure of average trading performance sensitivity as the instrument (Cella et al. 2013; Garel and Petit-Romec 2017) indicate that the effect of long-term investor ownership on employee-related CSR is causal.

investors encourage companies to invest for the long run. While prior studies have focused on CEO incentives (e.g., Aghion et al. 2013), we highlight that employee-related CSR is an important mechanism through which long-term investors encourage long-term investments. We discuss the limitations of our empirical analysis at the end of the paper.

The remainder of the article proceeds as follows. In the next section “Theory and Background,” we review the related literature and discuss why employee-related CSR can be used to motivate employees to engage in long-term projects. The “Data, Sample, and Empirical Methodology” section describes sample construction, presents our main variables and descriptive statistics. The “Results” section presents our empirical results, further additional tests, robustness checks, and endogeneity tests. The last section concludes the paper with contributions of our results, main implications of our findings, and limitations of our analysis.

Theory and Background

This section presents and discusses studies related to three different bodies of the literature that frame our investigation and lay the foundation for our central hypothesis. First, we discuss prior studies indicating that employees are more conservative than shareholders and prefer to avoid long-term projects with remote and volatile cashflows. Second, we discuss theoretical arguments and empirical evidence supporting the notion that employee-related CSR is a potentially powerful tool to engage employees in long-term projects. The third body of literature is related to long-term investors that generally seek to induce companies to invest for the long run.

Employees and Long-Term Investments

A large body of literature beginning with Jensen and Meckling (1976) has focused on manager–shareholder agency conflicts. In comparison, agency conflicts between employees and shareholders have received less attention. Situations where the interests of employees and shareholders differ are numerous, notably including employee fraud and reduced effort (e.g., Dickens et al. 1989; Pierce et al. 2015). In this subsection, we focus on the fact that employees have personal interests that differ from long-term value maximization, which creates a need to motivate them to engage in long-term investments. As stated previously, throughout the paper, by long-term investments or projects, we refer to investments with remote and volatile cash flows.

Conceptually, employees primarily hold a fixed claim on the firm, composed of wages and benefits, that has limited upside compared to an equity claim. Moreover, given that employees’ careers with their firms are finite, they have a

horizon limitation (Faleye et al. 2006). This horizon limitation implies that employees are interested in investments generating cash flows within their time horizon but do not place value in investments generating cash flows beyond their time horizon.⁷ By contrast, from the perspective of (long-term) shareholders, it is value-enhancing to reduce near-term cash flows if it raises future cash flows sufficiently over any time horizon. This implies that employees are generally more conservative than shareholders and may find long-term investments with remote and volatile cash flows to be undesirable, even if such projects create long-term shareholder value (Faleye et al. 2006).

Existing empirical evidence supports the argument that employees seek to avoid long-term risky investments. Faleye et al. (2006) find that labor-controlled publicly traded firms deviate more from value maximization, invest less in long-term assets, and take fewer risks. Bova et al. (2014) show that employee ownership has a negative impact on corporate risk. John et al. (2015) focus on acquisitions and show that firms with strong employee rights prefer deals that reduce risk and involve less risky targets.

One archetypal example of a long-term investment with remote and volatile cash flows is corporate innovation. Prior studies highlight that inducing employees to engage in innovative activities is challenging (Aghion et al. 2013; Chang et al. 2015; Manso 2011). Acharya et al. (2013a, b) document that stringent labor laws and wrongful-discharge laws foster innovation, which indicates that labor protection against unjust dismissal encourages employees to engage in long-term projects.

Overall, long-term projects such as corporate innovation are crucially important for a firm’s long-term growth and success but often involve remote cash flows. The personal interests of employees to avoid such long-term projects create a need to figure out how to motivate them to engage in these projects. In the next section, we present theoretical arguments and empirical evidence that employee-related CSR is a potentially important remedy to overcome their aversion for long-term investments.

⁷ More precisely, as explained by Faleye et al. (2006), labor’s claim consists of a fixed claim on the firm in the form of current and retired labor’s stream of promised wages and benefits less a put option (the exercise price of which is the expected value of labor’s claim in bankruptcy). The objective of labor is, therefore, to protect its human capital and fixed wage contract while minimizing the value of the put option within a finite horizon. Standard results of option pricing imply that the option value (which employees seek to minimize) is lower if cash flows within labor’s time horizon are larger and less volatile.

Corporate Social Responsibility and the Engagement of Employees in Long-Term Investments

In a recent contribution, Flammer and Luo (2017) theorize that CSR can be used as a strategic tool to improve employee engagement and mitigate adverse behavior in the workplace. They provide supportive evidence by showing that higher unemployment insurance benefits, which increase employees' incentives to engage in adverse behavior, are associated with higher engagement in employee-related CSR. In this section, we discuss more specifically why CSR can be a powerful tool to motivate employees to engage in long-term projects.

Employee-related CSR can be viewed as *relationship-based* incentives as opposed to pure monetary incentives (e.g., Flammer and Luo 2017). Relationship-based incentives fit well given the purpose of our study. Indeed, prior studies have highlighted the limits and drawbacks of pure monetary incentives (e.g., Baker et al. 1988; Gibbons 1998; Larkin 2014; Prendergast 2000). In particular, the distribution of stocks and stock options exposes employees to a substantial amount of firm-specific risk (e.g., Berk et al. 2010; Poterba 2003), and potentially reinforces the risk aversion of employees who already invest human capital into the firm. Moreover, Oyer (2004) explains that non-executive stock options potentially have no incentive effect because of free riding stemming from an individual worker's inability to substantially affect option value herself. Finally, monetary incentives become ineffective and even destructive when workers' tasks are harder to quantify. In particular, McGraw (1978), McCullers (1978), Kohn (1993), and Amabile et al. (1996) argue that monetary incentives should be avoided for tasks involving creativity and innovation.

There are at least three main reasons why employee-related CSR is a potentially strong tool to engage employees in long-term investments. First, several studies show that firms implementing employee-related CSR programs are able to attract and retain high-quality and talented employees more effectively (e.g., Albinger and Freeman 2000; Allen et al. 2010; Greening and Turban 2000; Griffeth et al. 2000; Lee et al. 1999). Because talented employees are better educated, more skilled, and have more valuable human capital, they are less concerned about unemployment risk and face lower costs in case of unemployment. Firms with higher engagement in employee-related CSR are, therefore, more likely to create a workforce that is less concerned by unemployment risk and more willing to engage in long-term investments. Indeed, one of the main reasons why employees find long-term investments undesirable is that they bear significant downside risk in the form of unemployment. Unemployment risk imposes considerable welfare losses on workers (Low et al. 2010). Existing evidence shows that the costs

borne by workers during unemployment include reductions in consumption and future wages (Farber 2005; Gibbons and Katz 1992; Gruber 2001), long delays before reemployment (Katz and Meyer 1990), as well as psychological and social costs (DeLeire and Kalil 2010; Kalil and Ziol-Guest 2008).

Second, employee-related CSR also helps lengthen workers' time horizon within the firm. Blasi et al. (2016) show that policies that empower employees and create a positive workplace culture contribute to reduce voluntary turnover and increase employee intent to stay. Krekel et al. (2019) conduct a meta-analysis of 339 independent research studies and find a strong positive correlation between employee satisfaction with their company and employee productivity and customer loyalty, and a strong negative correlation with staff turnover. Several studies and meta-analyses show that high performance work practices and high performance management practices are associated with lower turnover, higher productivity, and higher performance (Becker et al. 1998; Combs et al. 2006; Griffeth et al. 2000; Huselid 1995; Jiang and Messersmith 2018; Konrad and Mangel 2000; Pfeffer and Veiga 1999). Moreover, as discussed by Flammer and Luo (2017), employee-related CSR also plays a role in differentiating a firm from its competitors and, hence, in reducing the attractiveness of other employers. By enhancing employees' perception of their current employment compared to outside options, employee-related CSR lengthens workers' time horizon within the firm.

Third, from a legal perspective, employees' contractual claims expire in the event of bankruptcy. In many countries, layoffs are partially insured by public unemployment insurance systems which provide significant consumption smoothing benefits to unemployed workers. However, in principle, there is an alternative insurance provider, namely the firm. As noted by Ellul et al. (2018), the idea that the firm has greater risk-bearing capacity than its employees dates back at least to Knight (1921): "The system under which the confident and venturesome assume the risk and insure the doubtful and timid by guaranteeing to the latter a specified income in return for an assignment of the actual results... is the enterprise and wage system of industry" (pp. 269–270). This idea was further formalized by implicit contract models which hold that risk-neutral entrepreneurs insure risk-averse employees by providing human capital protection against adverse shocks (Azariadis 1975; Baily 1974). Given that implicit contracts represent informal agreements supported by reputation rather than by law, they can break down because of moral hazard and limited commitment on the side of firms (Ellul et al. 2018). For employees to enter such implicit contracts, firms must therefore be trusted to honor their promises in the event of a negative shock. Employee-related CSR may be particularly well suited to address this commitment problem. Indeed, firms that invest more in CSR have a stronger reputation for

keeping their commitments associated with implicit contracts (Cornell and Shapiro 1987). Prior evidence suggests that labor participation in governance provides an ex post mechanism to enforce implicit insurance contracts protecting employees against adverse shocks (Kim et al. 2018). Moreover, Guiso et al. (2015) show that a corporate culture based on integrity and trust in management is an important factor of employee satisfaction. By making a firm's commitment to honor implicit contracts with its employees more credible, employee-related CSR may help engaging employees in long-term investments. Overall, employee-related CSR is likely to play an important role in engaging employees in long-term projects.

Long-Term Institutional Investors and the Demand for Long-Term Investments

Institutional ownership of U.S. firms has sharply increased over recent decades. Today, institutional investors own the great majority of US firms. Existing literature suggests that institutional investors exert significant influence over firms (e.g., Froot et al. 1992; Graham et al. 2005; McCahery et al. 2016; Parrino et al. 2003). Institutional investors are far from homogeneous (Gompers and Metrick 1998) and differ along an important dimension: their investment horizon. Their investment horizons differ because of their investment mandates and strategies (e.g., Cella et al. 2013; Froot and Teo 2008), heterogeneous preferences for dividend-paying firms (Desai and Jin 2011), informational edge (Grinblatt and Titman 1989; Ke and Ramalingegowda 2005; Yan and Zhang 2009), behavioral biases (Cremers and Pareek 2015; Daniel et al. 1998; Odean 1998), fund flow-performance sensitivity (Cella et al. 2013; Jin and Kogan 2008; Stein 2005), and agency issues (Cella et al. 2013; Goldman and Slezak 2003; Holmstrom 1982).

Contrary to short-term investors, who chase short-term financial returns, long-term investors are interested in long-term value maximization. In turn, at the firm level, long-term investors prefer investments that increase long-term shareholder value, even if the associated cash flows are remote and risky. Many observers have argued that the solution to the threat posed by short-termism lies in the construction of a shareholder base of long-term investors (e.g., Beyer et al. 2014; Bolton and Samama 2013; Veldman et al. 2016). Mayer (2013) worries that publicly traded corporations have become a rent extraction vehicle for short-term shareholders and calls for long-term committed shareholders.

Empirical evidence shows that long-term investors indeed encourage firms to invest more for the long term. Bushee (1998) documents that, in the presence of long-term investors, firms are less likely to behave myopically (e.g., cut R&D expenses to report higher earnings). Other studies indicate that long-term investors encourage corporate innovation

(Aghion et al. 2013) and lead to mergers and acquisitions that generate more value over the long run (Chen et al. 2007; Gaspar et al. 2005). Derrien et al. (2013) show that long-term investors encourage undervalued companies to pursue their long-term investments. Harford et al. (2018) show that, through their monitoring, long-term investors improve corporate decision-making. In sum, long-term institutional investors play an important part in pushing companies to invest for the long run.

Prior studies have studied how long-term investors influence the design of managerial incentives including pay-for-performance sensitivity and CEO turnover (Aghion et al. 2013; Cadman and Sunder 2014; Gao et al. 2017; Hartzell and Starks 2003). However, there is no evidence on whether and how long-term investors influence the incentives of non-executive employees. Given the potentially important role played by employee-related CSR to engage employees in long-term projects, our main conjecture is that long-term investors (who seek to promote long-term investments) foster employee-related CSR. From this perspective, long-term investors are not interested in (employee-related) CSR per se but rather in the part it plays in achieving long-term value creation.⁸

Importantly, the influence of long-term investors on employee-related CSR does not necessarily transit through the design of managerial incentives. Indeed, McCahery et al. (2016) document widespread behind-the-scenes intervention of institutional investors. Most importantly, in a related study, Dimson et al. (2015) study corporate social responsibility engagements of a large institutional investor using a proprietary dataset. They highlight that this large institutional investor actively engages in dialogues with target companies via letters, emails, telephone conversations, and direct conversations with senior management. This indicates that institutional investors tend to exert significant influence over management and to encourage employee-related CSR through a wide variety of channels (not necessarily observable to the econometrician) other than executive compensation. Our empirical analysis aims at advancing the understanding of how long-term investors encourage firms to invest for the long run by focusing on the role of employee-related CSR in engaging employees for the long run.

The above arguments lay the foundation of our main hypothesis which goes as follows:

⁸ This argument is consistent with the idea that CSR is not a goal to be pursued per se but, rather, an integral part of the day-to-day operations of a company that focuses on long-term value creation (Veldman 2018).

Hypothesis Long-term investors foster employee-related CSR as a way to motivate employees to engage in long-term projects.

Data, Sample, and Empirical Methodology

To provide a compelling test our hypothesis that long-term investors foster employee-related CSR as a way to engage employees in long-term projects, our empirical analysis mainly focuses on the relationships between long-term investors, employee-related CSR, and long-term investments. In this section, we discuss how we measure the three main constructs involved in our empirical analysis as well as the sample construction.

Sample Construction

We obtain data on employee-related CSR from the KLD database, data on the Best Companies list from Alex Edmans' website, and data on employer reviews from Glassdoor website. We obtain accounting data from S&P Compustat, data on CEO compensation from Execucomp, and investor ownership information from 13F Thomson Files. We obtain data on corporate innovation from KPSS patent database on Leonid Kogan's website.

The starting point for the formation of our sample comprises all the firms covered by the KLD database between 2003 and 2015. KLD covers a subset of publicly listed companies in the United States from 1991 onwards. For our sample, we use KLD ratings between 2003 and 2015, as the sample during this period includes firms in the Russell indexes and, thus, provides the largest variation across firms. We exclude financial firms (SIC code 6000-6999) and regulated utilities (SIC code 4900-4999). We also exclude firms with headquarters located outside of the United States and firms with less than 5 observations. Finally, we exclude observations with missing accounting data or missing ownership data. Our final sample consists of 2,612 unique firms and 18,169 firm-year observations.

Measuring Employee-Related CSR

Our main measure of employee-related CSR is based on KLD ratings which are widely used in CSR studies (Bae et al. 2011; Chatterji et al. 2016; Flammer and Kacperczyk 2019; Flammer and Luo 2017; Hillman and Keim 2001; Ioannou and Serafeim 2015). KLD is an independent social choice investment advisory firm that compiles ratings on the extent to which companies address the needs of their stakeholders. KLD uses a wide variety of data sources to rate companies along six dimensions of corporate social responsibility: community, diversity, employee relations,

environment, human rights, and product. In each area, KLD provides ratings (either a zero or one) for a number of strengths (i.e., positive CSR policies) and concerns (negative CSR policies). Since our objective is to investigate whether long-term investors influence employee-related CSR, we focus on those KLD components that are related to the firm's employees. More specifically, we construct an employee-related CSR index by summing all KLD strengths (positive CSR policies) pertaining to employee relations (e.g., health and safety programs, employee involvement, cash profit sharing, union relations, etc.). In the "Appendix," we provide details about the different KLD strengths that are included in the computation of the measure.

One caveat of the KLD index—and, more generally, any CSR rating—is that it is subject to measurement error, as it is difficult to accurately measure CSR (Chatterji et al. 2009, 2016; Flammer and Kacperczyk 2019). Following Chatterji et al.'s (2016) advice to use more than one measure of CSR to minimize potential issues of measurement error, we also focus on two alternative variables. First, we use a measure of employee satisfaction based on the list of the "Best Companies to Work For in America." The Best Companies list is annually published in the January issue of Fortune magazine. The list was founded by Robert Levering and Milt Moskowitz and is compiled by the Great Place to Work[®] Institute. To construct the Best Companies list, Great Place to Work[®] conducts the most extensive employee survey in corporate America. Two-thirds of a company's score is based on the results of the Trust Index[©] Employee Survey, which is sent to approximately 250 randomly selected employees from each company. This survey asks questions related to employees' attitudes about their workplace experience. It spans five main categories: credibility, respect, fairness, pride, and camaraderie.⁹ The other third of a company's score is based on responses to the Culture Audit[©], which includes detailed questions about pay and benefit programs and a series of open-ended questions about hiring practices, methods of internal communication, training, recognition programs, and diversity efforts. The Best Companies list is a thorough measure of overall job satisfaction that involves surveying several dimensions (Edmans 2011).

Second, we also use data on employee-level company reviews posted on Glassdoor, an employer review and recruiting website that was launched in 2008. Glassdoor provides ratings and reviews of over 600,000 companies worldwide. As detailed in Green et al. (2019), Glassdoor hosts a database in which current and former employees voluntarily and anonymously review their companies, salaries, interview

⁹ Sample survey questions in the Great Place to Work Institute's survey of the "Best Companies to Work for" can be found in Edmans (2012) and Guiso et al. (2015).

experience, senior management, and corporate benefits. To help prevent company self-promotion, Glassdoor requires email verification from an active email address or a valid social networking account. The site administrator also moderates content by using an algorithm to detect fraud and running additional manual checks to eliminate invalid reviews. In particular, Glassdoor displays employer reviews in the form of star ratings for Career Opportunities, Compensation & Benefits, Work/Life Balance. We compute the average of these three ratings on a yearly basis and use it as an alternative measure of employee-related CSR.¹⁰

Measuring Long-Term Investor Ownership

Our main independent variable is the fraction of the firm's shares held by long-term investors. To identify long-term investors, we follow the convention in the recent literature in corporate finance and measure investor horizons based on their portfolio turnover (Cella et al. 2013; Chen et al. 2007; Derrien et al. 2013; Gaspar et al. 2005). Although investor horizons are not directly observable, the rationale behind this approach is that an investor who frequently changes the composition of his or her portfolio is more likely to have a shorter investment horizon. In line with existing literature, we compute measures of investor horizons only for institutional investors covered by the 13F Thomson Files. Hereafter, by "investors," we mean institutional investors.

More specifically, based on quarterly data from 13F Thomson Files, we start by computing the portfolio turnover of each investor as the fraction of the portfolio sold during the last twelve quarters (Derrien et al. 2013). We then average the portfolio turnover over four quarters to smooth the impact of extreme values. Following Derrien et al. (2013), we consider that an investor has a long-term horizon if the average portfolio turnover is below 35 percent. Finally, at the firm level, we aggregate the ownership of long-term investors and express it as a fraction of total common shares outstanding.

A key feature of this approach is that we do not make any inferences about an investor's investment horizon based on its type. We simply calculate investors' actual portfolio turnover to measure their investment horizons. This classification of investors as short-term and long-term based on their portfolio turnover appears to be reasonable. As discussed by Derrien et al. (2013), using this methodology, among the investors with long horizon, we find Berkshire Hathaway managed by Warren Buffet who states that his

"favorite holding period is forever." On the contrary, among the investors with short horizon, we find Steve Cohen, a hedge fund manager specialized in short-term transactions.

Measuring Long-Term Investments

We measure long-term investments using R&D expenditures and corporate innovation. Corporate innovation represents the archetype of a long-term project with remote and risky cashflows. As such it is well suited to study whether employee-related CSR helps to engage employees in long-term projects.

On the one hand, innovation depends a lot on entrepreneurial initiatives of employees who are increasingly viewed as important innovators in a firm. Abundant anecdotal evidence supports this view. For example, an article from the Wall Street Journal argues that "companies that have successfully made innovation part of their regular continuing strategy did so by harnessing the creative energies and the insights of their employees across functions and ranks."¹¹ On the other hand, innovation involves a long process that is idiosyncratic, uncertain, and has a high probability of failure (Holmstrom 1989). Because of their long horizons and unpredictable outcomes, innovation projects entail considerable risks. In particular, they expose employees to significant career risks as the uncertainty and remote payoffs inherent to these projects increase the probability of job termination. Career and job termination risks may induce employees to prefer short-term projects with more immediate payoffs and to refrain from investing effort in innovation (e.g., Acharya et al. 2013a, b).

To measure investments in innovation, we use R&D expenditures, computed as the ratio of R&D expenses to total assets. Following previous literature, we further use patent-based metrics to measure innovation outcomes (Flammer and Bansal 2017; Flammer and Kacperczyk 2015; Hall et al. 2005; He and Tian 2013; Seru 2014). First, we consider the number of patent applications filed in a year that are eventually granted. Second, we also focus on a citation-weighted number of patents. Griliches (1990) shows that the distribution of patents' value is extremely skewed, with most of the value being concentrated in a small number of very important and highly cited patents. Accordingly, the citation weights allow us to account for the fact that patents can vary in their importance. We supplement these two standard patent-based metrics with the one developed by Kogan et al. (2017). They propose a new measure of the private economic value of new innovations that is based on stock

¹⁰ While employee-related CSR based on KLD data are inputs and capture employee-friendly initiatives, these two measures represent outputs and capture the extent to which employees are happy and satisfied with their company.

¹¹ The Wall Street Journal (August 23, 2010)—"Who Has Innovative Ideas? Employees." See also anecdotal evidence in Harden et al. (2010).

market reactions to patent grants. A key feature of this measure is that it does not suffer from potential truncation issues that may affect the first two measures and is arguably more forward looking. As highlighted by Kogan et al. (2017), the fact that their measure is in terms of dollars implies that estimates are comparable across time and across different industries. In contrast, since patenting propensities could vary, comparing patent counts across industries and time is more challenging. Following common practice, we use the natural logarithm of these different measures of innovation outcomes. As alternative variables, we also consider these innovation measures scaled by total assets to account for scale effects.

Control Variables

We include several control variables in our analysis. First, we control for total institutional ownership to make sure that any effect of long-term investors on employee-related CSR cannot be attributed to a more general effect of institutional investors as a whole.¹² Our main control variables also include firm size, measured as the natural logarithm of total assets, and financial leverage, defined as the ratio of total debt to total assets. Previous evidence suggests that large firms tend to invest more in CSR whereas leverage is negatively associated with CSR in general and with employee-related CSR in particular (e.g., Bae et al. 2011; Barnea and Rubin 2010; Moussu and Ohana 2016). Moreover, financial constraints are negatively associated with CSR (Cheng et al. 2014). Therefore, we also include the ratio of cash to total assets and KZ score (Kaplan and Zingales 1997) as additional control variables. We also control for the proportion of fixed assets (property, plant, and equipment divided by total assets) as a measure of physical capital intensity. Finally, our control variables also include profitability, market-to-book ratio, and a dividend-paying dummy. Well-performing firms and firms with greater investment opportunities are potentially in a better position to invest in employee-related CSR. In additional tests, we also control for the design of managerial incentives including pay-for-performance sensitivity (delta of CEO compensation), pay-for-risk sensitivity (vega of CEO compensation), and CEO ownership.

Descriptive Statistics

Table 1 provides descriptive statistics for the main dependent and independent variables for our sample. All independent

variables are winsorized at the 1st and 99th percentiles. The average number of KLD strengths for employee-related CSR is 0.31. The median for the variable is zero, indicating that many companies do not have any strength in the area of employee relations. This is consistent with prior studies using KLD (e.g., Bae et al. 2011; Flammer and Luo 2017) and can be explained by the fact that KLD considers “strong” or “exceptional” initiatives taken by company in its relations with employees. Consistent with the growing importance of institutional investors in US firms’ ownership, the average level of institutional ownership in our sample is approximately 71%. Long-term investor ownership is also substantial with an average of 16%. Long-term investor ownership therefore represents 23% of total institutional ownership. The average firm has total assets close to \$1 billion, a leverage ratio of 20%, and book-to-market ratio of 0.81. The average firm has R&D expenditures that amount to 5% of total assets and fills 48 patents in a given year.

Results

Our main empirical analysis proceeds in two steps. First, we focus on providing robust empirical evidence that long-term investor ownership is positively related to employee-related CSR and that this effect is arguably causal. Second, we examine whether employee-related CSR indeed leads to increased long-term investments (as proxied by R&D expenditures and corporate innovation), and we explore whether employee-related CSR mediates the relationship between long-term investors and long-term investments.

Long-Term Investor Ownership and Employee-Related CSR

We start our empirical analysis by regressing different measures of employee-related CSR on long-term investor ownership and control variables. The results are presented in Table 2. Standard errors are robust to heteroscedasticity and clustered by firm. In all regressions, we include our main control variables as well as year and industry fixed effects. The results from Column 1 show that long-term investor ownership is significantly and positively associated with the number of KLD strengths related to employee-related CSR. A one-standard deviation increase in long-term ownership is associated with an increase in employee-related CSR of 0.036, which represents a 12% increase relative to its mean value (0.31). The VIF of long-term investor ownership is below 10 (i.e., 4.1), a standard rule of thumb threshold for the detection of multicollinearity, indicating that our results are free from multicollinearity concerns.

Our main measure of employee-related CSR is based on KLD strengths that are related to employees. In addition to

¹² By construction, long-term investor ownership and institutional ownership exhibit relatively strong correlation. Despite the correlation between the two variables, the variance inflation factors (VIF) indicates the absence of severe multicollinearity concerns.

Table 1 Descriptive statistics

| Variables | Obs. | Mean | S.D. | 0.25 | Mdn. | 0.75 |
|--|--------|--------|---------|-------|-------|--------|
| <i>Employee treatment variables</i> | | | | | | |
| KLD employee strengths | 18,169 | 0.31 | 0.76 | 0.00 | 0.00 | 0.00 |
| KLD employee concerns | 18,169 | 0.36 | 0.64 | 0.00 | 0.00 | 1.00 |
| KLD employee STR minus CON | 18,169 | -0.05 | 0.94 | 0.00 | 0.00 | 0.00 |
| Adjusted KLD employee STR minus CON | 18,169 | -0.04 | 0.19 | -0.05 | 0.00 | 0.00 |
| Best companies to work for | 18,169 | 0.02 | 0.13 | 0.00 | 0.00 | 0.00 |
| Glassdoor employer rating | 5545 | 3.11 | 0.46 | 2.82 | 3.13 | 3.42 |
| <i>Long-term investor variables</i> | | | | | | |
| Long-term ownership | 18,169 | 0.16 | 0.12 | 0.03 | 0.16 | 0.25 |
| <i>Innovation variables</i> | | | | | | |
| R&D expenditures with retreatment of missing values | 18,169 | 0.05 | 0.10 | 0.00 | 0.00 | 0.05 |
| R&D expenditures without retreatment of missing values | 10,936 | 0.07 | 0.11 | 0.01 | 0.03 | 0.09 |
| Patents | 3942 | 48.15 | 225.53 | 2 | 6 | 21 |
| Citation-weighted patents | 3942 | 108.17 | 503.1 | 3.95 | 13.33 | 46.5 |
| Value of patents | 3942 | 691.36 | 3031.28 | 5.94 | 21.75 | 143.52 |
| <i>Control variables</i> | | | | | | |
| Institutional ownership | 18,169 | 0.71 | 0.22 | 0.58 | 0.75 | 0.87 |
| Size | 18,169 | 6.87 | 1.58 | 5.73 | 6.71 | 7.87 |
| Book-to-market | 18,169 | 0.81 | 0.48 | 0.46 | 0.73 | 1.06 |
| Book leverage | 18,169 | 0.2 | 0.2 | 0.01 | 0.17 | 0.31 |
| Dividend payer | 18,169 | 0.4 | 0.49 | 0 | 0 | 1 |
| Fixed assets | 18,169 | 0.28 | 0.26 | 0.09 | 0.19 | 0.39 |
| Profitability | 18,169 | 0.02 | 0.16 | 0.01 | 0.05 | 0.09 |
| Cash | 18,169 | 0.21 | 0.22 | 0.04 | 0.13 | 0.3 |
| KZ score | 18,169 | -0.03 | 1.72 | -0.68 | 0.04 | 0.88 |
| No proposals Emp. | 10,197 | 0.01 | 0.12 | 0.00 | 0.00 | 0.00 |
| No proposals CSR | 10,197 | 0.09 | 0.47 | 0.00 | 0.00 | 0.00 |
| Norm-constrained ownership | 18,169 | 0.08 | 0.08 | 0.03 | 0.06 | 0.12 |
| SRI ownership | 18,169 | 0.02 | 0.08 | 0.00 | 0.00 | 0.00 |
| <i>Instrumental variables</i> | | | | | | |
| Average trading performance sensitivity | 13,201 | 0.47 | 0.09 | 0.41 | 0.47 | 0.54 |
| Average portfolio turnover | 13,201 | 0.03 | 0.11 | -0.05 | 0.04 | 0.11 |
| <i>Governance variables</i> | | | | | | |
| Entrenchment index | 6646 | 2.39 | 1.27 | 1.00 | 2.00 | 3.00 |
| Delta CEO compensation | 8744 | 0.19 | 0.21 | 0.02 | 0.11 | 0.29 |
| <i>Industry variables</i> | | | | | | |
| Labor skill | 4751 | 16.00 | 0.93 | 15.42 | 15.90 | 16.79 |
| Labor mobility | 11,459 | 0.21 | 0.79 | -0.36 | 0.25 | 0.78 |

This table reports the descriptive statistics on the firm characteristics of the sample. Variable definitions are provided in the “Appendix.” All continuous variables are winsorized at the 1st and 99th percentiles

strengths, KLD also contains a list of concerns (i.e., negative CSR policies). Accordingly, an alternative approach is to construct a “net” score by subtracting the concerns to the strengths. However, previous research suggests that this approach is methodologically questionable (e.g., Kacperczyk 2009; Mattingly and Berman 2006). Nevertheless, in Columns 2 and 3, we present regressions of the number of KLD concerns in the area of employee relations and KLD

net score (number of strengths minus number of concerns in the area of employee relations) on long-term investor ownership and control variables. The results show that long-term investor ownership is negatively related with the number of employee-related concerns and positively related with KLD net score. Another issue with KLD data is that the number of items covered by KLD changes from year to year. To address this concern, we also use an adjusted KLD net score

Table 2 Long-term investor ownership and employee-related CSR

| Employee-related CSR | (1) | (2) | (3) | (4) | (5) | (6) |
|-------------------------|------------------------|-----------------------|---------------------------------------|--|----------------------------|---------------------------|
| | KLD employee strengths | KLD employee concerns | KLD employee strengths minus concerns | Adjusted KLD employee strengths minus concerns | Best companies to work for | Glassdoor employer rating |
| Long-term ownership | 0.300*** (0.074) | -0.438*** (0.064) | 0.739*** (0.096) | 0.147*** (0.020) | 0.018** (0.008) | 0.209** (0.105) |
| Institutional ownership | -0.347*** (0.049) | -0.014 (0.039) | -0.333*** (0.057) | -0.053*** (0.013) | -0.040*** (0.011) | 0.045 (0.060) |
| Size | 0.237*** (0.014) | 0.112*** (0.009) | 0.125*** (0.016) | 0.014*** (0.003) | 0.015*** (0.003) | 0.084*** (0.007) |
| Book-to-market | -0.183*** (0.021) | 0.036* (0.019) | -0.219*** (0.028) | -0.042*** (0.006) | -0.020*** (0.004) | -0.131*** (0.022) |
| Book Leverage | -0.253*** (0.053) | -0.108** (0.049) | -0.144** (0.068) | -0.023 (0.015) | -0.032*** (0.008) | -0.204*** (0.074) |
| Dividend payer | 0.024 (0.020) | 0.094*** (0.019) | -0.070** (0.027) | -0.017*** (0.006) | 0.000 (0.005) | 0.012 (0.023) |
| Fixed assets | 0.036 (0.047) | 0.036 (0.040) | -0.000 (0.060) | -0.003 (0.013) | -0.012 (0.008) | 0.017 (0.059) |
| Profitability | -0.088** (0.040) | -0.300*** (0.050) | 0.212*** (0.063) | 0.059*** (0.014) | -0.010*** (0.004) | -0.124 (0.081) |
| Cash | 0.296*** (0.054) | 0.140*** (0.045) | 0.156** (0.068) | 0.016 (0.015) | 0.000 (0.007) | 0.294*** (0.073) |
| KZ score | -0.009 (0.006) | 0.006 (0.006) | -0.014* (0.008) | -0.003 (0.002) | -0.001 (0.001) | 0.003 (0.010) |
| Observations | 18,169 | 18,168 | 18,168 | 18,168 | 18,169 | 5545 |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm cluster | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 0.248 | 0.246 | 0.192 | 0.150 | 0.054 | 0.194 |

This table reports the results of the OLS regressions of alternative measures of employee-related CSR on long-term ownership and control variables. All the regressions include industry and year fixed effects. All the right-hand-side variables are lagged by 1 year. In Column 1, the dependent variable is the sum of KLD strengths pertaining to employee relations. In Column 2, the dependent variable is the sum of KLD concerns pertaining to employee relations. In Column 3, the dependent variable is KLD net score (i.e., number of strengths minus number of concerns) in the area of employee relations. In Column 4, the dependent variable is the adjusted KLD net score in the area of employee relations, obtained by normalizing the KLD net score by the range of net scores within each year. In Column 5, the dependent variable is whether the firm is included in the *Best Companies to Work For* list. In Column 6, the dependent variable is the employer rating based on the reviews posted by employees on Glassdoor. Variable definitions are in the "Appendix." Constants are not reported. Standard errors are reported in parentheses. They are robust to heteroscedasticity and clustered at the firm level. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

by normalizing the KLD net score by the number of items rated within each year.¹³ The results from Column 4 show that long-term investor ownership is strongly associated with the adjusted KLD net score.

In Columns 5 and 6, we examine whether long-term investor ownership is associated with our other measures

of employee-related CSR. The results from Column 5 show that long-term investor ownership is positively associated with employee satisfaction measured by the presence in the list of Best Companies to Work For.¹⁴ A one-standard deviation increase in long-term investor ownership is associated with an increase in 0.216% in the probability of being in

¹³ For example, if in a particular year, the number of KLD strengths is 12 and the number of concerns is 8, then a firm with a KLD net score of 6 is assigned a (normalized) KLD net score of $6/(12+8)=0.3$.

¹⁴ We use a linear probability model because it is easier to (i) implement fixed effects, (ii) interpret coefficients, and (iii) cluster the standard errors. In unreported tests, we find similar results if we use a logit model.

the list of Best Companies to Work For, which compared to unconditional probability of 2% represents a 10.8% increase. Finally, the results from Column 6 show that long-term investor ownership is positively associated to employees' ratings of their employers regarding career opportunities, compensation and benefits, and work/life balance displayed by Glassdoor.¹⁵ Our results are therefore robust to the use of these two alternative measures in lieu of KLD ratings, thereby following Chatterji et al.'s (2016) advice to use more than one measure of CSR to minimize potential issues of measurement error.

Overall, the results from Table 2 provide empirical evidence supporting the conjecture that long-term investors foster employee-related CSR. Importantly the results are robust to several measures of employee-related CSR.

Endogeneity Tests

One alternative interpretation for our results is that the positive association between long-term investor ownership and employee-related CSR is driven by selection, i.e., long-term investors do not causally influence employee-related CSR but merely select into firms with higher levels of employee-related CSR. In a recent paper, Starks et al. (2017) show that investors with longer horizons tend to prefer higher-ESG firms. While both possibilities are not mutually exclusive, we seek to disentangle between the "selection" and the "influence" effect of long-term investors on employee-related CSR. First, we conduct a lead-lag analysis using first-difference regressions. We also compute the first differences of our control variables and include them in the regression. Table 3, Panel A presents the results of the lead-lag analysis. The results from Column 1 show that an increase in long-term investor ownership leads to an increase in employee-related CSR. On the contrary the results from Column 2 show that an increase in employee-related CSR does not lead to an increase in long-term investor ownership. The results are inconsistent with a self-selection explanation of our results and rather indicate that the causality runs from long-term investor ownership to employee-related CSR.

To bring further confidence that the effect of long-term investor ownership is causal, in Table 3, Panel B, we study the relation between long-term investor ownership and employee-related CSR in a two-stage least squares (2SLS) regression framework, using a measure of average trading performance sensitivity as the instrument. The choice of this instrument follows from Cella et al. (2013) and Garel and Petit-Romec (2017). Trading performance sensitivity at the investor level allows us to capture exogenous variations in

investor horizons that depend on funding structure rather than stock characteristics (including ESG characteristics). Investors with lower correlation between funding and previous performance expect to have more stable funding and should have the possibility of taking a longer horizon on their investments. For each institutional investor, we compute a measure of trading performance sensitivity which corresponds to the correlation between the institutional investor's portfolio performance at quarter $t-1$ (generated solely by the price changes of the stocks held in their portfolios) and the change in assets under management at quarter t over a rolling window of 12 quarters. At the firm level, we weight the trading performance sensitivity by the ownership stake of each investor in the firm. This weighted average, to which we refer as *Average Trading Performance Sensitivity* is then used as instrument for investor horizons at the firm level. Consistent with Cella et al. (2013), we use a continuous measure of investor horizons (i.e., average turnover) to run the instrumental variable regression. Instead of long-term investor ownership, we use the weighted average portfolio turnover of a firm's institutional investors. The weighted average portfolio turnover of a firm's investors is therefore inversely related to the presence of long-term investors in a firm's ownership.¹⁶

Table 3, Panel B presents the results from the first and second stages of this instrumental variable analysis. The first stage confirms that *Average Trading Performance Sensitivity* is a relevant instrument for the weighted average investor portfolio turnover. According to Stock et al. (2002)'s survey of the weak-instrument literature, when the number of instruments is 1, the suggested critical F-value is 8.96. The partial F-statistic of our instrument is above this threshold (20.14). In the second stage analysis, reported in Column 2, we regress employee-related CSR on the instrumented weighted average turnover and control variables. The results show that the instrumented average turnover (which is inversely related to long-term investor ownership) is negatively related to employee-related CSR. The results from this section confirm that the association between long-term investor ownership and employee-related CSR reflects, at least partially, a causal effect of long-term investors.

Long-Term Investors, Employee-Related CSR, and Corporate Innovation

Our central conjecture is that long-term investors foster employee-related CSR as a way to motivate employees to engage in long-term projects. The results from the previous

¹⁵ Data from Glassdoor are only available from 2008. The number of observations therefore shrinks in Column 6.

¹⁶ This proxy has the advantage to be continuous and thus can be more directly related the average trading performance sensitivity of a firm's investor portfolios.

Table 3 Endogeneity

| | (1) D. Employee-related CSR | (2) D. Long-term ownership |
|---|--------------------------------|-------------------------------|
| <i>Panel A: Lead-lag analysis</i> | | |
| D. long-term ownership | 0.206*** (0.060) | |
| D. employee-related CSR | | – 0.000 (0.001) |
| D. institutional ownership | – 0.166*** (0.055) | – 0.015* (0.008) |
| D. size | 0.041* (0.023) | 0.016*** (0.003) |
| D. book-to-market | – 0.039** (0.017) | – 0.014*** (0.003) |
| D. book leverage | – 0.030 (0.060) | – 0.023** (0.010) |
| D. dividend payer | – 0.027 (0.026) | 0.003 (0.004) |
| D. fixed assets | – 0.046 (0.078) | – 0.004 (0.008) |
| D. profitability | 0.020 (0.042) | 0.003 (0.007) |
| D. cash | 0.043 (0.062) | 0.002 (0.010) |
| D. KZ score | 0.003 (0.005) | – 0.001 (0.001) |
| Observations | 13,049 | 13,049 |
| Year fixed effect | Yes | Yes |
| Firm cluster | Yes | Yes |
| Adjusted R^2 | 0.091 | 0.585 |
| Employee-related CSR | (1) First stage | (2) Second stage |
| <i>Panel B: IV regression</i> | | |
| Average trading performance sensitivity | 0.035*** (0.008) | |
| Average portfolio turnover | | – 5.502** (2.342) |
| Institutional ownership | 0.044*** (0.004) | – 0.079 (0.107) |
| Size | – 0.006*** (0.001) | 0.217*** (0.016) |
| Book-to-market | – 0.008*** (0.002) | – 0.235*** (0.026) |
| Book leverage | 0.021*** (0.006) | – 0.141** (0.065) |
| Dividend payer | – 0.021*** (0.002) | – 0.082 (0.052) |
| Fixed assets | 0.003 (0.005) | 0.034 (0.038) |

Table 3 (continued)

| Employee-related CSR | (1) | (2) |
|------------------------|---------------------|----------------------|
| | First stage | Second stage |
| Profitability | 0.025*** (0.007) | 0.054 (0.072) |
| Cash | 0.002 (0.005) | 0.306*** (0.043) |
| KZ score | - 0.001 (0.001) | - 0.014** (0.006) |
| Observations | 13,201 | 13,201 |
| Year fixed effects | Yes | Yes |
| Industry fixed effects | Yes | Yes |
| Firm cluster | Yes | Yes |
| Adjusted R^2 | 0.547 | 0.114 |
| F-test | 20.14 | - |

Panel (A): This table reports the results of first-difference OLS regressions of employee-related CSR on one-year lagged long-term ownership and control variables (Column 1) and of first-difference OLS regression of long-term investor ownership on one-year lagged employee-related CSR and control variables (Column 2). All the regressions include year fixed effects. Variable definitions are in the “Appendix”. Constants are not reported. Robust standard errors clustered at the firm level are reported in parentheses. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

Panel (B): This table reports the results from an instrumental variable regression of employee-related CSR on investor horizons measured by investors’ average portfolio turnover and control variables. All the right-hand-side variables are lagged by 1 year. Following Cella et al. (2013), the instrument is the weighted average trading performance sensitivity of a firm’s institutional investors. Column 1 reports the first stage of the IV regression including the F-test of the significance of the instrument. Column 2 reports the second stage of the IV regression. All the regressions include industry and year fixed effects. Variable definitions are in the “Appendix.” Constants are not reported. Robust standard errors clustered at the firm level are reported in parentheses. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

section provide empirical support for the first component of our conjecture, namely that long-term investors foster employee-related CSR. In this section, we examine the second component of our conjecture, i.e., that employee-related CSR helps to engage employees in long-term projects. Importantly, to provide more compelling evidence that employee-related CSR is an important mechanism through which long-term investors encourage long-term investments, we also test whether employee-related CSR mediates the relationship between long-term investor ownership and long-term investments (proxied by R&D expenditures and corporate innovation).

As discussed previously, we focus on corporate innovation to capture the engagement of employees in long-term projects. This choice is motivated by the fact that innovation heavily depends on initiatives and engagement of employees, but it also exposes them to significant career and job termination risks. While innovation is a key engine of long-term growth and value creation, motivating and nurturing innovation is a challenge for most firms and requires figuring out how to engage employees for the long run (Manso 2011). Corporate innovation is therefore well suited to test that employee-related CSR is an important mechanism through which long-term investors encourage long-term investments.

In Table 4, Panel A, we start by examining whether employee-related CSR is associated with our different innovation measures. The results from Column 1 indicate that employee-related CSR is positively related with R&D expenditures. Consistent with the common approach in previous studies on innovation, we set missing values for R&D expenses equal to zero. However, prior evidence suggests that a significant fraction of companies with missing R&D expenses fill and receive patents (Koh and Reeb 2015). In Column 2, we therefore consider a measure of R&D expenditures without replacing missing values with zero. The results confirm that employee-related CSR is positively related with R&D expenditures. Companies with high employee-related CSR therefore appear to channel more resources towards innovative activities, a key long-term policy.

The results from Columns 3–6 show that employee-related CSR is also positively related to the number of patents and to the citation-weighted number of patents. This evidence suggests that companies with high employee-related CSR not only increase their R&D budgets, but also generate more innovative output. Finally, in Columns 7 and 8, we consider the measure of innovation output from Kogan et al. (2017). The results indicate that employee-related CSR is positively related with the economic value of corporate innovation.

Table 4 Long-term investors, employee-related CSR, and corporate innovation

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|--|--------------------------------------|---------------------|---------------------|-------------------------------|----------------------------------|----------------------|-------------------------|
| | R&D expenditures with missing values replaced by 0 | R&D expenditures without retreatment | Ln(patents) | Patents/assets | Ln(citation-weighted patents) | Citation-weighted patents/assets | Ln(value of patents) | Value of patents/assets |
| <i>Panel A: Employee-related CSR and corporate innovation</i> | | | | | | | | |
| Employee-related CSR | 0.544*** (0.137) | 0.698*** (0.157) | 0.345*** (0.069) | 0.004*** (0.001) | 0.339*** (0.071) | 0.011*** (0.003) | 0.212*** (0.048) | 0.015*** (0.005) |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 18,169 | 10,936 | 3942 | 3942 | 3942 | 3942 | 3942 | 3942 |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Cluster | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 0.578 | 0.554 | 0.517 | 0.260 | 0.466 | 0.179 | 0.789 | 0.299 |
| <i>Panel B: The mediating effect of employee-related CSR</i> | | | | | | | | |
| Predicted employee-related CSR | 5.877*** (1.240) | 7.035*** (1.477) | 1.817*** (0.246) | 0.036*** (0.009) | 1.959*** (0.284) | 0.101*** (0.029) | 1.333*** (0.237) | 0.091*** (0.022) |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 18,169 | 10,936 | 3942 | 3942 | 3942 | 3942 | 3942 | 3942 |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm Cluster | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 0.578 | 0.554 | 0.517 | 0.260 | 0.466 | 0.179 | 0.789 | 0.299 |

Panel A reports the results of the OLS regressions of corporate innovation measures on employee-related CSR and control variables. Panel B reports the results of corporate innovation measures on employee-related CSR predicted by long-term investor ownership. Employee-related CSR is defined as the number of KLD strengths pertaining to employee relations. We include industry and year fixed effects in all regressions. In Columns 1 and 2, investment in innovation is measured by R&D expenses scaled by total assets with (1) and without (2) replacing missing values by zeros. In Columns 3 and 4, we measure innovation outcomes using the natural logarithm of the number of patents granted or the number of patents granted scaled by total assets. In Columns 5 and 6, we use the natural logarithm of the future-citation-weighted number of patents granted or the future-citation-weighted number of patents granted scaled by total assets. In Columns 7 and 8, we use the natural logarithm of the market-reaction-weighted number of patents granted or the market-reaction-weighted number of patents granted scaled by total assets. Variable definitions are in the “Appendix.” Constants are not reported. Robust standard errors clustered at the firm level are reported in parentheses. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

Overall, the results from Table 4, Panel A show a strong empirical link between employee-related CSR and the investment, success, and value of innovative activities, which represent a key long-term investment. These results support the second component of our main conjecture, i.e., that employee-related CSR helps to engage employees in long-term projects. In Panel B, we examine whether employee-related CSR mediates the relationship between long-term investor ownership and long-term investments (proxied by R&D expenses and corporate innovation). To assess whether long-term investor ownership influences corporate

innovation through the mediating effect of employee-related CSR, we follow Bocquet et al. (2017) and use a two-stage model. In the first stage, we regress employee-related CSR on long-term investor ownership and control variables. In the second stage, we regress the different measures of corporate innovation on the predicted employee-related CSR obtained from the first stage and control variables. The results of the second stages are reported in Table 4, Panel

B.¹⁷ They show that the predicted employee-related CSR is significantly and positively related to all innovation variables, consistent with a significant portion of the effect of long-term investor ownership on innovation being mediated by employee-related CSR.

Overall, the results from Table 4 provide empirical support to the hypothesis that long-term investors foster employee-related CSR to motivate employees to engage in long-term projects. The results advance our understanding of the mechanisms through which long-term investors encourage companies to invest for the long run. While prior studies have focused on CEO incentives (e.g., Aghion et al. 2013), we highlight that employee-related CSR is an important mechanism through which long-term investors encourage long-term investments.

Auxiliary Analyses and Robustness Tests

In this section, we present additional tests we have conducted to further support the argument that long-term investors foster employee-related CSR as a way to motivate employees to engage in long-term projects. We also briefly discuss robustness tests.

Long-Term Investor Ownership and Employee-Related CSR: Cross-Sectional Heterogeneity

The argument that long-term investors foster employee-related CSR as a way to motivate employees to engage in long-term projects predicts that the effect of long-term investor ownership on employee-related CSR should be more pronounced in firms where employees have stronger personal interests to avoid long-term projects.

We test this prediction by re-estimating our baseline regression for subsamples of firms that are classified by labor skill and labor mobility.¹⁸ When employees are less skilled and have fewer outside options, they are likely to be more concerned about unemployment risk and more averse to long-term investments. We compute an industry-level labor skill index following Ochoa (2013) and Belo et al. (2017) using occupational employment statistics (OES) data from the Bureau of Labor Statistics and the U.S. Department of Labor's O*NET program classification of occupations by skill level. We obtain data on labor mobility from Andres Donangelo. We split our sample according to the

median values of these variables. The results are reported in Table 5, Panel A and show that the effect of long-term investor ownership on employee-related CSR is more pronounced in firms operating in industries with low labor skill and low labor mobility. This cross-sectional heterogeneity lends further support to the argument that long-term investors foster employee-related CSR as a way to motivate employees to engage in long-term projects.

One competing explanation for the effect of long-term investor ownership on employee-related CSR is related to the idea of getting political support from employees. That is, CEOs may endorse CSR to get the support from employees and become immune to corporate governance pressures (Pagano and Volpin 2005). Specifically, due to career concerns, managers may also be averse to long-term investments and create alliance with employees to entrench themselves and limit the influence of long-term investors seeking to push companies to invest for the long run.¹⁹

Our results from Table 4 showing that employee-related CSR is conducive to innovation are inconsistent with this alternative explanation. To further rule out this alternative explanation, we re-estimate our baseline regression from Table 2, Panel A, Column 1 for subsamples of firms sorted by managerial entrenchment and the sensitivity of CEO compensation to the stock price. We use the entrenchment index from Bebchuk et al. (2008). This proxy for managerial entrenchment is a count of the number of six antitakeover provisions (staggered board, limits to amend bylaws, limits to amend charter, supermajority, golden parachutes, and poison pill) that a firm has in place (thus a higher value of the entrenchment index means worse corporate governance). The sensitivity of CEO compensation is seen as a powerful way of aligning the incentives of managers with the interests of shareholders (Coles et al. 2006; Hall and Liebman 1998; Jensen and Murphy 1990).

We split our sample according to the median values of these variables. The results are reported in Table 5, Panel B. They show that the effect of long-term investor ownership on employee-related CSR is stronger in the subsamples of firms with low managerial entrenchment and with high sensitivity of CEO compensation to stock price, i.e., in firms with better corporate governance. These findings are inconsistent with the hypothesis that managers attempt to create alliances with employees in order to resist the influence of long-term investors.

¹⁷ The first stage corresponds to the regression reported in Table 2, Panel A, Column 1.

¹⁸ Labor mobility is the flexibility of workers to walk away from an industry in response to better opportunities (Donangelo 2014).

¹⁹ More generally, some have argued that CSR could be a manifestation of agency problems inside the firm with managers building good reputation among stakeholders at the expense of shareholder value (e.g., Barnea and Rubin 2010; Bénabou and Tirole 2010; Cheng et al. 2013).

Table 5 Long-term investor ownership and employee-related CSR: cross-sectional heterogeneity

| | Labor skill | | Labor mobility | |
|---|-------------------------------------|-----------------------------------|----------------------------|-----------------------------|
| | Low | High | Low | High |
| <i>Panel A. Cross-sectional heterogeneity based on labor skill and labor mobility</i> | | | | |
| Long-term ownership | 0.456** (0.205) | - 0.069 (0.156) | 0.221** (0.108) | - 0.125 (0.087) |
| Institutional ownership | - 0.299*** (0.089) | - 0.129 (0.082) | - 0.298*** (0.081) | - 0.123** (0.060) |
| Size | 0.222*** (0.029) | 0.122*** (0.022) | 0.198*** (0.022) | 0.173*** (0.018) |
| Book-to-market | - 0.235*** (0.060) | - 0.139*** (0.037) | - 0.165*** (0.032) | - 0.131*** (0.026) |
| Book leverage | - 0.257** (0.114) | - 0.191* (0.114) | - 0.288*** (0.076) | - 0.325*** (0.070) |
| Dividend payer | - 0.057 (0.052) | 0.119*** (0.040) | 0.067** (0.033) | 0.023 (0.030) |
| Fixed assets | 0.046 (0.131) | - 0.136 (0.085) | 0.009 (0.054) | 0.110 (0.071) |
| Profitability | 0.080 (0.090) | 0.110 (0.127) | - 0.081 (0.056) | - 0.101** (0.051) |
| Cash | 0.284** (0.124) | 0.101 (0.114) | 0.119* (0.064) | 0.209*** (0.071) |
| KZ score | - 0.017 (0.014) | 0.008 (0.015) | 0.005 (0.009) | - 0.004 (0.007) |
| Observations | 2392 | 2359 | 5722 | 5737 |
| Year fixed effect | Yes | Yes | Yes | Yes |
| Industry fixed effect | Yes | Yes | Yes | Yes |
| Firm cluster | Yes | Yes | Yes | Yes |
| Adjusted R^2 | 0.236 | 0.145 | 0.303 | 0.221 |
| | (1) | (2) | (3) | (4) |
| | Low Entrenchment Index (≤ 2) | High Entrenchment Index (> 2) | Low Delta CEO compensation | High Delta CEO compensation |
| <i>Panel B. Cross-sectional heterogeneity based on corporate governance</i> | | | | |
| Long-term ownership | 0.951*** (0.255) | 0.403* (0.221) | 0.167 (0.137) | 0.439** (0.177) |
| Institutional ownership | - 0.804*** (0.159) | - 0.425*** (0.117) | - 0.390*** (0.089) | - 0.598*** (0.121) |
| Size | 0.385*** (0.025) | 0.241*** (0.020) | 0.249*** (0.020) | 0.321*** (0.023) |
| Book-to-market | - 0.289*** (0.063) | - 0.120*** (0.040) | - 0.160*** (0.038) | - 0.261*** (0.061) |
| Book leverage | - 0.197 (0.173) | - 0.234* (0.139) | - 0.175 (0.113) | - 0.195 (0.152) |
| Dividend payer | - 0.113** (0.048) | - 0.018 (0.037) | - 0.032 (0.038) | - 0.031 (0.043) |
| Fixed assets | 0.068 (0.155) | 0.123 (0.102) | 0.103 (0.086) | - 0.001 (0.104) |
| Profitability | - 0.319 (0.195) | 0.022 (0.145) | - 0.126 (0.111) | 0.024 (0.144) |

Table 5 (continued)

| | (1) Low Entrenchment Index (≤ 2) | (2) High Entrenchment Index (> 2) | (3) Low Delta CEO compensation | (4) High Delta CEO compensation |
|-----------------------|--|--|--------------------------------------|---------------------------------------|
| Cash | 0.461** (0.192) | 0.532*** (0.124) | 0.278** (0.111) | 0.605*** (0.162) |
| KZ score | - 0.043** (0.018) | - 0.023 (0.017) | - 0.034*** (0.013) | - 0.021 (0.019) |
| Observations | 3734 | 2981 | 4111 | 4633 |
| Year fixed effect | Yes | Yes | Yes | Yes |
| Industry fixed effect | Yes | Yes | Yes | Yes |
| Firm cluster | Yes | Yes | Yes | Yes |
| Adjusted R^2 | 0.307 | 0.241 | 0.246 | 0.319 |

Panel A: This table presents the results of regressions of employee-related CSR on long-term investor ownership across subsamples of firms sorted by labor skill and labor mobility at the industry level. In all regressions, the dependent variable is the sum of KLD strengths pertaining to employee relations. All the regressions include industry and year fixed effects. All the right-hand side variables are lagged by 1 year. In Columns 1 and 2, we split the sample based on labor skill computed following Ochoa (2013) and Belo et al. (2017). In Columns 3 and 4, we split the sample based on labor mobility computed following Donangelo (2014). Variable definitions are in the "Appendix." Constants are not reported. Robust standard errors clustered at the firm level are reported in parentheses. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

Panel B: This table presents the results of regressions of employee-related CSR on long-term investor ownership across subsamples of firms sorted by different corporate governance proxies. All the right-hand-side variables are lagged by 1 year. In all regressions, the dependent variable is the sum of KLD strengths pertaining to employee relations. All the regressions include industry and year fixed effects. All the right-hand-side variables are lagged by 1 year. In Columns 1 and 2, we split the sample based on managerial entrenchment. In Columns 3 and 4, we split the sample based on *Delta CEO compensation*. Variable definitions are in the "Appendix." Constants are not reported. Robust standard errors clustered at the firm level are reported in parentheses. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

Long-Term Investors and Other Dimensions of CSR

Our main conjecture is that long-term investors foster employee-related CSR as it constitutes an important tool to motivate employees to engage in long-term projects. This conjecture predicts that long-term investor ownership has an impact on employee-related CSR but not necessarily on other dimensions of CSR. In this section, we explore whether long-term investor ownership is associated with greater KLD scores in the areas of community, diversity, environment, human rights, and product. Table 6 presents regressions of the number of KLD strengths in different areas of CSR on long-term investor ownership and control variables

The results from Column 1 show that long-term investor ownership is positively associated with the number of KLD strengths in the area of diversity. The diversity components generally apply to only a subset of the firm's workforce (e.g., women and minorities) and hence may be less accurate to capture employee-related practices at the firm level. However, KLD scores pertaining to diversity are sometimes used together with those pertaining to employee relations to construct a broader measure of employee-related CSR (e.g., Flammer and Luo 2017). Diversity-related CSR (e.g.,

promotion of women and minorities, work-life benefit programs such as childcare, eldercare or flextime) potentially contributes to motivate employees (or at least a subset of them) to engage in long-term projects.

The results from Columns 2–5 show that long-term investor ownership is not statistically associated with the number of KLD strengths pertaining to human rights, community, and product. Long-term investor ownership is negatively related with the number of KLD strengths pertaining to environment even though the coefficient is only significant at the 10% level. Overall, the results from Table 6 highlight a specificity of employee-related CSR which is the only dimension of CSR that long-term investors appear to foster. This is consistent with the idea that employee-related CSR is key for long-term investors because it helps to engage employees in long-term projects.

The Influence of Other Investors and CEO Incentives on Employee-Related CSR

In Table 7, Panel A, we explore the possibility that other shareholders than long-term investors may influence employee-related CSR. In Columns 1 and 2, we control for the number of shareholder proposals related to corporate

Table 6 Long-term investor ownership and other dimensions of CSR

| KLD dimensions | (1) Diversity | (2) Human rights | (3) Environment | (4) Community | (5) Products |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Long-term ownership | 0.204** (0.096) | 0.012 (0.014) | - 0.127* (0.066) | - 0.044 (0.037) | - 0.034 (0.031) |
| Institutional ownership | - 0.562*** (0.078) | - 0.007 (0.008) | - 0.369*** (0.048) | - 0.166*** (0.030) | - 0.091*** (0.019) |
| Size | 0.343*** (0.020) | 0.017*** (0.002) | 0.248*** (0.013) | 0.122*** (0.009) | 0.056*** (0.005) |
| Book-to-market | - 0.231*** (0.031) | 0.011* (0.006) | - 0.175*** (0.019) | - 0.086*** (0.012) | - 0.065*** (0.008) |
| Book leverage | - 0.293*** (0.087) | - 0.034*** (0.010) | - 0.143*** (0.050) | - 0.097*** (0.032) | - 0.042** (0.021) |
| Dividend payer | 0.043 (0.034) | 0.002 (0.004) | 0.063*** (0.020) | 0.029** (0.012) | 0.000 (0.008) |
| Fixed assets | - 0.229*** (0.067) | 0.008 (0.011) | - 0.020 (0.047) | - 0.069*** (0.024) | - 0.033** (0.016) |
| Profitability | - 0.142** (0.066) | - 0.024*** (0.008) | - 0.088** (0.035) | - 0.068*** (0.020) | - 0.028 (0.019) |
| Cash | 0.299*** (0.079) | 0.035*** (0.009) | 0.015 (0.048) | 0.040 (0.029) | 0.002 (0.021) |
| KZ Score | - 0.001 (0.009) | - 0.000 (0.001) | - 0.013** (0.006) | - 0.005 (0.004) | - 0.004 (0.003) |
| Observations | 18,818 | 18,169 | 18,169 | 18,169 | 18,169 |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes |
| Industry fixed effects | Yes | Yes | Yes | Yes | Yes |
| Firm cluster | Yes | Yes | Yes | Yes | Yes |
| Adjusted R^2 | 0.295 | 0.134 | 0.315 | 0.221 | 0.098 |

This table reports the results of regressions of the number of KLD strengths pertaining to different CSR areas on long-term investor ownership and control variables. All the regressions include industry and year fixed effects. All the right-hand-side variables are lagged by 1 year. In Column 1, the dependent variable is the number of KLD strengths pertaining to diversity. In Column 2, the dependent variable is the number of KLD strengths pertaining to human rights. In Column 3, the dependent variable is the number of KLD strengths pertaining to environment. In Column 4, the dependent variable is the number of KLD strengths pertaining to community. In Column 5, the dependent variable is the number of KLD strengths pertaining to product. Variable definitions are in the “Appendix.” Constants are not reported. Robust standard errors clustered at the firm level are reported in parentheses. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

social responsibility or to employees. Previous evidence indicates that most proposals originate from non-institutional shareholders such as individuals, unions, and religious groups. Shareholder proposals therefore capture a channel through which *non-institutional* investors may influence employee-related CSR. Grewal et al. (2016) show that shareholder proposals related to CSR lead to subsequent improvements in the performance of the company on the focal environmental or social issue. In line with previous evidence, our results show that the number of proposals related to CSR and the number of proposals related to employees are both positively associated with employee-related CSR. Importantly for our purpose, long-term investor ownership remains strongly associated with employee-related CSR. Long-term institutional investors therefore have an influence

on employee-related CSR above and beyond the influence of other shareholders through the shareholder proposal process.

In Columns 3 and 4, we analyze the possibility that employee-related CSR is driven by norm-constrained or socially responsible investors rather than long-term investors. We define as *norm-constrained* investors that do not hold any sin stock in their portfolios (Hong and Kacperczyk 2009). Our classification of socially responsible investors relies on the weighted average number of KLD strengths of an institutional investor’s portfolio firms. This weighted average number of KLD strengths broadly corresponds to the sustainability footprint proposed by Gibson and Krueger (2018) to quantify the portfolio-level sustainability of institutional investors. We classify as socially responsible investors with a portfolio KLD score in the yearly top quartile

Table 7 The role of other investors and CEO incentives on employee-related CSR

| <i>Employee-Related CSR</i> | (1) | (2) | (3) | (4) |
|---------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <i>Panel A. Other investors</i> | | | | |
| Long-term ownership | 0.270** (0.107) | 0.267** (0.107) | 0.297*** (0.075) | 0.339*** (0.074) |
| Institutional ownership | - 0.491*** (0.097) | - 0.484*** (0.098) | - 0.338*** (0.053) | - 0.352*** (0.048) |
| Size | 0.287*** (0.018) | 0.283*** (0.019) | 0.237*** (0.014) | 0.220*** (0.013) |
| Book-to-market | - 0.185*** (0.035) | - 0.186*** (0.036) | - 0.180*** (0.022) | - 0.163*** (0.021) |
| Book leverage | - 0.182 (0.115) | - 0.173 (0.115) | - 0.234*** (0.055) | - 0.229*** (0.053) |
| Dividend payer | - 0.033 (0.029) | - 0.031 (0.029) | 0.019 (0.020) | 0.017 (0.020) |
| Fixed assets | 0.126 (0.087) | 0.123 (0.087) | 0.034 (0.047) | 0.037 (0.046) |
| Profitability | - 0.042 (0.098) | - 0.030 (0.098) | - 0.093** (0.040) | - 0.076* (0.040) |
| Cash | 0.551*** (0.108) | 0.550*** (0.108) | 0.303*** (0.054) | 0.304*** (0.053) |
| KZ Score | - 0.031** (0.013) | - 0.030** (0.013) | - 0.010 (0.006) | - 0.008 (0.006) |
| No proposals Emp. | 0.434*** (0.120) | | | |
| No proposals CSR. | | 0.091** (0.042) | | |
| Norm-constrained ownership | | | - 0.079 (0.097) | |
| SRI ownership | | | | 1.049*** (0.183) |
| Observations | 10,197 | 10,197 | 17,917 | 18,169 |
| Year fixed effects | Yes | Yes | Yes | Yes |
| Industry fixed effects | Yes | Yes | Yes | Yes |
| Firm cluster | Yes | Yes | Yes | Yes |
| Adjusted R^2 | 0.280 | 0.279 | 0.247 | 0.258 |
| <i>Employee Treatment</i> | (1) | (2) | (3) | (4) |
| <i>Panel B. CEO incentives</i> | | | | |
| Long-term ownership | 0.430*** (0.115) | 0.409*** (0.115) | 0.407*** (0.115) | 0.425*** (0.115) |
| Institutional ownership | - 0.520*** (0.087) | - 0.539*** (0.086) | - 0.550*** (0.086) | - 0.565*** (0.088) |
| Size | 0.291*** (0.017) | 0.273*** (0.017) | 0.277*** (0.017) | 0.282*** (0.017) |
| Book-to-market | - 0.193*** (0.035) | - 0.171*** (0.034) | - 0.192*** (0.035) | - 0.186*** (0.034) |
| Book leverage | - 0.137 (0.102) | - 0.127 (0.101) | - 0.140 (0.101) | - 0.139 (0.102) |
| Dividend payer | - 0.020 (0.032) | - 0.019 (0.032) | - 0.028 (0.032) | - 0.020 (0.032) |
| Fixed assets | - 0.015 | 0.004 | 0.008 | - 0.009 |

Table 7 (continued)

| <i>Employee Treatment</i> | (1) | (2) | (3) | (4) |
|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | (0.079) | (0.078) | (0.078) | (0.079) |
| Profitability | – 0.047 (0.094) | – 0.032 (0.095) | – 0.018 (0.095) | – 0.034 (0.094) |
| Cash | 0.390*** (0.118) | 0.369*** (0.117) | 0.384*** (0.117) | 0.394*** (0.118) |
| KZ score | – 0.035*** (0.012) | – 0.035*** (0.012) | – 0.034*** (0.012) | – 0.034*** (0.012) |
| Delta CEO compensation | – 0.031 (0.043) | | – 0.123** (0.048) | |
| Vega CEO compensation | | 0.216** (0.090) | 0.328*** (0.102) | |
| CEO ownership | | | | – 0.007*** (0.002) |
| Observations | 4382 | 4382 | 4382 | 4382 |
| Year fixed effects | Yes | Yes | Yes | Yes |
| Industry fixed effects | Yes | Yes | Yes | Yes |
| Firm cluster | Yes | Yes | Yes | Yes |
| Adjusted R^2 | 0.315 | 0.317 | 0.318 | 0.316 |

Panel A: This table reports the results of the OLS regressions of employee-related CSR on long-term ownership and control variables. All the right-hand-side variables are lagged by 1 year. In all specifications, the dependent variable is employee-related CSR defined as the number of KLD strengths pertaining to employee relations. All the regressions include industry and year fixed effects. In Column 1, we include the number of shareholder proposals related to CSR as an additional control variable. In Column 2, we include the number of shareholder proposals related to employees. In Column 3, we control for norm-constrained ownership defined as the ownership of institutional investors that do not hold any sin stocks in their portfolio. In Column 4, we control for socially responsible investor ownership defined as the ownership of institutional investors with a high value-weighted KLD score. Variable definitions are in the “Appendix.” Constants are not reported. Standard errors are reported in parentheses. They are robust to heteroscedasticity and clustered at the firm level. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

Panel B: This table reports the results of the OLS regressions of employee-related CSR on long-term ownership and control variables. All the right-hand-side variables are lagged by 1 year. In all specifications, the dependent variable is employee-related CSR defined as the number of KLD strengths pertaining to employee relations. All the regressions include industry and year fixed effects. In Column 1, we include *Delta CEO compensation* as an additional control variable. In Column 2, we include the *Vega CEO compensation* as an additional control variable. In Column 3, we include both the *Delta* and *Vega CEO compensation*. In Column 4, we include CEO ownership as an additional control variable. Variable definitions are in the “Appendix.” Constants are not reported. Standard errors are reported in parentheses. They are robust to heteroscedasticity and clustered at the firm level. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

of the distribution. The results show that socially responsible investors are positively associated with employee-related CSR while the coefficient on norm-constrained ownership is not statistically significant. Most importantly, long-term investor ownership remains strongly associated with employee-related CSR after controlling for norm-constrained ownership and socially responsible ownership. Overall, the results from Table 7 show that long-term institutional investors influence employee-related CSR and that this effect cannot be explained away by the influence of other shareholders.

In Panel B, we examine whether the association between long-term investor ownership and employee-related CSR holds when we control for CEO incentives. While the focus of our paper is on the influence of long-term investors on non-executive employees’ incentives and, in particular,

employee-related CSR, managerial incentives could be an omitted variable. To address this concern, we control for CEO pay-for-performance sensitivity (delta of CEO compensation), pay-for-risk sensitivity (vega of CEO compensation), and CEO ownership. We obtain data on delta and vega of CEO compensation from Lalitha Naveen’s website. Details about the computation of these variables are in the “Appendix.”

The results show that long-term investor ownership remains strongly associated with employee-related CSR after we control for managerial incentives. Consistent with previous literature (Dimson et al. 2015; McCahery et al. 2016), this result indicates that long-term investors influence employee-related CSR through other channels than the design of managerial incentives.

Table 8 Long-term investor ownership and employee-related CSR: alternative specifications

| Employee-related CSR | (1) | (2) | (3) | (4) | (5) |
|-----------------------------|---------------------------------|-----------------------------|-----------------------------|------------------------------|---|
| | Industry and year fixed effects | Firm and year fixed effects | Industry-year fixed effects | State-year and fixed effects | Firm and year fixed effects and S&P 500 restriction |
| Long-term ownership | 0.300*** (0.074) | 0.139** (0.070) | 0.301*** (0.080) | 0.288*** (0.078) | 0.621** (0.270) |
| Institutional ownership | - 0.347*** (0.049) | - 0.149*** (0.050) | - 0.343*** (0.051) | -0.340*** (0.049) | 0.251 (0.298) |
| Size | 0.237*** (0.014) | 0.043* (0.023) | 0.240*** (0.014) | 0.241*** (0.014) | 0.030 (0.103) |
| Book-to-market | - 0.183*** (0.021) | - 0.023 (0.022) | - 0.182*** (0.023) | - 0.169*** (0.023) | - 0.043 (0.101) |
| Book leverage | - 0.253*** (0.053) | - 0.011 (0.069) | - 0.268*** (0.056) | - 0.305*** (0.055) | 0.039 (0.335) |
| Dividend payer | 0.024 (0.020) | 0.042 (0.031) | 0.016 (0.021) | 0.031 (0.021) | 0.247** (0.114) |
| Fixed assets | 0.036 (0.047) | 0.088 (0.060) | 0.042 (0.049) | 0.065* (0.037) | 0.388 (0.281) |
| Profitability | - 0.088** (0.040) | 0.067 (0.046) | - 0.113*** (0.042) | - 0.098** (0.042) | 0.657** (0.276) |
| Cash | 0.296*** (0.054) | 0.005 (0.067) | 0.301*** (0.056) | 0.390*** (0.054) | - 0.040 (0.407) |
| KZ score | - 0.009 (0.006) | - 0.001 (0.005) | - 0.008 (0.006) | - 0.006 (0.007) | 0.012 (0.036) |
| Observations | 18,169 | 18,169 | 18,169 | 18,143 | 3292 |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes |
| Industry fixed effects | Yes | No | No | No | No |
| Industry*year fixed effects | No | Yes | Yes | No | No |
| State*year fixed effects | No | No | No | Yes | No |
| Firm fixed effects | No | Yes | Yes | Yes | Yes |
| Firm cluster | Yes | Yes | Yes | Yes | Yes |
| Adjusted R ² | 0.248 | 0.486 | 0.262 | 0.234 | 0.529 |

This table reports the results of the OLS regressions of employee-related CSR on long-term ownership and control variables. All the right-hand-side variables are lagged by 1 year. In all specifications, the dependent variable is employee-related CSR defined as the number of KLD strengths pertaining to employee relations. In Column 1, we include industry and year fixed effects. In Column 2, we include year and firm fixed effects. In Column 3, we include industry-year fixed effects. In Column 4, we include state-year fixed effects. In Column 5, we restrict our sample to firms belonging to the S&P 500 universe and include firm and year fixed effects. Variable definitions are in the "Appendix." Constants are not reported. Standard errors are reported in parentheses. They are robust to heteroscedasticity and clustered at the firm level. The superscripts ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively

Long-Term Investor Ownership and Employee-Related CSR: Alternative Specifications

Our baseline specification in Table 2 includes industry and year fixed effects. In Table 8, we assess the robustness of the effect of long-term investor ownership on employee-related CSR to alternative specifications. In Column 1, we replace industry fixed effects with firm fixed effects. After accounting for persistent firm characteristics, long-term investor ownership is still significantly and positively associated with employee-related CSR. In Column 2, we further add

industry \times year fixed effects to rule out the possibility that unobserved heterogeneity at the industry-year level drives our results. In Column 3, we include state \times year fixed effects which allow us to control for unobservable and observable differences across state-year that may affect employee-related CSR.²⁰ In all these additional specifications, we find that long-term investor ownership is strongly associated with

²⁰ For example, Flammer and Luo (2017) show that change in unemployment insurance across states has a positive impact on employee-related CSR.

employee-related CSR. Finally, in Column 4, we restrict the sample to firms belonging to the S&P 500. Firms belonging to the S&P 500 are likely to have both higher institutional ownership and employee-related CSR.²¹ The results from Column 4 show that long-term investor ownership is strongly associated with employee-related CSR among S&P 500 firms. Overall, the results from Table 8 confirm the robustness of the association between long-term investor ownership and employee-related CSR.

Discussion and Conclusion

In this article, we explore whether and how long-term investors influence non-executive employees' incentives. While long-term investors benefit from long-term investments that create value over time, employees tend to be more averse to long-term investments with remote cash flows. We conjecture that long-term investors foster employee-related CSR as a way to motivate employees to engage in long-term investment projects. Consistent with this prediction, we find that long-term investor ownership is a strong driver of employee-related CSR. We further show that employee-related CSR mediates the relationship between long-term investors and long-term investments (as proxied by R&D expenditures and corporate innovation). Our results highlight that employee-related CSR is a channel through which long-term investors manage to encourage long-run investment and value creation.

Our study is related to several streams of research on the determinants of CSR, the link between CSR and firm value as well as strategic human capital management. First, our paper contributes to the literature investigating whether and in what ways CSR leads to value creation. Some recent studies show that employee-friendly practices and, in particular, employee satisfaction generate substantial firm value over the long run (Edmans 2011, 2012; Faleye and Trahan 2011). Recent contributions from Cheng et al. (2014), El Ghoul et al. (2018), Flammer and Luo (2017), and Francis et al. (2017) highlight several mechanisms through which CSR creates long-term value, such as by improving access to finance and mitigating adverse behavior in the workplace.

Second, our study is related to the literature on strategic human capital and the divergence of interests between employees and shareholders. Employees are a source of competitive advantage and often represent a firm's most

valuable asset (Campbell et al. 2012; Coff 1997). However, firms do not own their labor force and employees have the flexibility to leave. This lack of full control over labor represents an important source of risk, and the ability to reduce labor mobility is a strategic issue (e.g., Carnahan et al. 2012; Ganco et al. 2015). In addition to the risk of labor mobility, another difficulty associated with managing employees is that their personal incentives tend to differ markedly from long-term value maximization. Therefore, a firm's ability to motivate and effectively manage its employees has long been recognized as being essential to its competitiveness. Our results suggest that long-term investors foster employee-related CSR, which plays a critical role in motivating employees to engage in long-term projects. In this respect, our paper is closely related to the work of Flammer and Luo (2017), who show that CSR can be an employee governance tool to alleviate adverse behavior in the workplace. Existing literature indicates that, on top of long-term investments, employees may also be reluctant to make specific human capital investments (e.g., Wang and Lim 2008). Further research is necessary to examine whether CSR may also influence employees' incentives to make this kind of investments.

Third, our paper also complements the literature examining the influence of a firm's stakeholders on its CSR activities. Existing literature has focused on the influence of managers (e.g., Di Giuli and Kostovetsky 2014; Yuan et al. 2017), board members (e.g., Bear et al. 2010; Harjoto et al. 2015; Homroy and Slechten 2017; Post et al. 2011), activists (e.g., Baron 2009; McDonnell and King 2013), the community (e.g., Attig and Brockman 2017; Marquis and Tilcsik 2013), financial analysts (e.g., Dong et al. 2015; Ioannou and Serafeim 2015), the media (Hoi et al. 2016; Luo et al. 2012), and employees (Flammer 2015; Flammer and Luo 2017). Our paper shows that long-term investors foster employee-related CSR but do not influence other dimensions of CSR.

We acknowledge some potential limitations to our work. In the empirical analysis, we use the proportion of long-term *institutional* investors in a firm's ownership. Focusing on institutional investors is a common approach in all studies on investor horizons and corporate policies (Bushee 1998; Cella et al. 2013; Chen et al. 2007; Derrien et al. 2013; Gaspar et al. 2005; Harford et al. 2018). It is justified by the fact that institutional investors represent the economically most important set of shareholders. The past decades have witnessed a well-documented increase of the ownership and power of institutional investors in U.S. corporations (Aghion et al. 2013). In our sample, the average institutional ownership is equal to 71%, confirming that institutional investors own the great majority of U.S. firms. Finally, in our regressions, we show that our results are robust after controlling for shareholder proposals, which represents a key channel through which non-institutional shareholders such

²¹ There are several reasons why S&P 500 firms are likely to have greater institutional ownership. For example, indexers and quasi-indexers that track the S&P 500 are forced to invest in these firms. On the other hand, a large percentage of firms in the Best Companies to Work For list are S&P500 firms. This suggests that S&P 500 firms may invest more in employee-related CSR.

as individuals, religious groups, or unions seek to influence firms' CSR activities (Grewal et al. 2016).

Second, throughout the paper, we have conjectured that long-term investors play a direct role in fostering employee-related CSR. It could be that the effect of long-term investors is slightly less direct. More precisely, because long-term investors push managers to invest for the long run and to maximize long-term shareholder value, managers may in turn choose to promote employee-related CSR to motivate employees to engage in long-term investments. From this perspective, fostering employee-related CSR would be managers' response to the demand for long-term investments conveyed by long-term investors. Because most of the interactions between long-term investors and managers take place behind the scenes (McCahery et al. 2016) and through channels like emails, telephone conversations, or direct conversations that are unobservable to the researcher (Dimson et al. 2015), it is extremely difficult to disentangle the two possibilities. However, in both cases, the presence of long-term investors, which conveys a demand for long-term investments, induces greater employee-related CSR as a response to the need to engage employees in long-term projects. Moreover, in both cases, long-term investors and managers are not necessarily interested in employee-related CSR per se but rather in the part it plays in achieving long-term investment and value creation.

Third, we have theorized and empirically examined that long-term investors, who seek to push companies to invest for the long run and maximize long-term value creation rather than immediate profits, have interests to influence employee incentives and more precisely employee-related CSR. Our main argument is that long-term investors foster employee-related CSR as a way to lengthen employees' horizons and overcome their aversion for long-term projects entailing significant risks. We recognize that engaging employees for the long run is not necessarily the only reason why long-term investors seek to foster employee-related CSR. In particular, it could be that implementing employee-related CSR, which reduces voluntary turnover and increases

employee intent to stay as well as their productivity, allows companies to accumulate multiple short-term gains resulting in value creation over time for long-term shareholders. (e.g., Jacobides et al. 2012). While other reasons may explain why long-term investors foster employee-related CSR, we leave for future research the precise identification of the mechanisms at play and the assessment of their relevance. Rather, we have focused on providing theoretical justification and empirical evidence supporting the idea that the use of employee-related CSR is an important tool to overcome employees' aversion for long-term projects. Firms implementing employee-related CSR are in a better position to offset the risks associated with high unpredictability and long-term horizons, which are inherent to the pursuit of long-term projects like innovation. Empirically, we find a strong link between employee-related CSR and the investment, success, and value of innovative activities, lending empirical support to the idea that employee-related CSR facilitates the engagement of employees in long-term projects.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflicts of interest.

Research Involving in Human and Animal Rights This article does not contain any studies with human participants or animals performed by any of the authors.

Appendix: Variable Description

| Variable | Description | Source |
|--|---|----------------------|
| <i>Employee-related CSR</i> | | |
| KLD employee strengths | Sum of the KLD strengths in the area of employee relations: <i>Union relations.</i> The company has taken exceptional steps to treat its unionized workforce fairly <i>Cash profit sharing.</i> The company has a cash profit-sharing program through which it has recently made distributions to a majority of its workforce <i>Employee involvement.</i> The company strongly encourages worker involvement and/or ownership through stock options available to a majority of its employees; gain sharing, stock ownership, sharing of financial information, or participation in management decision-making <i>Retirement benefits strength.</i> The company has a notably strong retirement benefits program <i>Health and safety strength.</i> The company has strong health and safety programs <i>Other strength.</i> The company has strong employee relations initiatives not covered by other KLD ratings | KLD |
| KLD employee concerns | Sum of the KLD concerns for the dimension employee | KLD |
| KLD employee strengths minus concerns | Sum of the KLD strengths for the dimension employee minus the sum of the KLD concerns for the dimension employee | KLD |
| Adjusted KLD employee strengths minus concerns | Sum of the KLD strengths for the dimension employee scaled by the number of strengths rated minus the sum of the KLD concerns for the dimension employee scaled by the number of items rated | KLD |
| Best company to work for | Dummy variable equal to one if a firm is in the list of the “Best Companies to Work For in America,” and zero otherwise | Alex Edmans’ website |
| Glassdoor employer rating | Average Glassdoor employer ratings for career opportunities, compensation and benefits, and work/life balance | Glassdoor website |
| <i>Long-term ownership</i> | | |
| Long-term ownership | Fraction of the firm’s total shares outstanding held by long-term institutional investors. We classify as long-term investors, investors with a portfolio turnover below 35 percent, following Derrien et al. (2013) | 13 Thomson file |
| <i>Control variables</i> | | |
| Institutional ownership | Fraction of the firm’s total shares outstanding held by institutional investors | 13 Thomson file |
| Size | Natural logarithm of total asset | COMPUSTAT |
| Book-to-market | Firm book value dividend by firm market value | COMPUSTAT |
| Book leverage | Short-term plus long-term debt divided by total asset | COMPUSTAT |
| Dividend payer | Indicator variable that is equal to 1 if the firm pays dividend and 0 otherwise | COMPUSTAT |
| Fixed assets | Net property, plant, and equipment divided by total asset | COMPUSTAT |
| Profitability | Return on asset. Defined as net income divided by total asset | COMPUSTAT |
| Cash | Cash and short-term investment divided by total asset | COMPUSTAT |
| KZ score | Proxy of financial constraints. KZ score is computed as: $-1.002*((dp + ib)/l.at) - 39.368*((dvc + dvp)/l.at)$ $- 1.315*(che/l.at) + 3.139*((dltt + dlc)/(dltt + dlc + seq))$ | COMPUSTAT |
| No proposals Emp. | Number of shareholder proposals related to employees | ISS |
| No Proposals CSR | Number of shareholder proposals related to CSR | ISS |
| Norm-constrained ownership | Percentage of no-sin stock holders. We identify non-sin stocks following Hong and Kacperczyk (2009) | 13 Thomson file |
| SRI ownership | We identify socially responsible investors based on their portfolios’ share-weighted average KLD score (total strengths). We classify as socially responsible an investor that has a portfolio value-weighted KLD score in the top quartile of the yearly distribution | 13 Thomson file |

| Variable | Description | Source |
|---|---|--------------------------------------|
| <i>Instrumental variables</i> | | |
| Average trading performance sensitivity | We follow Cella et al. (2013) and capture an investor's trading performance sensitivity using the correlation between each 13F institutional investor's portfolio performance at quarter t-1 (generated solely by the price changes of the stocks held in their portfolios) and the change in assets under management at quarter t computed over a rolling window of 12 quarters before quarter t. We then compute the share-weighted average trading performance sensitivity of institutional investor at the firm level | 13 Thomson file |
| Average portfolio turnover | Share-weighted average portfolio turnover of institutional investors. We compute an institutional investor's portfolio turnover following Derrien et al. (2013). For a given investor, its turnover is the percentage of its stock portfolio he has sold over the last twelve quarters. It is smoothed over four quarter | 13 Thomson file |
| <i>Other variables</i> | | |
| Labor skill | We compute an industry-level labor skill index following Ochoa (2013) and Belo et al. (2017) using occupational employment statistics (OES) data from the Bureau of Labor Statistics and the U.S. Department of Labor's O*NET program classification of occupations by skill level | OES, BLS |
| Labor mobility | Labor mobility is the flexibility of workers to walk away from an industry in response to better opportunities. See Donangelo (2014) for more details on the computation of the variable | Donangelo's website |
| Entrenchment index | Computed following Bebchuk et al. 2008. Count of the number antitakeover provisions within the following six ones (staggered board, limits to amend bylaws, limits to amend charter, supermajority, golden parachutes, and poison pill) that a firm has in place | IRRC |
| Delta CEO compensation | $\Delta(\$)/(\text{Salary} + \text{Bonus} + \Delta(\$))$ Where $\Delta(\$)$ is the dollar change in the value of a CEO's stock and option portfolio associated with a 1% change in the firm's stock price. This variable is scaled by the hypothetical CEO compensation associated with a 1% change in the firm's stock price. We obtain data on $\Delta(\$)$ from Lalitha Naveen's website | Execucomp, Lalitha Naveen's website. |
| Vega CEO compensation | $\text{Vega}(\$)/(\text{Salary} + \text{Bonus} + \text{Vega}(\$))$ Where $\text{Vega}(\$)$ is the dollar change in the value of a CEO's stock and option portfolio associated with a 1% change in the firm's stock volatility. This variable is scaled by the hypothetical CEO compensation associated with a 1% change in the firm's stock volatility. We obtain data on $\text{Vega}(\$)$ from Lalitha Naveen's website | Execucomp, Lalitha Naveen's website. |
| <i>Innovation variables</i> | | |
| R&D expenditures | The ratio of R&D expenses (xrd) to total assets | Compustat |
| Patents | Patent count for each firm in each year. More precisely, this variable counts the number of patent applications filed in a year that are eventually granted. We obtain data from Kogan et al. (2017). They use data from the National Bureau of Economic Research (NBER) Patent Data Project database, which contains annual information on patent assignee names, the number of patents, the number of citations per patent, and the year of patent application. They provide aggregate data at the firm-year level for the 1926–2010 period | NBER and Kogan et al. (2017) |
| Citation-weighted patents | Citation-weighted measure of the patent count. We weight each patent by the number of future citations. Obtained from Kogan et al. (2017) | NBER and Kogan et al. (2017) |
| Value of patents | Kogan et al. (2017)'s market-based measure of patent count. Patents are weighted by the market reaction to patent grants. Obtained from Kogan et al. (2017) | NBER and Kogan et al. (2017) |

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