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Allen FERRELL
Harvard Law School

Hao LIANG
Singapore Management University, hliang@smu.edu.sg

Luc RENNEBOOG
Tilburg University

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Citation

FERRELL, Allen; Hao LIANG; and RENNEBOOG, Luc. Socially responsible firms. (2016). *Journal of Financial Economics*. 122, (3), 585-606.

Available at: https://ink.library.smu.edu.sg/lkcsb_research/5004

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Socially responsible firms*

Allen Ferrell^{a*}, Hao Liang^b, Luc Renneboog^c

ABSTRACT

In the corporate finance tradition, starting with Berle and Means (1932), corporations should generally be run to maximize shareholder value. The agency view of corporate social responsibility (CSR) considers CSR an agency problem and a waste of corporate resources. Given our identification strategy by means of an instrumental variable approach, we find that well-governed firms that suffer less from agency concerns (less cash abundance, positive pay-for-performance, small control wedge, strong minority protection) engage more in CSR. We also find that a positive relation exists between CSR and value and that CSR attenuates the negative relation between managerial entrenchment and value.

JEL classifications: G30, G31, G35, K22, L21, M14

Keywords: corporate social responsibility, agency costs, corporate governance

* We are grateful to Kenneth Arrow, Martijn Cremers, Hans Degryse, Marc Deloof, Elroy Dimson, Joost Driessen, Fabrizio Ferraro, Caroline Flammer, Jessie Fred, Edward Freeman, Richard Friberg, William Goetzmann, Harald Hau, Rebecca Henderson, Oguzhan Karakas, Philipp Krueger, Thomas Lambert, Alberto Manconi, Chris Marquis, Mark Roe, Amir Rubin, Joaquim Schwalbach, Roy Shapira, Andrei Shleifer, Holger Spamann, Alexander Wagner, as well as conference and seminar participants at Harvard Business School, Harvard Law School, Paris Dauphine University, École Polytechnique Paris, Norwegian School of Economics, Stanford Law School, Tilburg University, University of Antwerp, University of Ghent, Second Geneva SumMit on Sustainable Finance, Second Geneva-Harvard-Renmin-Sydney Law Faculty Conference, and the China International Conference in Finance (Shenzhen) for helpful comments. We also thank Dennis de Buijzer for the excellent research assistant work.

^a *Harvard Law School, Cambridge, MA 02138, USA*

* Corresponding author at: Telephone: 617-495-8961. Email address: fferrell@law.harvard.edu.

^b *Lee Kong Chian School of Business, 50 Stamford Road, Singapore 178899.*

^c *CentER, Tilburg University, 5000 LE Tilburg, The Netherlands.*

1. Introduction

The desirability for corporations to engage in socially responsible behavior has long been hotly debated among economists, lawyers, and business experts. Back in the 1930s, two American lawyers, Adolf A. Berle, Jr., and E. Merrick Dodd, Jr., had a famous public debate addressing the question: To whom are corporations accountable? Berle argued that the management of a corporation should be held accountable only to shareholders for their actions, and Dodd argued that corporations were accountable to both the society in which they operated and their shareholders (Macintosh, 1999). The lasting interest in this debate reflects the fact that the issues it raises touch on the basic role and function of corporations in a capitalist society.

Two general views, often reflecting the issues raised in the Berle-Dodd debate, on corporate social responsibility (CSR) prevail in the literature. The CSR good governance view argues that socially responsible firms, such as firms that promote efforts to help protect the environment, seek social equality, and improve community relations, can and often do adhere to value-maximizing corporate governance practices. As such, well-governed firms are more likely to be socially responsible. In short, CSR can be consistent with maximizing shareholder wealth as well as achieving broader societal goals. Some proponents of the good governance view further argue that firm value maximization can incorporate stakeholder value, not merely shareholder value (e.g., Edmans, 2011; Deng, Kang, and Low, 2013). The opposite view on CSR begins with American economist Milton Friedman's well-known claim that "the only responsibility of corporations is to make profits" (New York Times Magazine, 1970, p.122). Extending this view, several researchers argue that CSR is often simply a manifestation of managerial agency problems inside the firm (Benabou and Tirole, 2010; Cheng, Hong, and Shue, 2014; Masulis and Reza, 2015) and, hence, problematic (the agency view). That is to say, socially responsible firms tend to suffer from agency problems, which are also manifested by managers engaging in CSR that benefits themselves at the expense of shareholders (Krueger, 2015). Furthermore, managers engaged in

time-consuming CSR activities can lose focus on their core managerial responsibilities (Jensen, 2001). Overall, according to the agency view, CSR is generally not in the interest of shareholders. Friedman even suggested that to think that business should do anything other than make a profit is to “harm the foundations of a free society” (New York Times Magazine, 1970, p.122). Reality could lie somewhere between the good governance and agency views of CSR. Some CSR-related corporate policies can be the result of good governance consistent with shareholder value, while others can be driven by agency problems.

The empirical literature testing these two views is mixed and thus has left the issues raised in the Berle-Dodd debate largely unresolved. For instance, a number of papers show that firm participation in certain social issues, such as not engaging with sin industries, avoiding nuclear energy, and charity giving, is associated with higher agency costs and lower shareholder value (e.g., Hillman and Keim, 2001; Brown, Helland, and Smith, 2006; Di Giuli and Kostovetsky, 2014; Masulis and Reza, 2015). In a recent study based on the Kinder, Lydenberg, and Domini (KLD) dataset, which provides CSR ratings for thousands of public US companies, Cheng, Hong, and Shue (2014) find empirical evidence supporting the argument that managers of large US firms enjoy private benefits from investing in CSR. Meanwhile, other papers, largely using the same KLD data set, show that a higher CSR score is on average associated with lower idiosyncratic risk and a lower probability of financial distress (Lee and Faff, 2009), a lower cost of capital (Goss and Roberts, 2011; El Ghoul, Guedhami, Kwok, and Mishra, 2011; Dhaliwal, Li, Tsang, and Yang, 2011; Albuquerque, Durnev, and Koskinen, 2013), more positive sell-side analysts’ recommendations (Bushee, 2000; Bushee and Noe, 2001), and higher abnormal returns and long-term post-acquisition returns (Deng, Kang, and Low, 2013).

The CSR empirical literature to date has two major limitations. First, much of the literature is largely focused only on the ex post effects of CSR. That is, the principal research focus is on measuring shareholder reactions to CSR as captured by abnormal stock returns (e.g., Dimson, Karakas, and Li, 2015), the cost of capital (e.g., El Ghoul, Guedhami, Kwok, and Mishra, 2011), and ownership changes

(e.g., Cheng, Hong, and Shue, 2014) or on the financial consequences of CSR spending (e.g., Lee and Faff, 2009). However, both the good governance and agency views are concerned to a significant extent with managerial incentives, which are ex ante in nature. In the agency view, the managerial incentive to engage in CSR is a reflection of the generally poor incentives of managers at socially responsible firms, i.e., these firms suffer from agency problems. These agency problems then manifest themselves in the form of, among others, CSR activities. In the good governance view, well-run firms, meaning firms in which management is generally properly incentivized, tend to have managers engaging in appropriate CSR conduct. In this way, the debate over CSR connects with the general corporate finance literature on agency problems and ex ante managerial incentives, a fact that we exploit in our empirical analyses. Second, the objective function of a firm is often implicitly assumed in the literature to be exclusively shareholder wealth maximization, without any independent importance being placed on third-party effects. In this regard, it is worth noting that in many countries firms are required by law or social norms to be concerned not only with shareholders, but also with other stakeholders, such as employees. Given differing opinions concerning the appropriate objective function within the literature, an important research question is whether well-governed firms are more likely to be socially responsible.

In this paper, we take a comprehensive look at the CSR agency and good governance views around the globe. By means of a rich and partly proprietary CSR data set with global coverage across a large number of countries and composed of thousands of the largest companies, we test these two views by examining whether traditional corporate finance proxies for firm agency problems, such as capital spending cash flows, managerial compensation arrangements, ownership structures, and country-level investor protection laws, account for firms' CSR activities. While other studies using a within-country quasi-experimental approach (e.g., Hong, Kubik, and Scheinkman, 2012; Cheng, Hong, and Shue, 2014) focus on the marginal effect of variation in agency problems, our data and empirical setting enable us to examine its average effect. Based on this comprehensive analysis, we fail to find evidence that CSR conduct in general is a function of firm agency problems. Instead, consistent with the good governance view, well-governed firms, as represented by lower cash hoarding and capital spending, higher payout

and leverage ratio, and stronger pay-for-performance,, are more likely to be socially responsible and have higher CSR ratings. In addition, CSR is higher in countries with better legal protection of shareholder rights and in firms with smaller excess voting power held by controlling shareholders. Moreover, a higher CSR rating moderates the negative association between a firm's managerial entrenchment and value. All these findings lend support to the good governance view and suggest that CSR in general is not inconsistent with shareholder wealth maximization.

The paper proceeds as follows. Section 2 identifies several proxies drawn from the corporate finance literature for firm agency problems and their possible relation to CSR. Section 3 describes the samples and specifications used when testing the views on CSR. Section 4 reports and discusses the empirical results. Section 5 concludes.

2. Agency theory and CSR: hypotheses

Agency problems can manifest themselves through non-value-maximizing investment choices (Shleifer and Vishny, 1989; La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2000) and managerial pay that is not tied to performance (Bebchuk and Fried, 2003). Economists have focused on possible mechanisms constraining these agency problems, such as contract design, incentive systems, and internal controls [see Holmstrom and Tirole (1989), Prendergast (1999), and Bebchuk and Weisbach (2010) for reviews], as well as on external mechanisms such as labor, capital, and product markets (Fama, 1980; Fama and Jensen, 1983) and institutional arrangements, including legal rules (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997, 1998, 2000, 2002).

To assess whether CSR should be regarded as a manifestation of agency problems, we explore the underlying mechanisms based on ex ante managerial incentives, which connects the quality of corporate governance to CSR. In better governed firms, managers are better incentivized and their interests and behavior are more aligned with those of shareholders. If CSR is consistent with or improves firm performance, managers compensated for good performance have a greater incentive to engage in CSR.

That is, good corporate governance induces more CSR activities. In contrast, under the agency cost view, CSR is detrimental to shareholder value but is favored by managers as they are able to extract private benefits; i.e., bad corporate governance induces more CSR activities.

We examine the relations between CSR and two ex ante incentive mechanisms of corporate governance, one on corporate financial policies that manifest agency problems and the other based on executive pay-for-performance. First, for the corporate financial policies analysis, we explore the hypotheses based on agency theory at the firm level in the spirit of Jensen and Meckling (1976) and Jensen (1986), which has played a seminal role in the corporate governance literature (Morck and Yeung, 2005). According to this literature, agency problems can be particularly acute when the firm generates substantial free cash flows in excess of those required to finance all positive net present value projects, leading to serious agency problems (Servaes and Tamayo, 2014). When liquid assets are abundant, firms do not have to submit to the scrutiny of the capital markets that occurs when new capital is needed, and the managers have discretion to invest the funds as they please. Because cash is the most liquid among all corporate assets, it provides managers with the most latitude as to how and when to spend it, and firms' capital expenditure decisions could be a channel of spending the abundant cash for empire building and private benefits extraction (Masulis, Wang, and Xie, 2009). Dividends and debt, given their demands on cash flow, can constrain managers from diverting cash or committing cash to unprofitable projects that generate private benefits to insiders (La Porta, Lopez-de-Silanes, Schleifer, and Vishny, 2000; Morck and Yeung, 2005; Jensen and Meckling, 1976; Jensen, 1986). When cash is tight, managers are motivated to run the firm efficiently, which can increase shareholder value (La Porta, Lopez-de-Silanes, Schleifer, and Vishny, 2000).

This literature focusing on free cash flow creating an agency problem suggests a causal effect running from corporate liquidity and leverage to managerial incentives to divert firm value. This leads to the following hypothesis reflecting the CSR agency view: A higher level of CSR is induced by higher cash holdings, free cash flows, and capital expenditure and lower leverage and dividend payout. This

hypothesis is consistent with the contention that CSR usually requires long-term investments that do not necessarily contribute to shareholder value maximization but do contribute to managers' private benefits of control (Cheng, Hong, and Shue, 2014). In contrast, the CSR good governance view suggests the opposite: CSR should be associated with fewer agency concerns and better managerial decisions and, thus, with higher dividend payout and leverage and lower liquidity (cash and free cash flows) (Krueger, 2015). This hypothesis is consistent with the agency theory in that, when cash is tight, the firm tends to be better governed as the manager is motivated or even forced to run the firm efficiently. Both hypotheses are based on the ex ante incentives of managers as identified in the corporate finance literature, i.e., the abundance or scarcity of cash can create bad or good managerial incentives.

Second, we consider the agency versus good governance view from a managerial incentive-performance perspective in the spirit of Jensen and Murphy (1990) and, hence, investigate hypotheses concerning the relation between CSR and managerial pay-for-performance. In the corporate finance literature, executive compensation is among the central issues in the debate about the effects of corporate governance as it helps align the interests of managers and shareholders (Masulis, Wang, and Xie, 2009), and a higher pay-performance sensitivity leads to less severe agency problems (and thus shareholder value-enhancement). Weak pay-for-performance sensitivity has been widely regarded as a major form of incentive misalignment and a symbol of bad governance (Masulis, Wang, and Xie, 2009), and it can be viewed as a proxy for agency problems in the firm ["pay without performance" as in Bebchuk and Fried (2003)]. Accordingly, the CSR good governance view would hypothesize that CSR is associated with stronger pay-for-performance sensitivity or lower excess pay, whereas the agency view predicts the opposite.

CSR and agency problems can emerge simultaneously as they are both corporate choices. This simultaneity (or endogeneity) creates an empirical challenge for investigating the relation between CSR and firm agency problems. Several studies resort to policy and market-wide shocks as quasi-experiments to help identify a causal relation between CSR and agency proxies (e.g., Hong, Kubik, and Scheinkman,

2012; Cheng, Hong, and Shue, 2014; Flammer, 2013), but this approach is hard to apply in a multicountry context. Instead, we use an instrumental variable (IV) approach by employing several variables exogenous to the focal firm's financial policies and agency problems as IVs for firm-level agency indicators.

3. Data and methodology

3.1. CSR data

Our data provide information on both the legally mandated and the voluntarily initiated aspects of CSR. Our primary data on CSR are from MSCI's Intangible Value Assessment (IVA) database and the Vigeo Corporate environmental, social and governance (ESG) database. Both databases are built by means of different proprietary data sources and employ different rating metrics, which enables us to cross-validate our results. The IVA indices measure a corporation's environmental and social risks and opportunities, which refer to issues in which companies generate large environmental and social externalities and can be forced to internalize (future) unanticipated costs associated with those externalities. The ratings are compiled using company profiles, ratings, scores, and industry reports, and they are available from 1999 to 2011.¹ Covered are more than 25 hundred companies included in the major equity indices around the world: the top 15 hundred companies of the MSCI World Index (expanding to the full MSCI World Index over the course of the sample period), the top 25 companies of the MSCI Emerging Markets Index, the top 275 companies by market capitalization of the FTSE 100 and the FTSE 250 (excluding investment trusts), the ASX 200, etc. For this large sample with global coverage, MSCI constructs a series of 29 ESG scores covering the following categories: strategic governance, which relates to traditional corporate governance concerns and whether the firm adopts or

¹ The information on which the IVA ratings are based is extracted from corporate documents (annual reports, environmental and social reports, securities filings, websites, and Carbon Disclosure Project responses), government data (central bank data, US Toxic Release Inventory, Comprehensive Environmental Response and Liability Information System (CERCLIS), Resource Conservation and Recovery Act (RCRA), etc. (for European companies, the information is expanded by means of many other information sources), trade and academic journals included in Factiva and Nexis, and professional organizations and experts (reports from and interviews with trade groups, industry experts, and nongovernmental organizations familiar with the companies' operations).

has the ability to adopt certain strategic governance strategies; human capital, which concerns labor relations as well as employees' motivation and health safety; stakeholder capital, which concerns relations with customers, suppliers, and local communities; products and services that relate to product safety and intellectual capital product development; emerging markets, which focus on issues related to human rights, child and forced labor, and oppressive regimes arising from firms' trade and operations in emerging markets; environmental risk factors, which include environmental-based liabilities due to operating risks, industry-specific carbon risks, and performance in leading sustainability risk indicators; environmental management capacity, which includes environmental audit, accounting, reporting, training, certification, and product materials; and environmental opportunity factors such as the firm's competence in embedding certain environmental opportunities in its strategies.² The rating then takes into account the extent to which a company has developed robust CSR strategies and demonstrated a strong track record in managing these specific risks and opportunities. A higher rating is assigned if the company has done better than its peers in one or several of the above-mentioned dimensions in its initiatives and risk management. Furthermore, we cross-validate the results utilizing the IVA ratings with analyses using the *RiskMetrics EcoValue21 Rating* and the *RiskMetrics Social Rating* scores, which are provided by RiskMetrics Group (now part of MSCI) and capture the environmental and social aspects of CSR, respectively.³ Companies in the sample are rated from CCC to AAA, which we then transform into numeric ratings from 0 to 6. The whole IVA sample (including the RiskMetrics ratings) covers 91,373 firm-time observations from 59 countries.

² A key ESG issue is defined as an environmental or social externality that has the potential to become internalized by the industry or the company through one or more of the following triggers: pending or proposed regulation; a potential supply constraint; a notable shift in demand; a major strategic response by an established competitor; growing public awareness or concerns. Once up to five key issues have been selected, analysts work with sector team leaders to make any necessary adjustments to the weightings in the model. The weightings take into account the impact of companies, their supply chains, and their products and the financial implications of these impacts, illustrated in Online Appendix Table OA1. On each key ESG issue, a wide range of data are collected to address the question: To what extent is risk management commensurate with risk exposure?

³ The two ratings from RiskMetrics use similar methodologies as the IVA rating. Thus we combine them with the IVA ratings (and its constitutive sub-dimensions) and refer to this combined sample as the "IVA sample," which includes the overall IVA ratings.

The Vigeo Corporate ESG data set focuses more on CSR compliance, as it applies a check-the-box approach to rate how a firm and the country where it operates comply with the conventions, guidelines, and declarations by international organizations such as the United Nations (UN), International Labor Organization (ILO), and Organization for Economic Co-operation and Development (OECD). The Vigeo ratings cover six evaluation categories: (1) environment, (2) human rights, (3) human resources, (4) business behavior (which concerns the relations with suppliers and customers), (5) community involvement, and (6) traditional corporate governance. These six domains are further broken down into 38 ESG criteria (sustainability drivers and risk factors) based on universally defined social responsibility objectives and managerial action principles. The indices used by Vigeo are Euronext Vigeo World 120, Euronext Vigeo Europe 120, Euronext Vigeo Eurozone 120, Euronext Vigeo US 50, Euronext Vigeo France 20, Euronext Vigeo United Kingdom 20, and Euronext Vigeo Benelux 20, and they are updated every six months. The whole Vigeo sample covers 7,048 firm-time observations from 28 countries and 36 sectors. Both the MSCI sample and the Vigeo sample cover the well-established equity indices of the largest companies across the world, not just a specific sample of firms that engage in CSR. Unlike the MSCI IVA ratings, which are based on a scale of 0 to 6 (CCC to AAA), the Vigeo ESG ratings are given on a scale of 0 to 100. As all of the sample firms are listed and included in the major global equity indices, our empirical results mostly speak of the relations between CSR and corporate governance (or agency problems) in the world's largest corporations.

For both the MSCI and Vigeo samples, firms are rated relative to their industry peers from both domestic and international markets. Thus, the ratings do not depend on the cross-country differences in jurisdiction, regulation, and the local CSR situation. This makes our cross-country data more credible and helps guarantee that our CSR ratings are not biased by country-specific characteristics. In addition, we triangulate the results using our public and proprietary CSR data by using the ASSET4 data from Thomson Reuters, which also have global coverage and a similar rating method (by adopting a global industry peer comparison). The detailed descriptions of the MSCI IVA and the Vigeo ESG samples are

shown in the Online Appendix Table 0A1 and 0A2, and their country distributions (as well as that of ASSET4) are shown in Online Appendix Tables OA3.

3.2. Empirical strategy

Our empirical strategy is to test the effects of proxies for agency problems on CSR. Bae, Kang, and Wang (2011) state, in line with Jensen (1986), that firms with significant free cash flow but few investment opportunities are more likely to invest beyond the optimal level and that dividends and debt serve as disciplinary mechanisms to prevent managers from wasting free cash. Based on our earlier discussion of the academic literature, we utilize five agency proxies (putting aside for the moment managerial compensation): (1) capital expenditure (CapEx); (2) cash holdings; (3) free cash flow measured as earnings before interest and taxes (EBIT) after the change in net assets (CapEx, minus depreciation and amortization, plus or minus the change in net working capital); (4) dividend payout ratio; and (5) leverage, measured as the ratio of total debt over total equity. Higher values of the first three variables (1-3) can be an indication of agency costs, especially for large and mature multinational firms as in our sample, and higher values of the last two (4 and 5) relate to mechanisms that can curb managerial agency problems.

The issue of endogeneity is, as always, important, which is why we take an instrumental variable approach. In the spirit of Lin, Ma, Malatesta and Xuan (2011) and Laeven and Levine (2009), we use the industry peers' average financial policies as IVs for firm-level financial policies. We take the within-sample arithmetic means of each of our five financial policies variables (agency indicators) by country, by industry, and by year (country-industry-year average). The use of industry peers' average financial policies as IVs for a focal firm's financial policies can be justified in several ways. First, ample evidence exists that a firm's financial policies are affected by the policies of its peer firms. According to Leary and Roberts (2014), peer effects are more important for capital structure determination than most previously identified determinants. Such peer effects are also found in corporate precautionary cash holdings (e.g.,

Hoberg and Phillips, 2014), corporate investment decisions (Cheng, 2011; Foucault and Fresard, 2014), and earnings fraud and other types of financial misconduct (Parsons, Sulaeman, and Titman, 2014). Second, little reason exists to believe that a firm's CSR practice is affected by its peer firms' financial policies through channels other than influencing its own financial policies. Even if there were channels other than the focal firm's own financial policies, we attempt to take that into account by controlling for firm fixed effects and time fixed effects.

We use the within-sample industry peers' average financial policies, instead of the financial policies of country-wide industry peers, as our IVs, because our sample firms are mostly large and mature companies that are listed in major global equity indices such as the MSCI World Index and, therefore, are comparable in size and tend to benchmark their financial policies to other large companies such as those in our sample. It is less likely the case that an industry leader's cash holdings and capital structure are determined by the average cash holdings and capital structure of all the firms in its country and industry (as most of these firms would be smaller and less internationally active). On average, each firm has 49 peers (firms without peers are dropped from the IV analysis). We also check the robustness of our IV results by using alternative dependent variables, alternative CSR samples, and an alternative IV that captures other aspects of the agency problems.

Higher cash holdings, free cash flows, and capital expenditures do not necessarily reflect higher agency costs as long as there are sufficient growth and investment opportunities. The argument Jensen (1986) makes is that firms with larger free cash flow but with limited investment opportunities can suffer from the agency problem of misusing corporate funds. Therefore, we control for investment opportunities proxied by Tobin's q (market-to-book ratio of assets) in all our regressions. Also, although each agency indicator has some non-agency dimensions—for example, higher cash holdings can signify higher profitability resulting from better past investments—our key argument is that they can induce managerial incentives in relation to seeking private benefits by engaging in costly CSR activities. We therefore lag all independent variables (including the IVs) by one year. Moreover, it is important to

interpret our empirical results collectively. That is, although a cash holdings variable or leverage ratio in isolation can represent different aspects of corporate policy and profitability other than the degree of agency problems, the consistency of the signs of all five potential agency indicators can provide a good indication of whether CSR in general is induced by agency problems or by good governance.

Turning to managerial compensation, we test the relation between CSR and managerial pay-for-performance by regressing CSR on a pay-performance sensitivity variable, along with other firm-level and country-level covariates. In the literature, executive compensation is usually measured by the sum of cash-based pay (salaries and bonuses) and equity-based pay (stock options, restricted stocks, and payouts from long term incentive plans), and gauging executive pay-for-performance based on a single compensation dimension is difficult as both types of compensation are benchmarked to different types of firm performance. Furthermore, the relative use of these types of compensation has changed considerably over time (Frydman and Jenter, 2010), which is why we focus on total compensation and relate it to the total share performance benchmark. A standard way of measuring a firm's pay-for-performance is by estimating the sensitivity of the change of executive compensation to the change of firm performance [e.g., return on assets (ROA) or Tobin's q] over a long time series, which is captured by the beta coefficient on the compensation variable for each individual firm (Adams and Ferreira, 2008). However, this approach is not feasible in our setting with companies from around the world, as we do not have long-enough time series data on their executive compensation. In addition, the validity of measuring executive incentives by pay-performance sensitivity is debatable, because fractional equity ownership [the dollar change in chief executive officer (CEO) wealth for one dollar change in firm value; Jensen and Murphy (1990)] and equity-at-stake [the dollar change for 1% change in firm value; Hall and Liebman (1998)] usually yield conflicting results for US samples (Frydman and Jenter, 2010), let alone for international samples. Moreover, using sensitivity measures estimated from regressing pay on performance (or vice versa) can lead to spurious correlations because the performance variable could already incorporate the effect of CSR. As these concerns restrain us from using the traditional measures

of pay-for-performance as a proxy for managerial incentives, we use two alternative pay-for-performance measures.

First, we use Thomson Reuter's ASSET4 variable *CEO Compensation Link to Total Shareholder Return*, which is a dummy variable indicating whether managerial compensation is linked to total shareholder return (TSR) and is based on the combination of textual analysis of a company's annual report and media coverage of executive compensation issues. In the annual report, a company usually includes a remuneration report or a compensation discussion and analysis, which contains information through which Thomson Reuters tracks whether specific return-based performance benchmarks are set and whether the CEO compensation is linked to TSR. If Thomson Reuters finds in the above sources evidence that the executive top management has TSR as a performance criterion (performance target), then a one is assigned to the pay-for-performance variable and zero otherwise. We acknowledge that this dummy variable is a crude proxy for pay-for-performance, but it is a relatively objective indicator that captures the ex ante managerial incentives of engaging in CSR (a performance benchmark is clearly an ex ante mechanism) and can be applied to international samples without long time series.

The typical endogeneity concern that emerges is that stronger pay-for-performance is a result of higher levels of CSR or that CSR and pay-for-performance are jointly determined by other firm-level factors. To address this endogeneity concern, we again employ an instrumental variable approach, by using IVs for our pay-for-performance measure. The IVs we select are mostly related to board structures (collected from Datastream) and have been shown in the literature to be key determinants of executive pay-for-performance: the percentage of independent board members as reported by the company [Percent independent board members]; the percentage of independent compensation committee members [Compensation committee independence]; and a dummy variable indicating whether the CEO simultaneously chairs the board [CEO-chairman duality]. Here, independent board members are directors who are not employed by the company, have not served as an executive board member in the firm for at least ten years, are not or do not represent a reference shareholder with more than 5% of the

equity, do not hold cross-board memberships, have no recent or immediate family ties to executive and nonexecutive directors of the company, and do not accept any compensation other than fees for board service. We cross-validate the information (e.g., board members' identities and status such as executive versus non-executive) by manually checking the director reports of the BoardEx database in each year of our sample and correct mistakes.

We use the above-mentioned variables as our IVs because, on the one hand, stronger pay-for-performance sensitivity has been shown to be steered by board independence (Chhaochharia and Grinstein, 2009; Bebchuk, Cremers, and Peyer, 2011) and, on the other hand, no reason exists to believe that a firm's CSR is directly related to board independence (especially the measure related to compensation committee independence) through channels other than managerial pay-for-performance. Even if one is still concerned that CSR is related to board structure and independence, which can create an omitted variable bias, those channels should be taken into account by controlling for firm fixed effects, as board structures are mostly stable over time and are mainly changed by regulations (Linck, Netter, and Yang, 2012), and the identification mostly comes from cross-sectional (instead of time series) variations of board structures. Hence, time-invariant mechanisms induced by board structures should be captured by firm fixed effects. We do not use industry peers' pay-for-performance measures as IVs, which is different from what we have done for financial policies as agency indicators. The reason is that, in the literature, the overall evidence for the effective use of relative performance evaluation (relative to an industry benchmark) is weak (Frydman and Jenter, 2010).

Second, we estimate excess pay (or abnormal pay) from a typical CEO compensation regression, which captures the degree to which CEO compensation is not explained by firm performance and general firm characteristics in a first stage and then relate this predicted excess pay to the company's CSR level in a second stage. Excess pay can reflect the occurrence of agency problems (or the quality of governance) within a company as it regards the lack of performance-driven incentives. We adopt this approach but are mindful of the fact that several firm and CEO characteristics can explain both excess

pay of the CEO and the firm's CSR level. Therefore, we control not only for a set of CEO and firm characteristics, but also for firm and time fixed effects in both stages. We collect the yearly CEO compensation from Datastream (ASSET4's corporate governance pillar) and cross-validate the data with BoardEx's director reports. We add the data on the CEO and boards (CEO-chairman duality, independence of the compensation committee, board size, independence of board members, whether or not say-on-pay is sought) from Datastream and BoardEx, blockholder ownership data from Orbis, and other firm characteristics from Compustat and Datastream. In the first stage, we estimate a typical pay-performance model by regressing the logarithm of the CEO's total compensation on the previous year's Tobin's q, along with the above CEO, board, governance, and firm characteristics variables [following Bebchuk, Cremers, and Peyer (2011) and Peters and Wagner (2014)], as well as firm and time fixed effects. We call the residual of this regression "excess pay" as it captures the component of CEO's total compensation that is predicted neither by firm performance measures nor by other well-documented CEO and firm attributes (including governance). *Excess pay* thus represents that part of CEO pay that is not tied to performance. We use this predicted pay residual as a proxy for the degree of deviation from the expected pay-for-performance, that is, as a proxy for poor governance. The larger this residual, the greater the incentive misalignment for the CEO. In the second stage, we regress the CSR rating on the one-year-lagged excess pay and other control variables [firm size, the largest shareholder's cash flow rights, ROA, Tobin's q, interest coverage, current ratio, the logarithm of gross domestic product (GDP) per capita, and a country-level globalization index], as well as firm and time fixed effects. The agency cost view on CSR predicts a positive coefficient on *Excess Pay* in the second stage, because the larger the excess pay, the more severe the agency problems are expected to be for the CEO because he could then engage in non-performance-enhancing CSR activities. The good governance view predicts the opposite. That is, when the excess pay is zero or small, a CEO is more likely to carry out value-consistent or value-enhancing CSR activities.

In robustness tests, we replace firm fixed effects with industry fixed effects in all regressions to validate our results. The descriptive statistics of the variables mentioned above for different samples (the MSCI IVA sample, the Vigeo ESG sample, and the ASSET4 ESG sample) are provided in Table 1.

[Insert Table 1 about Here]

4. Results

4.1. Results on agency indicators

4.1.1. Baseline IV results

In Table 2, we examine the relation between CSR and our five agency proxies: cash holdings, free cash flow, CapEx, dividend payout ratio, and leverage. The agency view predicts a positive relation between CSR and the first three proxies and a negative one for the last two. The good governance view on CSR predicts the opposite.

The five proxies are instrumented by the corresponding within-sample firm-level industry peers' financial policies. One important note is that the correlations between the five industry-peer proxies are not high, ranging from -0.8% to 23% for both the MSCI IVA and the Vigeo ESG sample companies, which suggests that the five financial policies variables capture agency problems from different angles and that we are thus not measuring the same relation in each of the five models. In the second stage, CSR ratings are regressed on the five predicted agency proxies as estimated from the first stage and on the other control variables with bootstrapping-adjusted standard errors. We report regression results for both stages; all independent variables are lagged.

In the first stage, industry peers' cash holdings, free cash flow, capital expenditures, dividend ratio, and leverage are all positively and significantly correlated with the focal firm's cash holdings, free cash flow, capital expenditures, dividend ratio, and leverage, respectively, as is evident in Columns 1, 3, 5, 7, and 9. The Cragg-Donald f-test statistics are all higher than the critical value of 16.38%, with P-values smaller than 0.01 in all specifications. This is essentially a test for the weak instrument hypothesis (testing

for the relevance of the IV in the first stage), and a higher test statistic (low P-value) indicates a rejection of the null of a weak instrument. These positive and significant correlations as well as the high F-statistics suggest that our IVs are strongly correlated with our endogenous variables, supporting the relevance criterion of our IVs.

In the second stage, the coefficients of the three liquidity-focused agency proxies (cash holdings, free cash flows, and capital expenditures) are all negative and statistically significant above the 95% confidence level, while the coefficients on the financial constraint-focused agency proxies (dividend payouts and leverage) are both significantly positive. The point estimate for cash holdings as a percentage of total assets is -0.0127, indicating that a one standard deviation increase in cash holdings as a percentage of total assets (8.6%) is associated with a 0.11 (-0.0127×8.6) decrease in the overall IVA rating or 4% lower at the mean score ($0.11 / 2.8$). The point estimates for the other agency indicators have similar magnitudes, and, given that we use an IV approach, they can be interpreted as local average treatment effects (LATE). All these findings therefore do not support the CSR agency view. In addition, financial slack (as measured by the current ratio) and, to some extent, the financial constraint proxy (interest coverage) are mostly positively associated with the ESG ratings, which likewise do not provide support for the CSR agency costs perspective. We confirm that firms with higher CSR ratings are larger firms with more concentrated ownership, located in countries that are richer (in terms of GDP per capita) and more globalized (as captured by the globalization index). In terms of causation, the interpretation of these results ought to be done with care. Given our identification strategy, we tend to interpret them as follows. Well-governed firms suffer less from agency concerns. When cash is tight (lower cash reserves, free cash flows and capital spending, and higher dividend payouts and interest payouts), managers are motivated to run the firm more efficiently and care more about the long run. This is consistent with engaging in CSR activities.

4.1.2. *Alternative IVs*

To check the robustness of our previous results relating the level of CSR to various agency indicators, we conduct several additional tests using alternative IVs and CSR indicators. First, we replace the industry peers' average financial policies, which we used as IVs, by a combination of the existence of a poison pill and a classified board within a firm, and conduct similar two stage least squares (2SLS) tests. The reasons that we combine these antitakeover mechanisms are twofold. First, whenever the use of a poison pill is legally allowed, the combination of the poison pill and a classified board is the most effective defense available to a target company and, hence, most likely to entrench its management (Bebchuk, Coates, and Subramanian, 2002). Second, antitakeover provisions are usually regulated by laws, and their prevalence varies across countries. For example, while the poison pill is widely used in US companies and can be triggered by the directors, the mandatory business neutrality rule in the United Kingdom does not allow directors to activate a poison pill but requires that the shareholders decide on accepting or rejecting a takeover bid (Davies, Schuster, and Van de Walle de Ghelcke, 2010; Enriques, Gilson, and Paces, 2014). In connection with the use of this variable as a robustness check, a significant fraction of our firm-year observations are from the United States and the United Kingdom (see Online Appendix Tables OA3 and OA4). Hence, the combining of these two mechanisms into one broader mechanism is more suitable for our cross-country setting. Managerial entrenchment enhanced by antitakeover provisions can amplify the agency problems in a firm, which can be directly manifested by the firm's cash flows and payout policies. There is no reason to believe, however, that the decision to engage in CSR is influenced by the likelihood of a firm being taken over, except via the channel of its financial policies induced by agency problems.

Table 3 shows the results using the existence of a poison pill and a classified board as alternative IVs. We report the coefficients on the five agency indicators only in the second stage for conciseness, but the model specification is essentially the same as that in Table 2. The results are consistent with our previous findings. The (instrumented) indicators of cash holdings, free cash flows, and CapEx are all negatively correlated with the aggregate CSR score, and the (instrumented) indicators of dividend payout

and leverage ratio are positively correlated with CSR. The coefficients are significant within the 5% level for CapEx and dividend payout and within the 10% for cash holdings and leverage.

[Insert Table 3 about Here]

4.1.3. *Alternative dependent variables*

As an additional robustness check, we replace the dependent general CSR variable in Table 2 by the *RiskMetrics EcoValue Rating* (CSR focusing on ecological efficiencies) and the *RiskMetrics Social Rating* (CSR focusing on social issues), and we conduct similar tests as in the baseline results by using industry peers' average financial policies as IVs. These two sub-dimensional ratings use similar metrics as the IVA rating, and they measure two important, but different, aspects of CSR: a firm's environmental impact and social impact (the IVA rating gauges a firm's overall CSR engagement, which also includes other dimensions). The results of using these two alternative dependent variables are reported in Table 4, with Panel A showing results for the *EcoValue Rating* and Panel B for the *Social Rating*. We report the coefficients of the five (predicted) agency indicators only in the second stage for reasons of conciseness, but all first-stage F-tests satisfy the relevance criteria of IV. In Panel A, three out of the five agency indicators (free cash flows, CapEx, and dividend payout) are significant at the 1% level and have signs consistent with those in Tables 2 and 3. In Panel B, four out of five agency indicators (cash, free cash flows, CapEx, and the leverage ratio) are significant at the 99% confidence level with consistent signs. The economic magnitudes are also similar to those in Table 2. In unreported analysis, we also replace the dependent variables by the three sub-indices that receive the highest weights in the general IV index (*Labor Relations*, *Industry-specific Carbon Risks*, and *Environmental Opportunities*) and three aggregate sub-scores [*Strategic Governance* (including traditional governance), *Human Capital*, and *Stakeholder Capital*], and similar results are obtained. Again, using these alternative dependent variables yields results consistent with the good governance view, not the agency view, on CSR.

[Insert Table 4 about Here]

4.1.4. Alternative CSR sample

We also turn to an alternative CSR sample, the Vigeo Corporate ESG sample, to further cross-validate our results. The Vigeo Corporate ESG data set focuses more on a firm's compliance (rather than engagement) to CSR standards and enables us to test another aspect of CSR to triangulate our previous approach. Different from the IVA ratings, the Vigeo ratings are given on a scale of 0-100. The results from this alternative CSR sample are shown in Table 5, in which the dependent variables are the *Environment Score* (Panel A), *Customers & Suppliers Score* (Panel B), and *Human Resources Score* (Panel C), which most represent the interests of a company's direct stakeholders. In line with our baseline tests on the MSCI IVA sample (Table 2), we use the industry peer average financial policies as our IVs for our five financial policies variables.⁴ As is evident in Table 5, we show similar results. Variables related to cash and liquidity mostly have a negative sign, and dividend payout and leverage ratio are positively correlated with all three ESG ratings from this alternative sample. Take cash holdings as an example. Economically, a one standard deviation increase in cash holdings as a percentage of total assets (8.1%) is associated with 4.9% decrease in the *Environment Score*, 7.1% decrease in the *Customers & Suppliers Score*, and 7.9% decrease in the *Human Resources Score*.⁵

[Insert Table 5 about Here]

In sum, the CSR agency view predicts a positive and significant correlation between liquidity focused agency proxies (e.g., the abundance of cash) and CSR. As long as the coefficients are not positive and significant, the agency view is unsubstantiated, which is the case as we find consistent significantly negative relations. Our results yield that CSR is adopted by firms characterized by good

⁴ Again, the coefficients of the five agency indicators in the second stage only are shown for conciseness. Tables with more detailed results are available upon request.

⁵ In unreported analyses, we also use several country-level shareholder protection law indices as IVs for firm-level agency concerns, and similar results are found. These country-level shareholder protection indices include the antidirect rights index first developed by La Porta, Lopez-de-Silanes, and Shleifer (1998) and further adjusted by Spamann (2010), anti-self-dealing index (ASDI) as in Djankov, Lopez-de-Silanes, Shleifer, and Vishny (2008), the private enforcement of securities law index as in La Porta, Lopez-de-Silanes, and Shleifer (2006), the revised one-share one-vote rule (mandatory proportionality of voting and cash flow) index as in Spamann (2010), and the revised mandatory waivable dividend index as in Spamann (2010).

governance. Also, in all our models above we control for firm and time fixed effects, which mitigate concerns that unobservable firm characteristics or time trends could drive our results.

4.2. Results on pay-for-performance and excess pay

4.2.1. Pay-for-performance: baseline IV results

We next investigate how CSR is related to another incentive-based mechanism of corporate governance, namely, executive pay-for-performance. The question we try to answer is whether firms with stronger pay-for-performance (a proxy for better governance) have higher CSR ratings. To deal with the potential endogeneity issue, we again apply an instrumental variable approach by instrumenting pay-for-performance with *Independent board members*, *Compensation committee independence*, and *CEO-chairman duality*. We report the results from these pay-for-performance analyses in Table 6, showing both the first-stage and the second-stage results, as well as the Cragg-Donald F-test statistics. In the first stage, the dummy variable pay-for-performance [measured by the ASSET4 entry *CEO Compensation Link to Total Shareholder Return*] is regressed on the three above IVs (respectively shown in Columns 1, 3 and 5). In the second stage, the dependent variable is the overall IVA rating (Columns 2, 4, and 6) and the key explanatory variable is pay-for-performance predicted from the first stage.

The results on pay-for-performance are again not compatible with the agency view, but instead support the good governance view. In the first stage, *Independent board members* and *Compensation committee independence* are both positively and significantly correlated with pay-for-performance, and *CEO-chairman duality* is negatively and significantly correlated with pay-for-performance. This is consistent with the notion that board independence, especially the independence of the compensation committee, induces executive pay-for-performance and with the fact that a CEO who is also chairing the board makes himself more entrenched and more likely to self-grant unjustified high salaries, which can diminish the pay-for-performance relation. The first-stage Cragg-Donald F-test statistics are all above the critical value of 16.38, supporting the relevance of these IVs. In the second stage, the coefficients on the pay-

for-performance variable are positive and significant. The point estimates suggest that the relations are economically meaningful. Firms that have an explicit pay-for-performance benchmark on average have more than three-grade higher CSR ratings.

4.2.2. *Pay-for-performance with alternative dependent variables and CSR sample*

To verify the robustness of our pay-for-performance results, we use alternative dependent variables and an alternative CSR sample, similar to what we have also done for financial policies as agency indicators (Subsections 4.1.3 and 4.1.4). The alternative dependent variables are the *RiskMetrics EcoValue Rating* (environmental rating) and *Social Rating* from the MSCI sample, and the alternative CSR sample is the Vigeo ESG data from which we use the *Environment Score*, the *Human Resources Score*, and the *Customers & Suppliers Score* (see Table 7). For reasons of conciseness, we show the coefficients of the predicted pay-for-performance only in the second stage of 2SLS estimations. We find that firms with explicit and clear pay-for-performance benchmarks have on average 1.4 - 2.8 grades higher (on a scale of 7) on the *EcoValue Rating* and on the *Social Rating* or 32 - 40 grades higher (on a scale of 100) on the Vigeo ESG ratings, relative to firms without explicit total shareholder return benchmarks. These results are consistent with those in Table 6 and provide additional support for the good governance view on CSR (and not for the agency view). Firms with better governance mechanisms to incentivizing their top executives also engage in and comply more with CSR.

[Insert Table 7 about Here]

4.2.3. *Excess pay*

We next use another empirical approach, which consists of estimating *Excess pay* (the residual from a typical CEO compensation regression) that captures the degree to which CEO compensation is not explained by firm performance and firm - CEO characteristics in a first stage, and then regress a company's CSR rating on this predicted excess pay in a second stage. *Excess pay* can be interpreted as a deviation from pay-for-performance and should be positively correlated with CSR in the second stage under the agency costs view, but negatively correlated with CSR under the good governance view.

We report results of the CSR - excess pay estimation in Table 8, with Columns 1, 3, 5, and 7 reporting the first-stage results of regressing the logarithm of CEO's total compensation (in US dollars) on different sets of variables capturing firm performance, firm - CEO characteristics, and corporate governance. These variables include Tobin's q (winsorized at 5%), return on assets (ROA) (winsorized at 5%), firm size (measured by the logarithm of total assets), CEO duality (a dummy variable capturing whether the CEO simultaneously chairs the board), and a self-constructed entrenchment index⁶, as in Column 1. Column 3 includes all the variables of Column 1 but adds a dummy Say-on-pay which captures whether the company's shareholders have the right to vote on executive compensation. Column 5 includes all the variables as in Column 1 and adds the logarithm of board size. Column 7 includes all the above mentioned variables and also the percentage of independent directors on the board (*Independent board members*), a compensation committee dummy, and blockholder ownership.⁷ Columns 2, 4, 6, and 8 report the second-stage results of regressing the aggregate IVA rating on the predicted residual (*Excess pay*) from the first stage along with the control variables used in, for example, Table 2. Inevitably, lagging independent variables and adding many control variables reduces our sample size. Even within the sample for which international data on CEO compensation and characteristics, board structures, and other firm variables are available, the patterns are clear. As is evident in Table 8, *Excess pay* is negatively correlated with the aggregate CSR rating. This means that CEOs with high pay not related to performance invest less in CSR, which supports the good governance view instead of the agency cost perspective. Robustness tests with the IVA environmental and social ratings as well as CSR ratings from the Vigeo database confirm the relation.⁸

[Insert Table 8 about Here]

⁶ More detailed description of the entrenchment index can be found in Section 4.5 and in the Appendix. The entrenchment index aims at capturing managerial entrenchment as described in Bebchuk, Cohen, and Ferrell (2009) and is the sum of dummies that capture the presence of a poison pill, a golden parachute, a classified board, other antitakeover devices, and supermajority requirements for amending the charter and bylaws.

⁷ More detailed descriptions of these variables are in the appendix.

⁸ Tables with robustness tests are available upon request.

4.3. *Investor protection laws and CSR*

As the main purpose of this paper is to evaluate whether CSR results from agency problems or are, on the contrary, present in well-governed firms, we also turn to the regulatory context of agency and governance at the country level. Agency problems can also be shaped by the legal protection of investor rights at the country level. In countries with stronger legal protection, agency problems are likely to be lower, which can entail that CSR activities are lower if one assumes that they are due to agency problems. We therefore explore the relation between country-level investor protection laws and firm-level CSR. The relevant country-level investor protection laws are those that provide legal protection of shareholder rights (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2000). Broadly speaking, the laws that aim at addressing agency problems and investor expropriation concern corporate decision making and voting (corporate law), information disclosure in securities transactions (securities law), and regulation of related parties transactions (anti-self-dealing law), as well as the effectiveness of their enforcement (La Porta, Lopez-de-Silanes, and Shleifer, 2006; Djankov, La Porta, Lopez-de-Silanes, and Shleifer, 2008). We therefore use country-level investor protection laws as a proxy for firm-level agency problems in exploring the CSR agency and good governance views. In the agency view, stronger legal protection of shareholder rights reduces the incentive and ability of corporate insiders (directors and officers) to extract private benefits through CSR-related spending. In contrast, the CSR good governance view predicts that CSR spending is positively related to shareholder protection. To test the relations between firm-level CSR and country-level shareholder protection laws, we use several country-level investor protection indices, which all come from well-established sources. We use the anti-director rights index (ADRI) which was first developed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) and revised in Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) and Spamann (2010).⁹ We stick to the most recent version of ADRI as amended by Spamann (2010). For comparison, we use the anti-self-dealing index (ASDI) developed by Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008), which is

⁹ Both the original La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) ADRI and the Spamann (2010) revised ADRI consist of six key components: (1) proxy by mail allowed, (2) shares not blocked before shareholder meeting, (3) cumulative voting or proportional representation, (4) oppressed minority protection, (5) preemptive rights to new share issues, and (6) percentage of share capital to call an extraordinary shareholder meeting.

not directly related to corporate decision making but more related to the regulation on insider expropriation, and contains ex ante control of self-dealing and ex post control of self-dealing variables. We include the variable public enforcement of anti-self-dealing index also developed by Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).

We regress CSR ratings on various shareholder protection laws variables (Table 9) and show that company law on shareholder protection (ADRI) is strongly and positively correlated with CSR.¹⁰ The positive correlations between corporate law and CSR suggest that when legal rules are stronger in disciplining corporate behavior toward good conduct to investors, especially to minority shareholders, firms are more likely to engage in social responsibilities. The effects are also economically meaningful. For example, a one standard deviation in ADRI is associated with 0.35 (0.297 x 1.184) increases in the overall IVA rating, or a more than 12% (0.35 / 2.85) increase from the mean IVA. In Panel B, in which the dependent variables are the Vigeo ESG ratings that focus more on CSR compliance (instead of on the CSR practice or engagement of Panel A), company law on shareholder protection (ADRI) still plays a positive role. However, we do not find consistent results for the anti-self-dealing index and the public enforcement of self-dealing in Panels A and B. The insignificance of the latter two indices can be explained by the fact that, as CSR represents a shareholder-stakeholder trade-off, the most relevant regulation is the one related to corporate decision making and voting. In contrast, ASDI and the public enforcement index mostly capture a constraint on insider trading transactions and are not directly related to how companies make decisions regarding stakeholders' welfare.

[Insert Table 9 about Here]

4.4. Large shareholders and CSR

¹⁰ To save space, we do not report the parameter estimates of the control variables: cash holdings (scaled by total assets), leverage ratio, return on assets (ROA), Tobin's q, interest coverage, current ratio, ownership dispersion (the Bureau van Dijk's independence indicator), as well as industry and time fixed effects. Full tables are available upon request. As a robustness test, we set up specifications that include the original ADRI from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) and the revised ADRI from Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008), and find similar results.

Besides firm-level liquidity (Subsection 4.1), pay-for-performance (Subsection 4.2), and country-level shareholder protection laws (Subsection 4.3), another important governance mechanism affecting agency issues is the firm's ownership structure; in particular, the degree to which control is concentrated in the hands of large shareholders and whether large shareholders can use excessive voting power to entrench themselves (La Porta, Lopez-de-Silanes, and Shleifer, 1999; Claessens, Djankov, Fan, and Lang, 2002). Therefore, we further evaluate the agency versus good governance views on CSR from the perspective of ownership and control. In countries other than the US, the UK, and Australia, large firms typically have shareholders that own a significant proportion of the equity (Claessens, Djankov, Fan, and Lang, 2002). Ownership patterns are rather stable in general, especially outside the US, and are largely shaped by the companies' histories and their founding or controlling families (La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2002). Therefore, large shareholders' ownership concentration could be considered as relatively exogenous to CSR decisions of a firm, and our empirical analyses on the effects of large shareholders are conducted in a setting without IVs.

The relation between the level of concentrated ownership and firm-level agency problems is theoretically unclear. On the one hand, ownership in the hands of one or a few large shareholders could create agency problems between controlling and minority shareholders (Bebchuk and Weisbach, 2010). The concern is diversion of firm value from the minority to the controlling shareholder. The possibility of this expropriation, and hence this type of large shareholder agency problem, can be augmented when the firm's free cash flow increases and leverage and dividend payouts decrease (as there is now more to divert). On the other hand, the controlling shareholders can effectively steer managerial decision making and, hence, also function as a mechanism to curb the managerial agency problem (which Subsections 4.1–4.3 were mainly about). Either way, large shareholders' ownership and control can shape the degree to which agency problems are present within the firm and can also be used as a proxy for firm-level agency problems. However, the two mechanisms mentioned above—one capturing the major shareholder's incentive to monitor the manager to maximize firm value (incentive effect) and the other capturing the large shareholder's expropriation of the rights of minority shareholders (expropriation

effect)—lead to opposite predictions on the relation between large shareholder ownership and CSR, which creates an empirical challenge to directly test such relation. One way to circumvent this problem is to disentangle the incentive and expropriation effects of large shareholders' ownership, which can be achieved through separating control rights from cash flow rights. Controlling shareholders can establish control over firms with only minimal cash flow rights (ownership) when a deviation from the one share, one vote rule applies (La Porta, Lopez-de-Silanes, and Shleifer 1999; Bebchuk, Kraakman, and Triantis, 2000; Claessens, Djankov, and Lang, 2000; Faccio and Lang, 2002; Lins, 2003). This wedge between large shareholder voting and cash flow rights can single out the expropriation effects of large shareholders and can help capture the large shareholder agency problem. Claessens, Djankov, Fan, and Lang (2002) separate the largest shareholder's voting rights and cash flow rights and find that firm value increases with the cash flow ownership of the largest shareholder, consistent with a positive incentive effect, but that firm value falls when the control rights of the largest shareholder exceed its cash flow ownership, consistent with an expropriation effect.

We therefore test the relation between the largest shareholder's voting rights in excess of its cash flow rights (wedge) and CSR using the ASSET4 sample, which is composed of standardized data on the largest shareholder's voting and cash flow rights for a sample of companies around the world.¹¹ Our model specifications follow those of Claessens, Djankov, Fan, and Lang (2002), Morck, Shleifer, and Vishny (1988), and Bebchuk, Cohen, and Ferrell (2009) in that we also capture the non-monotonic effects of large shareholders' cash flow rights by including both the *Largest shareholder's ownership* and its square. We also control for country, industry, and year fixed effects (the above studies controlled only for industry). Our main explanatory variables are *Wedge1*, which is the difference between the largest shareholder's voting and cash flow rights, and *Wedge2*, which is the ratio of voting rights and cash flow

¹¹ The reason that we resort to the ASSET4 sample is that its CSR ratings can be directly matched to the data on largest shareholders' voting rights and cash flow rights, and we can preserve the numbers of observations to the largest extent compared with using other CSR samples. Nevertheless, when we conduct the same analysis with the MSCI IVA sample and the Vigeo sample (but with smaller numbers of observations due to more missing data on largest shareholders' ownership and control), similar results are obtained. Tables with alternative CSR sample tests are available upon request.

rights. To control for doing good by doing well, we include the equity market-to-book ratio and add the standard control variables [used by Claessens, Djankov, Fan, and Lang (2002) and Bebchuk, Cohen, and Ferrell (2009)]. In the agency view of CSR, the controlling shareholders can use their majority voting rights to expropriate minority shareholders by approving CSR projects that benefit only themselves. Therefore, a positive association between CSR and the control wedge is expected under the agency view.

The results from our general least squares (GLS) regressions are shown in Table 10. Some interesting observations can be made. First, throughout all specifications, the coefficients on both *Wedge1* and *Wedge2* are negative and significant. This negative sign does not support the agency view that considers CSR spending as a corollary of controlling shareholders' entrenchment and possible expropriation of minority shareholders. Second, the effect of the largest shareholder's ownership seems to be non-monotonic on different aspects of CSR, as the coefficients of largest shareholder's ownership are all negative and significant, while that of the square of ownership are all positive. This is consistent with the previous literature in that both incentive and entrenchment mechanisms of controlling shareholders affect corporate outcomes. The simplified specifications (controlling only for performance) and the more complex ones (also including other traditional financial controls) yield both qualitatively and quantitatively similar results, although the sample size for the latter shrinks. These results also hold for various ESG sub-indices that we do not report for reasons of conciseness. In terms of control variables, the positive coefficients on the equity market-to-book mostly support the doing good by doing well conjecture. Firm size and year since incorporation also have positive loadings on CSR, indicating that larger and more established companies are more likely to engage in CSR. Overall, the direct effects of controlling shareholder ownership and control (the wedge between voting and cash flow rights) imply that CSR is not likely to be used as a self-serving tool for controlling shareholders to extract private benefits, shirk, or build empires, though large shareholders do not seem to overspend on CSR (due to the internalization of its costs). This reflects that a CSR policy is expensive but does not by itself provide support for the agency view.

[Insert Table 10 about Here]

4.5. CSR, agency problems, and shareholder value

As a final extension, we consider the relations between CSR, agency problems, and shareholder value together in a cross-country setting, which has not been explored in the literature. If CSR is not incompatible with good governance, this should have value implications. We therefore further explore the role of CSR in facilitating value enhancement and also test whether CSR counterbalances the negative effects of agency problems and poor corporate governance on firm value. To do so, we use the ASSET4 sample and utilize data on several governance provisions under its corporate governance pillar to construct a global entrenchment index (global E-index) as a proxy for poor governance. Our global E-index follows the structure of the original US E-index by Bebchuk, Cohen, and Ferrell. (2009). We have tried our best to mimic accurately the original E-index by applying the same governance provisions across countries. Only slight differences relative to the original US index occur due to data availability in Datastream. The provisions in our global E-index include the presence of a poison pill, a golden parachute, a classified board, other antitakeover devices, and supermajority requirements for amending the charter and bylaws. We term this E-index as *Entrenchment Index 1*. We also create *Entrenchment Index 2* by replacing the classified board in *Entrenchment Index 1* by a staggered board.¹²

We conduct our test on a panel data set of more than 47 hundred largest public firms from 60 countries in the ASSET4 sample from 2002 to 2013. Again, the main reason for using the ASSET4 sample is that its CSR ratings can be directly matched to the data on the E-index, and we can thus preserve the number of observations to the largest extent (compared with using other CSR samples). The dependent variable for all specifications is Tobin's q, defined as the ratio of market value of equity to the book value of equity, winsorized at the 5% level. The key explanatory variables are the global E-index, the CSR rating (measured by ASSET4's overall CSR score, environmental score, and social score),

¹² A classified board is a general term that refers to the situation in which the terms of board directors can be different from each other (and end in different years), while a staggered board refers to the situation in which the terms of board directors are uniform (but end in different years).

and the interaction term between the E-index and CSR. If CSR is induced by good governance (at least those governance mechanisms related to the efficient use of cash, the disbursement of earnings to shareholders, and pay-for-performance), this can counterbalance the negative impact of managerial agency problems otherwise induced by entrenchment (as proxied by the E-index). We use standard financial controls, such as firm size [measured as $\text{Log}(\text{Assets})$], the largest shareholder's cash flow rights and its square, return on equity (ROE), leverage ratio, capital expenditure, and dividends per share, as well as year, country, and industry fixed effects.

The coefficients on the two measures of our global E-index are mostly negatively related to Tobin's q which signifies that entrenchment reduces value (Table 11). This finding is consistent with the US results based on the original E-index as in Bebchuk, Cohen, and Ferrell (2009). The effects of CSR on a non-entrenched firm (the noninteracted CSR rating) are positively related to firm value for the overall and social CSR ratings or insignificantly so for the environmental ratings specifications. We also show that CSR affects firms with strong entrenchment. The interaction term between CSR and the global E-index is positive and significant for almost all CSR ratings (the environmental, social, and overall indices). This reinforces our earlier findings supporting the good governance view and suggests that CSR and the firm governance that induces CSR, instead of being an agency problem, attenuates the negative effects of some types of agency problems (e.g., those related to managerial entrenchment as proxied by the E-index) on firm value. Potential endogeneity issues could still exist, and unfortunately no single instrumental variable is readily available for the interaction that captures all aspects of CSR as well as of entrenchment. Moreover, the entrenchment index is directly relevant for companies with dispersed ownership, not those with controllers. Therefore, the interaction results should be interpreted with caution. Nevertheless, corporate charters and bylaws as well as the use of the other antitakeover provisions are very stable over time (Bebchuk, Cohen, and Ferrell, 2009), which could partly eliminate endogeneity concerns.

[Insert Table 11 about Here]

5. Conclusions

In most Anglo-American countries, consensus exists that corporate governance is about “how investors get the managers to give them back their money” (Shleifer and Vishny, 1997, p.738). Corporate social responsibility, because of its focus on stakeholders in addition to shareholders, is often considered as a form of cash diversion and an agency problem. In contrast to this agency perspective on CSR stands the good governance view, which states that CSR activities are often adopted by firms characterized by good governance. In this debate, legal rules and ownership structures are very different outside the Anglo-American world, which significantly influences the executives’ incentives, the fiduciary duties of the management and the board of directors, and the decision-making process. The debate on the role of corporate social responsibility therefore often reflects the varieties of capitalism across countries and the boundaries of the firm.

In this paper, we utilize public and proprietary data on corporate compliance and engagement in stakeholder issues to comprehensively assess the agency and good governance views of CSR. Our empirical set-up is well grounded in fundamental economic theory: incentives, information asymmetry, and control. We do not find empirical evidence that CSR is associated with ex ante agency concerns, such as abundance of cash (as proxied by cash holdings, free cash flow, capital expenditures, dividend payout, and leverage), or a weak connection between managerial pay and corporate performance (as proxied by a total shareholder return benchmark and excess CEO pay). Instead, higher CSR performance is closely related to tighter cash constraints—usually a proxy for better disciplined managerial practice in the traditional corporate finance literature (Jensen, 1986)— and higher pay-for-performance sensitivity. In addition, CSR is positively related to legal protection of shareholder rights and negatively related to controlling shareholders’ expropriation of minority shareholders. Whereas the vast majority of the literature has emphasized the agency costs of managerial entrenchment and large shareholders’ control, as well as their economic consequences such as distorting resource allocation and impeding economic growth, our empirical findings show that these costs are at least not incurred

through CSR activities. Moreover, we find evidence that a positive correlation exists between CSR and Tobin's q in firms with few agency problems and that CSR and the firm governance that induces CSR counterbalances the negative association between firm value (proxied by Tobin's q) and managerial entrenchment (captured by the global entrenchment index). Our empirical results (based on an instrumental variables estimation) suggest that good governance causes high CSR and that a firm's CSR practice is not inconsistent with shareholder wealth maximization, which induces a positive stance on CSR, also found in Dimson, Karakas, and Li (2015), and Deng, Kang, and Low (2013).

None of this is to say that more CSR is always better. Undertaking some CSR activities can be driven by managerial utility considerations, such as the satisfaction of some personal or moral imperative of the manager, instead of the enhancement of shareholder wealth (Moser and Martin, 2012). Moreover, shareholders always internalize the costs of CSR expenditures, and as their ownership stakes increase, they can reduce spending on CSR. Our main argument is that, in general, corporate social responsibility need not to be inevitably induced by agency problems but can be consistent with a core value of capitalism, generating more returns to investors, through enhancing firm value and shareholder wealth.

Taking the evidence in this paper at face value, several policy implications emerge for the improvement of corporate governance, particularly in the area of corporate social responsibility. Undoubtedly, governments have a responsibility for dealing with market failures and externalities, but government might not always be incentivized and effective in achieving this goal. Governments can be corrupt, inefficient, and even predatory towards the private sector (Shleifer and Vishny, 1998), in which case they fail to provide public goods. Therefore, corporate social responsibility in the private sector—the private provision of public goods (Kitzmueller and Shimshack, 2012)—can be important for preserving social welfare. While many researchers believe that such private provision of public goods can be associated with agency problems that divert shareholder wealth and even undermine the foundations of capitalism, we cast doubt on such belief. Corporate governance reforms should take into account such positive externalities.

References

- Adams, R., Ferreira, D., 2008. Do directors perform for pay? *Journal of Accounting and Economics* 46 (1), 154-171.
- Albuquerque, R., Durnev A., Koskinen, T., 2013. Corporate social responsibility and firm risk: theory and empirical evidence. Unpublished working paper.
- Bae, K., Kang, J., Wang, J., 2011. Employee treatment and firm leverage: a test of the stakeholder theory of capital structure. *Journal of Financial Economics* 100, 130-153.
- Bebchuk, L., Coates, J., IV, Subramanian, G., 2002. The powerful antitakeover force of staggered boards: theory, evidence, and policy. *Stanford Law Review* 54 (5), 887-951.
- Bebchuk, L., Cohen, A., Ferrell, A., 2009. What matters in corporate governance? *Review of Financial Studies* 22 (2), 783-827.
- Bebchuk, L., Cremers, M., Peyer, U., 2011. The CEO pay slice. *Journal of Financial Economics* 102 (1), 199-221.
- Bebchuk, L., Fried, J., 2003. Executive compensation as an agency problem. *Journal of Economic Perspectives* 17, 71-92.
- Bebchuk, L., Kraakman, R., Triantis, G., 2000. Stock pyramids, cross-ownership, and dual class equity: the creation and agency costs of separating control from cash flow rights. In Morck, R. (Ed), *Concentrated Corporate Governance* National Bureau of Economic Research, Cambridge, MA, pp. 445-460.
- Bebchuk, L., Weisbach, M., 2010. The state of corporate governance research. *Review of Financial Studies* 23 (3), 939-961.
- Benabou, R., Tirole, J., 2010. Individual and corporate social responsibility. *Econometrica* 77, 1-19.
- Berle, A., Means, G., 1932. *The Modern Corporation and Private Property*. Harcourt, Brace & World, New York, NY.
- Brown, W., Helland, E., Smith, K., 2006. Corporate philanthropic practices. *Journal of Corporate Finance* 12, 855-877.
- Bushee, B., 2000. Do institutional investors prefer near-term earnings over long-term value? *Contemporary Accounting Research* 18 (2), 207-246.
- Bushee, B., Noe, C., 2001. Corporate disclosure practices, institutional investors, and stock return volatility. *Journal of Accounting Research* 38, 171-202.
- Cheng, I., 2011. Corporate governance spillovers, Unpublished working paper.
- Cheng, I.-H., Hong, H., Shue, K., 2014. Do managers do good with other people's money? Unpublished working paper, 12-47, University of Chicago Booth School of Business, Chicago, Ill.
- Chhaochharia, V., Grinstein, Y., 2009. CEO Compensation and Board Structure, *Journal of Finance* 64, 231-261.
- Claessens, S., Djankov, S., Fan, J., Lang, L., 2002. Disentangling the incentive and entrenchment effects of large shareholders. *Journal of Finance* 57 (6), 2741-2771.
- Claessens, S., Djankov, S., Lang, L., 2000. The separation of ownership and control in Eastern Asian corporations. *Journal of Financial Economics* 58, 81-112.
- Davies, P., Schuster, E.-P., Van de Walle de Ghelcke, E., 2010. The takeover directive as a protectionist tool. In Ringe, W. G., and Bernitz, U. (Eds.), *Company Law and Economic Protectionism*. Oxford University Press, New York, NY, pp. 105-161.
- Deng, X., Kang, J.-K., Low, B., 2013. Corporate social responsibility and stakeholder value maximization: evidence from mergers. *Journal of Financial Economics* 110, 87-109.
- Dhaliwal, D., Li, O., Tsang, A., Yang, Y., 2011. Voluntary nonfinancial disclosure and the cost of equity capital: the initiation of corporate social responsibility reporting. *Accounting Review* 86 (1), 59-100.
- Di Giuli, A., Kostovetsky, L., 2014. Are red or blue companies more likely to go green? Politics and corporate social responsibility. *Journal of Financial Economics* 111 (1), 158-180.
- Dimson, E., Karakas, O., Li, X., 2015. Active ownership, *Review of Financial Studies* 28 (12), 3225-3268.

- Djankov, A., La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 2008. The law and economics of self-dealing. *Journal of Financial Economics* 88, 430-465.
- Edmans, A., 2011. Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial Economics* 101 (3), 621-640.
- El Ghouli, S., Guedhami, O., Kwok, C., Mishra, D., 2011. Does corporate social responsibility affect the cost of capital? *Journal of Banking and Finance* 35 (9), 2388-2406.
- Enriques, L., Gilson, R., Paces, A., 2014. The case for an unbiased takeover law. *Harvard Business Law Review* 41 (1), 85-127.
- Faccio, M., Lang, L., 2002. The ultimate ownership of Western European corporations. *Journal of Financial Economics* 65 (3), 365-395.
- Fama, E., 1980. Agency problems and the theory of the firm. *Journal of Political Economy* 88 (2), 288-307.
- Fama, E., Jensen, M., 1983. Separation of ownership and control. *Journal of Law and Economics* 26, 301-325.
- Flammer, C., 2013. Corporate social responsibility and shareholder reaction: the environmental awareness of investors. *Academy of Management Journal* 56 (3), 758-781.
- Foucault, T., Fresard L., 2014. Learning from Peers' Stock Prices and Corporate Investment, *Journal of Financial Economics* 111, 554-577.
- Frydman, C., Jenter, D., 2010. CEO Compensation, *Annual Review of Financial Economics* 2(1), 75-102.
- Goss, A., Roberts, G., 2011. The impact of corporate social responsibility on the costs of bank loans. *Journal of Banking and Finance* 35 (7), 1794-1810.
- Hall, B., Liebman, J., 1998. Are CEOs Really Paid Like Bureaucrats? *Quarterly Journal of Economics* 113(3), 653-691.
- Hillman, A., Keim, G., 2001. Shareholder value, stakeholder management, and social issues: what's the bottom line? *Strategic Management Journal* 22 (2), 125-139.
- Hoberg, G., Phillips, G., Prabhala, N., 2014. Product Market Threats, Payouts, and Financial Flexibility. *Journal of Finance* 69(1), 293-324.
- Holmstrom, B., Tirole, J., 1989. The theory of the firm. In: Schmalensee, R., Willig, R. (Eds.), *Handbook of Industrial Economics, Part 1*. edited by R. Schmalensee and R. Willig. Elsevier Publishing B.V., Amsterdam, Chapter 2.
- Hong, H., Kubik, J., Scheinkman, J., 2012. Financial constraints on corporate goodness. Unpublished working paper.
- Jensen, M., 1986. Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review* 76 (2), 323-329.
- Jensen, M., 2001. Value maximization, stakeholder theory and the corporate objective function. *Journal of Applied Corporate Finance* (Fall), 8-21.
- Jensen, M., Meckling, W., 1976. Theory of the firm: managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics* 3 (4), 305-360.
- Jensen, M., Murphy, K., 1990. Performance pay and top-management incentives. *Journal of Political Economy* 98 (2), 225-264.
- Kitzmueller, M., Shimshack, J., 2012. Economic perspectives on corporate social responsibility. *Journal of Economic Literature* 50 (1), 51-84.
- Krueger, P., 2015. Corporate goodness and shareholder wealth. *Journal of Financial Economics* 115 (2), 304-325.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 1999. Corporate ownership around the world. *Journal of Finance* 54 (2), 471-517.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 2006. What works in securities laws? *Journal of Finance* 61 (1), 1-32.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1997. Legal determinants of external finance. *Journal of Finance* 52 (3), 1131-1150.

- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 1998. Law and finance. *Journal of Political Economy* 106 (6), 1113-1155.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 2000. Agency problems and dividend policies around the world. *Journal of Finance* 55 (1), 1-33.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 2002. Investor protection and corporate valuation. *Journal of Finance* 57 (3), 1147-1170.
- Laeven, L., Levine, R., 2009. Bank governance, regulation, and risk taking. *Journal of Financial Economics* 93, 259-275.
- Leary, M., Roberts, M., 2014. Do peer firms affect corporate financial policy?, *Journal of Finance* 69 (1), 139-178.
- Lee, D., Faff, R., 2009. Corporate sustainability performance and idiosyncratic risk: a global perspective. *Financial Review* 44 (2), 213-237.
- Lin, C, Malatesta, P., Xuan, Y., 2011. Ownership structure and the cost of corporate borrowing, *Journal of Financial Economics* 100, 1-23.
- Linck, J., Netter, J., Yang, T., 2012. The determinants of board structure. *Journal of Financial Economics* 87 (2), 308-328.
- Lins, K., 2003. Equity ownership and firm value in emerging markets. *Journal of Financial and Quantitative Analysis* 38, 159-184.
- Macintosh, J., 1999. The issues, effects, and consequences of the Berle-Dodd debate, 1931-1932. *Accounting, Organizations and Society* 24, 139-153.
- Masulis, R., Reza, S. W, 2015. Agency problem of corporate philanthropy. *Review of Financial Studies* 28 (2), 592-636.
- Masulis, R., Wang, C., Xie, F., 2009. Agency problems at dual-class companies. *Journal of Finance*. 64, 1697-1727.
- Morck, R., Shleifer, A., Vishny, R., 1988. Management ownership and market valuation: an empirical analysis. *Journal of Financial Economics* 20, 293-315.
- Morck, R., Yeung, B., 2005. Dividend taxation and corporate governance. *Journal of Economic Perspectives* 19 (3), 163-180.
- Moser, D., Martin, P., 2012. A broad perspective on corporate social responsibility research in accounting. *Accounting Review* 87 (3), 797-806.
- Navarro, P., 1988. Why do corporations give to charity? *Journal of Business* 61 (1): 65-93.
- New York Times Magazine, 1970. The social responsibility of business is to increase profits. M. Friedman, September 13, pp. 122-126.
- Parsons, C., Sulaeman, J., Titman, S., 2014. The Geography of Financial Misconduct. NBER Working Paper No. 20347
- Peters, F., Wagner, A., 2014. The executive turnover risk premium. *Journal of Finance* 69, 1529-1563.
- Prendergast, C., 1999. The provision of incentives in firms, *Journal of Economic Literature*, 37(1): 7-63.
- Servaes, H., Tamayo, A., 2014. How do industrial peers respond to control threat? *Management Science* 60 (2), 380-399.
- Shleifer, A., Vishny, R., 1989. Management entrenchment: the case of manager-specific investment. *Journal of Financial Economics* 25, 123-139.
- Shleifer, A., Vishny, R., 1997. A survey of corporate governance. *Journal of Finance* 52 (2), 737-783.
- Shleifer, A., Vishny, R., 1998. *The Grabbing Hand: Government Pathologies and Their Cures*. Harvard University Press, Cambridge, MA.
- Spamann, H., 2010. The 'antidirector rights index' revisited. *Review of Financial Studies* 23 (2), 467-486.

Appendix

<i>Variables</i>	<i>Description</i>
Anti-director rights index (ADRI)	First developed in La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) as a measure of investor protection against corporate management and later on revised in Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) and Spamann (2010). All the three ADRI consist of the same six key components: (1) proxy by mail allowed, (2) shares not blocked before shareholder meeting, (3) cumulative voting and proportional representation, (4) oppressed minority protection, (5) preemptive rights to new share issues, (6) percentage of share capital to call an extraordinary shareholder meeting. Each component is a dummy variable, and the ADRI is formed by aggregating the value of all six components. The index ranges from 0 to 6, whereby a higher value of the index indicates stronger shareholder protection. Source: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998); La Porta <i>et al.</i> (2008); Spamann (2010).
Anti-self-dealing index (ASDI)	Developed by Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) and is an average of ex ante and ex post private control of self-dealing. The ex ante private control of self-dealing transactions includes approval by disinterested shareholders and ex ante disclosure by the buyer, the insider, and independent review. The ex post private control of self-dealing transactions include the disclosure in periodic filings and the ease of proving wrongdoing (holding the insider and the approving body civilly liable and having access to evidence). Source: Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).
Public enforcement of anti-self-dealing	Index of public enforcement if all disclosure and approval requirements have been met. Ranges from 0 to 1. One-quarter point when each of the following sanctions is available: (1) fines for the approving body, (2) jail sentences for approving body, (3) fines for the insider, and (4) jail sentences for the insider. Source: Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).
GDP per capita	GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current US dollars. Source: World Bank.
Cash holding	Amount of cash and cash equivalent on the balance sheet, scaled by total assets. Source: Compustat.
Free cash flows	Computed as earnings before interest and taxes (EBIT) multiplied by (1 – tax rate), plus Depreciation & Amortization, minus Change in Working Capital, and minus Capital Expenditure, finally scaled by total assets. Source: Compustat.
Capital expenditure	Capital expenditure recorded on the balance sheet, scaled by total assets. Source: Compustat.
Dividend payout ratio	Calculated as the common dividends divided by net income, as recorded on the company's financial statement. Source: Datastream.
Leverage	Calculated as the book value of total liabilities divided by book value of total equity of the company (MSCI and Vigeo samples) or the book value of total liabilities divided by the book value of total assets of the company (ASSET4 sample). Source: Compustat.
Pay for performance	Dummy variable that equals one if the executive compensation is linked to total shareholder value (TSR) and is measured using Thomson Reuter's ASSET4 data category "CEO Compensation Link to TSR". This variable is based on a textual analysis from companies' annual reports and media reports. Source: ASSET4 (Thomson Reuters) and BoardEx.
Excess pay	Residual of regressing the chief executive officer (CEO) total compensation on the one-year lagged Tobin's q , firm size, CEO characteristics variables, CEO incentives variables, and corporate governance variables, as well as firm and time fixed effects. Source on total compensation: ASSET4 (Thomson Reuters) and BoardEx.
Percent of Independent board members	Percentage of independent board members as reported by the company. Independent board members are directors who are not employed by the company, have not served on the board for more than ten years, are not or do not represent a reference shareholder with more than 5% of holding, do not hold cross-board memberships, do not have recent, immediate family ties to the company and do not accept any compensation other than compensation for board service. Source: ASSET4 (Thomson Reuters) and BoardEx.

Compensation committee independence	Percentage of independent compensation committee members as stipulated by the company. Source: ASSET4 (Thomson Reuters) and BoardEx.
CEO-chairman duality	Dummy variable that equals one if the CEO simultaneously chairs the board and zero otherwise. Source: ASSET4 (Thomson Reuters) and BoardEx.
Say-on-pay	Dummy variable that equals one if the company's shareholders have the right to vote on executive compensation and zero otherwise. Source: ASSET4 (Thomson Reuters) and BoardEx.
Board size	Total number of board members at the end of the fiscal year. Source: ASSET4 (Thomson Reuters) and BoardEx.
Compensation committee	Dummy variable that equals one if the company has a compensation committee on the board and zero otherwise. Source: ASSET4 (Thomson Reuters) and BoardEx.
Blockholder ownership	Total ownership of all blockholders who hold at least 5% of the company's shares. Source: Orbis.
Wedge	Ratio of the voting rights to the ownership for the largest shareholder of the company. Wedge1 stands for the difference between the voting rights and the cash flow rights of the largest shareholder. Wedge2 stands for the ratio of the voting rights to the cash flow rights of the largest shareholder. Source: Datastream.
ROA	Return on assets, net income divided by total assets. Source: Compustat.
Tobin's q	Ratio of the market value of equity to the book value of equity of the company. Source: Compustat.
Financial constraints	Measured by the ratio of the change in short-term investment to the change in operational cash flow. Source: Compustat.
Interest coverage	EBIT divided by interest expenses. Source: Compustat.
Financial slack	Current debts divided by current assets. Source: Compustat.
CapEx to sales ratio	Ratio of capital expenditure to the total sales revenue, a measure following Berger and Ofek (1995). Source: Compustat.
Firm size	Book value of total assets of the firm. Source: Compustat.
Firm age	Number of years since the firm's year of incorporation. Source: Datastream.
Dividend per share	Rolling 12-month dividend per share (adjusted). This variable intends to represent the anticipated payment over the following 12 months and for that reason is calculated on a rolling 12-month basis or is the indicated or forecasted annual amount. Special or once-off dividends are generally excluded. Dividends per share are displayed gross, inclusive of local tax credits when applicable, except for Belgium, France, Ireland, and the UK, where dividends per share are displayed on a net basis. Source: Datastream.
ROE	Return on equity; net income divided by total assets. Source: Compustat.
Annual sales growth rate	Annual growth rate of sales revenue of the firm. Source: Datastream.
Largest shareholder's ownership	Percentage ownership of the single largest owner (by voting power). Source: Datastream (ASSET4).
Sustainable country rating	Country-level sovereign ESG scores and benchmarks based on 120 ESG risk and performance indicators in three domains: (1) environmental protection, (2) social protection and solidarity, and (3) rule of law and governance. Countries are graded on a scale of one hundred on their commitment and performance in these indicators (e.g., ratification of the Kyoto convention, the Vienna convention, the Stockholm convention, CO2 emissions per head, Gini index, etc.). Source: Vigeo.
Entrenchment Index 1	Following the original Entrenchment Index with US coverage by Bebchuk, Cohen, and Ferrell (2009), the Entrenchment Index 1 is constructed for firms from 64 countries across the world during the period 2002-2013 and is the sum of the five dummy variables from Datastream's ASSET4 sample based on the presence of a poison pill, a golden parachute, a supermajority requirement for amending bylaw and charter, a classified board, and other anti-takeover provisions. Missing values are treated as zeros. Source: Datastream.

Entrenchment Index 2	Following the original Entrenchment Index with US coverage by Bebchuk, Cohen, and Ferrell (2009), the Entrenchment Index 2 is constructed for firms from 64 countries across the world during the period 2002-2013, and is the sum of the five dummy variables from Datastream's ASSET4 sample based on the presence of a poison pill, a golden parachute, a supermajority requirement for amending bylaw and charter, a staggered board (the terms of board members are uniform), and other antitakeover provisions. Missing values are treated as zeros. Source: Datastream.
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Table 1. Descriptive statistics of key variables

Panel A. MSCI Intangible Value Assessment (IVA) sample and Vigeo environmental, social, and governance (ESG) sample

Variable	MSCI IVA sample						Vigeo ESG sample					
	Number of observations	Mean	Median	Standard deviation	Minimum	Maximum	Number of observations	Mean	Median	Standard Deviation	Minimum	Maximum
<i>Overall IVA score</i>	47,775	2.850	3	1.753	0	6						
<i>EcoValue score</i>	90,496	2.926	3	1.833	0	6						
<i>Social score</i>	61,119	2.857	3	1.725	0	6						
<i>Vigeo Environment score</i>							7,048	33.867	34.000	18.534	0	87
<i>Vigeo Human Resources score</i>							7,048	32.378	31.000	17.939	0	84
<i>Vigeo Customers & Suppliers score</i>							7,048	40.981	42.000	13.473	4	82
<i>Cash holdings</i> (scaled by assets)	77,061	0.075	0.045	0.086	0	0.994	5,995	0.076	0.051	0.081	0	0.787
<i>Free cash flows</i> (scaled by assets)	65,728	0.060	0.057	0.049	-0.034	0.159	4,804	0.104	0.094	0.055	0.020	0.227
<i>Capital expenditure</i> (scaled by assets)	67,091	0.052	0.042	0.046	0	1.037	4,984	0.049	0.040	0.043	0	0.498
<i>Dividend payout</i> (dividend-sales ratio) (percent)	56,116	2.912	1.856	3.068	0	11.386	4,649	4.256	2.855	4.282	0	16.246
<i>Leverage ratio</i> (winsorized)	78,004	0.615	0.613	0.208	0.228	0.955	6,038	0.646	0.094	0.194	0.288	0.961
<i>ROA</i> (winsorized)	74,993	0.049	0.043	0.038	-0.001	0.149	5,876	0.047	0.040	0.038	0.012	0.117
<i>Tobin's q</i> (winsorized)	82,269	1.730	1.427	0.825	0.970	3.977	6,766	2.751	1.935	2.911	0.620	8.020
<i>Financial constraints</i> (winsorized)	62,076	0.264	0.006	0.495	0	1.832	4,738	0.296	0.035	0.500	0	1.784
<i>Interest coverage</i> (winsorized)	73,948	11.988	5.975	13.807	1.115	45.310	5,821	9.799	5.388	10.317	1.118	33.80
<i>Financial slack</i> (current ratio)	63,342	1.721	1.365	1.572	0.038	184.984	4,852	0.850	0.774	0.472	0	6.527
<i>Blockholder ownership</i>	54,746	35.57%	23.12%	33.92%	0%	100%	6,755	35.31%	23.56%	34.27%	0%	100%
<i>Largest shareholder's ownership</i>	25,558	21.22%	13.21%	18.56%	0%	100%	4,787	18.79%	11.05%	17.38%	0.06%	100%
<i>Board size</i>	55,990	11.518	11	4.165	1	45	5,513	11.942	11	4.031	2	44
<i>Independence of board members</i>	47,701	59.15%	41.67%	30.09%	0%	100%	4,702	60.56%	50%	27.50%	0%	100%
<i>Compensation committee independence</i>	56,482	0.835	1	0.371	0	1	5,533	0.890	1	0.313	0	1
<i>Say on pay</i>	45,165	86.42%	100%	27.51%	0%	100%	4,691	81.11%	100%	30.17%	0%	100%
	56,558	0.210	0	0.407	0	1	5,533	0.278	0	0.473	0	1

<i>CEO-chairman duality</i>	56,431	0.369	0	0.483	0	1	5,533	0.278	0	0.448	0	1
<i>CEO compensation link to TSR</i>	56,482	0.361	0	0.480	0	1	5,533	0.417	0	0.493	0	1
<i>Adjusted anti-director rights index</i>	89,765	3.371	4	1.184	2	5	7,006	3.757	4	1.098	2	5
<i>Anti-self-dealing index</i>	89,947	0.617	0.650	0.212	0.170	1	7,047	0.546	0.500	0.240	0.2	1
<i>Public enforcement of anti-self-dealing</i>	89,947	0.197	0	0.339	0	1	7,047	0.331	0	0.403	0	1

Table 1 (Cont). Descriptive Statistics

<i>Panel B. ASSET4 Sample</i>						
Variable	Number of Observations	Mean	Median	Standard deviation	Minimum	Maximum
<i>Wedge1</i> (voting minus cash flow rights)	20,573	1.165%	0	7.245%	-89.84%	99.99%
<i>Wedge2</i> (voting over cash flow rights)	20,562	4.039	1	170.790	0	10000
<i>Largest shareholder's ownership</i>	23,797	22.029%	13.6%	19.578%	0	100%
<i>Largest shareholder's voting rights</i>	20,716	23.590%	14.3%	20.881%	0	100%
<i>Equity book-to-market</i> (winsorized)	46,583	2.359	1.800	1.757	0.500	7.280
<i>Firm size</i> (Total assets)	31,133	3612965	6123	2.15×10^8	0	3.06×10^{10}
<i>Firm age</i>	23,374	34.740	23	31.655	0	185
<i>Annual sales growth rate</i> (winsorized)	46,799	12.627%	8.16%	21,157%	-19.070%	69.830%
<i>CapEx to sales ratio</i> (winsorized)	29,015	0.017	0.001	0.044	2.54×10^{-6}	0.185
<i>Leverage ratio</i> (winsorized)	31,061	21.081%	15.932%	382.758%	-0.034%	67392%
<i>Dividend per share</i> (winsorized)	47,541	4.014	0.345	9.940	0	41
ROE (winsorized)	31,082	0.121	0.118	0.143	-0.209	0.427
ROA (winsorized)	31,084	0.051	0.045	0.060	-0.073	0.179
<i>Entrenchment Index 1</i>	53,472	0.690	0	1.037	0	5
<i>Entrenchment Index 2</i>	53,472	0.889	0	1.239	0	5

Table 2. Corporate social responsibility and agency indicators with firm-level instrumental variables (IVs): two-stage least-square (2SLS) estimations with industry-peer average financial policies as IVs

The table shows the results from 2SLS estimations using an instrumental variable approach. The dependent variables (DVs) in the first stage (columns 1, 3, 5, 7, and 9), are *cash holdings* (scaled by total assets), *free cash flows (FCF)* (scaled by total assets), *capital expenditure (CapEx)* (scaled by total assets), *dividend payout* (dividend/sales ratio), and *leverage* (debt-to-asset ratio), respectively. These five agency proxies are then instrumented by the corresponding within-sample firm-level industry peers' financial policies in the second stage, calculated as the arithmetic means of each of the five financial policies variables for a firm's industry peers (the industry classification is based on Worldscope) by year and across countries. The dependent variables in the second stage (Columns 2, 4, 6, 8, and 10), are the (IVA) rating from MSCI's Intangible Value Assessment database. All independent variables are lagged by one year. The Cragg-Donald F-test statistics (the weak instruments' test) and the P-values are reported for the first stage. All regressions control for firm and time fixed effects. Bootstrapped standard errors are clustered at the firm level and are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. Stock-Yogo weak identification value: 10% maximal IV size—16.38; 15% maximal IV size—8.96; 20% maximal IV size—6.66; 25% maximal IV size 5.53.

	<i>Cash</i>		<i>FCF</i>		<i>CapEx</i>		<i>Dividend ratio</i>		<i>Leverage</i>	
	(1) First stage DV=cash	(2) Second stage DV=CSR	(3) First stage DV=FCF	(4) Second stage DV=CSR	(5) First stage DV=CapEx	(6) Second stage DV=CSR	(7) First stage DV=dividend	(8) Second stage DV=CSR	(9) First stage DV=leverage	(10) Second stage DV=CSR
<i>Cash</i> (scaled by assets)		-0.0127*** (0.0037)								
Industry peer cash (IV)	0.749*** (0.010)									
<i>FCF</i> (scaled by assets)				-0.0131** (0.0055)						
Industry peer FCF (IV)			0.657*** (0.022)							
<i>CapEx</i> (scaled by assets)										
Industry peer CapEx (IV)					0.819*** (0.024)	-0.0345*** (0.007)				
<i>Dividend/sales ratio</i>										
Industry peer dividend							0.090***	0.0035*** (0.0012)		

(IV)

<i>Leverage ratio</i>								(0.011)		0.0555*** (0.007)
Industry peer leverage (IV)									0.254*** (0.015)	

Control variable

<i>Ln(Assets)</i>	-2.215*** (0.220)	0.415*** (0.0573)	1.416*** (0.364)	0.510*** (0.0594)	-0.278 (0.232)	0.444*** (0.0570)	-1.144 (7.538)	0.536*** (0.0713)	2.182*** (0.561)	0.371*** (0.0668)
<i>Largest shareholder's ownership</i>	-0.018*** (0.006)	0.0043*** (0.00155)	-0.042*** (0.010)	0.00316** (0.00157)	-0.028*** (0.006)	0.00367** (0.00155)	-0.177 (0.205)	0.0140*** (0.00196)	0.005 (0.015)	0.00435** (0.00174)
<i>Tobin's q</i>	-0.055 (0.171)	0.0356 (0.0447)	-0.491* (0.276)	0.0699 (0.0447)	-1.122*** (0.182)	0.0235 (0.0456)	-2.610 (6.231)	0.0484 (0.0591)	-0.258 (0.427)	0.121** (0.0504)
<i>ROA</i>	-0.0013 (0.015)	0.00251 (0.00403)	-0.032 (0.024)	0.00175 (0.00398)	-0.010 (0.016)	0.00264 (0.00398)	-0.715 (0.542)	-0.00278 (0.00520)	0.404*** (0.039)	-0.0192*** (0.00528)
<i>Interest coverage</i>	0.011*** (0.003)	0.000305 (0.000799)	0.041*** (0.005)	0.000767 (0.000844)	0.033*** (0.003)	0.00129 (0.000847)	0.138 (0.104)	0.00201** (0.00100)	-0.094*** (0.008)	0.00559*** (0.00115)
<i>Current ratio</i>	0.424*** (0.041)	0.00586 (0.0109)	0.037 (0.112)	0.0359** (0.0181)	0.146** (0.073)	0.0337* (0.0180)	6.952*** (1.284)	-0.0292** (0.0143)	-0.367*** (0.101)	0.0259** (0.0123)
<i>Ln(GDP per capita)</i>	-2.758*** (0.947)	0.838*** (0.247)	4.966*** (1.619)	0.957*** (0.262)	1.200 (1.069)	0.918*** (0.262)	-16.210 (31.762)	0.131 (0.300)	7.084*** (2.400)	0.334 (0.290)
<i>Globalization</i>	-0.142*** (0.044)	0.0866*** (0.0115)	0.045 (0.072)	0.0868*** (0.0117)	-0.055 (0.048)	0.0870*** (0.0117)	-1.822 (1.442)	0.0505*** (0.0137)	0.224** (0.112)	0.0655*** (0.0133)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		8,624		8,458		8,468		6,537		8,431
R-squared		0.8633		0.8650		0.8653		0.8662		0.8492
First stage Cragg-Donald F-test statistics	4985.916	(P = 0.00)	857.34	(P = 0.00)	1175.45	(P = 0.00)	66.18	(P = 0.00)	281.46	(P = 0.00)

Table 3. CSR and agency indicators with firm-level instrumental variables (IVs): two-stage least-square (2SLS) estimations with poison pill and classified board as the IV

The table shows the results from 2SLS estimations using an IV approach. Only the second-stage results are shown for conciseness (the setup is similar to Table 2). The dependent variables in the first stages are *cash holdings* (scaled by total assets), *free cash flows* (FCF, scaled by total assets), *capital expenditure* (CapEx, scaled by total assets), *dividend payout* (dividend/sales ratio), and *leverage* (debt-to-asset ratio). These five agency proxies are then instrumented by the ordinal variable poison pill in combination with classified board that takes the value zero if the firm neither adopted a poison pill nor has a classified board, one if the firm adopted either of the two, and two if the firm has both. The dependent variables in the second stage (columns 1-5) are the IVA ratings from MSCI's Intangible Value Assessment database. All independent variables are lagged by one year. All regressions include the control variables reported in Table 2 and control for firm and time fixed effects. Bootstrapped standard errors are clustered at the firm level and are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Variable	(1)	(2)	(3)	(4)	(5)
<i>Cash</i> (scaled by assets)	-0.0749* (0.0454)				
<i>FCF</i> (scaled by assets)		-0.132 (0.234)			
<i>CapEx</i> (scaled by assets)			-0.247*** (0.0825)		
<i>Dividend payout</i>				0.886** (0.425)	
<i>Leverage</i>					0.151* (0.0871)
Control variables	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	9,544	8,790	8,959	7,371	8,873

Table 4. Corporate social responsibility and agency indicators: robustness with alternative dependent variables

The table shows the results from 2SLS estimations using an instrumental variable approach. Only the second stage results are shown for conciseness (the setup is similar to Table 2). The dependent variables in the first stage are *cash holdings* (scaled by total assets), *free cash flows* (FCF, scaled by total assets), *capital expenditure* (CapEx, scaled by total assets), *dividend payout* (dividend/sales ratio), and *leverage* (debt-to-asset ratio). These five agency proxies are then instrumented by the corresponding within-sample firm-level industry peers' financial policies and are calculated as the arithmetic means of each of the five financial policies variables for a firm's industry peers (the industry classification is based on Worldscope) by year and across countries. The dependent variable in the second stage is the *EcoValue rating* (environmental rating) as in Panel A and is the *RiskMetrics Social rating* as in Panel B. All independent variables are one-year lagged. All regressions include the control variables reported in Table 2 and control for firm- and time-fixed effects. Bootstrapped standard errors are clustered at the firm level and are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A. Dependent variable is <i>EcoValue Rating</i> (environmental rating)						
Variable	(1)	(2)	(3)	(4)	(5)	
<i>Cash</i> (scaled by assets)	0.0297 (0.0219)					
<i>FCF</i> (scaled by assets)		-0.0244*** (0.0045)				
<i>CapEx</i> (scaled by assets)			-0.0290*** (0.0071)			
<i>Dividend / sales ratio</i>				0.00013*** (0.00003)		
<i>Leverage ratio</i>					0.00197 (0.00167)	
Control variables	Yes	Yes	Yes	Yes	Yes	
Time and firm fixed effects	Yes	Yes	Yes	Yes	Yes	
Number of observations	10,530	10,513	10,716	7,819	10,727	
Panel B. Dependent variable is <i>RiskMetrics Social Rating</i>						
<i>Cash</i> (scaled by assets)	-0.0115*** (0.00345)					
<i>FCF</i> (scaled by assets)		-0.0320*** (0.00506)				
<i>CapEx</i> (scaled by assets)			-0.0202*** (0.00745)			
<i>Dividend / sales ratio</i>				0.0115 (0.0218)		
<i>Leverage ratio</i>					0.0203*** (0.00510)	
Control variables	Yes	Yes	Yes	Yes	Yes	
Time and firm fixed effects	Yes	Yes	Yes	Yes	Yes	
Number of observations	9,961	9,776	9,786	7,332	9,715	

Table 5. Corporate social responsibility (CSR) and agency indicators: robustness with alternative CSR sample

The table shows the results from the two-stage least squares (2SLS) estimations using an instrumental variable approach. Only the second-stage results for the main explanatory variables are shown for conciseness. The dependent variables in the first stage are *cash holdings* (scaled by total assets), *free cash flows (FCF)* (scaled by total assets), *capital expenditure (CapEx)* (scaled by total assets), *dividend payout* (dividend/sales ratio), and *leverage* (debt-to-asset ratio). These five agency proxies are then instrumented by the corresponding within-sample firm-level industry peers' average financial policies (country-industry-year average) and are the arithmetic means of each of the five financial policies variables for a firm's industry peers (the industry classification is based on *Worldscope*) by year and across countries. The dependent variables in the second stage are the *Environmental Score* (Panel A), *Customers & Suppliers Score* (Panel B), and *Human Resources Score* (Panel C), all are from *Vigeo's* environmental, social, and governance database. The control variables are the same as those reported in Table 2. The regressions include firm and time fixed effects. Bootstrapped standard errors are clustered at the firm level and are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A. Dependent variable is <i>Vigeo Environment Score</i>					
Variable	(1)	(2)	(3)	(4)	(5)
<i>Cash</i> (scaled by assets)	-0.604* (0.344)				
<i>FCF</i> (scaled by assets)		-0.198 (0.267)			
<i>CapEx</i> (scaled by assets)			-0.455 (0.400)		
<i>Dividend/sales ratio</i>				1.270** (0.549)	
<i>Leverage ratio</i>					1.335*** (0.333)
Control variables	Yes	Yes	Yes	Yes	Yes
Time and firm fixed effects	Yes	Yes	Yes	Yes	Yes
Panel B. Dependent variable is <i>Vigeo Customers & Suppliers Score</i>					
<i>Cash</i> (scaled by assets)	-0.939* (0.507)				
<i>FCF</i> (scaled by assets)		-6.083 (14.03)			
<i>CapEx</i> (scaled by assets)			0.176 (0.350)		
<i>Dividend / sales ratio</i>				1.655*** (0.460)	
<i>Leverage ratio</i>					1.035* (0.541)
Control variables	Yes	Yes	Yes	Yes	Yes
Time and firm fixed effects	Yes	Yes	Yes	Yes	Yes
Panel C. Dependent variable is <i>Vigeo Human Resources Score</i>					
<i>Cash</i> (scaled by assets)	-1.035** (0.523)				
<i>FCF</i> (scaled by assets)		-0.314 (0.263)			
<i>CapEx</i> (scaled by assets)			-0.436 (0.396)		
<i>Dividend / sales ratio</i>				1.056* (0.560)	
<i>Leverage ratio</i>					0.460* (0.257)
Control variables	Yes	Yes	Yes	Yes	Yes
Time and firm fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	3,414	3,383	3,487	3,295	3,434

Table 6. Corporate social responsibility (CSR) and executive pay-for-performance: two-stage least squares (2SLS) estimations

The table shows the results of CSR and executive pay-for-performance from 2SLS estimations using the instrumental variable (IV) approach. The dependent variable (DV) in the first stage is a dummy variable *pay-for-performance*, which indicates whether executive pay is linked to total shareholder return (TSR) and is measured using Thomson Reuter's ASSET4 data category "CEO Compensation Link to TSR". This variable is based on a textual analysis from companies' annual reports. The IVs for pay-for-performance are the percentage of independent board members as reported by the company (*percent independent board members*, as in Columns 1-2), the percentage of independent compensation committee members as stipulated by the company (*Compensation committee independence*, as in Columns 3-4), and a dummy variable indicating whether the chief executive officer (CEO) simultaneously chairs the board (*CEO-chairman duality*, as in Columns 5-6). The dependent variable in the second stage is the IVA rating from MSCI's Intangible Value Assessment database. All independent variables are one-year lagged. The Cragg-Donald F-test statistics (weak instrument test) are reported for the first stage. All regressions control for firm- and time-fixed effect. Bootstrapped standard errors are clustered at the firm level and are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. Stock-Yogo weak identification test critical values: 10% maximal IV size—16.38; 15% maximal IV size—8.96; 20% maximal IV size—6.66; 25% maximal IV size—5.53.

Variable	IV= <i>Percent independent board members</i>		IV= <i>Compensation committee independence</i>		IV= <i>CEO-chairman duality</i>	
	(1) DV = <i>Pay-for-performance</i>	(2) DV = <i>CSR</i>	(3) DV = <i>Pay-for-performance</i>	(4) DV = <i>CSR</i>	(5) DV = <i>Pay-for-performance</i>	(6) DV = <i>CSR</i>
Instrumental variable	0.0011*** (0.0002)		0.0011*** (0.0003)		-0.043*** (0.010)	
<i>Pay-for-performance</i> (predicted from first stage)		4.145*** (1.012)		3.355*** (1.099)		3.368*** (1.199)
<i>Ln(Assets)</i>	0.031* (0.016)	0.321*** (0.0910)	-0.030* (0.016)	0.648*** (0.0848)	0.0256* (0.0145)	0.301*** (0.0802)
<i>Largest owner shares</i>	0.0003 (0.0005)	0.00176 (0.00265)	-0.0008 (0.0006)	0.00193 (0.00329)	-0.0004 (0.0004)	0.00555*** (0.00213)
<i>Tobin's q</i>	-0.035*** (0.013)	0.198** (0.0786)	-0.026** (0.013)	0.188*** (0.0706)	-0.026** (0.011)	0.170** (0.0662)
<i>ROA</i>	0.005*** (0.001)	-0.0206** (0.00807)	0.004*** (0.0012)	-0.00344 (0.00754)	0.004*** (0.001)	-0.0134* (0.00761)
<i>Interest coverage</i>	0.0001 (0.0003)	-0.0002 (0.00141)	-0.0005* (0.0003)	0.00222 (0.00147)	0.0001 (0.0002)	0.0001 (0.0011)
<i>Current ratio</i>	-0.007** (0.003)	0.0219 (0.0175)	-0.011*** (0.003)	0.0278 (0.0204)	-0.006* (0.003)	0.0182 (0.0160)
<i>Ln(GDP per capita)</i>	0.340*** (0.067)	0.0575 (0.493)	0.165** (0.071)	0.971** (0.419)	0.251*** (0.059)	0.310 (0.426)
<i>Globalization</i>	0.018*** (0.003)	0.0246 (0.0248)	-0.020*** (0.005)	0.147*** (0.0335)	0.011*** (0.003)	0.0637*** (0.0195)
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations		7,871		6,797		8,967
R-squared		0.747		0.772		0.772

Cragg-Donald F-test statistics

29.12

20.61

17.87

Table 7. Corporate social responsibility (CSR) and executive pay-for-performance: robustness with alternative dependent variables (DVs) and CSR Samples

The table shows the results of CSR and executive pay-for-performance from two – stage least squares estimations using the independent variable IV approach. The setup is similar to Table 6, but only the second stage results for the main explanatory variable are shown for conciseness. The dependent variable in the first stage is a dummy variable, *pay-for-performance*, which indicates whether executive pay is linked to total shareholder return (TSR) and is measured using Thomson Reuter’s ASSET4 data category “CEO Compensation Link to TSR”. This variable is based on a textual analysis from companies’ annual reports. The IV for pay-for-performance is the percentage of independent board members (*Percent independent board members*). The control variables are *Ln(Assets)*, *Largest shareholder’s ownership*, *Tobin’s q*, *ROA*, *Interest coverage*, *Current ratio*, *Ln(GDP per capita)*, and *Globalization*. All regressions control for firm and time fixed effects. Bootstrapped standard errors are clustered at the firm level and are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Panel A. IVA – RiskMetrics sample		Panel B. Vigeo ESG sample		
	DV = <i>EcoValue rating</i> (environment)	DV = <i>Social rating</i>	DV = <i>Environment score</i>	DV = <i>Human resources score</i>	DV = <i>Customers & suppliers score</i>
	(1)	(2)	(3)	(4)	(5)
<i>Pay-for-performance</i> (predicted from first stage)	2.840*** (0.922)	1.431** (0.691)	31.99** (9.616)	32.25* (18.16)	40.45* (24.27)
Control variables	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	9,276	12,487	2,631	2,631	2,631
R-squared	0.789	0.798	0.983	0.787	0.618

Table 8. Corporate social responsibility (CSR) and excess pay: two-stage least squares (2SLS) estimations

The table shows the results of CSR and excess pay from 2SLS estimations. The dependent variable in the first stage is the CEO's total compensation, which is regressed on *Tobin's q*, *return on assets (ROA)*, *firm size*, *CEO-chairman duality*, the degree of entrenchment (*E-index*), a dummy variable capturing whether *say-on-pay* is sought, *board size*, the *independence of board members*, the independence of the *compensation committee*, and *blockholder ownership* (the percent of equity held by all blockholders who own more than 5% of the firm's shares). The residual of the first stage is called excess pay and is an explanatory variable of CSR (the overall IVA rating from MSCI's Intangible Value Assessment database) in stage two, which also includes the following variables: *Tobin's q* (winsorized at 5%), *ROA* (winsorized at 5%), *firm size*, *largest shareholder ownership stake* (percent), *interest coverage*, *current ratio*, *ln(GDP per capita)*, and a country level *globalization index*. All independent variables are one-year lagged. All regressions control for firm and time fixed effects. Bootstrapped standard errors are clustered at the firm level and are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

DV = Ln(CEO pay) (in US dollars)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	First stage	Second stage	First stage	Second stage	First stage	Second stage	First stage	Second stage
Explanatory variable (lagged)	DV = $Ln(Pay)$	DV = CSR	DV = $Ln(Pay)$	DV = CSR	DV = $Ln(Pay)$	DV = CSR	DV = $Ln(Pay)$	DV = CSR
<i>Excess pay</i>		-0.0451*		-0.0430*		-0.0357		-0.0574**
		(0.0241)		(0.0241)		(0.0242)		(0.0257)
<i>Tobin's q</i>	0.212***	0.238***	0.212***	0.238***	0.210***	0.234***	0.245***	0.178**
	(0.0242)	(0.0688)	(0.0242)	(0.0689)	(0.0242)	(0.0690)	(0.0255)	(0.0819)
<i>ROA</i>	-0.0025	0.0143**	-0.0023	0.0144**	-0.00235	0.0144**	-0.0027	0.0104
	(0.0020)	(0.0064)	(0.0020)	(0.0064)	(0.0019)	(0.0064)	(0.0020)	(0.0067)
$Ln(Assets)$	0.180***	0.620***	0.181***	0.621***	0.174***	0.620***	0.239***	0.613***
	(0.0265)	(0.0847)	(0.0265)	(0.0847)	(0.0266)	(0.0847)	(0.0271)	(0.0906)
<i>CEO-chairman duality</i>	0.165***		0.165***		0.170***		0.121***	
	(0.0266)		(0.0266)		(0.0268)		(0.0279)	
<i>Entrenchment index</i>	0.0154		0.0169		0.0176		0.00429	
	(0.0118)		(0.0118)		(0.0119)		(0.0123)	
<i>Say-on-pay</i>			-0.0877***				-0.0524*	
			(0.0300)				(0.0301)	
$Ln(Board\ size)$					0.0848*		0.0767	
					(0.0468)		(0.0496)	
<i>Independence of board members</i>							-0.234×10^{-3}	
							(0.419×10^{-3})	
<i>Compensation committee</i>							-0.179***	
							(0.0447)	
<i>Blockholder ownership</i>							0.0165	
							(0.0170)	

<i>Largest shareholder's ownership</i>		-0.0007 (0.0031)		-0.0008 (0.0031)		-0.0002 (0.0031)		0.0031 (0.0036)
<i>Interest coverage</i>		-0.0017 (0.0016)		-0.0017 (0.0016)		-0.0016 (0.0017)		-0.0013 (0.0018)
<i>Current ratio</i>		-0.0048 (0.0125)		-0.0047 (0.0125)		-0.0048 (0.0125)		-0.0038 (0.0140)
<i>Ln(GDP per capita)</i>		1.630*** (0.415)		1.633*** (0.415)		1.626*** (0.415)		2.055*** (0.446)
<i>Globalization index</i>		0.0297 (0.0318)		0.0299 (0.0318)		0.0280 (0.0318)		0.0828** (0.0337)
Constant	10.08*** (0.459)	-29.54*** (5.738)	10.06*** (0.459)	-29.60*** (5.741)	9.982*** (0.466)	-29.34*** (5.746)	8.666*** (0.770)	-38.48*** (6.152)
Number of observations	14,153	3,599	14,153	3,599	14,106	3,598	12,187	3,060
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	70.32%	89.27%	70.30%	89.27%	70.23%	89.27%	73.13%	90.04%

Table 9. Direct effects of legal protection of shareholder rights on CSR

The dependent variables are various environmental, social, and governance (ESG) indices, and the key explanatory variables are the adjusted anti-director rights index (ADRI), anti-self-dealing index (ASDI), and the public enforcement of the anti-self-dealing regulation. Control variables are legal origins (French, German, and Scandinavian; the English origin is taken as benchmark and omitted from regressions), logarithm of gross domestic product (GDP) per capita, return on assets (ROA) (winsorized at 5%), Tobin's q (winsorized at 5%), financial constraints, interest coverage, current ratio, an ownership dispersion indicator, investment opportunities, and year and industry fixed effects. Standard errors are clustered at the country level and reported in the parentheses. *, **, *** stand for significant at the 10%, 5% and 1% level, respectively.

<i>Panel A. Dependent variables are ESG ratings (overall ratings and subdimensional ratings) from the MSCI IVA sample</i>																		
	<i>IVA rating</i>			<i>EcoValue rating</i>			<i>Social rating</i>			<i>Labor relations</i>			<i>Industry-specific carbon risks</i>			<i>Environmental opportunities</i>		
Adjusted ADRI	0.297*** (0.110)			0.333*** (0.060)			0.269*** (0.055)			0.243*** (0.070)			0.221*** (0.053)			0.151*** (0.046)		
ASDI	1.329 (1.325)			1.966*** (0.676)			1.184 (1.174)			1.003 (0.940)			1.302** (0.489)			0.967*** (0.307)		
Public enforcement	0.753*** (0.229)			0.158 (0.211)			0.725*** (0.208)			0.523*** (0.169)			0.004 (0.202)			-0.018 (0.128)		
Number of observations	25,449	25,549	25,549	48,858	48,958	48,958	32,495	32,483	32,483	32,504	32,604	32,604	40,508	40,606	40,606	47,976	48,075	48,075
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	13.5%	12.2%	12.9%	18.3%	17.5%	16.3%	10.7%	9.5%	10.4%	14.0%	13.2%	13.5%	41.3%	41.6%	41.2%	27.3%	27.2%	27.0%

<i>Panel B. Dependent variables are ESG ratings (overall and subdimensional ratings) from the Vigeo corporate ESG sample</i>																		
	<i>Overall ESG</i>			<i>Environment</i>			<i>Human resources</i>			<i>Customers and suppliers</i>			<i>Human rights</i>			<i>Community involvement</i>		
Adjusted ADRI	1.969*** (0.585)			2.789*** (0.520)			3.363*** (1.123)			0.980 (0.674)			2.558*** (0.811)			2.622*** (0.762)		
ASDI	-5.395 (9.169)			7.104 (10.904)			0.665 (11.472)			-3.116 (9.148)			-4.828 (9.046)			-7.227 (10.608)		
Public enforcement	-0.323 (1.516)			-2.337 (1.711)			0.698 (2.255)			-1.623 (1.376)			0.908 (1.688)			1.325 (1.384)		
Number of observations	3,586	3,610	3,610	3,586	3,610	3,610	3,586	3,610	3,610	3,586	3,610	3,610	3,586	3,610	3,610	3,586	3,610	3,610
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Industry effects	fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared		33.8%	32.2%	32.2%	28.5%	27.3%	27.4%	41.7%	39.7%	39.8%	18.7%	18.2%	18.3%	24.5%	23.0%	23.0%	27.7%	26.7%	26.7%

Table 10. Direct effects of large shareholders' ownership and control on corporate social responsibility (CSR)

The dependent variables are various environmental, social, and governance (ESG) indices from the ASSET4 sample, and the key explanatory variables are the largest shareholder's cash flow rights (ownership) and its square and the wedge between the largest shareholder's voting rights and cash flow rights. Wedge1 stands for voting rights minus cash flow rights, and Wedge2 stands for the ratio of voting rights to cash flow rights. Control variables are market-to-book ratio of equity (winsorized at 5%), the logarithm of total assets (size), the logarithm of firm age, annual sales growth rate (winsorized at 1%), and CapEx – to – sales ratio (winsorized at 1%). All regressions control for country, industry, and time fixed effects. Standard errors are clustered at the firm level and reported in parentheses. *, **, *** stand for significant at the 10%, 5% and 1% level, respectively.

<i>Dependent variables are ESG ratings from the ASSET4 sample</i>												
	<i>Overall CSR rating</i>				<i>Environmental rating</i>				<i>Social rating</i>			
Ownership and control												
Wedge1 (Voting / Cash flow rights)	-0.118***		-0.089**		-0.072**		-0.066*		-0.088***		-0.079**	
	(0.032)		(0.036)		(0.031)		(0.036)		(0.031)		(0.035)	
Wedge2 (Voting / Cash flow rights)		-0.002***		-0.001***		-0.002***		-0.002***		-0.001***		-0.001**
		(0.0002)		(0.0004)		(0.0002)		(0.0003)		(0.0002)		(0.0004)
Largest shareholder's ownership	-0.274***	-0.278***	-0.310***	-0.315***	-0.223***	-0.215***	-0.234***	-0.232***	-0.175***	-0.181***	-0.223***	-0.226***
	(0.054)	(0.054)	(0.073)	(0.073)	(0.053)	(0.054)	(0.079)	(0.078)	(0.054)	(0.054)	(0.076)	(0.076)
Largest shareholder's ownership square	0.002***	0.002***	0.002***	0.003***	0.002***	0.002***	0.002**	0.002***	0.001**	0.001**	0.002**	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.0006)	(0.0006)	(0.001)	(0.001)
Control variables												
Equity market-to-book	0.129	0.121	0.375**	0.376**	-0.046	-0.052	0.352*	0.350*	0.168	0.162	0.470**	0.472**
	(0.134)	(0.135)	(0.189)	(0.189)	(0.132)	(0.132)	(0.181)	(0.182)	(0.135)	(0.136)	(0.197)	(0.198)
Log(Size)			7.261***	7.265***			7.689***	7.691***			7.195***	7.199***
			(0.486)	(0.486)			(0.462)	(0.461)			(0.474)	(0.473)
Log(Age)			3.940***	3.962***			2.647***	2.657***			2.919***	2.945***
			(0.614)	(0.615)			(0.607)	(0.607)			(0.617)	(0.617)
Annual sales growth rate			0.002	0.002			-0.015***	-0.015***			-0.013**	-0.013**
			(0.005)	(0.005)			(0.005)	(0.005)			(0.006)	(0.006)
CapEx – to – sales ratio			-0.077**	-0.077**			0.012	0.012			-0.048	-0.048
			(0.034)	(0.033)			(0.040)	(0.040)			(0.038)	(0.037)
Constant			-64.214***	-64.822***			-44.976***	-45.233***			-39.148***	-39.790***
			(7.664)	(7.665)			(8.071)	(8.046)			(7.384)	(7.372)
Number of Observations	18,905	18,894	9,064	9,060	19,467	19,456	9,193	9,189	19,467	19,456	9,193	9,189
Country, industry, year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	20.5%	20.4%	42.0%	41.8%	28.3%	28.3%	45.1%	45.0%	24.2%	24.2%	41.9%	41.8%

Table 11. Corporate social responsibility (CSR), entrenchment, and firm value: ASSET4 sample

The dependent variable is Tobin's q (the ratio of equity market capitalization to equity book value) winsorized at 5% level for all regressions. Entrenchment Index 1 is the sum of the following dummy variables from Datastream: the presence of a poison pill, a golden parachute, a supermajority requirement for amending bylaws and charter, a classified board, and other anti-takeover provisions and treats non-available values as zeros. Entrenchment Index 2 has the same composition as Entrenchment Index 1, except that classified board (directors' terms can be different) is replaced by staggered board (directors' terms are uniform). CSR is measured by ASSET4's overall CSR rating for Columns 1 – 2, ASSET4's aggregate environmental rating for Columns 3 – 4, and ASSET4's aggregate social rating for Columns 5 – 6. All specifications include country, industry, and year fixed effects. Standard errors are clustered at the firm level and reported in parentheses. *, **, and *** stand for significant at the 10%, 5% and 1% level, respectively.

<i>The world sample: Dependent variable = Tobin's q</i>						
Variable	Overall CSR Rating		Environmental Rating		Social Rating	
	(1)	(2)	(3)	(4)	(5)	(6)
Entrenchment Index 1	-0.0767**		-0.0707***		-0.0780***	
	(0.0318)		(0.0274)		(0.0299)	
Entrenchment Index 2		-0.0689**		-0.0618**		-0.0805***
		(0.0296)		(0.0254)		(0.0275)
CSR	0.0021**	0.0022**	0.0005	0.0007	0.0016*	0.0014
	(0.0010)	(0.0011)	(0.0010)	(0.001)	(0.0010)	(0.0010)
CSR × Entrenchment Index	0.0011**	0.0008*	0.0012***	0.0009**	0.0013***	0.0011***
	(0.0005)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Log(Assets)	-0.2775***	-0.2772***	-0.2694***	-0.2692***	-0.2784***	-0.2784***
	(0.0284)	(0.0283)	(0.0275)	(0.0275)	(0.0280)	(0.0280)
Largest shareholder's ownership	0.0017	0.0015	0.0007	0.0005	0.0009	0.0008
	(0.0042)	(0.0042)	(0.0042)	(0.0042)	(0.0042)	(0.0042)
Largest shareholder's ownership square	-0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Leverage	0.0008	0.0008	0.0005	0.0005	0.0005	0.0005
	(0.0029)	(0.0029)	(0.0029)	(0.0029)	(0.0029)	(0.0029)
Dividend per share	-0.0000	-0.0000	0.0000	0.0000	-0.0000	-0.0000
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
ROE	0.0227	0.0226	0.0230	0.0229	0.0229	0.0229
	(0.0150)	(0.0150)	(0.0150)	(0.0150)	(0.0151)	(0.0151)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	16,077	16,077	16,278	16,278	16,278	16,278
R-squared	25.4%	25.4%	25.0%	25.0%	25.3%	25.3%

Table 0A1. MSCI intangible value assessment data description

IVA factor	IVA subscore	Weight	Key metrics
Strategic governance	SG1—Strategy	< 2%	Overall governance; rating composed of total scores of non-key issues
	SG2—Strategic capability	< 2%	Management of corporate social responsibility (CSR) issues, partnership in multi-stakeholder initiatives
	SG3—Traditional governance concerns	< 2%	Board independence, management of CSR issues, board diversity, compensation practices, controversies involving executive compensation and governance
Human capital	HC1—Workplace Practices	< 2%	Workforce diversity, policies and programs to promote diversity, work/life benefits, discrimination-related controversies
	HC2—Labor relations	20%	<i>KEY ISSUE: Labor relations</i> Benefits, strikes, union relations, controversies, risk of work stoppages, etc.
	HC3—Health and safety	< 2%	Health and safety policies and systems, implementation and monitoring of those systems, performance (injury rate, etc.), safety-related incidents and controversies
Stakeholder capital	SC1—Stakeholder partnerships	< 2%	Customer initiatives, customer-related controversies, firm's support for public policies with noteworthy benefits for stakeholders
	SC2—Local communities	< 2%	Policies, systems, and initiatives involving local communities (especially indigenous peoples), controversies related to firm's interactions with communities
	SC3—Supply chain	< 2%	Policies and systems to protect supply-chain workers' and contractors' rights, initiatives toward improving labor conditions, supply-chain-related controversies
Products and services	PS1—Intellectual capital and product development	< 2%	Beneficial products and services, including efforts that benefit the disadvantaged, reduce consumption of energy and resources, and production of hazardous chemicals; average of two scores
	PS2—Product safety	< 2%	Product quality, health and safety initiatives, controversies related to the quality or safety of a firm's products, including legal cases, recalls, criticism
Emerging markets	EM1—EM strategy	< 2%	Default = 5, unless company – specific exposure is highly significant
	EM2—Human rights and child and forced labor	< 2%	Policies, support for values in Universal Declaration of Human Rights, initiatives to promote human rights, human rights controversies
	EM3—Oppressive regimes	< 2%	Controversies, substantive involvement in countries with poor human rights records
Environmental risk factors	ER1—Historic liabilities	< 2%	Controversies including natural resource – related cases, widespread or egregious environmental impacts
	ER2—Operating risk	< 2%	Emissions to air, discharges to water, emission of toxic chemicals, nuclear energy, controversies involving non – greenhouse gas emissions
	ER3—Leading and sustainability risk indicators	< 2%	Water management and use, use of recycled materials, sourcing, sustainable resource management, climate change policy and transparency, climate change initiatives, absolute and normalized emissions output, controversies
	ER4—Industry	25%	<i>KEY ISSUE: Carbon</i>

	carbon specific risk		Targets, emissions intensity relative to peers, estimated cost of compliance
Environmental management capacity	EMC1—Environmental strategy	< 2%	Policies to integrate environmental considerations into all operations, environmental management systems, regulatory compliance, controversies
	EMC2—Corporate governance	< 2%	Board independence, management of CSR issues, board diversity, compensation practices, controversies involving executive compensation and governance
	EMC3—Environmental management systems	< 2%	Establishment and monitoring of environmental performance targets, presence of environmental training, stakeholder engagement
	EMC4—Audit	< 2%	External independent audits of environmental performance
	EMC5—Environmental accounting and reporting	< 2%	Reporting frequency, reporting quality
	EMC6—Environmental training and development	< 2%	Presence of environmental training and communications programs for employees
	EMC7—Certification	< 2%	Certifications by the International Organization for Standardization (ISO) or other industry- and country-specific third – party auditors
	EMC8—Products and materials	< 2%	Positive and negative impact of products and services, end-of-life product management, controversies related to environmental impact of products and services.
Environmental opportunity factors	EO1—Strategic competence	< 2%	Policies to integrate environmental considerations into all operations and reduce environmental impact of operations, products and services, environmental management systems, regulatory compliance
	EO2—Environmental opportunity	35%	<i>KEY ISSUE: Opportunities in clean technology</i> Product development in clean technology, research and development relative to sales and trend, innovation capacity
	EO3—performance	< 2%	Percent of revenue represented by identified beneficial products and services

Table 0A2. Vigeo corporate environmental, social, and governance (ESG) data description

Key domain	Sub-dimension	Description
Environment	ENV1.1	Environmental strategy and eco-design
	ENV1.2	Pollution prevention and control
	ENV1.3	Development of green products and services
	ENV1.4	Protection of biodiversity
	ENV2.1	Protection of water resources
	ENV2.2	Minimizing environmental impacts from energy use
	ENV2.3	Environmental supply – chain management
	ENV2.4	Management of atmospheric emissions
	ENV2.5	Waste management
	ENV2.6	Management of environmental nuisances: dust, odor, noise
	ENV2.7	Management of environmental impacts from transportation
	ENV3.1	Management of environmental impacts from the use and disposal of products and services
Human resources	HRS1.1	Promotion of labor relations
	HRS1.2	Encouraging employee participation
	HRS2.1	Career development
	HRS2.2	Training and development
	HRS2.3	Responsible management of restructurings
	HRS2.4	Career management and promotion of employability
	HRS3.1	Quality of remuneration systems
	HRS3.2	Improvement of health and safety conditions
	HRS3.3	Respect and management of working hours
Business behavior (Customer and supplier)	C&S1.1	Product safety
	C&S1.2	Information to customers
	C&S1.3	Responsible Contractual Agreement
	C&S2.1	Integration of corporate social responsibility in purchasing processes
	C&S2.2	Sustainable Relationship with suppliers
	C&S2.3	Integration of environmental factors in the supply chain
	C&S2.4	Integration of social factors in the supply chain
	C&S3.1	Prevention of corruption
	C&S3.2	Prevention of anticompetitive practices
	C&S3.3	Transparency and integrity of influence strategies and practices
Human rights	HR1.1	Respect for human rights standards and prevention of violations
	HR2.1	Respect for freedom of association and the right to collective bargaining
	HR2.2	Elimination of child labor
	HR2.3	Abolition of forced labor
	HR2.4	Nondiscrimination
Community involvement	CIN1.1	Promotion of social and economic development
	CIN2.1	Social impacts of company's products and services
	CIN2.2	Contribution to general interest causes
Corporate governance	CGV1.1	Board of directors
	CGV2.1	Audit and internal controls
	CGV3.1	Shareholders' rights
	CGV4.4	Executive remuneration

Table 0A4.Vigeo environmental, social, and governance (ESG) country (region) coverage

Country	Overall ESG score	Environmental score	Human resources score	Human rights score	Community involvement score	Customers and suppliers score	Corporate governance score	Firm year observations	Firm observations
Australia	34.91	25.12	22.08	34.71	32.86	37.69	56.72	154	72
Austria	28.72	23.95	29.32	35.22	29.40	32.02	40.28	57	16
Belgium	35.45	36.78	38.65	38.49	39.10	41.28	41.25	120	22
Bermuda	30.00	21.00	33.00	38.00	55.00	19.00	39.00	1	1
China	14.80	4.80	6.20	20.60	25.60	23.60	22.00	5	3
Canada	35.20	26.29	24.70	37.53	38.07	41.45	51.54	133	52
Denmark	29.60	27.62	29.59	36.18	30.75	35.76	34.30	97	27
Finland	40.15	40.49	41.72	42.55	33.24	42.37	50.89	123	24
France	42.40	41.22	47.18	48.15	47.53	45.91	43.66	1038	121
Germany	40.55	43.29	43.91	46.25	42.25	44.37	45.11	508	75
Greece	27.61	26.54	27.81	30.10	33.32	34.37	29.67	57	12
Hong Kong	23.36	15.22	15.31	25.05	22.50	27.06	35.53	96	43
Iceland	21.50	5.75	8.00	22.25	9.75	33.75	39.00	4	4
Ireland	27.08	22.85	25.59	30.04	31.95	35.07	51.56	97	18
Italy	36.75	34.28	40.97	41.62	39.85	42.94	12.09	291	52
Japan	25.19	27.47	19.39	31.87	26.25	33.46	16.37	655	290
Luxembourg	33.31	29.03	35.90	40.00	43.30	40.57	44.60	30	5
Netherlands	42.65	43.19	42.35	45.35	47.67	48.55	53.85	288	47
New Zealand	29.43	28.86	17.43	27.14	19.86	29.14	48.86	7	3
Norway	40.94	34.00	39.90	48.14	38.96	41.10	51.60	67	19
Portugal	35.86	35.15	37.90	37.60	42.97	43.08	36.00	61	10
Russia	32.00	31.00	20.00	18.00	16.00	43.00	56.00	2	1
Singapore	25.62	16.16	14.35	23.84	23.84	27.89	44.19	37	17
Spain	36.52	36.40	38.60	40.91	40.85	41.97	41.87	259	51
Sweden	37.10	35.76	32.99	45.71	32.41	42.29	42.08	194	43
Switzerland	37.02	35.79	32.45	40.49	36.04	40.72	44.44	301	54
United Kingdom	42.24	39.47	33.14	42.04	45.85	42.65	64.77	1,157	255
United States	32.69	23.57	18.37	37.28	33.59	38.58	49.86	1,209	449

Table 0A5. ASSET4 environmental, social, and governance (ESG) country (region) coverage

Country	Overall CSR rating	Environmental rating	Social rating	Firm year observations	Firm observations	Country	Overall CSR rating	Environmental rating	Social rating	Firm-year obs.	Firm obs.
Abu Dhabi (UAE)	19.65	38.32	25.68	12	1	Kuwait	18.92	24.30	36.60	48	4
Austria	43.29	38.13	38.77	4,020	335	Luxembourg	55.00	58.48	52.83	60	5
Australia	44.46	51.84	50.40	252	21	Malaysia	42.32	41.12	50.21	540	45
Belgium	53.16	54.88	49.63	336	28	Mexico	38.96	46.03	49.47	324	27
Brazil	55.02	55.19	67.72	1,008	84	Morocco	21.57	20.13	53.42	36	3
Canada	47.59	37.64	38.65	3,864	322	Netherlands	75.30	68.86	75.36	540	45
Channel Islands	52.05	49.82	53.02	24	2	New Zealand	49.47	45.42	42.40	144	12
Chile	33.41	43.66	45.61	252	21	Nigeria	7.18	10.89	19.71	12	1
China	25.59	33.38	32.78	984	82	Norway	56.90	55.26	58.87	300	25
Colombia	34.40	34.52	40.94	108	9	Oman	27.00	27.42	33.00	12	1
Cyprus	39.18	30.20	36.71	12	1	Peru	41.33	31.05	34.41	12	1
Czech Republic	48.56	48.72	60.01	48	4	Philippines	39.59	36.07	40.79	252	21
Denmark	48.45	56.43	52.69	324	27	Poland	33.22	33.62	42.06	312	26
Dubai	37.39	44.24	33.76	12	1	Portugal	67.52	66.20	73.95	144	12
Egypt	14.55	19.29	27.22	132	11	Qatar	10.77	12.87	24.64	24	2
Finland	72.26	73.25	66.86	324	27	Russian Federation	37.52	39.92	50.64	408	34
France	71.45	75.70	76.36	1,212	101	Saudi Arabia	19.22	32.12	25.65	72	6
Germany	58.25	67.07	67.16	1,068	89	Singapore	34.66	33.58	35.60	648	54
Greece	35.42	47.10	49.62	300	25	South Africa	66.17	56.74	73.06	1,092	91
Hong Kong	30.27	33.72	35.51	1,800	150	South Korea	47.12	62.00	56.77	1,212	101
Hungary	73.29	76.18	80.80	48	4	Spain	66.26	68.54	73.82	696	58
Iceland	29.02	20.45	36.06	36	3	Sri Lanka	51.25	51.09	66.59	12	1
India	47.16	51.60	57.93	960	80	Sweden	62.79	66.58	63.91	660	55
Indonesia	45.46	41.95	60.83	300	25	Switzerland	57.88	58.71	56.98	852	71
Ireland	43.04	42.65	39.33	216	18	Taiwan	29.02	44.74	36.30	1,536	128
Israel	38.44	42.65	39.33	168	14	Thailand	55.76	47.93	56.73	264	22
Italy	52.92	53.05	62.93	708	59	Turkey	44.33	48.36	52.90	288	24
Japan	38.18	61.62	45.47	5,196	433	United Kingdom	64.32	59.63	63.16	4,776	398
Jordan	52.16	60.71	62.99	12	1	United States	51.91	40.22	44.17	14,436	1203
Kazakhstan	34.92	15.74	27.17	12	1	Zimbabwe	11.75	38.42	35.57	12	1