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SHAREHOLDER ENGAGEMENT AND CORPORATE BEHAVIOR:
THE CASE OF ENVIRONMENTAL AND SOCIAL ISSUES

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SOCIAL RESPONSIBILITY AND THE MODERN CORPORATION

The previous two decades have seen an explosion of shareholder-sponsored proposals in US firms, even though the phenomenon isn't concentrated exclusively in North America. Shareholder engagement has also been on the rise in Europe, with firm owners proving active in Annual General Meetings and engaging more often and on a wide range of topics with firm management (Pardo and Valli, 2014). This corporate governance tool allows the shareholder—the owner of the company—to initiate corporate action on various issues. It thus provides shareholders with a formal mechanism through which they can raise concerns about corporate governance, as well as the social and environmental performance of firms.

Beginning with the 1990s the increase in shareholder proposals submitted to a vote has also been accompanied with a growth in the votes cast in favor of the proposals (Thomas and Cotter, 2007; Gillan and Starks, 2007). Another intriguing development is the emergence of institutional investors as major equity holders in financial markets. This new position has led them to switch from a traditional passive shareholder role towards a more active role. Since these investors' holdings are often large, they cannot easily sell their shares in underperforming companies without driving the price down. Also, because the performance of portfolio managers in financial institutions is often compared to a benchmark, managers have an incentive to hold onto their portfolios. This in turn increases their incentives to undertake management monitoring and control via the mechanism of shareholder proposals (i.e. shareholder engagement), instead of simply relying on the monitoring functions of the stock market itself or those of the takeover market.

These changes take place within the broader context of the ongoing debate on the social responsibility of firms. At heart, this debate revolves around the normative question of what the firm *should* do.¹

¹ When considering the firm from a narrow "collection of contracts" perspective, in their seminal paper Jensen and Meckling (1976) argue that the behavior of a firm is akin to the behavior of a market, namely the outcome of a complex equilibrium process. As such it would be an error to think about organizations as if they were persons (or individuals) with motivations and intentions, rendering misleading questions to the effect of "does the firm have a social responsibility". We believe this to be a false equivalence.

Markets are often limited in the scope of their activities (largely setting prices and ownership transfers) and—unless oligopolistic—individual contracting parties are often too small to exert a dominating influence on the market itself. Corporations, on the other hand, are almost always defined by significant asymmetries among contracting parties, whereas top management can exert a dominating influence on the direction of the firm (e.g. much bigger than that of a company clerk).

Firms also have a wide range of (stakeholder-affecting) activities at their disposal that can reflect both motivation and intention, like launching safe (unsafe) or high-quality (low-quality) products, initiating (or not) health initiatives aimed at its workforce, considering (or not) community concerns when developing a new site, actively promoting (or not) gender equality and overall diversity in senior positions, internalizing (or not) negative externalities, limiting (or not) emissions beyond legal obligations, engaging with NGOs to address public policy concerns (or fighting them), advocating (or not) for favorable regulatory or political changes, etc. Having important discretionary powers within their contracts, such decisions are often within the direct remit of senior managers, which *are* individuals with distinct motivations and intentions. And, indeed, normative questions revolving around the nature of the firm keep appearing in one form or another in academic discussions (e.g. Renneboog et al., 2008), Tirole (2001) in particular encouraging scientific debate on these issues.

The traditional perspective is based on the ideas of Adam Smith, namely the invisible hand of the market. According to this view the selfish pursuit of individual self-interest allows corporations to seek and achieve efficiency when operating in a free-market economy. Proponents of this world-view (e.g. [Friedman, 1970](#)) point out that this is a most efficient framework for creating wealth: conducting business with a selfish pursuit of individual self-interest; treating profit maximization as a normative goal; operating in free and competitive markets; and having a minimalist public policy.

Such conditions provide economic agents with incentives to innovate, cut costs and prices, produce products and services with economic value added, and generate capital for future investments. The invisible hand of the market is thus believed to foster a non-zero-sum game, with the firms' selfish pursuit of self-interest conspiring not only to create wealth and enrich the owners, but also to generate better economic performance across the board.

In this context it is assumed that there is generally no conflict between society and firms, meaning that what is in the interest of the firm is also in the interest of society at large. Milton Friedman goes as far as suggesting that "the social responsibility of business is to increase its profits", even though this naturally relies on Pigovian state intervention to correct market failures. Any issues arising from business activities ought thus to be regulated away by politics.

When markets fail, in the spirit of [Pigou \(1920\)](#) the state can correct market inefficiencies, either by regulating the negative externalities that firms impose on society; or by redistributing income and wealth, since markets can result in an unequal distribution of wealth that would be unacceptable with respect to society's moral standards and expectations.

In this world-view there is thus this implicit assumption that the private and the public spheres are completely separated, business being a private activity only restricted by law and with no responsibility other than to make profits and create wealth (and with no bearing on regulation). While the public good is pursued exclusively by politics (without any influence from private businesses), or created as a by-product of free markets and free-enterprise.

While traditional economic thinking has revolved around the precepts of shareholder-value maximization since the eighteenth century ([Smith, 1776](#)), in recent decades sections of the literature have been challenging this line of thought and investigating alternatives to it (e.g. [Tirole, 2001](#)). The shareholder-value approach suggests that firms should be maximizing profits for their shareholders, while all other stakeholders would be protected by contracts and regulation. The state is responsible for setting-up redistributive taxation meant to correct market-induced inequalities. Thus according to Pigovian principles, it is the state that should correct market failures and income or wealth inequalities, and not individual citizens nor the firms themselves.

But just as there are market failures concerning externalities and wealth distribution, so too there are regulatory failures. On a fundamental level, laws are imperfect and their effects are limited. Laws are in their essence

Interestingly, some jurisdictions legally recognize the right to free speech of corporations, as associations of individuals, including on political matters (see the 2010 US Supreme Court decision in *Citizens United v. Federal Election Commission*). As reported by *The Economist* at the time, "Lawyers for Citizens United argue that companies have a constitutional right to use their economic power to play whatever role they want to in the political process, under the same constitutional right to free speech enjoyed by every American citizen." ([The Economist, 2009](#)) The plaintiff's main argument, accepted by the court, relied fully on corporations having motivations and intentions, just as individual persons do.

rough guidelines to what constitutes appropriate, ethical behavior conforming to society's (current) moral standards. Moreover, laws are not always systematically enforced: A law (or constitution) not enforced may be—for the intents and purposes of guiding human or firm behavior—irrelevant.

A straightforward modern-life example comes from the illegal downloading and sharing of multimedia over the internet. Downloading a movie from the internet—without paying royalties to copyright holders and without their explicit authorization—is without doubt a simple act of stealing. And while many people would generally abhor the idea of shoplifting a DVD, they seem to be having little qualms to grab a copy when it comes with the ease of a click of a button, even if the two acts are indeed largely equivalent (i.e. illegally obtaining a copy of a given work). In this instance enforcement credibility is the driving factor, insofar people often have a reasonable expectation of not getting caught in the comfort and relative safety of their houses and away from prying eyes, and thus of not facing the potential undesired consequences of their behavior. This being human nature and since firms are run by humans, corporations too will often push the limits of the law until they find the enforcement standards as practiced by the authorities. Ultimately this will reflect regulatory failure.

In addition to enforcement practices sometimes trumping black-on-white written rules, laws can simply become outdated by virtue of technological or social changes, leading to selective enforcement of laws by the authorities. An old law still on the books, but contravening to the prevailing ethical norms in the society, shall be deliberately ignored and flouted by individuals and authorities alike. Real-life is littered with such examples, and it is for these reasons that new laws constantly get introduced, while old laws get amended and sometimes abrogated.

One high-profile example of an old law with no relevance to modern society is a regulation from 17 November 1800 in Paris, France, banning women from wearing pants without explicit permission from the police². While this law has been on the books and officially in force for the best part of the past two centuries, in recent decades it has been—obviously—systematically ignored across the board by individuals as well as authorities. Curiously, the abrogation of this law on 31 January 2013 was justified by its incompatibility with the Preamble of the French Constitution of 1946 (among other texts), meaning that even if incompatible, for more than half a century this text had carried the full weight of the law and *should have been* observed unconditionally by both ordinary citizens and the police, as it was never officially declared null and void by the competent authorities. One can only wonder how many such rules exist in various jurisdictions that no longer have any practical, social or moral relevance, yet nominally still bear the full force and authority of the law.

An obvious question arises then: While there is no controversy across the academic spectrum that firms are indeed expected to follow the law, does society truly expect firms to blindly follow *all* laws, however flawed or morally inadequate? Or is it expected of firms in some cases to exercise a certain degree of discretion as to which laws have practical, social or moral relevance, especially in laxly regulated regimes? The latter would implicitly invalidate the traditional stance of firms limiting themselves to a simple economic role.

As it becomes clear from these examples, it is neither possible nor convenient for governments to regulate everything in business life. Laws simply

² <http://www.senat.fr/questions/base/2012/qSE0120700692.html>

cannot exhaustively define all aspects of how business should be conducted today and forever in the future, and enforcement is never perfect. For instance, governments have a long history of being slow to adequately regulate technological advancements (e.g. privacy concerns over internet-based services). More confusing still, old laws (and constitutional provisions) may be subject to significant reinterpretation by the courts, mirroring ethical shifts within society.

There are a number of other reasons as to why governments may fail in their regulatory attempts. One aspect is that the factual separation of political and economic power—an assumption implicitly present in the traditional shareholder-value approach—is doubtful. The economic and financial might of businesses may naturally and unduly influence the regulator to at least partly satisfy their vested interests. The “capture” by lobbies, the wealthy or other interest groups may lead rule-makers to fail to appropriately address market failures, as Pigovian principles would demand, by failing to correct negative externalities or distributional inequalities. This serves to highlight just how much economic agents do *not* limit themselves to a strict economic role.

Another issue plaguing regulators is the territoriality of their jurisdiction (Bénabou and Tirole, 2010). For instance, the US or EU regulator can have very little sway over building safety in a distant, sovereign country. And any given government could hardly enforce local legislation banning child labor in a different country. The modern ease and speed of travel means that nowadays firms will often span several countries and jurisdictions when producing a single unit of a particular final good. This puts many governments in an impossible position if they wished to ensure that goods and services commercialized within their jurisdiction have indeed been produced throughout the chain in conformance with local laws and moral standards.

And last, states are generally monolithic structures and suffer from a combination of inefficiency, high transaction costs, poor information and high delivery costs (Bénabou and Tirole, 2010). As such the state isn't necessarily well suited for policing and addressing minor nuisances such as a lack of respect for the employees or the impact of a new business on a small local community.

In addition to the above, regulatory failure may stem from the heterogeneous preferences of economic agents. Some constituencies may want to promote values not (yet) shared by law-makers, hence not fully reflected in on-going regulatory efforts.

On this backdrop there is a new trend of increasing demands from society and law-makers alike for individual and corporate social responsibility as an alternative response to market and redistributive failures (Bénabou and Tirole, 2010). There are numerous signs to this effect. According to data from the Social Investment Forum (2012), the value of assets under management (AUM) in the US that fall into the SRI category accounted for 11% of total assets under professional management, for an estimated \$3.7 trillion AUM.

Other signs include the proliferation of fair-trade products covering a large array of products, from coffee to hand-crafted jewelry. Nowadays most large companies produce yearly reports on their activities concerning social responsibility, while others create new positions such as a Chief Sustainability Officer. In the past couple of decades various governments have launched efforts to curb environmental pollution, one high-profile result being the creation of markets for carbon offsets (e.g. the EU Emission Trading Scheme



Figure 1: A billboard encouraging responsible water consumption in a residential area of Toulouse, France.

from 2005). Whereas many companies are now looking into designing products with 100% end-of-life recycling in mind (e.g. Airbus).

In industrialized democracies individuals are nowadays expected to contribute to the recycling effort, ranging from paper to electronic products, with purpose bins in use in many big cities. Governments too are generally supportive of attempts to educate the population on good recycling practices via purpose-built websites such as www.consignesdetri.fr (in France). At the same time, a growing majority of products and their packaging feature indications (and sometimes explicit instructions) on their suitability for recycling.

Rationing water consumption is another area in which both governments and individual citizens take a stand. Even in countries without noticeable water shortages, such as France, authorities will actively encourage its population to avoid wasting fresh water (see Figure 1). Numerous establishments across the world, from airports to university dormitories, invest in technologies that help prevent wasting water (e.g. self-stopping water taps and showers). In regions that do experience severe water shortages, like California in the US or Mexico, efforts to address water consumption will be omnipresent. For example in California many buildings or products will feature labels extolling the water-saving qualities of the technologies involved, such as waterless urinals in airports.

In the same spirit, energy consumption is at the forefront of the sustainability debate these days. The past decade has seen a mini revolution coming from an old technology: light-emitting diodes, commonly known as LEDs. This technology has seen a bewildering number of new and modern consumer products designed to replace antiquated (and wasteful) technologies such as incandescent light bulbs (and even neon and fluorescent lighting).

A related development concerns energy utilities. Nowadays, utility companies may actively encourage its users to consume less. While traditional economic intuitions would suggest that in a free-market, profit-maximizing agents would seek to sell more to consumers, some energy distributors will provide detailed instructions to their customers on how to consume *less*. For instance DIRECT ÉNERGIE SA, a publicly traded electric utility in France not owned by the Government³, has a prominent section on its website for household consumers detailing various strategies on reducing daily energy

³ <http://groupe.direct-energie.com/qui-sommes-nous/notre-organisation/actionnariat/>

consumption and even recommendations for specific energy-efficient technologies⁴.

There is also a marked increase in demand for renewable energy technologies, as evidenced among other things by generous government subsidies in many industrialized democracies. After the Fukushima Daiichi nuclear disaster in 2011, both Japan and Germany—two leading industrial and technological powerhouses—have announced bold plans on reducing their reliance on nuclear energy and increasing the share of renewables in the energy mix. Transitioning large, industrialized economies to a different energy mix that comes with its own constraints and drawbacks is bound to prove a messy and trial and error process, however many economies are already going through the first phases.

While for various reasons the technology still lags behind in efficiency and cost, among other drawbacks, there is clearly a big push from policy makers towards reliance on renewables in the mid- to long-term future. Furthermore the industry as well as the academia oversees significant research and development aiming to make the relevant technology more efficient, such as more thermally stable and higher capacity batteries (including exotic solutions such as wood- or virus-based batteries) or photovoltaic cells performing well under diffuse light (e.g. in cloudy countries like Germany or the UK, or even performing indoor with artificial light sources). More importantly, engineers are working towards making the technological solutions commercially viable and thus suitable for mass production.

A well-known example nicely exhibits how these issues are currently pervading the collective mindset. In 2005 General Electric, an American multinational conglomerate, has launched an environmental initiative called *Ecomagination*, which included identifying energy savings in its daily operations as well as research and development in clean technologies. While the business case argument was necessarily one of the main selling points of the program, there can be little doubt that Ecomagination was partly designed to appeal to the disparate stakeholders of the company, from regulators to individual consumers, to show that GE was taking seriously their diffuse concerns. Whereas GE is not the only company in the world to have announced far-reaching environmental initiatives, this goes to highlight how sustainability has entered public consciousness and induces firms to take a stance on these issues.

Another aspect that government cannot possibly regulate is the lifestyles of individual citizens. With the advent of the welfare state in the 20th century, generally accompanying the process of industrialization and democratization, governments have resorted evermore to nationwide health insurance schemes. While this has the unambiguous effect of increasing total welfare in the society, it also means that general trends towards worsening health become a budgetary headache for the government (and by extension, via taxation, to the society as a whole). Even if governments can have regulatory sway on some aspects (e.g. reduce smoking via vigorous taxation), they will have little say on, for instance, how much people eat or how often they exercise. What they can do, however, is to unambiguously express demand for individual responsibility via prominently advertised initiatives like www.mangerbouger.fr (in France), that encourage people to lead healthy lifestyles.

All these developments can be viewed from the perspective of the long and arduous democratic process. It has generally accompanied industrializa-

⁴ <http://particuliers.direct-energie.com/mieux-consommer/tous-mes-conseils/>

tion in the past two centuries, and has seen the denunciation and the end of slavery along with the granting of “universal” human rights (including basic freedoms such as the liberty of conscience) as well as the progressive institutionalization of tolerance towards once-marginalized groups (e.g. formal recognition of homosexual couples; the interdiction to discriminate based on sex, race, religious beliefs, etc.; or “universal” adult suffrage, eventually extended to include women). Society’s growing demands for public accountability have undoubtedly contributed to the establishment of democratic institutions, and one of the latest iterations in this process comes with the empowerment of civil society (often via non-governmental organizations) as well as the equitable-trade and responsible-investing movements (Bénabou and Tirole, 2010). As such, there is unmistakable demand for accountability of institutions and organizations powerful enough to affect the daily lives of ordinary citizens, and after the milestones of human rights declarations, accountable bureaucracies and democratic elections, accountable corporations are in many ways the next logical step in Western-style, free-market democracies.

There are several factors that explain this new trend demanding public corporate accountability. One is that social responsibility is probably a normal good, and it can certainly be viewed as a natural continuation of the wider social and ethical shifts happening in industrialized democracies. Another would be the speed at which information travels nowadays, and the instantaneous visibility that this brings to corporations. This effect is not only limited to corporations, but also to regulators and their response. This means that corporate action (as well as regulatory response) is often subject to immediate public scrutiny, and firms find it more difficult to secretly flout the law or social conventions without risking public repercussions (e.g. consumer boycotts or class actions). For instance, the frequency of recent voluntary car recalls (e.g. 2015 has seen tens of millions of cars recalled in the US over defective airbags) could be partly explained by this phenomenon.

In addition to the ease of travel of information, the ease of travel of people and merchandise (accompanied by an incredible ease and low cost of long-distance communications, either by telephone, email or internet) means that multinationals now have the means to produce the final goods across a multitude of countries. Keeping in pace with globalization, the scope of externalities imposed by multinationals has expanded, especially in less developed and more laxly regulated countries. And last, the general public is more aware of the issues surrounding pollution and resource depletion, and their long-term cost to the society.

On a more fundamental level, however, ethics is deeply embedded in business. While the idea that economic agents are by nature (ruthless and selfish) profit-maximizers has gained widespread acceptance among both practitioners and academics, the reality is that corporations do not maximize profits in a vacuum. There are numerous ways to maximize profits, including organized crime and even war, yet this is hardly what economists have in mind when making the profit-maximizing assumption in economic models. Even one of the biggest critics of the notion that companies would have a “social” responsibility, Milton Friedman, will admit that businesses are required to conform to what society expects of them: “. . . make as much money as possible while conforming to the basic rules of the society, both those embodied in law and those embodied in ethical custom.”

In a society based on the rule of the law, a new company doesn’t simply spontaneously arise. One must approach the relevant authorities and ask for

permission to operate, often under a restrictive mandate explicitly defining the scope of the firm's activities, and all under the expectation that the new business would create jobs and generate new products or services useful for society, along with paying taxes. What is more, a firm doesn't conduct business in a vacuum, but operates strictly within a community. Firms will always necessarily take advantage of preexisting infrastructure that society provides them with. This concerns a wide variety of tangible and intangible elements, ranging from roads, bridges, ports, airports, cities, shops, residential areas, utilities (electricity, water, heat), communications (mail, telephone, internet) and emergency services (police, hospitals, firefighters) to a skilled, educated and healthy workforce, the rule of law (which mostly ensures a standardized rulebook for all), institutionalized rights like intellectual property or private property (crucial to a functioning free-market economy) and courts (entrusted to ensure that the rulebook is internally consistent, and enforced as uniformly as humanly possible)—all elements without which a majority of modern-day corporations couldn't possibly set up shop and activate the way they do now. Even in cases in which businesses are located “in the middle of nowhere” (e.g. mines set up in remote locations or oil platforms), corporations are still fully dependent on access to centralized, government-provided infrastructure for daily operations as well as for access to customers.

Viewed from this perspective, and without even touching on the argument of resource depletion, firms owe quite a great deal to society for allowing them to maximize profits within its midst. Or as Barack Obama, the US President, eloquently put it in a now-famous 2012 speech: “If you've got a business—you didn't build that. Somebody else made that happen.”

To take a simplified view on the matter, society chooses to give firms a license to operate within the community, with all the advantages that it entails, under the *necessary* condition that firms follow the rules of the game. Most of the rules are codified into laws and regulations, however society may deem these to not be *sufficient*. When this happens, society may choose to encourage firms to play more “nicely” than the rules require them to. This may happen for instance via consumer choices (either positive or negative), lobbying (NGOs) or even litigation (class action), which may subsequently spur such phenomena as corporate social responsibility (CSR). If more drastic measures are needed or encouragements prove ineffective, laws can and do get changed by elected representatives, resulting in more stringent and constraining regulations. If corporations perceive regulatory threats as credible, this too may spur CSR. This process is ultimately a reflection of the growing empowerment of civil society—which traces its roots to the end of institutionalized serfdom and slavery, and the advent of democratic expression (i.e. generalized enfranchisement)—, allowing it to effect change within the constraints of the system. If society feels that corporations *should* contribute more explicitly to the public good, for instance by internalizing or avoiding negative externalities, or by intelligently using and reusing finite resources, it has the legitimacy and the means to achieve such goals (even if the process may prove long-drawn-out and progressive).

It is fairly obvious that society reserves the right to change the rules of the game (i.e. the laws) in response to corporate abuses of societal goodwill, in which cases corporate legitimacy itself may be challenged. The Sarbanes–Oxley Act of 2002 in the US was passed in reaction to a number of major corporate and accounting scandals, including Enron and Worldcom. Some of the act's provisions (i.e. mandating that top management certify

and bear individual responsibility for the accuracy and completeness of financial reports, adding criminal penalties for certain misconduct, imposing stronger and more independent audit committees, etc.) ultimately reflect the public's demand for more corporate accountability. The effects of those events weren't confined to the USA, as similar laws were passed in other countries such as the 2003 "*Loi de sécurité financière*" in France or the "Corporate Law Economic Reform Program Act 2004" in Australia.

Social responsibility is thus a means for individual citizens and corporations to empower themselves and substitute for elected government (Bénabou and Tirole, 2010). In response to these social pressures, the notion of corporate social responsibility (CSR) has gained traction with governments, practitioners and academics alike. Traditionally CSR can be defined as being about sacrificing profits in the social interest, meaning that a firm would voluntarily choose to go beyond its legal and economic responsibilities in order to behave prosocially. This necessarily implies that companies partly abandon their traditional, narrowly defined economic role.

Taking a moral stance on various issues is notoriously difficult for companies, as it may force them into uneasy tradeoffs between economic and social responsibilities. This is especially a conundrum for multinational companies, which regularly find themselves navigating the shifting sands of disparate ethical norms arising from heterogeneous communities across the world. Different cultural and economic conditions will naturally generate legal and ethical dilemmas for firms with transnational operations.

A fine example of this phenomenon constitutes Arla Foods, a Danish producer of dairy products, caught out by the PR mayhem that followed the publication of satirical cartoons of the prophet Muhammad in *Jyllands-Posten*, a Danish newspaper, in 2006 (see Etnenson et al., 2012). Experiencing a debilitating boycott of its products in the Middle East markets, the company found itself stuck between liberal and free-speech social pressures coming from European constituencies, and conservative and protective of religion social pressures from Middle-Eastern constituencies, a divide seemingly impossible to bridge for the firm. With vanishing sales in the affected markets (from a \$430m annual level in the region), the company was forced into an uncharacteristic public apology for the cartoons. This in turn sparked controversy back in Denmark, and earned it fresh calls for boycotts, ironically for opposite reasons. This also goes to show how firms, whether willingly or not, aren't necessarily politically-neutral agents, and find themselves needing to cater to their constituencies.

More generally, the CSR phenomenon can be seen as a call for ethical self-restraint and prosocial behavior, encouraging businesses to refrain from specific behaviors in their quest to maximize profits. Thus CSR can be loosely described as being about "how managers should handle public policy and social issues" (Windsor, 2006). More formally, Heal (2005) defines CSR as corporate "actions which reduce the extent of externalized costs or avoid distributional conflicts". As such, it encompasses a broad spectrum of potential activities affecting stakeholders like employees, the environment or the communities in which the firm operates, or even the mere act of actively considering ethics in day-to-day business decision-making. Investors or, in some instances, even competitors can also be thought of as being stakeholders of the firm.

Taking a moral stance and identifying what is societally expected of them is often uncharted territory for firms, and very hard to pin down. Yet more and more companies do that. Only recently in 2015, South African Airways,

has decided to ban the transportation of hunted animal trophies on its aircraft. The shooting of lions bread in captivity on ranches—also known as canned hunting, the equivalent of the proverbial “shooting fish in a barrel”—is a growing business in South Africa, and a lucrative one for an airline charged with transporting the carcasses back to the tourist’s home country. Yet even so the South African carrier decided to forgo business on ethical grounds, even if it was at the time in financial distress. This move mirrored Australia’s 2015 ban on importing trophy kills, which neatly showcases how a legal business practice may prove unpalatable to the public at large and thus invite corporate or public policy response.

Another intriguing example comes from Anglo American, a multinational mining company. Its South African mining operations have long been affected by spreading HIV infections and employees falling ill with AIDS. Not helping matters was high-level ignorance, exemplified by the then South African president Thabo Mbeki publicly promoting dangerously wrong theories about HIV *not* causing AIDS, or his successor, Jacob Zuma, publicly suggesting after-sex showering as a means to prevent HIV infections. Faced with public policy failures and skilled workers falling ill and slowly dying, mining companies resorted to training two people for each critical job at each mine, to always have a backup when one fell ill, hence leading to an obvious loss of productivity and efficiency.

In 2002 the firm’s management took the decision to instead tackle the issue from a public policy perspective, providing HIV testing for all employees who wanted it as well as free treatment—including expensive antiretroviral drugs—for those who tested positive. This program affected about 1 in every 5 of Anglo American’s South African staff and, notwithstanding initial concerns and uncertainties, proved successful by markedly reducing absenteeism and staff turnover. While there is a clear business case rationale for this approach, for Anglo American executives “in the end it was a moral decision” ([The Economist, 2013](#)). These initiatives have naturally extended to tackling other medical issues with staff, like obesity and hypertension.

To highlight the human dimension of Anglo American’s decision making, workers’ families were also offered testing and treatment. At the same time the program was expanded from the workplace to clinics in towns and villages near mines, in partnership with AIDS charities. Following their lead, other firms like SABMiller, a multinational brewing company, have adopted a similar approach for their workers, and even companies operating in other countries like India or Malaysia have shown interest in South African businesses’ experience with tackling AIDS. Interestingly, such corporate initiatives have helped to spur public policymakers into changing the country’s AIDS policy, South Africa’s government now providing free antiretroviral drugs for critically affected HIV patients.

Reacting to these trends, institutional investors are generally mindful of the externalities generated by their investments. Reputational concerns (i.e. the social-image motivation) rank high on their motivation to practice socially responsible investing. As representatives of often large and disparate constituencies (e.g. pension funds), institutional investors are even more subject to public scrutiny and increased visibility than other types of investors.

Then there is the issue of the universal owner approach. Since institutional investors often hold a significant part of the available assets (across the entire market), the financial performance of their portfolio can be directly affected by the externalities coming from the companies in which they invest. And last, institutional investors are usually interested in the long-term per-

formance of their investments (i.e. creating economic value in the long-run). For instance, pension funds may be receiving the first deposits at a given date, but be liable for the first payments only some 40 years later.

In such cases, focusing on a long-run horizon is imperative. However, there is a large body of evidence in the finance literature that firms tend to suffer from short-term bias. And this is often compounded by agency costs. As shown by [Jensen and Meckling \(1976\)](#), the modern diffuse-ownership corporation will usually incur agency costs stemming from the separation of ownership and control. When viewing the firm as a collection of contracting relationships and assuming a maximizing behavior on the part of all the individuals, the owners of the firm (i.e. the principal) are confronted with the difficulty of inducing the manager (i.e. the agent) to behave so as to maximize the principal's welfare.

Investing in a publicly held business corporation essentially means voluntarily entrusting billions in funds to organizations run by managers, on the anticipation that managers will operate the firm so that in the future there will be earnings accruing to the owners (i.e. residual claims on the corporation). Having delegated much of the decision-making concerning the managing of these funds, the owners will want the agent to make optimal decisions from the principal's viewpoint, but this will not always be the case therefore resulting in agency costs. These costs come in the form of monitoring and bonding expenditures, as well as a residual loss.

When attempting to align the managers' interests with their own, owners will often devise compensation schemes that would correlate with the financial performance of the firm. Yet such monetary incentives, even when well structured, can put more weight on short-term performance rather than on long-term value. Moreover, because of career concerns managers will necessarily prefer focusing on a short-term outlook, since owners decide whether to keep or change current management at least partly depending on the recent performance of the firm.

This focus on short-term performance can result in both losing intertemporal profits and in imposing negative externalities on the firm's stakeholders. For instance, by focusing on maximizing short-term profits, managers may inadvertently reduce the long-term value of the business while hurting various stakeholders. When a firm decides to increase its short-term profits by reducing costs at the expense of worker safety or environmental pollution, it may be forsaking goodwill and generating contingent liabilities in the future, thus risking costly regulatory intervention, consumer boycotts, lawsuits and environmental clean-up costs.

It is precisely this observed short-termism from firm management that makes CSR so appealing to institutional investors, insofar it induces managers to take a long-term approach to maximizing firm value (i.e. intertemporal profits). In this sense socially responsible investors (like institutional investors) can be thought of as long-term investors who actively monitor managers and attempt to correct their short-termist tendencies.

Another way to look at the same basic question—why the social responsible behavior of firms appeals to certain investors—is to consider that investors may be viewing the firm as a channel for expressing their own values (or that of the constituencies they represent). Some investors may be willing to sacrifice yield in order to promote social goals, and would thus be in demand of corporations to engage in philanthropy on their behalf, otherwise known as delegated philanthropy ([Bénabou and Tirole, 2010](#)). This applies to other stakeholders, as well. For example, employees may willingly sacri-

firm wages so as the firm would advance some social goals on their behalf. The monetary equivalent of the sacrifice is then effectively passed to stakeholders at their own demand.

There are various reasons why stakeholders would turn to firms to further social goals (e.g. transferring income to less-favored populations), instead of doing it on their own or through charitable organizations, namely information and transaction costs. It is likely that the costs of advancing social goals in the immediate vicinity of a firm are minimized when philanthropy is effected by the corporations themselves, as they already have intimate knowledge and a good understanding of the multitude of individual trades and contracts. For other types of social goals (e.g. refraining from specific behaviors, like polluting the environment), the involvement and assistance of the corporation is imperative. In this case the only other alternative would be for the government to impose costly and constraining regulations. The involvement of the corporation is also unavoidable in cases where the firm can take advantage of its technical expertise and existing business infrastructure to provide goods and services to those in need more efficiently (i.e. more quickly and at a lesser cost) than governments or charities.

In all of these cases the part-owners in the modern diffuse-ownership corporation will be confronted with one fundamental problem: differences of opinions. The shareholders will often diverge in what they believe is the best course of action for the firm. Some shareholders may have little interest in the firm promoting social goals, while others may disagree on which specific prosocial behavior to favor. One solution to this unavoidable problem is firm governance.

The company governance describes the mechanisms of taking and controlling strategic decisions in a firm. One such formal mechanism is the annual general meeting, which allows the shareholders to voice their opinion on various issues. In addition to voting on resolutions, shareholders may also submit resolutions to a vote (subject to certain conditions). Even if the votes are ultimately not binding, the annual general meetings become a place for shareholders—in their capacity of owners of the firm—to signal to management the aspects of the firm's business activities that is of concern to them.

In the following chapters we examine several aspects surrounding the issues raised. Chapter 2 studies how firms respond to shareholder engagement on environmental and social topics. Using data on shareholder-sponsored proposals in S&P 1500 firms, we investigate whether following a voted or withdrawn proposal there are changes in the extra-financial performance of firms in the short or in the long term. Chapter 3 focuses on the dynamics of voting on shareholder proposals, and specifically looks into how past or concurrent votes (or withdrawals) on similar issues may affect a vote on a proposal in the present. And Chapter 4 attempts to quantify whether ESG information is being incorporated into the financial flows of information. More specifically, we seek to determine whether financial analysts incorporate extra-financial information into the financial forecasts.

SHAREHOLDER ENGAGEMENT AND CORPORATE BEHAVIOR

Socially Responsible Investing (SRI) has been experiencing significant growth throughout the world beginning with the early 1990s. Several factors have underpinned its growth, not least growing social awareness and ethical consumerism, various well-publicized corporate scandals and environmental disasters, as well as a progressively positive regulatory environment. The growing importance of institutional investors in the market (like pension funds or insurance funds, organizations often indirectly accountable to voters) has been accompanied by increasing pressure from governments, non-governmental organizations and the general public on firms to improve their extra-financial performance and to better manage their externalities.

[Renneboog et al. \(2008\)](#) highlight several ways in which SRI manifests itself. The oldest and most basic SRI strategy uses negative screening, the practice of filtering out specific firms or entire industries based on Environmental, Social and Governance (ESG) criteria. The opposite approach, positive screening, effectively relies on investing in firms with superior extra-financial performance. Both approaches can be combined into a more integrated approach of selecting companies based on both negative and positive screens, often termed “sustainable investing” or “triple bottom line”. The latest development in socially responsible investing pertains to combining sustainable investing with shareholder engagement, that is attempts to influence corporate behavior and policies by way of private negotiations with management or voting in Annual General Meetings.

The question remains, however, whether SRI, generally, and shareholder engagement, more specifically, can be effective at inducing changes in corporate behavior. [Heinkel et al. \(2001\)](#) propose a model that focuses on the impact of exclusionary ethical investing (or negative screening) on firm behavior. The authors investigate whether the presence in the market of green investors can induce changes in firms. By refusing to hold shares of polluting firms, green investors reduce the risk-sharing among non-green investors and induce a loss of diversification to polluting firms, which would in turn lead to lower stock prices hence a higher cost of capital for polluting firms. Polluting firms may opt to become more responsible when the increased cost of capital exceeds that of responsible firms. The model implicitly assumes that there are limits to arbitrage in financial markets.

Consistent with such theorizing, [Hong and Kacperczyk \(2009\)](#) find that companies operating in the alcohol, tobacco and gambling industries (the so called “sin” stocks) have historically outperformed the stock market, which would imply a higher cost of capital for these firms. The evidence suggests that social norms can have an effect on financial markets, and that norm-constrained, ethical investors can affect the cost of capital of non-responsible firms.

[Gollier and Pouget \(2014\)](#) investigate how socially responsible investors can affect corporate strategy via shareholder engagement, as an alternative to ‘voting with their feet’. The authors show that a large activist investor, with a long-term perspective and a credible pro-social orientation, can generate positive abnormal returns by investing in non-responsible firms and

making them responsible via engagement. The activist investor may then benefit by reselling part of their shares at a higher price to other socially responsible investors.

From the literature on shareholder-sponsored proposals, [Ertimur et al. \(2010\)](#) examine the determinants of implementation of shareholder-sponsored Governance proposals that have recorded a majority vote, identifying shareholder pressure (e.g. voting outcome) and the topic of the proposal as key factors. The authors identify negative labor market consequences for outside directors when majority vote proposals are not implemented. [Thomas and Cotter \(2007\)](#) also report that proposals that win a majority vote are increasingly more likely to be implemented. While [Renneboog and Szilagyi \(2011\)](#) find that the implementation of Governance proposals depends on voting success, but is affected by managerial entrenchment and rent-seeking.

Instead of analyzing the voting outcomes, [Bauer et al. \(2015\)](#) look into withdrawn shareholder-sponsored proposals as measures of engagement success. The authors find that proposals by influential investors are more likely to be withdrawn. Moreover, institutional ownership is related to the likelihood of withdrawal when the sponsor is also an institutional shareholder. The authors also find a negative relation between CEO ownership and the likelihood of withdrawal, especially for Governance proposals. Importantly, the authors show that withdrawn proposals on Governance topics can be effective: proposals on executive compensation will have an impact on future corporate pay practices.

While much of the literature mostly focuses on Governance proposals, [Dyck et al. \(2015\)](#) investigate specifically environmental and social performance of firms while controlling for governance levels. Using extra-financial scores from the Thomson Reuters ASSET4 platform, the authors find that institutional ownership is positively associated with environmental and social commitments, and that higher scores are associated with long-term investors like pension funds.

This paper investigates how firms respond to shareholder engagement. The shareholder-sponsored proposals is a governance mechanism that allows shareholders to raise issues with firm management on various environmental, social or governance issues that affect firm stakeholders.

Using the data on shareholder-sponsored proposals compiled by RiskMetrics for the S&P 1500 universe, we first examine the frequency distributions of shareholder proposals using loglinear models. We find that proposals on Environmental or Social topics are more likely to be withdrawn than to go to a vote, whereas withdrawn proposals are more likely to be on Environmental or Social topics than on Governance topics. While Individual Investors are very unlikely to have their proposals withdrawn, Institutional Investors and Unions, on the other hand, are the most likely. Overall Coordinated Activists seem to be very active on Environmental and Social topics. Individual Investors and Unions, however, focus their efforts mostly on Governance issues, largely ignoring other topics.

When examining the Environmental/Social subset in isolation, we find that proposals sponsored by Coordinated Activists are more likely to be on Environmental than on Social topics. And withdrawn proposals are more likely to have been sponsored by Institutional Investors than by Coordinated Activists. Unions and Individual Investors have a small presence on these topics, so it is hard to draw meaningful conclusions on these two groups.

Using data from the KLD database, we next examine the short-term and long-term changes in extra-financial performance after a voted or with-

drawn shareholder-sponsored proposal. The submission process may be affected by endogeneity issues (e.g. firms with worse extra-financial performance may be more likely to be targeted by shareholders in the first place), which is why we adopt the two-stage least squares (2SLS) framework under which we instrument the fact of being targeted by the level of extra-financial performance and the lagged targeted data from the previous year.

We find that being targeted on both Environmental and Social topics in the same year is generally associated with improvements in extra-financial performance, both in the short term (at 2 and 3 years) and in the long term (at 5 years). This suggests that shareholder engagement on a broad set of issues is more conducive to changes in the extra-financial performance of firms. Examining the intensity of shareholder pressure, we find that a higher number of voted or withdrawn proposals, as well as a higher proportion of favorable votes in annual general meetings are associated with improvements in the extra-financial performance (in the short term). The findings are strongest relative to decreases in environmental or social concerns, or to increases in net environmental or net social performance. The findings are similar for the aggregate measures of extra-financial performance. For environmental issues, the fitted models suggest that a low number of withdrawn and voted proposals (with average voting support of about 10%) are needed to induce meaningful changes in firms.

2.1 METHODOLOGY AND DATA

2.1.1 *Shareholder-Sponsored Proposals*

For this paper we have collected data from several sources. The data on shareholder-sponsored proposals comes from RiskMetrics. RiskMetrics provides records of all shareholder-proposals on Environmental, Social and Governance (ESG) issues filed at annual meetings in S&P 1500 firms. We have obtained data for years from 1997 to 2011, for a total of 9668 proposals. The database includes information on the identity of the firm that has received a shareholder proposal, the identity of the sponsor, a short description of the proposal, the date of the shareholder's meeting, and the outcome of the vote (or, if there was no vote, an indication whether the proposal was withdrawn or omitted).

When a shareholder has a specific concern with the running of the firm, they will usually approach the management to propose a change in corporate practices. If management is unwilling to effect such a policy change, the shareholder can signal their discontent by publicly submitting a proposal for vote under the Annual General Meeting (AGM). Thus the mere instance of submitting a proposal represents a public sign of disagreement between the shareholder and firm management. If the proposal is valid (i.e. satisfies the legal requirements for this procedure), it will generally proceed to a vote. However for various reasons managers may not want that all other firm shareholders vote on a given proposal, in which case they may initiate private negotiations with the sponsor of the proposal and offer concessions (e.g. to implement part of the proposal) in exchange for the sponsor withdrawing the original proposal. If the negotiations are successful and a satisfactory compromise has been reached, the sponsor will generally withdraw the proposal. Otherwise, if management refuses to make concessions on the matter and the proposal is not withdrawn, it will still proceed to a vote in the AGM, which would indicate that a disagreement is ever so present. For a

comprehensive discussion of the shareholder-sponsored submission process in firms see [Bauer et al. \(2015\)](#).

Thus the status of a proposal can be either voted or withdrawn. In this study we focus exclusively on valid submissions, that is submitted shareholder-sponsored proposals that were *not* omitted on technical grounds (e.g. for failure to satisfy the regulatory requirements set out by the SEC) or discarded for a variety of reasons. In the sections that follow all of the proposals considered were either subject to a vote or withdrawn.

Following [Karpoff et al. \(1996\)](#), [Gillan and Starks \(2000\)](#), [Bauer et al. \(2015\)](#), we categorize the proposals into three broad topics: Governance, Environmental and Social. We also group sponsors into four categories: Individual Investors, Institutional Investors, Coordinated Activists and Unions.

After clean-up and synchronization with KLD (and taking into account missing data for various characteristics like sponsor type or topic), the Risk-Metrics database contains about $\frac{2}{3}$ Governance proposals and $\frac{1}{3}$ Environmental/Social valid proposals submitted (see [Table 1](#)).

[Panel \(1b\)](#) shows that of all the submitted proposals, irrespective of their topic, about 70% go to a vote and the rest are withdrawn by the sponsor. In relative terms, there are twice as many withdrawn proposals for Environmental and Social proposals (41%) compared to Governance proposals (23%), considerably above the average of 29%. This would suggest that firm management is more often prepared to negotiate and reach a compromise on Environmental/Social topics, rather than on Governance topics.

In [Panel \(1c\)](#) we notice that while the voted rates broadly follow the submitted rate, the share of withdrawn proposals is remarkably lower for Governance proposals (55%) and higher for Environmental/Social proposals (45%) compared to the submitted rates (68% and 32%, respectively).

We can glimpse a similar story from mosaic and association plots ([Friendly, 2000](#)) on the two-way contingency table in [Panel \(1a\)](#). These plots provide an intuitive graphical method for visualizing and exploring contingency tables. *Mosaic plots* display the table frequencies by using rectangular “tiles” whose size is proportional to the cell frequencies. The rectangles can be colored and shaded according to the residuals from a specified loglinear model, by default a model of mutual independence. The stronger the shades, the higher the departure from independence. The legend in this figure will display the magnitude of the Pearson residuals. *Association plots*, like mosaic displays, will similarly indicate deviations from an independence model. Mosaic and association displays complement traditional goodness-of-fit summary statistics, allowing to discern the exact pattern of lack-of-fit present in the data. They allow to present relationships from a given contingency table in a more intuitive manner for the reader.

[Figure 2](#) displays the departures in the data from a model of mutual independence. A χ^2 test for the null hypothesis of independence of all factors is strongly rejected, suggesting the presence of an association. For Governance proposals there is a remarkably smaller number of withdrawn proposals than it would be expected under independence (i.e. the top-right red tile in the graph). Whereas for Environmental/Social topics, the opposite holds: there is a bigger number of withdrawn proposals than expected (i.e. the bottom-right blue tile).

The association plot in [Figure 3](#) displays the same patterns, all the while clearly highlighting how Environmental/Social proposals are more likely to be withdrawn whereas Governance proposals less likely. Conversely, Gover-

nance proposals are more likely to proceed to a vote, whereas Environmental/Social proposals are less likely.

		Status		
		voted	withdrn	All
Governance	n	5089	1515	6604
CSR	n	1812	1252	3064
All	n	6901	2767	9668

(a) Counts

		Status		
		voted	withdrn	All
Governance	RowPct	77	23	100
CSR	RowPct	59	41	100
All	RowPct	71	29	100

(b) Row percentages

		Status		
		voted	withdrn	All
Governance	ColPct	73.7	54.8	68.3
CSR	ColPct	26.3	45.2	31.7
All	ColPct	100.0	100.0	100.0

(c) Column percentages

Table 1: Breakdown of shareholder-submitted proposals by broad topics and status.

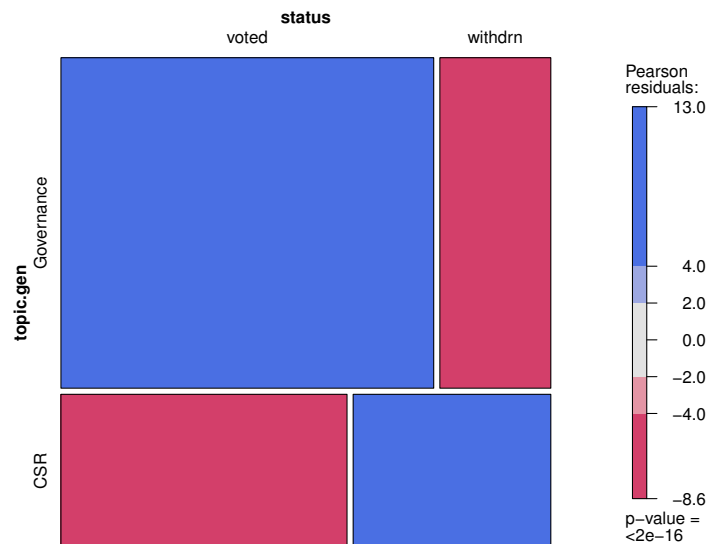


Figure 2: Mosaic display of shareholder-submitted proposals by broad topics and status.

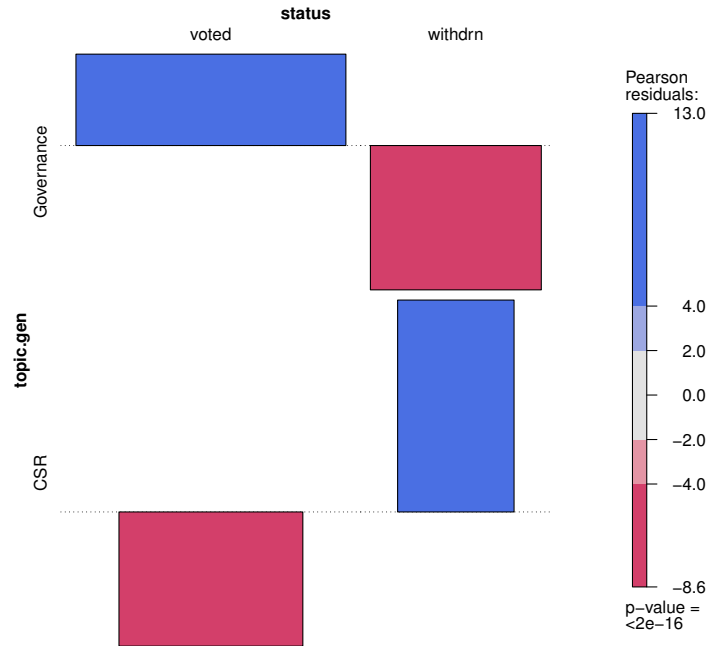


Figure 3: Association plot of shareholder-submitted proposals by broad topics and status.

Examining solely the proposals that proceeded to a vote (Table 2), there are a total of 6901 votes across all the categories, with $\frac{3}{4}$ relating to Governance proposals and $\frac{1}{4}$ to Environmental/Social proposals. The average voting support for all shareholder-sponsored proposals is 29%. Governance proposals tend to attract more voting support (35% on average) than Environmental/Social proposals (12%).

	n	ColPct	vote	
			mean	median
Governance	5089	73.7	35.4	34.0
CSR	1812	26.3	11.8	8.0
All	6901	100.0	29.2	25.0

Table 2: Voting support in favor of shareholder proposals, by broad topics.

The distribution of the voting support for Environmental/Social proposals is positively skewed, as shown in Figure 4. Interestingly, there are only some 15 instances of voting support at or above 50% for Environmental/Social proposals in our entire sample. For Governance proposals, the distribution of votes is much better behaved. The interquartile range suggests that the spread of votes for Governance proposals is higher than that for Environmental/Social proposals.

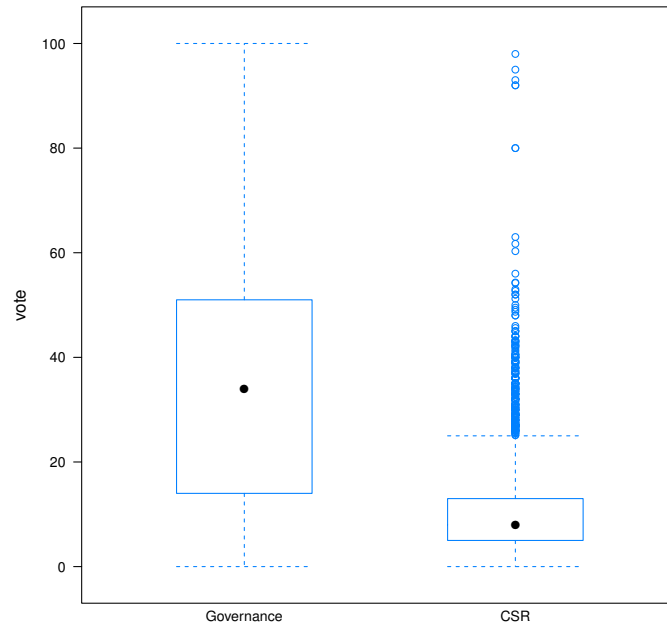


Figure 4: Boxplots of voting support by broad topics.

Investigating the breakdown of Environmental and Social proposals (Panel 3b), we notice that there are twice as many Social proposals (23%) as there are Environmental proposals (9%). However the Environmental and Social proposals exhibit similar trends, and for instance the withdrawn rates are very similar for both of them (Panel 3a).

Figure 5 presents the association plot for Table 3, and broadly confirms these intuitions. We strongly reject the null of independence of all factors, and there is an unexpectedly high number of withdrawn proposals for both Environmental and Social topics.

		Status		
		voted	withdrn	All
Governance	RowPct	77	23	100
Environmental	RowPct	61	39	100
Social	RowPct	58	42	100
All	RowPct	71	29	100

(a) Row percentages

		Status		
		voted	withdrn	All
Governance	ColPct	73.7	54.8	68.3
Environmental	ColPct	7.7	12.3	9.0
Social	ColPct	18.5	32.9	22.7
All	ColPct	100.0	100.0	100.0

(b) Column percentages

Table 3: Breakdown of shareholder-submitted proposals by topic and status.

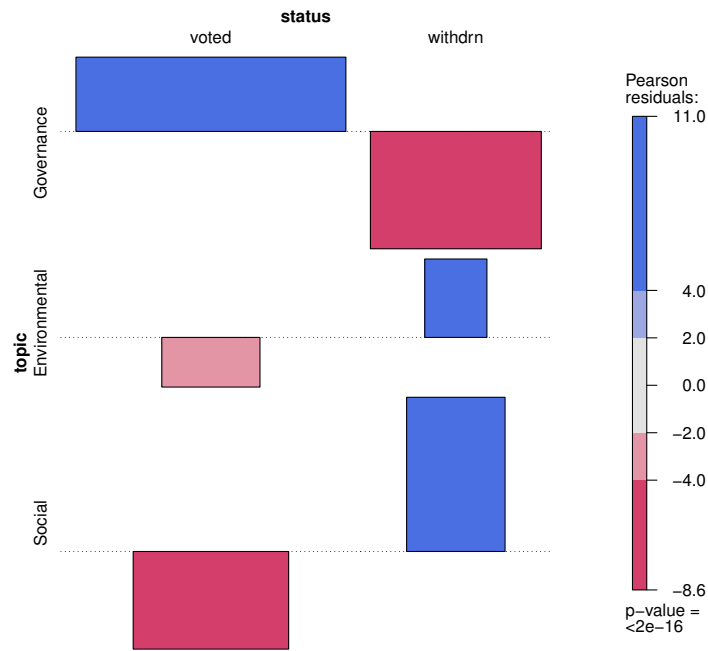


Figure 5: Association plot of shareholder-submitted proposals by topic and status.

The relative proportion of Environmental and Social proposals that are submitted is similar to that of proposals that proceed to a vote (8% and 19%, respectively), as shown in Table 4. The voting support enjoyed by both types of proposals is very similar at around 12% average and 8% median.

	n	ColPct	vote	
			mean	median
Governance	5089	73.7	35.4	34.0
Environmental	532	7.7	11.5	8.0
Social	1280	18.5	11.9	8.0
All	6901	100.0	29.2	25.0

Table 4: Voting support in favor of shareholder proposals, by topic.

In Figure 6 we see that the distribution of voting support for both types of shareholder-sponsored proposals exhibit similar spread and positive skewness. All of these trends suggest that Environmental and Social proposals exhibit similar characteristics and can be studied together in the subsequent sections.

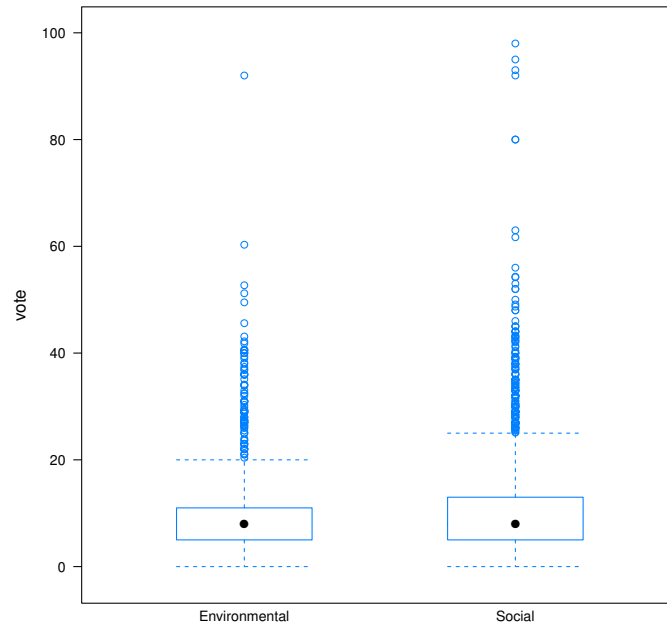


Figure 6: Boxplots of voting support for Environmental and Social proposals.

BY SPONSOR TYPE We can also examine the submission patterns for proposals sponsored by different investors (Table 5). In Panel (5a) one will immediately notice that proposals sponsored by Individual Investors have the lowest rate of all withdrawn proposals (6%). The other types of investors have relatively similar withdrawal rates for the proposals they sponsor, with Institutional Investors having the highest rate at 42%. Individual Investors have the highest proportion of proposals (94%) that go to a vote.

As confirmation of the above, in Panel (5b) we can see that out of all the withdrawn proposals, those sponsored by Individual Investors represent only 7%, even if Individual Investors submit more proposals compared to all other investors (30%).

Figure 7 confirms these intuitions. The null hypothesis for the independence of all factors is once more strongly rejected. Proposals sponsored by Individual Investors are very likely to proceed to a vote, whereas Institutional Investors and Unions have a high likelihood for their proposals to be withdrawn. Proposals by Activist Investors follow more closely the expected frequencies.

		Status		All
		voted	withdrn	
Institutional	RowPct	58.4	41.6	100.0
Activism	RowPct	67.1	32.9	100.0
Individual	RowPct	93.7	6.3	100.0
Unions	RowPct	60.8	39.2	100.0
All	RowPct	71.4	28.6	100.0

(a) Row percentages

		Status		All
		voted	withdrn	
Institutional	ColPct	19.7	34.9	24.0
Activism	ColPct	19.2	23.5	20.4
Individual	ColPct	39.3	6.6	30.0
Unions	ColPct	21.8	35.0	25.6
All	ColPct	100.0	100.0	100.0

(b) Column percentages

Table 5: Breakdown of shareholder-submitted proposals by sponsor type and status.

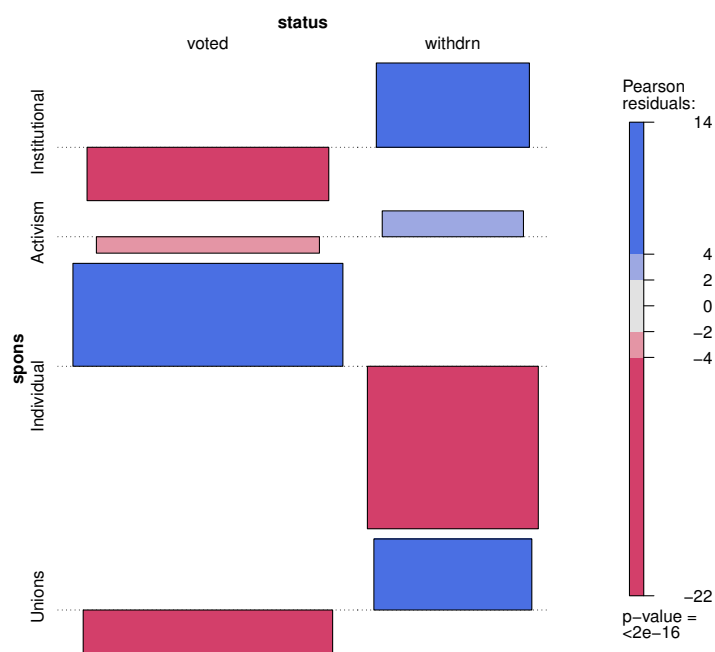


Figure 7: Association plot of shareholder-submitted proposals by sponsor type and status.

If we examine the patterns by sponsor type and topics (Table 6), we notice that Institutional and Activist Investors have much higher withdrawn rates for Environmental/Social proposals (above 50% and 32%, respectively) than for Governance proposals. These rates are also above the average 29% of withdrawn proposals for the entire sample. (Unions have too few data

points on Environmental/Social issues to allow us to draw any meaningful conclusions.)

			Status		
			voted	withdrn	All
Institutional	Governance	RowPct	69.8	30.2	100.0
	Environmental	RowPct	44.4	55.6	100.0
	Social	RowPct	49.9	50.1	100.0
	All	RowPct	58.4	41.6	100.0
Activism	Governance	RowPct	76.3	23.7	100.0
	Environmental	RowPct	67.9	32.1	100.0
	Social	RowPct	62.3	37.7	100.0
	All	RowPct	67.1	32.9	100.0
Individual	Governance	RowPct	94.2	5.8	100.0
	Environmental	RowPct	90.0	10.0	100.0
	Social	RowPct	86.8	13.2	100.0
	All	RowPct	93.7	6.3	100.0
Unions	Governance	RowPct	61.1	38.9	100.0
	Environmental	RowPct	15.4	84.6	100.0
	Social	RowPct	60.7	39.3	100.0
	All	RowPct	60.8	39.2	100.0

(a) Row percentages

Table 6: Breakdown of shareholder-submitted proposals by sponsor type, topic and status.

Looking at the Environmental and Social subsets individually (Table 7), it is clear that both Individual Investors and Unions have a very small presence on these topics, collectively representing less than 10% of the submitted proposals. An overwhelming majority of Environmental/Social proposals come from Institutional Investors or Coordinated Activists. (The converse is that Individual Investors and Unions are mostly active on Governance topics.)

Institutional Investors have withdrawn rates bigger than their submitted rates on Environmental/Social topics, reflecting their negotiating power with firm management on these issues. Interestingly, Activist Investors submit two times more Environmental proposals (59%) than Institutional Investors (33%), highlighting the high-profile of Coordinated Activists on this topic. On Social issues, the submissions are spread evenly between Institutional and Activist Investors (each with around 45%).

			Status		All
			voted	withdrn	
Environmental	Institutional	ColPct	23.9	46.6	32.8
	Activism	ColPct	65.6	48.4	58.9
	Individual	ColPct	10.2	1.8	6.9
	Unions	ColPct	0.4	3.2	1.5
	All	ColPct	100.0	100.0	100.0

(a) Column percentages (Environmental subset)

			Status		All
			voted	withdrn	
Social	Institutional	ColPct	37.7	53.0	44.0
	Activism	ColPct	48.6	41.3	45.5
	Individual	ColPct	9.8	2.1	6.6
	Unions	ColPct	4.0	3.6	3.8
	All	ColPct	100.0	100.0	100.0

(b) Column percentages (Social subset)

Table 7: Breakdown of shareholder-submitted proposals by sponsor type and status for the Environmental and Social subsets.

Examining the voting patterns (Table 8), it is striking that Unions-sponsored Environmental proposals that proceed to a vote run in the single digits. For all investor types the average vote for Governance proposals is well above average voting support for Environmental/Social proposals, mirroring the overall trend. Institutional Investors have the highest voting support among all the investors, irrespective of the proposal topic (41% for Governance and 16% for Environmental/Social proposals).

		n	ColPct	vote	
				mean	median
Institutional	Governance	748	10.84	41.32	39.50
	Environmental	127	1.84	17.00	9.00
	Social	482	6.98	16.15	10.00
	All	1357	19.66	30.11	26.80
Activism	Governance	355	5.14	25.04	17.00
	Environmental	349	5.06	9.90	7.00
	Social	622	9.01	9.72	7.00
	All	1326	19.21	13.87	8.00
Individual	Governance	2535	36.73	34.81	33.00
	Environmental	54	0.78	9.05	7.00
	Social	125	1.81	7.27	6.00
	All	2714	39.33	33.03	30.00
Unions	Governance	1451	21.03	35.87	35.30
	Environmental	2	0.03	8.90	8.90
	Social	51	0.74	10.67	7.50
	All	1504	21.79	34.98	34.90

Table 8: Voting support in favor of shareholder proposals by sponsor type and topic.

2.1.1.1 Modeling the Dynamics of the Submission Process

In addition to the intuitions glimpsed from the examination of the marginal relationships above, we can rely on loglinear models to more formally model the dynamics of the submission process and the trends in the outcomes of shareholder-sponsored proposals. Loglinear models are useful for analyzing association patterns in n -way contingency tables. As mentioned in [Fox and Weisberg \(2011\)](#), it is possible to fit loglinear models for contingency tables by using Poisson GLMs, assuming that the cell counts are independent Poisson random variables. The canonical link for the Poisson GLM family is the \log , and all the subsequent models will be fit using this default link.

In modeling the trends in the submission process we use the three-way contingency table displayed in [Table 9](#).

			Status	
			voted	withdrn
Institutional	Governance	n	748	323
	CSR	n	609	642
Activism	Governance	n	355	110
	CSR	n	971	541
Individual	Governance	n	2535	157
	CSR	n	179	25
Unions	Governance	n	1451	925
	CSR	n	53	44

Table 9: Counts of valid shareholder submissions by sponsor type, broad topics and status.

The mosaic plot in Figure 8 suggests that under the model of mutual independence there is quite a lot of unexplained variability in the data (suggested by the lack of gray tiles). This is confirmed by the large residual deviance (5812), which is the difference in deviance between a saturated model (which fits the observed data perfectly) and the fitted model (here, the mutual independence model). The associated likelihood ratio test of the hypothesis of independence is strongly rejected (the p-value approaches 0), also suggesting that the model of independence fits the data rather poorly.

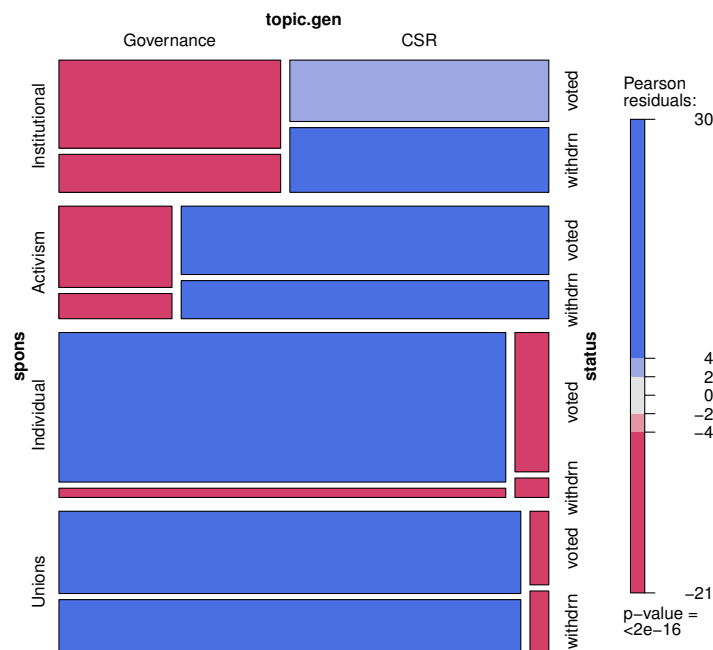


Figure 8: Mosaic plot of shareholder-submitted proposals by sponsor type, broad topics and status, under the independence model.

Having established that some association exists in the data, we can fit a model of homogeneous association, allowing us to test the conditional

dependence of all the factors. The Anova Type II tests¹ in Table 10 suggest that all pairwise associations are significant.

	LR Chisq	Df	Pr(>Chisq)
spons	179.74	3	0.0000
topic.gen	1326.83	1	0.0000
status	1825.93	1	0.0000
spons:topic.gen	4235.90	3	0.0000
spons:status	1063.58	3	0.0000
topic.gen:status	134.82	1	0.0000

Table 10: Anova Type II tests for the model of homogeneous association for Table 9

We can now examine the goodness of the fit and the associated coefficients. The residual deviance for this model (10) is relatively small, especially considering the large variability observed in the sample. The mosaic plot in Figure 9 confirms that the model captures most of the sample variability. The gray tiles indicate small departures from expected frequencies under the model of homogeneous association.

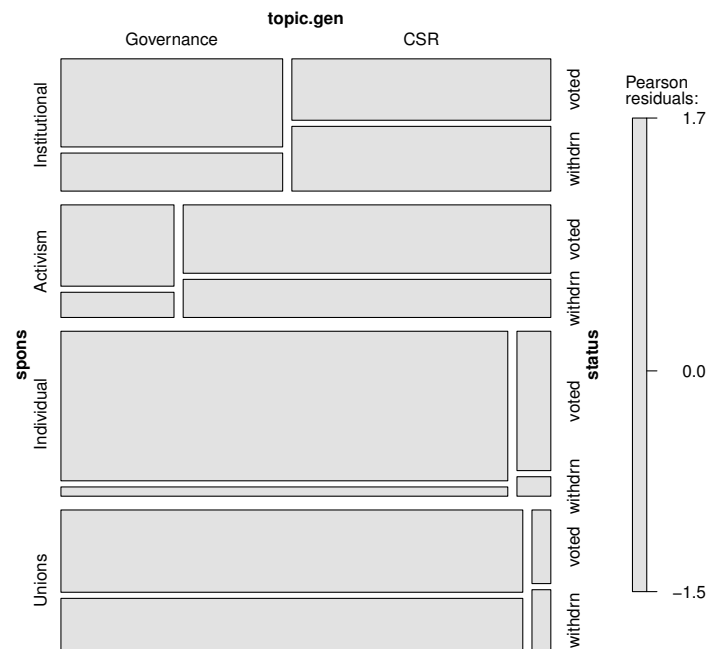


Figure 9: Mosaic plot of shareholder-submitted proposals by sponsor type, broad topics and status, under the homogeneous association model.

Following Agresti (2013), we examine the model lack of fit by computing a dissimilarity index, which attempts to quantify by how much the model fails to fit the observed data. The index ranges between 0 and 1, with 0 indicating a perfect fit (e.g. for the saturated model). The dissimilarity index helps in determining whether the model lack of fit is important in a practical sense;

¹ To determine the overall significance of the individual predictors in regression models, we follow the recommendations in Fox and Weisberg (2011) and rely on the Anova Type II tests. The Type II Anova obeys the principle of marginality, and generally addresses hypotheses of more interest than either Type I or Type III tests. For an extended discussion of the differences between the various types of Anova see Fox (2008).

when the estimated index is smaller than 0.03, the observed data tend to follow the model fit quite closely, even though the model may not be perfect. For the homogeneous association model fitted in Table 10 the dissimilarity index is 0.009, which means that moving less than 1% of the data would yield a perfect fit. The model provides thus a good fit.

Moving on to the coefficient estimates, the tests for the main-effect regressors are generally of no interest in loglinear models, hence we will not interpret their coefficients. It is important to note that the “two-way interaction” regressors in loglinear models do not represent interaction in the traditional sense of the term, but rather pertain to the partial association between a pair of variables (see [Fox and Weisberg, 2011](#)).

In Table 11 the model estimates that for each type of investor, the odds for a CSR proposal to be withdrawn are twice the odds for it to proceed to a vote. At the same time, withdrawn proposals are twice more likely to be on CSR than on Governance topics.

The odds for a proposal sponsored by an Individual Investor to be withdrawn are very low, 0.13 times the odds of a proposal sponsored by an Institutional Investor. Overall, Individual Investors are least likely to have their proposals withdrawn. Institutional Investors and Unions, on the other hand, are the most likely to have their proposals withdrawn. Lastly, for CSR proposals the odds to be sponsored by a Coordinated Activist is 3 times the odds for the proposal to be sponsored by an Institutional Investor.

	Dependent variable:	
	Freq	
	coef (1)	exp(coef) (2)
sponsActivism	-0.690*** p = 0.000	0.502*** p = 0.000
sponsIndividual	1.250*** p = 0.000	3.480*** p = 0.000
sponsUnions	0.697*** p = 0.000	2.010*** p = 0.000
topic.genCSR	-0.146*** p = 0.004	0.864*** p = 0.004
statuswithdrn	-0.753*** p = 0.000	0.471*** p = 0.000
sponsActivism:topic.genCSR	1.110*** p = 0.000	3.040*** p = 0.000
sponsIndividual:topic.genCSR	-2.500*** p = 0.000	0.082*** p = 0.000
sponsUnions:topic.genCSR	-3.400*** p = 0.000	0.033*** p = 0.000
sponsActivism:statuswithdrn	-0.545*** p = 0.000	0.580*** p = 0.000
sponsIndividual:statuswithdrn	-2.020*** p = 0.000	0.133*** p = 0.000
sponsUnions:statuswithdrn	0.283*** p = 0.00004	1.330*** p = 0.00004
topic.genCSR:statuswithdrn	0.742*** p = 0.000	2.100*** p = 0.000
Constant	6.590*** p = 0.000	728.000*** p = 0.000
Residual Deviance	10	10
Akaike Inf. Crit.	158.000	158.000
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table 11: Coefficient estimates for the model of homogeneous association. Column (1) displays the estimated conditional *log odds ratios* and Column (2) the corresponding *odds ratios* (or *risk factors*). The dependent variable in the Poisson GLM is the frequency counts from Table 9.

THE ENVIRONMENTAL/SOCIAL SUBSET We can further zoom in on the Environmental/Social subset, to see potential differences in the trends for the two types of proposals. Table 12 displays the three-way contingency table.

			Status	
			voted	withdrn
Institutional	Environmental	n	127	159
	Social	n	482	483
Activism	Environmental	n	349	165
	Social	n	622	376
Individual	Environmental	n	54	6
	Social	n	125	19
Unions	Environmental	n	2	11
	Social	n	51	33

Table 12: Counts of valid shareholder submissions by sponsor type, topic and status for the Environmental/Social subset.

The mosaic plot in Figure 10 shows that there is much less variability within the Environmental/Social subset, since many of the tiles are gray thus indicating only small departures from expected frequencies. Nonetheless, there are clear departures from the model of mutual independence (indicated by the red and blue tiles). This is confirmed by the relatively large residual deviance (226). The associated likelihood ratio test of the hypothesis of independence is strongly rejected as well (the p-value approaches 0), indicating that the model of independence doesn't fit the data very well.

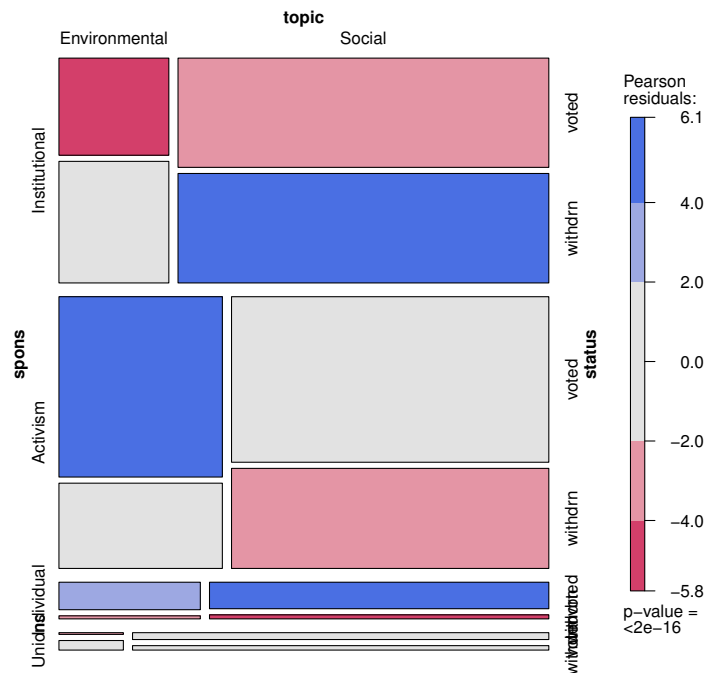


Figure 10: Mosaic plot of shareholder-submitted proposals by sponsor type, topic and status for the Environmental/Social subset, under the independence model.

Having established that some association exists in the data, we can fit a model of homogeneous association, allowing us to test the conditional dependence of all the factors. The Anova Type II tests in Table 13 suggest that most pairwise associations are significant. It is clear however that topic and status are conditionally independent given the identity of the sponsor, so we can ignore this interaction term and refit the Poisson GLM without it.

	LR Chisq	Df	Pr(>Chisq)
spons	2342.91	3	0.0000
topic	585.87	1	0.0000
status	102.93	1	0.0000
spons:topic	53.10	3	0.0000
spons:status	152.23	3	0.0000
topic:status	0.06	1	0.8044

Table 13: Anova Type II tests for the model of homogeneous association for Table 12

We can now examine the the goodness of the fit and the associated coefficients for the refitted model. The residual deviance for this model (18) is relatively small and may be practically insignificant. The mosaic plot in Figure 11 confirms that the model captures most of the sample variability in the the Environmental/Social subset. There is still some unexpected variability concerning Unions, but this departure is very mild. The dissimilarity index associated with this model is 0.025, which is smaller than 0.03. The model provides thus a good fit.

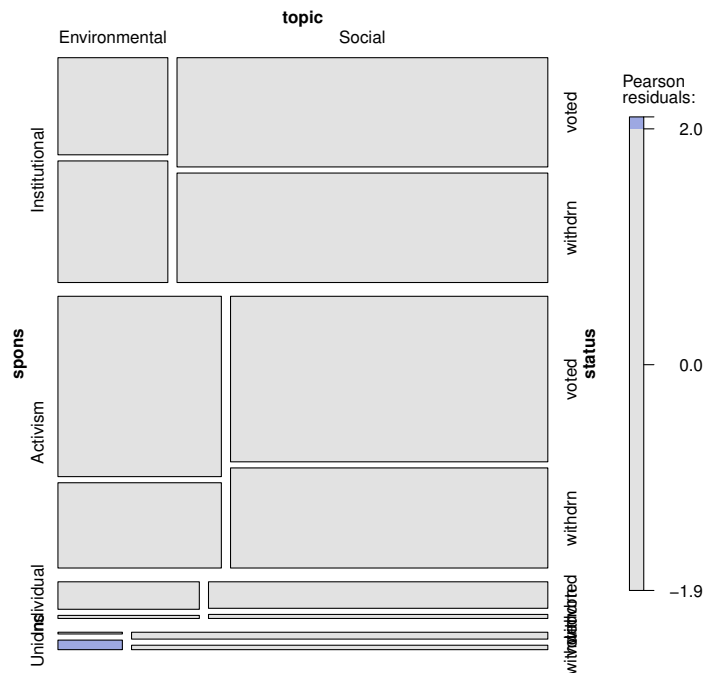


Figure 11: Mosaic plot of shareholder-submitted proposals by sponsor type, topic and status for the Environmental/Social subset, under the homogeneous association model.

We can now proceed to interpret the coefficient estimates in Table 14. Proposals sponsored by Coordinated Activists are more likely to be on Envi-

ronmental than on Social topics. And withdrawn proposals are more likely to have been sponsored by Institutional Investors than by Coordinated Activists. Unions and Individual Investors have a small presence on these topics, so it is hard to draw meaningful conclusions on these groups.

	<i>Dependent variable:</i>	
	coef (1)	Freq exp(coef) (2)
sponsActivism	0.863*** p = 0.000	2.370*** p = 0.000
sponsIndividual	-0.973*** p = 0.000	0.378*** p = 0.000
sponsUnions	-2.980*** p = 0.000	0.051*** p = 0.000
topicSocial	1.220*** p = 0.000	3.370*** p = 0.000
statuswithdrn	0.053 p = 0.351	1.050 p = 0.351
sponsActivism:topicSocial	-0.553*** p = 0.000	0.575*** p = 0.000
sponsIndividual:topicSocial	-0.341** p = 0.043	0.711** p = 0.043
sponsUnions:topicSocial	0.650** p = 0.034	1.920** p = 0.034
sponsActivism:statuswithdrn	-0.638*** p = 0.000	0.529*** p = 0.000
sponsIndividual:statuswithdrn	-2.020*** p = 0.000	0.132*** p = 0.000
sponsUnions:statuswithdrn	-0.239 p = 0.260	0.788 p = 0.260
Constant	4.940*** p = 0.000	139.000*** p = 0.000
Residual Deviance	17.7	17.7
Akaike Inf. Crit.	141.000	141.000
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

Table 14: Coefficient estimates for the model of homogeneous association for the Environmental/Social subset. Column (1) displays the estimated conditional *log odds ratios* and Column (2) the corresponding *odds ratios* (or *risk factors*). The dependent variable in the Poisson GLM is the frequency counts from Table 12.

2.1.2 Measures of Extra-Financial Performance

The data on extra-financial performance comes from the KLD STATS database (which stands for Kinder, Lydenberg, and Domini Statistical Tool for Analyzing Trends in Social and Environmental Performance) provided by KLD Research & Analytics Inc. We have obtained data for years 1997 through 2009. KLD is a rating service that follows a large sample of US firms, including the S&P 1500 constituents, and rates their strengths and concerns on a number of extra-financial performance dimensions reflecting stakeholder concerns. The companies are assessed on multiple indicators within seven “qualitative issue areas”, namely: community relations, diversity issues (treatment of women and minorities), employee programs, environmental performance, product characteristics (safety and quality), human rights controversies and corporate governance. On any given qualitative issue area, firms are assessed separately on strengths and concerns. KLD’s methodology resides on a binary assessment of strengths/concerns, with 1 indicating the presence of a specific strength (or concern), and 0 indicating its absence.

KLD releases yearly reports on firm extra-financial performance, and bases its findings on both internal sources (e.g. annual surveys or quarterly reports) as well as external sources (e.g. government reports or press articles). While the choice of individual indicators within the qualitative issue areas could be perceived as arbitrary, and their appraisal comes with a certain degree of subjectivity, many scholars in the field favor the KLD database as “the best-researched and most comprehensive” (Wood and Jones, 1995) for extra-financial performance research. Some scholars go as far as calling KLD the “*de facto research standard at the moment*” (Waddock, 2003) for measuring extra-financial performance. As pointed out by Goss and Roberts (2011), “while the KLD data are not without their critics, they are widely accepted by practitioners and academics as an objective measure of corporate social responsibility.”

One practical difficulty with using the KLD database lies in the changes to the methodology that have happened over the years, KLD electing on various occasions to add (remove) certain indicators to (from) the qualitative issue areas. For example, even though KLD follows firms beginning with 1991, it has introduced the “Health and Safety Strength” indicator in the Employee category only in 2003. Conversely, the “Retirement Benefits Strength” for the same category has been followed only up to 2009, the year it was dropped from KLD’s assessment toolbox.

To highlight the severity of the issue, consider the methodological changes that have occurred in 2010.² If we focus on the Community Strengths, there were a total of seven different indicators in this category in 2009 (Charitable Giving, Innovative Giving, Support for Housing, Support for Education, Non-US Charitable Giving, Volunteer Programs, Other Strength). However in 2010, four of these indicators were dropped and one new added (Charitable Giving, Innovative Giving, Other Strength, Community Engagement). This means that it is perfectly possible for a company to have scored a total of 7 Community Strengths in 2009 but only 3 in 2010, without there being any substantial change in the firm’s social policies. The Community Concerns category paints a very similar picture for 2010, the number of indicators dropping from four (Investment Controversies, Negative Economic Impact, Tax Disputes, Other Concern) to just one (Negative Economic Impact).

² KLD became part of MSCI Inc. from June 2010.

To avoid these difficulties, but also to ensure consistency and comparability with other studies, we follow [Oikonomou et al. \(2012\)](#) in defining a set of so-called *omnipresent indicators* for each qualitative issue area, which are reliably followed by KLD during each year of the sample period. The far-reaching methodological changes that occurred in 2010 naturally limit us only to KLD data up to 2009. Thus we end up with the list of indicators shown in [Table 15](#), which will be used to construct the Environment, Social and Aggregate (E/S) Components.

We have omitted the Human Rights category entirely for the simple reason that none of its indicators are reliably tracked over the sample period. This is the approach taken by a number of other studies (e.g. [Jo and Harjoto 2012](#)). We have also omitted the Corporate Governance category, which until 2002 was known under the name of Other category. KLD's Corporate Governance category doesn't seem to measure *governance* as the notion is traditionally understood in the finance literature (e.g. [Gompers et al. 2003](#)). The persistent question marks over these two categories lead us to exclude both of them from the present study.

Another traditional difficulty with KLD data revolves around the question of whether the strengths and concerns should be combined or treated separately. [Goss and Roberts \(2011\)](#) point out that it is important to analyze CSR strengths and concerns separately since concerns are largely exogenous to the firm (i.e. controversial social or environmental events that managers have less control over), whereas investments in areas viewed as strengths are mainly discretionary (i.e. proactive CSR investments). [Chatterji et al. \(2014\)](#) note that while it is common practice to aggregate strengths and concerns for a given CSR category, aggregation might mask important firm-level differences. Since the strengths and concerns from any given issue area appear to be distinct constructs, we keep them separate in our analysis. However, we're additionally investigating the net extra-financial performance by combining the constructs, even if it appears to be a flawed proxy.

We follow [Oikonomou et al. \(2012\)](#) in computing individual components (e.g. for Community Strengths) by adding all the ratings of the indicators for the strengths (or concerns) of a given issue area and then dividing them by the number of associated omnipresent indicators. To compute an individual component for a particular firm in a given year, we do:

$$\text{COMP} = \frac{\sum_{i=1}^n R}{n} \quad (1)$$

where n is the number of omnipresent indicators associated with the strengths (or concerns) of the particular issue area (e.g. 4 for Community Strengths), and R represents the omnipresent indicators' respective ratings. This is how we compute the strengths and concerns for the Environment Component (ENV).

For the Social Component, we aggregate the individual components of social activity while preserving the dichotomy between strengths and concerns. We thus add the strengths (or concerns) of the relevant individual components previously constructed (Community, Diversity, Employee Relations, Product) and then divide the obtained sum by the number of components (i.e. four). We follow [Hillman and Keim \(2001\)](#) and give individual components equal weighting, thus implicitly assuming that, for instance, community relations are just as important as product characteristics. The reason for giving equal importance to the KLD categories is that currently there is no theoretical framework for ranking the importance of various

	Strengths	Concerns
Environment	Beneficial Products and Services Pollution Prevention Recycling Clean Energy Other Strength	Hazardous Waste Regulatory Problems Ozone Depleting Chemicals Substantial Emissions Agricultural Chemicals Other Concern
Community	Charitable Giving Innovative Giving Support for Housing Other Strength	Investment Controversies Negative Economic Impact Tax Disputes Other Concern
Diversity	CEO Promotion Board of Directors Work/Life Benefits Women & Minority Contracting Employment of the Disabled Other Strength	Controversies Other Concern
Employee Relations	Union Relations Cash Profit Sharing Employee Involvement Retirement Benefits Strength Other Strength	Union Relations Health and Safety Concern Workforce Reductions Other Concern
Product	Quality R&D/Innovation Benefits to Economically Disadvantaged Other Strength	Product Safety Marketing/Contracting Concern Antitrust Other Concern

Table 15: Omnipresent indicators of KLD Issue Areas

stakeholder groups and issues. (A similar reasoning was also used when computing the individual components.)

To compute the strengths (or concerns) of the Social Component for a particular firm in a given year, we do:

$$\text{SOC} = \frac{\text{COM} + \text{DIV} + \text{EMP} + \text{PRO}}{4} \quad (2)$$

For our Aggregate (E/S) Component measure, we apply the same principles as highlighted above and equally weigh the Environment and Social components. To compute the strengths (or concerns) of the Aggregate Component for a particular firm in a given year, we do:

$$\text{AGG} = \frac{\text{ENV} + \text{SOC}}{2} \quad (3)$$

After we obtain the individual and aggregate components, we compute the changes in the KLD ratings in the short term (at 2 and 3 years) and long term (at 5 years). For the Environment Component, we compute the changes for strengths (or concerns) as follows:

$$\Delta\text{ENV}_k = \text{ENV}_{t+k} - \text{ENV}_t \quad (4)$$

where t is the reference year, and k is the number of years at which we compute the changes. We proceed in the same manner for computing ΔSOC_k and ΔAGG_k , for the strengths (or concerns) of the Social Component and the Aggregate Component, respectively.

We consider that changes at two or three years generally relate to the short to medium term. Extra-financial performance is usually constant over time for a given firm and a given environmental or social dimension. Many firms have persistently high or persistently low ratings across time, indicating that these measures are relatively persistent and change only rarely. As such we expect that any changes in social responsibility policies in firms take time to manifest themselves and filter into actual, measurable changes in extra-financial performance.

Moreover, since KLD traditionally releases its reports every year around February (covering the firms' extra-financial performance over the previous year), any given event conducive to a corporate policy change during that past year may take time before it has tangible firm-wide effects and may therefore be missed by KLD analysts. Compounding the problem is that most corporate events are not synced with the KLD reporting practices, and may take place less than a year before KLD releases its findings. As such we believe that allowing two years for KLD to pick up on "immediate" changes within firms, if any, is a sensible choice.

Changes at 5 years are considered to relate to the long term. However, for the changes at five years one practical difficulty is that we have fewer data points given the relatively small sample size.

2.1.3 Regression Setting and Methodological Details

In our main regression setting we attempt to explain the changes in KLD ratings after a vote on a shareholder proposal within a firm. We rely on multiple linear models within the Ordinary Least Squares framework. Some consideration must be given to whether the regressions should be estimated at the proposal level (PL) or firm level (FL). One difficulty with using the PL

setting is that we are trying to match one yearly value (i.e. a KLD indicator) with potentially multiple proposal outcomes in a given year.

The FL setting, on the other hand, provides us with yearly aggregated measures (e.g. average voting support for Environmental proposals) which can proxy for typical shareholder support for or interest in a given area of concern. Unlike in the PL setting, the FL yearly measures can be matched 1 : 1 with the yearly KLD indicators. And to account for possible heteroscedasticity and dependence in the standard errors, we estimate SEs clustered by firm (Arellano, 1987).

We use the ΔKLD_k variables as the dependent variables throughout our models. One of our independent variables of interest is *vote*, which represents the voting support that a proposal has gathered from the shareholders of the firm.

For each firm-year observation, we compute the average voting support for a given topic. We suspect that voting support might exhibit non-linearities and for this reason we include in the regressions a polynomial of second degree for the *vote* variable. When the coefficients are significant we also compute the inflection point of the fitted curve as the first derivative of $\beta_1x + \beta_2x^2$ set equal to 0 (where x and x^2 are the polynomial regressors), thus yielding the inflection point as $-\beta_1/2\beta_2$.

We introduce various controls in the regressions. We control for the number of proposals voted or withdrawn on a given topic (e.g. *Env_voted.nr* or *Env_withdrn.nr*).

We also control for firm characteristics like insider ownership (*insown*), using a polynomial specification as well. When a valid shareholder proposal isn't withdrawn this represents a signal that there is a continuing disagreement between firm management and the shareholder, and that the management is unwilling to effect the requested policy change. Thus it is safe to assume that management with ownership interests will generally vote against shareholder proposals. In this sense, *insown* might be thought of as a raw (if imperfect) measure of governance.

Other firm characteristics include firm size as proxied by the log of Total Assets ($\log(AT)$) or industry affiliation. We include year fixed effects and industry effects in all of the regressions. Out of the various classifications proposed by Fama and French (1997) we opt for the Fama-French 12 industry classification, in an attempt to properly control for industry variations but also to reduce uncertainty in parameter estimation (by avoiding a finer classification like the Fama-French 49 industry classification which would necessarily reduce the number of degrees of freedom in the estimation).

In our regression settings we attempt to explain the changes in extra-financial performance by the fact of being targeted in a given year on Environmental or Social topics only (*Env.only* or *Soc.only*), or on both types of issues at the same time (*EnvSoc.both*), which are also variables of interest. We suspect that the 'targeted' variables may be affected by endogeneity concerns: While we expect that the changes in extra-financial performance would depend on the firm being targeted by shareholder-sponsored proposals, we also expect that shareholders would target firms depending on the firms' overall KLD level in that year and on whether the firm has been targeted on a the same topic in the past. To address endogeneity concerns we rely on Instrumental Variables under the two-stage least-squares (2SLS) framework. As instruments we use the level of KLD concerns and strengths on Environmental and Social topics as well as the lagged targeted state (from the previous year, e.g. lagged *Env.only*).

Lastly, since we focus in particular on changes in extra-financial performance, our regression setting is designed such that it uses as a control group those firms that have been targeted only on Governance proposals in a given year. Thus those firms with at least one Environmental or Social proposal are considered as having been 'targeted' in that year. This leads to us having two model specifications: one in which the 'targeted' dummies are the main variables of interest and the other in which we additionally include the number of proposals voted or withdrawn as well as the level voting support.

2.1.4 Hypotheses Development

Annual General Meetings are generally perceived as a governance mechanism which facilitates the taking of strategic decisions in firms. Such meetings allow the shareholders to voice their opinion on various issues, thus indicating to management their preferences in their capacity of owners of the firm. In addition to voting on resolutions, shareholders may also submit resolutions to a vote, subject to a number of conditions.

Before submitting a proposal, shareholders will often engage firm management in private on certain issues of concern. If management is responsive and a satisfactory outcome is reached, the shareholder will take no further action. Otherwise, the shareholder may choose to file a proposal.

Grossman and Stiglitz (1980) point out that informed investors will generally convey their private, costly information into market prices by engaging in a trade. When a trade (i.e. exiting) is not a (satisfactory) option for an existing shareholder, they can alternatively signal their private information via the process of shareholder-sponsored proposals, by publicly submitting a proposal for a vote by all other shareholders during the AGM. Just as prices reflect the information of informed individuals, so too shareholder-sponsored submissions will generally reflect the private information of informed shareholders. The mechanism of proposal submissions becomes thus a means for the shareholders to express their concerns (and preferences) over the running of the company.

In this sense, submissions perform the role of conveying information from the informed to the uninformed shareholders. We expect thus that the instance of targeting of a firm with a proposal on Environmental or Social topics represents a signal of existing concerns as well as an expectation of future deterioration in the extra-financial performance of the firm.

By making their concerns public, the event can also be seen as an instance of heightened pressure from shareholders on firm management. The question remains, of course, whether such pressure can be effective in affecting corporate behavior. We would expect that a broad push on both Environmental and Social topics at the same time would prove more conducive to improvements in extra-financial performance, whereas targeting on a single topic in a given year would generally serve more as a barometer of shareholder concerns. By the same token, a higher number of voted or withdrawn proposals would also represent more intense shareholder pressure on firm management.

When a shareholder-sponsored proposal proceeds to a vote, it becomes a means for other informed shareholders to publicly convey their private information (and preferences) by way of voting on the submitted proposals. Even if the votes are ultimately not binding and the proposals are only advisory in nature, the annual general meetings become a place for share-

holders to signal to firm management the aspects of the firm's business activities that is of concern to them. As with the targeting of firms, we expect that shareholders may be effectively using voting in AGMs to signal their expectation of future problems in the firm. Thus a higher voting share may be associated with decreased extra-financial performance in the future. However, once more, would such pressure from shareholders be effective in inducing changes in corporate behavior?

When resolutions receive a majority support from shareholders, this puts pressure on management to actually implement them (see [Ertimur et al., 2010](#)). Contrary to Governance proposals where outcomes around and above 50% are common, Environmental and Social proposals tend to get a smaller share of the vote (with only some 15 instances of votes above 50% in our entire sample). When firms react to higher than average votes on Environmental or Social proposals, we expect that it is a means of signaling to shareholders responsiveness to their concerns. Contrary to Governance changes which may often imply clear and immediate changes within the firm (whether financial changes or within its structure), Environmental or Social proposals may require fuzzier outcomes that would manifest themselves in the longer term. So it may prove less onerous for management to signal responsiveness in response to pressure on environmental and social topics rather than on governance issues.

Generally we expect that firm management would be induced to address shareholder concerns on environmental or social issues when there is a broad push by shareholders across different topics in the same year. So if a firm is being targeted only on a single topic in a given year (e.g. on environmental issues), then we do not have a clear prediction on the effect this would have on the firm's behavior. Targeting on a single topic may have little or no force to induce management reaction, so it is possible that the management may react (i.e. positive effect) or not, in effect making the shareholder proposals serve as a barometer of shareholder expectations, a signaling effect of expected worsening extra-financial performance (i.e. negative effect).

The predictions for the effect of targeting on one topic (e.g. Social only) on the performance of the other topic (e.g. Environmental Strengths) are even more ambiguous: We may think that targeting on one topic may induce the firm to disregard the other topic (i.e. negative effect) or that the firm may start paying attention to its extra-financial performance across the board, potentially resulting in tangible results only on the other topic (i.e. positive effect). Firm management may even resort to using the other area of extra-financial performance as a bargaining chip, e.g. achieve improvements in the other domain (perhaps less onerous) to signal responsiveness to shareholder concerns (i.e. positive effect).

However, when there is a broad push on both fronts at the same time, we expect there to be a positive effect on extra-financial performance, i.e. firm management would be induced into addressing shareholder concerns resulting in an improvement in extra-financial performance (either an increase in strengths or a decrease in concerns). We also expect that a higher number of proposals submitted to a vote or being withdrawn would lead to similar improvements, as would a higher voting support. The effect of more proposals or votes on one topic (e.g. Environmental issues) on the *other* area of concern (e.g. Social issues) remains ambiguous.

2.2 MAIN RESULTS

2.2.1 *Environmental Proposals*

Environmental Strengths

In Table 16, for Models (1) through (3) we regress the changes in Environmental Strengths (e.g. at two years: `env.str.dlt2y`) on our main variables of interest, namely whether the firm was targeted only on Environmental topics in a given year (`Env.only`), only on Social topics (`Soc.only`) or on both topics at the same time (`EnvSoc.both`). We control for firm size and insider ownership (using a second degree polynomial specification), as well as for year and industry fixed effects. The SEs are clustered by firm. To address potential endogeneity concerns for the main variables of interest, we use the level of KLD in that year and the lagged targeted dummies as instruments.

Looking at Model (2) we see that in the short term (at 3 years) being targeted only on Social issues in a given year seems to be associated with an increase in Environmental Strengths. Our prediction for this effect is however ambiguous. From Model (3), when targeted on both Social and Environmental issues we notice a long-term improvement in Environmental performance (at 5 years) compared to non-targeted firms, suggesting that shareholder activism across the board (i.e. a broad push) is inductive of management reaction to shareholder concerns.

For Models (1)-(3) we can see at the bottom of the table the joint tests for the validity of the instruments. In all instances the p-values are close to zero, leading us to strongly reject the null of weak instruments which in turn suggests good identification.

For Models (4) through (6) in Table 16 we keep the same dependent variables, but we add several variables that help quantify the intensity of shareholder pressure. Namely we include the number of proposals that went to a vote (`Env.voted.nr` and `Soc.voted.nr`) or were withdrawn (`Env.withdrn.nr` and `Env.withdrn.nr`). We additionally control for the average voting support for each topic (`vote.mean.Env` and `vote.mean.Soc`), both under a second degree polynomial specification. All controlling variables remain unchanged. To address potential endogeneity concerns for the 'targeted' dummies, we once again use the level of KLD in that year and the lagged targeted dummies as instruments.

Looking at Model (4) in the short term (at 2 years), we notice that higher numbers of withdrawn proposals on Social topics is associated with an improvement in Environmental performance, for which we do not have a clear prediction. Similarly, a higher proportion of favorable votes on Social topics is associated with an increase in Environmental Strengths. We can see that this effect is positive up to the inflection point of the fitted curve (at about 43%), which represents a majority of the sample and above which the effect levels out.

For Models (4)-(6) we also notice that the instruments provide strong identification.

	<i>Dependent variable:</i>					
	env.str dlt2y (1)	env.str dlt3y (2)	env.str dlt5y (3)	env.str dlt2y (4)	env.str dlt3y (5)	env.str dlt5y (6)
Env.only	0.027 p = 0.257	0.018 p = 0.585	-0.077 p = 0.202	0.172 p = 0.437	-0.970 p = 0.154	-3.630 p = 0.381
Soc.only	0.019 p = 0.133	0.035** p = 0.028	0.029 p = 0.313	-0.173** p = 0.016	-0.036 p = 0.840	0.599 p = 0.274
EnvSoc.both	0.026 p = 0.311	0.057 p = 0.103	0.333*** p = 0.00002	-0.047 p = 0.890	-1.470* p = 0.082	-3.190 p = 0.445
Env_voted.nr				-0.070 p = 0.644	0.662 p = 0.126	1.750 p = 0.388
Soc_voted.nr				0.048 p = 0.114	0.051 p = 0.334	-0.121 p = 0.250
Env_withdrn.nr				-0.122 p = 0.570	0.945 p = 0.124	3.360 p = 0.383
Soc_withdrn.nr				0.110** p = 0.014	0.040 p = 0.688	-0.274 p = 0.300
poly(vote_mean.Env, 2)1				-0.007 p = 0.367	0.034 p = 0.199	0.162 p = 0.401
poly(vote_mean.Env, 2)2				0.0001 p = 0.306	-0.0004 p = 0.191	-0.002 p = 0.401
poly(vote_mean.Soc, 2)1				0.008*** p = 0.010	0.002 p = 0.848	-0.031 p = 0.320
poly(vote_mean.Soc, 2)2				-0.0001** p = 0.013	-0.00003 p = 0.725	0.0003 p = 0.328
log(AT)	0.005*** p = 0.003	0.006** p = 0.022	0.003 p = 0.567	0.006*** p = 0.004	0.012** p = 0.026	0.023 p = 0.177
poly(insown, 2)1	0.0004 p = 0.547	-0.00000 p = 0.997	0.0002 p = 0.885	0.001 p = 0.120	-0.0003 p = 0.824	-0.005 p = 0.451
poly(insown, 2)2	-0.00001 p = 0.360	0.00000 p = 0.829	0.00001 p = 0.800	-0.00003 p = 0.130	-0.00000 p = 0.979	0.0001 p = 0.409
Constant	-0.056*** p = 0.0002	-0.080*** p = 0.0004	-0.071 p = 0.122	-0.041** p = 0.028	-0.061 p = 0.276	-0.125 p = 0.349
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Infect. point (vote_mean.Env)				38.94	46.09	48.65
Infect. point (vote_mean.Soc)				42.61**	23.52*	46.82
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note:

*p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 16: Changes in Environmental Strengths at 2, 3 and 5 years

Environmental Concerns

In Table 17, for Models (1) through (3) we regress the changes in Environmental Concerns (e.g. at two years: `env.con.dlt2y`) on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 2.2.1 on page 40.

Looking at the Models (1)-(3) we see that both in the short and long term firms targeted only on Environmental topics in a given year are associated with a deteriorating Environmental performance, suggesting that the concerns that shareholders are signaling indeed materialize. However when firms are targeted on both topics at the same time, they appear to experience a decrease in Environmental concerns in the short term.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 17 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 2.2.1 on page 40.

Looking at Models (4) and (5), the improvement in Environmental performance is also experienced (at 2 and 3 years) with higher numbers of voted or withdrawn proposals, as well as with a higher proportion of favorable votes on Environmental topics. For the voting support the improvement is characteristic of the majority of the sample, up to the inflection point at around 45%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

Inspecting more closely the intensity needed to induce changes in firms, we can see that shareholders need to target firms on both topics and muster about 11% of voting support on at least two voted Environmental proposals (the sample average for Environmental proposals) to induce improvements in Environmental performance at 2 and 3 years. The effect is similar when firms are targeted on both topics and there are two withdrawn Environmental proposals, or there are one withdrawn and one voted Environmental proposals with 11% of voting support. As expected, the effect is bigger in the case of withdrawn proposals.

	<i>Dependent variable:</i>					
	env.con dlt2y (1)	env.con dlt3y (2)	env.con dlt5y (3)	env.con dlt2y (4)	env.con dlt3y (5)	env.con dlt5y (6)
Env.only	0.081*** p = 0.010	0.126*** p = 0.007	0.155** p = 0.018	1.050** p = 0.023	3.240** p = 0.042	4.080 p = 0.370
Soc.only	0.043*** p = 0.007	0.048** p = 0.017	0.058** p = 0.014	-0.174 p = 0.230	-0.640 p = 0.180	-0.812 p = 0.178
EnvSoc.both	-0.092*** p = 0.004	-0.129*** p = 0.009	-0.135 p = 0.132	1.070 p = 0.113	3.010 p = 0.107	3.440 p = 0.461
Env_voted.nr				-0.601* p = 0.068	-1.870* p = 0.060	-1.930 p = 0.392
Soc_voted.nr				0.027 p = 0.615	0.118 p = 0.446	0.164 p = 0.188
Env_withdrn.nr				-0.915** p = 0.042	-2.800* p = 0.052	-3.740 p = 0.380
Soc_withdrn.nr				0.107 p = 0.209	0.383 p = 0.155	0.415 p = 0.153
poly(vote_mean.Env, 2)1				-0.036** p = 0.031	-0.114* p = 0.083	-0.182 p = 0.393
poly(vote_mean.Env, 2)2				0.0004** p = 0.043	0.001* p = 0.099	0.002 p = 0.400
poly(vote_mean.Soc, 2)1				0.009* p = 0.092	0.030 p = 0.118	0.044 p = 0.185
poly(vote_mean.Soc, 2)2				-0.0001 p = 0.106	-0.0003 p = 0.138	-0.0005 p = 0.187
log(AT)	0.005*** p = 0.010	0.008*** p = 0.005	0.008* p = 0.066	-0.0001 p = 0.980	-0.006 p = 0.639	-0.004 p = 0.811
poly(insown, 2)1	-0.001* p = 0.056	-0.001 p = 0.252	-0.001 p = 0.377	0.001 p = 0.344	0.004 p = 0.333	0.006 p = 0.390
poly(insown, 2)2	0.00003* p = 0.076	0.00003 p = 0.168	0.00003 p = 0.219	-0.00001 p = 0.704	-0.00002 p = 0.793	-0.0001 p = 0.507
Constant	-0.058*** p = 0.002	-0.090*** p = 0.0004	-0.096*** p = 0.010	-0.042 p = 0.319	-0.044 p = 0.734	-0.047 p = 0.739
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Infect. point (vote_mean.Env)				44.09*	47.75	49.19
Infect. point (vote_mean.Soc)				43.65	44.42	46.04
EnvSoc.both + 2 Env_voted.nr + 11 poly(vote_mean.Env, 2)1 = 0				-0.53**	-1.98**	-2.42
EnvSoc.both + 2 Env_withdrn.nr = 0				-0.76**	-2.59**	-4.04
EnvSoc.both + Env_voted.nr + Env_withdrn.nr + 11 poly(vote_mean.Env, 2)1 = 0				-0.84***	-2.91**	-4.23
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note:

*p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 17: Changes in Environmental Concerns at 2, 3 and 5 years

Net Environmental Performance

In Table 18, for Models (1) through (3) we regress the changes in the net Environmental performance (e.g. at two years: `env.diff.dlt2y`), the difference between Environmental Strengths and Concerns, on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 2.2.1 on page 40.

Looking at Models (2) and (3), being targeted on Environmental topics alone is associated with a worsening in net Environmental performance (at 3 as well as 5 years). However, when firms are targeted on both Environmental and Social topics at the same time we notice a net improvement in environmental performance that can be detected both in the short and long term.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 18 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 2.2.1 on page 40.

Looking at Models (4) and (5), the improvement in net Environmental performance is also experienced (at 2 and 3 years) with higher numbers of voted or withdrawn proposals, as well as with a higher proportion of favorable votes on Environmental topics. For voting support the improvement is characteristic of the majority of the sample, up to the inflection point at around 46%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

To improve for the net environmental performance it seems that more intense pressure from shareholders is necessary. Shareholders need to target firms on both topics and muster an average 11% of voting support on at least four voted Environmental proposals in a given year to induce improvements in net Environmental performance (at 2 and 3 years). The effect is stronger in magnitude in the longer-run, but cannot be precisely estimated at 5 years. The effect is similar when firms are targeted on both topics and there are three withdrawn Environmental proposals, or there are one withdrawn and one voted Environmental proposal with 11% of voting support. Overall, firms seem quite reactive to pressure on environmental issues and the level of intensity required seems to be reasonably low.

	<i>Dependent variable:</i>					
	env.diff dlt2y (1)	env.diff dlt3y (2)	env.diff dlt5y (3)	env.diff dlt2y (4)	env.diff dlt3y (5)	env.diff dlt5y (6)
Env.only	-0.054 p = 0.167	-0.109* p = 0.054	-0.233** p = 0.014	-0.875* p = 0.051	-4.210** p = 0.041	-7.700 p = 0.362
Soc.only	-0.025 p = 0.192	-0.013 p = 0.584	-0.029 p = 0.435	0.001 p = 0.995	0.604 p = 0.324	1.410 p = 0.206
EnvSoc.both	0.118*** p = 0.005	0.186*** p = 0.003	0.468*** p = 0.001	-1.120* p = 0.086	-4.480* p = 0.068	-6.640 p = 0.440
Env_voted.nr				0.531* p = 0.095	2.530* p = 0.051	3.680 p = 0.376
Soc_voted.nr				0.021 p = 0.662	-0.067 p = 0.720	-0.285 p = 0.202
Env_withdrn.nr				0.793* p = 0.066	3.750** p = 0.045	7.100 p = 0.368
Soc_withdrn.nr				0.003 p = 0.974	-0.343 p = 0.313	-0.689 p = 0.201
poly(vote_mean.Env, 2)1				0.029* p = 0.069	0.148* p = 0.083	0.344 p = 0.384
poly(vote_mean.Env, 2)2				-0.0003* p = 0.091	-0.002* p = 0.095	-0.004 p = 0.387
poly(vote_mean.Soc, 2)1				-0.001 p = 0.801	-0.029 p = 0.255	-0.075 p = 0.230
poly(vote_mean.Soc, 2)2				0.00001 p = 0.835	0.0003 p = 0.298	0.001 p = 0.234
log(AT)	0.0003 p = 0.900	-0.002 p = 0.613	-0.005 p = 0.469	0.006* p = 0.090	0.018 p = 0.267	0.028 p = 0.421
poly(insown, 2)1	0.002* p = 0.070	0.001 p = 0.382	0.001 p = 0.516	0.0001 p = 0.915	-0.004 p = 0.385	-0.011 p = 0.403
poly(insown, 2)2	-0.00004* p = 0.055	-0.00003 p = 0.349	-0.00003 p = 0.526	-0.00002 p = 0.528	0.00002 p = 0.822	0.0002 p = 0.443
Constant	0.002 p = 0.935	0.010 p = 0.751	0.025 p = 0.691	0.001 p = 0.985	-0.017 p = 0.924	-0.078 p = 0.772
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Infect. point (vote_mean.Env)				45.62	47.36	48.93
Infect. point (vote_mean.Soc)				50.28	46.61	46.36
EnvSoc.both + 4 Env_voted.nr + 11 poly(vote_mean.Env, 2)1 = 0				1.33*	7.28**	11.87
EnvSoc.both + 3 Env_withdrn.nr = 0				1.26*	6.76**	14.67
EnvSoc.both + Env_voted.nr + Env_withdrn.nr + 11 poly(vote_mean.Env, 2)1 = 0				0.52*	3.43**	7.93
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note:

*p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 18: Changes in Net Environmental Performance at 2, 3 and 5 years

2.2.2 *Social Proposals*

Social Strengths

In Table 19, for Models (1) through (3) we regress the changes in Social Strengths (e.g. at two years: `soc.str.dlt2y`) on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 2.2.1 on page 40.

Looking at the Models (1) and (2), it seems that for Social Strengths even when targeted on both topics the shareholder-sponsored submissions serve as a barometer of expected worsening in Social performance (at 2 and 3 years). Even a broad shareholder push doesn't seem to have an effect, which would suggest that when pressured by shareholders the firms are more recalcitrant on implementing proactive social investments.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 19 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 2.2.1 on page 40.

Looking at the Models (4) and (5), higher average voting support would seem to indicate expected future worsening in Social Strengths. Once more, stronger shareholder pressure doesn't seem to have an effect on management and simply serves to register their concerns in this area of the firm.

For Models (4)-(6) we also notice that the instruments provide strong identification.

	<i>Dependent variable:</i>					
	soc.str dlt2y	soc.str dlt3y	soc.str dlt5y	soc.str dlt2y	soc.str dlt3y	soc.str dlt5y
	(1)	(2)	(3)	(4)	(5)	(6)
Env.only	-0.015 p = 0.279	-0.010 p = 0.652	-0.030 p = 0.302	-0.698** p = 0.045	-0.926* p = 0.069	0.877 p = 0.425
Soc.only	0.006 p = 0.434	0.007 p = 0.445	-0.010 p = 0.460	0.138 p = 0.152	0.218 p = 0.121	-0.039 p = 0.806
EnvSoc.both	-0.026* p = 0.077	-0.046** p = 0.035	-0.026 p = 0.491	-0.910* p = 0.082	-0.988 p = 0.113	1.060 p = 0.346
Env_voted.nr				0.454* p = 0.069	0.566* p = 0.075	-0.459 p = 0.403
Soc_voted.nr				-0.003 p = 0.927	-0.028 p = 0.541	-0.003 p = 0.927
Env_withdrn.nr				0.673** p = 0.050	0.853* p = 0.067	-0.845 p = 0.414
Soc_withdrn.nr				-0.066 p = 0.239	-0.116 p = 0.144	-0.0003 p = 0.997
poly(vote_mean.Env, 2)1				0.025* p = 0.058	0.034 p = 0.110	-0.042 p = 0.417
poly(vote_mean.Env, 2)2				-0.0003* p = 0.070	-0.0004 p = 0.119	0.0004 p = 0.418
poly(vote_mean.Soc, 2)1				-0.007* p = 0.072	-0.010* p = 0.094	0.002 p = 0.822
poly(vote_mean.Soc, 2)2				0.0001* p = 0.083	0.0001 p = 0.114	-0.00002 p = 0.863
log(AT)	0.003*** p = 0.002	0.005*** p = 0.001	0.007*** p = 0.007	0.005* p = 0.068	0.007* p = 0.067	0.002 p = 0.722
poly(insown, 2)1	-0.0001 p = 0.830	-0.0003 p = 0.655	0.0002 p = 0.838	-0.002* p = 0.079	-0.002 p = 0.176	0.001 p = 0.590
poly(insown, 2)2	0.00000 p = 0.794	0.00001 p = 0.424	0.00001 p = 0.773	0.00003 p = 0.194	0.00003 p = 0.329	-0.00001 p = 0.895
Constant	-0.016* p = 0.088	-0.035** p = 0.012	-0.045** p = 0.045	-0.016 p = 0.623	-0.043 p = 0.320	-0.047 p = 0.177
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Infect. point (vote_mean.Env)				44.77	46.85	48.94
Infect. point (vote_mean.Soc)				42.49	44.76	60.52
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note:

*p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 19: Changes in Social Strengths at 2, 3 and 5 years

Social Concerns

In Table 20, for Models (1) through (3) we regress the changes in Social Concerns (e.g. at two years: `soc.con.d1t2y`) on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 2.2.1 on page 40.

Looking at the Models (1) and (2), firms targeted only on Social topics in a given year are associated with a deteriorating Social performance (i.e. an increase in concerns) at 2 and 3 years, suggesting that absent a broad push the concerns that shareholders are signaling indeed materialize. However when firms are targeted on both topics at the same time, they appear to experience a decrease in Social Concerns at 3 years.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 20 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 2.2.1 on page 40.

Looking at the Models (4) and (5), an improvement in Social performance is also experienced (at 2 and 3 years) with higher numbers of voted or withdrawn proposals, as well as with a higher proportion of favorable votes on Social topics. For voting support the improvement is characteristic of the majority of the sample, up to the inflection point of 43%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

It would seem that Social topics require more intense pressure from shareholders for tangible changes in firm extra-financial performance. Shareholders need to target firms on both topics and muster about 12% of voting support on at least six voted Social proposals (the sample average for Social proposals) to induce improvements in Social performance in the short term. The effect is similar when firms are targeted on both topics and there are four withdrawn Social proposals, or when there are three withdrawn and four voted Social proposals with 12% of voting support. This would once more suggest that firms are less reactive to shareholder concerns on Social topics, and more recalcitrant to implement changes.

	<i>Dependent variable:</i>					
	soc.con dlt2y (1)	soc.con dlt3y (2)	soc.con dlt5y (3)	soc.con dlt2y (4)	soc.con dlt3y (5)	soc.con dlt5y (6)
Env.only	0.015 p = 0.444	0.067** p = 0.026	0.067 p = 0.111	-0.010 p = 0.972	-0.963 p = 0.159	6.220 p = 0.375
Soc.only	0.030** p = 0.013	0.032** p = 0.046	0.013 p = 0.533	0.363*** p = 0.0001	0.538*** p = 0.007	-0.423 p = 0.634
EnvSoc.both	-0.029 p = 0.173	-0.085*** p = 0.010	-0.065 p = 0.216	0.482 p = 0.256	-0.649 p = 0.427	6.990 p = 0.323
Env_voted.nr				-0.017 p = 0.928	0.591 p = 0.168	-3.140 p = 0.365
Soc_voted.nr				-0.103** p = 0.023	-0.105 p = 0.140	0.015 p = 0.928
Env_withdrn.nr				-0.015 p = 0.953	0.879 p = 0.158	-5.960 p = 0.362
Soc_withdrn.nr				-0.214*** p = 0.001	-0.291** p = 0.014	0.141 p = 0.738
poly(vote_mean.Env, 2)1				-0.0003 p = 0.972	0.036 p = 0.202	-0.288 p = 0.378
poly(vote_mean.Env, 2)2				0.00001 p = 0.933	-0.0004 p = 0.214	0.003 p = 0.378
poly(vote_mean.Soc, 2)1				-0.014*** p = 0.0003	-0.023*** p = 0.006	0.026 p = 0.601
poly(vote_mean.Soc, 2)2				0.0002*** p = 0.002	0.0003*** p = 0.009	-0.0003 p = 0.632
log(AT)	0.006*** p = 0.00003	0.011*** p = 0.00000	0.018*** p = 0.00001	0.005* p = 0.058	0.013** p = 0.021	-0.009 p = 0.728
poly(insown, 2)1	-0.0001 p = 0.841	-0.0004 p = 0.693	0.001 p = 0.406	-0.001 p = 0.353	-0.003 p = 0.177	0.008 p = 0.409
poly(insown, 2)2	-0.00002 p = 0.226	-0.00001 p = 0.585	-0.00004 p = 0.271	-0.00000 p = 0.926	0.00002 p = 0.704	-0.0001 p = 0.402
Constant	-0.041*** p = 0.004	-0.086*** p = 0.00004	-0.090*** p = 0.008	-0.073*** p = 0.004	-0.126** p = 0.017	-0.117 p = 0.579
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				19.26	46.97	48.69
Inflect. point (vote_mean.Soc)				43.09***	43.01**	50.61
EnvSoc.both + 6 Soc_voted.nr + 12 poly(vote_mean.Soc, 2)1 = 0				-0.31	-1.56*	7.39
EnvSoc.both + 4 Soc_withdrn.nr = 0				-0.37	-1.81*	7.55
EnvSoc.both + 4 Soc_voted.nr + 3 Soc_withdrn.nr + 12 poly(vote_mean.Soc, 2)1 = 0				-0.74*	-2.22**	7.78
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note:

*p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 20: Changes in Social Concerns at 2, 3 and 5 years

Net Social Performance

In Table 21, for Models (1) through (3) we regress the changes in the net Social performance (e.g. at two years: `soc.diff.dlt2y`), the difference between Social Strengths and Concerns, on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 2.2.1 on page 40.

Looking at Model (1), we can see that being targeted on Social topics alone is associated with a decrease in net Social performance in the short term (at 2 years). When firms are targeted on both Environmental and Social topics at the same time we do not notice any net improvement.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 21 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 2.2.1 on page 40.

Looking at the Models (4) and (5), however, improvement in the net Social performance is experienced (at 2 and 3 years) with higher numbers of voted or withdrawn proposals, as well as with a higher proportion of favorable votes on Social topics. This is again suggestive of stronger shareholder pressure being needed to spur changes in firm policies on social topics. For voting support the improvement is characteristic of the majority of the sample, up to the inflection point at around 42%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

Overall it would seem that (very) intense pressure is required from shareholders for tangible results on social topics. For instance, an improvement in net Social performance would be associated on average with eight withdrawn Social proposals and seven voted proposals with an average voting support of 35% (which is above the 90th percentile in the sample). Firms seem to be recalcitrant when it comes to shareholder pressure on Social topics.

	<i>Dependent variable:</i>					
	soc.diff dlt2y (1)	soc.diff dlt3y (2)	soc.diff dlt5y (3)	soc.diff dlt2y (4)	soc.diff dlt3y (5)	soc.diff dlt5y (6)
Env.only	-0.030 p = 0.226	-0.076** p = 0.049	-0.096* p = 0.060	-0.688 p = 0.136	0.037 p = 0.945	-5.350 p = 0.383
Soc.only	-0.024* p = 0.062	-0.025 p = 0.144	-0.023 p = 0.329	-0.225* p = 0.087	-0.320*** p = 0.008	0.384 p = 0.617
EnvSoc.both	0.003 p = 0.901	0.039 p = 0.253	0.039 p = 0.557	-1.390** p = 0.049	-0.339 p = 0.585	-5.930 p = 0.338
Env_voted.nr				0.471 p = 0.145	-0.025 p = 0.940	2.680 p = 0.377
Soc_voted.nr				0.100* p = 0.067	0.078* p = 0.060	-0.018 p = 0.900
Env_withdrn.nr				0.688 p = 0.124	-0.026 p = 0.956	5.110 p = 0.371
Soc_withdrn.nr				0.149* p = 0.066	0.174** p = 0.015	-0.141 p = 0.699
poly(vote_mean.Env, 2)1				0.025 p = 0.131	-0.001 p = 0.951	0.247 p = 0.388
poly(vote_mean.Env, 2)2				-0.0003 p = 0.131	0.00001 p = 0.954	-0.003 p = 0.388
poly(vote_mean.Soc, 2)1				0.007 p = 0.176	0.013*** p = 0.010	-0.024 p = 0.577
poly(vote_mean.Soc, 2)2				-0.0001 p = 0.245	-0.0002** p = 0.012	0.0002 p = 0.605
log(AT)	-0.003* p = 0.051	-0.006** p = 0.011	-0.011** p = 0.016	0.00001 p = 0.998	-0.005 p = 0.108	0.011 p = 0.641
poly(insown, 2)1	0.00003 p = 0.968	0.0001 p = 0.953	-0.001 p = 0.447	-0.0004 p = 0.754	0.001 p = 0.428	-0.007 p = 0.411
poly(insown, 2)2	0.00002 p = 0.186	0.00003 p = 0.292	0.00005 p = 0.154	0.00003 p = 0.304	0.00001 p = 0.852	0.0001 p = 0.353
Constant	0.025 p = 0.104	0.051** p = 0.027	0.046 p = 0.232	0.057 p = 0.159	0.083*** p = 0.007	0.070 p = 0.704
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				43.99	50.83	48.65
Inflect. point (vote_mean.Soc)				43.68	41.79**	49.96
EnvSoc.both + 8 Soc_voted.nr + 35 poly(vote_mean.Soc, 2)1 = 0				-0.34	0.75	-6.92
EnvSoc.both + 8 Soc_withdrn.nr = 0				-0.2	1.06	-7.06
EnvSoc.both + 7 Soc_voted.nr + 8 Soc_withdrn.nr + 35 poly(vote_mean.Soc, 2)1 = 0				0.75	2.07*	-8.03
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note:

*p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 21: Changes in Net Social Performance at 2, 3 and 5 years

2.2.3 *Aggregated Proposals*

Aggregate Strengths

Lastly we consider the Aggregate (E/S) Strengths, which equally weigh the KLD Environmental and Social indexes: Environment (50%) and Community, Diversity, Employee Relations and Product Quality (all together, 50%).

In Table 22, for Models (1) through (3) we regress the changes in Aggregate Strengths (e.g. at two years: *es.str.dlt2y*) on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 2.2.1 on page 40.

Looking at the Models (1) and (2), in the short term being targeted only on Social issues in a given year seems to be associated with an increase in Aggregate Strengths. When targeted on both Social and Environmental issues in the same year we notice a long-term improvement in aggregate performance (at 5 years).

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 22 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 2.2.1 on page 40.

Looking at the Model (5), the improvement in Aggregate Strengths is also experienced (at 3 years) with higher numbers of voted or withdrawn Environmental proposals. For voting support the estimated coefficients are insufficiently precise. Overall it seems that improvements in aggregate extra-financial performance is driven by shareholder pressure on environmental topics.

For Models (4)-(6) we also notice that the instruments provide strong identification.

Inspecting more closely the intensity needed for inducing changes in firms, we can see that shareholders need to target firms on both topics and muster about 11% of voting support on at least three voted Environmental proposals to induce improvements in Aggregate Strengths in the short term. The effect is similar when firms are targeted on both topics and there are three withdrawn Environmental proposals, or when there are one withdrawn and two voted Environmental proposals with an average of 11% voting support.

	Dependent variable:					
	es.str dlt2y	es.str dlt3y	es.str dlt5y	es.str dlt2y	es.str dlt3y	es.str dlt5y
	(1)	(2)	(3)	(4)	(5)	(6)
Env.only	0.006 p = 0.681	0.004 p = 0.841	-0.053 p = 0.144	-0.263 p = 0.148	-0.948* p = 0.077	-1.370 p = 0.424
Soc.only	0.012* p = 0.084	0.021** p = 0.019	0.009 p = 0.560	-0.018 p = 0.736	0.091 p = 0.531	0.280 p = 0.221
EnvSoc.both	-0.00005 p = 0.998	0.006 p = 0.793	0.154*** p = 0.001	-0.479* p = 0.082	-1.230* p = 0.065	-1.070 p = 0.542
Env_voted.nr				0.192 p = 0.135	0.614* p = 0.070	0.646 p = 0.444
Soc_voted.nr				0.022 p = 0.242	0.012 p = 0.784	-0.062 p = 0.169
Env_withdrn.nr				0.275 p = 0.118	0.899* p = 0.065	1.260 p = 0.433
Soc_withdrn.nr				0.022 p = 0.474	-0.038 p = 0.635	-0.137 p = 0.217
poly(vote_mean.Env, 2)1				0.009 p = 0.179	0.034 p = 0.122	0.060 p = 0.451
poly(vote_mean.Env, 2)2				-0.0001 p = 0.217	-0.0004 p = 0.124	-0.001 p = 0.450
poly(vote_mean.Soc, 2)1				0.0004 p = 0.839	-0.004 p = 0.502	-0.014 p = 0.264
poly(vote_mean.Soc, 2)2				-0.00001 p = 0.853	0.00004 p = 0.590	0.0002 p = 0.266
log(AT)	0.004*** p = 0.00005	0.005*** p = 0.0004	0.005* p = 0.089	0.005*** p = 0.0005	0.010** p = 0.024	0.012* p = 0.096
poly(insown, 2)1	0.0001 p = 0.707	-0.0002 p = 0.757	0.0002 p = 0.801	-0.0001 p = 0.824	-0.001 p = 0.350	-0.002 p = 0.501
poly(insown, 2)2	-0.00001 p = 0.552	0.00001 p = 0.493	0.00001 p = 0.676	-0.00000 p = 0.894	0.00001 p = 0.535	0.00004 p = 0.367
Constant	-0.036*** p = 0.00005	-0.057*** p = 0.00004	-0.058** p = 0.027	-0.029 p = 0.103	-0.052 p = 0.266	-0.086 p = 0.122
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Infect. point (vote_mean.Env)				47.72	46.47	48.55
Infect. point (vote_mean.Soc)				43.52	53.52	46.13
EnvSoc.both + 3 Env_voted.nr + 11 poly(vote_mean.Env, 2)1 = 0				0.2	0.99*	1.53
EnvSoc.both + 3 Env_withdrn.nr = 0				0.35	1.47*	2.7
EnvSoc.both + 2 Env_voted.nr + Env_withdrn.nr + 11 poly(vote_mean.Env, 2)1 = 0				0.28	1.28*	2.14
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note:

*p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 22: Changes in Aggregate Strengths at 2, 3 and 5 years

Aggregate Concerns

In Table 23, for Models (1) through (3) we regress the changes in Aggregate Concerns (e.g. at two years: *es.con.dlt2y*) on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 2.2.1 on page 40.

Looking at the Models (1) through (3), we see that in the short and long term being targeted only on Environmental or only on Social issues is associated with an increase in Aggregate Concerns. It seems that narrow targeting of firms serves as a barometer of shareholder concerns over the firm's extra-financial performance. When targeted on both Environmental and Social issues in the same year, however, we notice a short- and long-term decrease in Aggregate Concerns, suggesting that shareholder activism across the board (i.e. a broad push) is inductive of management reaction to shareholder concerns.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 23 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 2.2.1 on page 40.

Looking at the Models (4) and (5), the improvement in extra-financial performance is also experienced (at 2 and 3 years) with higher numbers of voted or withdrawn Environmental proposals, as well as with a higher proportion of favorable votes on Environmental topics. For voting support the improvement is characteristic of the majority of the sample, up to the inflection point at around 44%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

Inspecting more closely the intensity needed to induce changes in firms, we can see that shareholders need to target firms on both topics and muster about 11% of voting support on at least four voted Environmental proposals to induce a decrease in Aggregate Concerns in the short term. The effect is similar when firms are targeted on both topics and there are four withdrawn Environmental proposals, or when there are two withdrawn and one voted Environmental proposals with 11% of voting support in the same year. As expected, the effect is bigger in magnitude in the case of withdrawn proposals.

	Dependent variable:					
	es.con dlt2y (1)	es.con dlt3y (2)	es.con dlt5y (3)	es.con dlt2y (4)	es.con dlt3y (5)	es.con dlt5y (6)
Env.only	0.048*** p = 0.007	0.097*** p = 0.001	0.111*** p = 0.005	0.519** p = 0.044	1.140** p = 0.049	5.150 p = 0.354
Soc.only	0.037*** p = 0.001	0.040*** p = 0.004	0.035** p = 0.027	0.094 p = 0.262	-0.051 p = 0.759	-0.617 p = 0.381
EnvSoc.both	-0.060*** p = 0.004	-0.107*** p = 0.003	-0.100* p = 0.094	0.777** p = 0.045	1.180* p = 0.077	5.220 p = 0.355
Env_voted.nr				-0.309* p = 0.092	-0.639* p = 0.074	-2.540 p = 0.356
Soc_voted.nr				-0.038 p = 0.217	0.006 p = 0.900	0.089 p = 0.498
Env_withdrn.nr				-0.465* p = 0.062	-0.961* p = 0.065	-4.850 p = 0.349
Soc_withdrn.nr				-0.054 p = 0.285	0.046 p = 0.621	0.278 p = 0.407
poly(vote_mean.Env, 2)1				-0.018** p = 0.046	-0.039* p = 0.087	-0.235 p = 0.365
poly(vote_mean.Env, 2)2				0.0002* p = 0.052	0.0004 p = 0.104	0.002 p = 0.368
poly(vote_mean.Soc, 2)1				-0.002 p = 0.446	0.004 p = 0.603	0.035 p = 0.375
poly(vote_mean.Soc, 2)2				0.00003 p = 0.474	-0.00004 p = 0.657	-0.0004 p = 0.389
log(AT)	0.005*** p = 0.00001	0.009*** p = 0.00001	0.013*** p = 0.00005	0.002 p = 0.223	0.003 p = 0.378	-0.007 p = 0.750
poly(insown, 2)1	-0.001 p = 0.165	-0.001 p = 0.286	0.0002 p = 0.871	0.00002 p = 0.975	0.0004 p = 0.779	0.007 p = 0.378
poly(insown, 2)2	0.00000 p = 0.697	0.00001 p = 0.534	-0.00000 p = 0.879	-0.00001 p = 0.620	-0.00000 p = 0.966	-0.0001 p = 0.420
Constant	-0.049*** p = 0.00004	-0.088*** p = 0.00001	-0.093*** p = 0.0004	-0.058** p = 0.015	-0.085* p = 0.060	-0.082 p = 0.632
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Infect. point (vote_mean.Env)				43.56	48.12	48.88
Infect. point (vote_mean.Soc)				42.09	49.8	47.63
EnvSoc.both + 4 Env_voted.nr + 11 poly(vote_mean.Env, 2)1 = 0				-0.66	-1.81*	-7.52
EnvSoc.both + 4 Env_withdrn.nr = 0				-1.08*	-2.66*	-14.19
EnvSoc.both + Env_voted.nr + 2 Env_withdrn.nr + 11 poly(vote_mean.Env, 2)1 = 0				-0.66*	-1.81*	-9.61
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note:

*p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 23: Changes in Aggregate Concerns at 2, 3 and 5 years

Net Aggregate Performance

In Table 24, for Models (1) through (3) we regress the changes in the net Aggregate performance (e.g. at two years: *es.diff.dlt2y*), the difference between Aggregate Strengths and Concerns, on our main variables of interest. For more details on the parametrization, which is similar across sections, see the description in the Section 2.2.1 on page 40.

Looking at the Models (1) through (3), we see that in the short and long term being targeted only on Environmental or only on Social issues in a given year is associated with a worsening in net Aggregate performance. Once more, it seems that isolated targeting of firms serves as a barometer of shareholder concerns over the firm's overall extra-financial performance. When targeted on both Environmental and Social issues in the same year, however, we notice a short- and long-term improvement in Aggregate performance, suggesting that shareholder activism across the board is inductive of management reaction to shareholder concerns.

For these models we can see at the bottom of the table the tests for the validity of the instruments. We strongly reject the null of weak instruments which suggests good identification.

For Models (4) through (6) in Table 24 we keep the same dependent variables, but add several regressors that help quantify the intensity of shareholder pressure. For more details on the parametrization see the Section 2.2.1 on page 40.

Looking at the Models (4) and (5), the improvement in net Aggregate performance is also experienced (at 2 and 3 years) with higher numbers of voted or withdrawn Environmental proposals, as well as with a higher proportion of favorable votes on Environmental topics. For voting support the improvement is characteristic of the majority of the sample, up to the inflection point at around 45%, above which the effect plateaus.

For Models (4)-(6) we also notice that the instruments provide strong identification.

Inspecting more closely the intensity needed for inducing changes in firms, we can see that shareholders need to target firms on both topics and muster about 11% of voting support on at least four voted Environmental proposals to induce an improvement in the firm's extra-financial performance in the short term. The effect is similar when firms are targeted on both topics and there are four withdrawn Environmental proposals, or when there are two withdrawn and two voted Environmental proposals with an average 11% of voting support. The effect is bigger in magnitude in the case of withdrawn proposals.

	<i>Dependent variable:</i>					
	es.diff dlt2y	es.diff dlt3y	es.diff dlt5y	es.diff dlt2y	es.diff dlt3y	es.diff dlt5y
	(1)	(2)	(3)	(4)	(5)	(6)
Env.only	-0.042* p = 0.063	-0.093*** p = 0.007	-0.164*** p = 0.002	-0.782* p = 0.054	-2.080** p = 0.043	-6.520 p = 0.357
Soc.only	-0.024** p = 0.038	-0.019 p = 0.205	-0.026 p = 0.241	-0.112 p = 0.373	0.142 p = 0.632	0.898 p = 0.320
EnvSoc.both	0.060** p = 0.021	0.113*** p = 0.005	0.254*** p = 0.003	-1.260** p = 0.042	-2.410* p = 0.052	-6.290 p = 0.382
Env_voted.nr				0.501* p = 0.085	1.250* p = 0.053	3.180 p = 0.363
Soc_voted.nr				0.060 p = 0.198	0.005 p = 0.952	-0.151 p = 0.375
Env_withdrn.nr				0.741* p = 0.061	1.860** p = 0.047	6.110 p = 0.355
Soc_withdrn.nr				0.076 p = 0.307	-0.084 p = 0.606	-0.415 p = 0.337
poly(vote_mean.Env, 2)1				0.027* p = 0.064	0.073* p = 0.084	0.295 p = 0.372
poly(vote_mean.Env, 2)2				-0.0003* p = 0.076	-0.001* p = 0.094	-0.003 p = 0.374
poly(vote_mean.Soc, 2)1				0.003 p = 0.552	-0.008 p = 0.527	-0.049 p = 0.331
poly(vote_mean.Soc, 2)2				-0.00003 p = 0.584	0.0001 p = 0.601	0.001 p = 0.342
log(AT)	-0.002 p = 0.295	-0.004* p = 0.091	-0.008* p = 0.075	0.003 p = 0.343	0.006 p = 0.427	0.019 p = 0.489
poly(insown, 2)1	0.001 p = 0.139	0.001 p = 0.458	0.0001 p = 0.960	-0.0001 p = 0.892	-0.001 p = 0.519	-0.009 p = 0.390
poly(insown, 2)2	-0.00001 p = 0.447	-0.00000 p = 0.972	0.00001 p = 0.663	0.00001 p = 0.772	0.00001 p = 0.732	0.0002 p = 0.389
Constant	0.013 p = 0.315	0.031 p = 0.147	0.036 p = 0.343	0.029 p = 0.452	0.033 p = 0.709	-0.004 p = 0.987
Industry dummies (FF 12)	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Weak instr. (Env.onlyTRUE)	0	0	0	0	0	0
Weak instr. (Soc.onlyTRUE)	0	0	0	0	0	0
Weak instr. (EnvSoc.bothTRUE)	0	0	0	0	0	0
Inflect. point (vote_mean.Env)				44.84	47.33	48.82
Inflect. point (vote_mean.Soc)				42.31	51.76	47.18
EnvSoc.both + 4 Env_voted.nr + 11 poly(vote_mean.Env, 2)1 = 0				1.05	3.41*	9.69
EnvSoc.both + 4 Env_withdrn.nr = 0				1.71*	5.03**	18.15
EnvSoc.both + 2 Env_voted.nr + 2 Env_withdrn.nr + 11 poly(vote_mean.Env, 2)1 = 0				1.53*	4.63**	15.55
Observations	2,679	2,226	1,508	2,679	2,226	1,508

Note:

*p<0.1; **p<0.05; ***p<0.01
Firm Level (FL) regressions with time fixed effects.
Standard errors clustered by firm.

Table 24: Changes in Net Aggregate Performance at 2, 3 and 5 years

2.3 CONCLUDING REMARKS

This paper investigates how firms respond to shareholder engagement. The shareholder-sponsored proposals is a governance mechanism that allows shareholders to raise issues with firm management on various ESG issues that affect firm stakeholders.

From examining the frequency distributions of shareholder proposals using loglinear models, we find that proposals on Environmental or Social topics are more likely to be withdrawn than to go to a vote, and that withdrawn proposals are more likely to be on Environmental or Social topics than on Governance topics. Individual Investors are very unlikely to have their proposals withdrawn, whereas Institutional Investors and Unions are the most likely. Overall Coordinated Activists seem to be very active on Environmental and Social topics. Individual Investors and Unions, however, focus their efforts mostly on Governance issues, largely ignoring other topics.

We also investigate the short-term and long-term changes in extra-financial performance after a voted or withdrawn shareholder-sponsored proposal. Since the submission process may be affected by endogeneity issues, we adopt the two-stage least squares (2SLS) framework under which we instrument the fact of being targeted by the level of extra-financial performance and the lagged targeted data from the previous year.

Our results suggest that being targeted on both Environmental and Social topics in the same year is generally associated with improvements in extra-financial performance, both in the short term and in the long term. This would seem to indicate that shareholder engagement on a broad set of issues is more conducive to changes in the extra-financial performance of firms. Examining the intensity of shareholder pressure, we find that a higher number of voted or withdrawn proposals, as well as a higher proportion of favorable votes in AGMs are associated with improvements in extra-financial performance (in the short term). The findings are similar for the aggregate measures of extra-financial performance. For environmental issues, the fitted models suggest that a low number of withdrawn and voted proposals (with average voting support of about 10%) are needed to induce meaningful changes in firms.

The present study could be improved in several ways. It would be important to include in the regression setting controls for institutional ownership, and to investigate the presence of institutional owners (or even blockholders) and its impact on the effectiveness of the shareholder submission process. Governance levels is another important factor that should be controlled for and investigated, as well as including additional firm-level controls such as past financial performance or leverage.

THE DYNAMICS OF VOTING ON SHAREHOLDER PROPOSALS

One of the latest developments in socially responsible investing in the past few decades relates to investors switching from a historically preferred strategy of shunning undesirable stock (which goes back to the very beginnings of the movement) to engaging corporations on specific topics of concern, which usually represent attempts to influence corporate behavior and policies by way of private negotiations with management or voting in Annual General Meetings.

Some of the literature looks at whether SRI and shareholder engagement can be effective at inducing changes in corporate behavior. [Heinkel et al. \(2001\)](#) and [Gollier and Pouget \(2014\)](#) develop models that look into how investors can effect change either by voting with their feet or by promoting change from within, respectively. Consistent with such theorizing, [Hong and Kacperczyk \(2009\)](#) find that ethical investors can affect the cost of capital of non-responsible firms.

Other studies look at the various effects of the shareholder-sponsored proposals mechanism on firms. [Ertimur et al. \(2010\)](#) examine the determinants of implementation of shareholder-sponsored governance proposals, identifying shareholder pressure (e.g. voting outcome) and the topic of the proposal as key factors. The authors identify negative labor market consequences for outside directors when majority vote proposals are not implemented. While [Renneboog and Szilagyi \(2011\)](#) find that the implementation of governance proposals depends on voting success, but is affected by managerial entrenchment and rent-seeking. Analyzing withdrawn shareholder-sponsored proposals, [Bauer et al. \(2015\)](#) find that proposals on executive compensation have an impact on future corporate pay practices.

Some papers also investigate the effects of voting on shareholder-sponsored proposals on the stock market. By analyzing the market reaction to governance proposals that pass or fail by a small margin of votes, in a quasi-experimental setting, [Cuñat et al. \(2012\)](#) find that improvements in corporate governance translates into positive abnormal returns, as well as a reduction in acquisitions and capital expenditures and a long-term improvement in performance. [Flammer \(2015\)](#) adopts a similar approach for CSR proposals, and finds that adoption of close-call proposals leads to positive announcement returns and to superior accounting performance.

Several studies examine the voting patterns on shareholder-sponsored proposals. [Gillan and Starks \(2000\)](#) analyze the voting outcomes on governance proposals over the period 1984–1994 and identify sponsor identity, issue type and prior performance as important explanatory factors, as well as whether the proposal was voted upon later in the sample period. The authors document an increase in the votes cast in favor of proposals over the sample period. [Thomas and Cotter \(2007\)](#) study the patterns of shareholder voting during 2002–2004 and find that compared to earlier periods, more governance proposals were receiving majority voting support from shareholders.

We complement this literature by investigating the time dynamics of voting on shareholder proposals, in particular how past or concurrent votes

(or withdrawals) on similar issues affect a vote on a proposal in the present. Using data on shareholder-sponsored proposals available from RiskMetrics from 1997 to 2011, we categorize the proposals into narrow subtopics, which provides us with a proxy for proposals pertaining to very similar topics.

Our results suggests that when a shareholder-sponsored proposal on a similar issue has already been discussed in the past—whether subject to a vote or withdrawn—, then such a proposal would gather less shareholder support in the present. This effect also holds for concurrent discussions on similar issues, which overall seem to draw away voting support. Moreover, a low level of past voting support for proposals on similar topics would induce a reduced support in the present for a proposal on such a topic. We are able to compute thresholds for the the past support above which it has a positive impact on a vote on a similar issue in the present. Using the entire sample of proposals we estimate that, on average, a proposal would receive an increased level of support if in the previous years a similar proposal received more than 33% of votes. Governance proposals have a higher threshold of 37%, while environmental and social proposals have a lower threshold of 12%. These results suggest that governance proposals require a relatively high level of past support to gather additional shareholder support in the future, while environmental and social proposals need a much lower level of past support.

3.1 METHODOLOGY AND DATA

For this study we are using data on shareholder-sponsored proposals available from RiskMetrics. RiskMetrics provides records of all shareholder-proposals on ESG issues filed at annual meetings in S&P 1500 firms. It includes data for years from 1997 to 2011, for a total of 9668 proposals. The database includes information on the identity of the firm that has received a shareholder proposal, the identity of the sponsor, a short description of the proposal, the date of the shareholder’s meeting, and the outcome of the vote (or, if there was no vote, an indication whether the proposal was withdrawn or omitted).

When a shareholder has a specific concern with the running of the firm, they will usually approach the management to propose a change in corporate practices. For a description of the submission process see Section 2.1.1 on page 15.

The status of a proposal can be either voted or withdrawn. In this study we focus exclusively on valid submissions, that is submitted shareholder-sponsored proposals that were *not* omitted on technical grounds or discarded for a variety of reasons. In the sections that follow all of the proposals considered were either subject to a vote or withdrawn.

Following Karpoff et al. (1996), Gillan and Starks (2000), Bauer et al. (2015), we categorize the proposals into three broad topics: Governance, Environmental and Social. As customary in the literature (e.g., Thomas and Cotter 2007 or Bauer et al. 2015), we also break down the Governance category into four separate subcategories: Compensation, External, Internal, and Takeover.

Tables 25 and 26 display some descriptive statistics for the main categories. There are a total of 6901 votes across all the categories, with three quarters relating to Governance proposals and the rest to Environmental and Social proposals. On average Governance proposals receive a higher voting support (35%) than Environmental and Social proposals (12%). In both cases

	n	ColPct	vote	
			mean	median
Corporate Governance	5089	74	35	34
Corporate Social Responsibility	1812	26	12	8
All	6901	100	29	25

Table 25: Descriptive statistics for voted proposals by broad topics.

	n	ColPct	vote	
			mean	median
Compensation	1540	22.3	27.6	26.2
Environmental	532	7.7	11.5	8.0
External	772	11.2	54.5	56.0
Internal	2665	38.6	35.3	33.0
Social	1280	18.5	11.9	8.0
Takeover	112	1.6	13.1	9.0
All	6901	100.0	29.2	25.0

Table 26: Descriptive statistics for voted proposals by topics.

the median is smaller than the average, suggesting a distribution skewed to the right. The center of the distributions for both the Environmental and Social votes are very similar, while for the various Governance-related proposals there is more variation in the voting outcomes.

We further classify the proposals into much narrower subtopics, which allows us to have a proxy for proposals pertaining to *very similar topics*. For example, the Compensation category includes the Approve Compensation and Compensation Committee subtopics. The Environmental category contains the Animal and Climate Change subtopics. And the Social category comes with the Human Rights and Non-Discrimination subtopics. Table 27 displays the full list of subtopics.

We also group sponsors into four categories: individual investors, institutional investors, coordinated activists and unions. In Table 28 we can see that coordinated activists, institutional investors and unions were each responsible for roughly the same share of proposals that proceeded to a vote (about 20%), while 40% of the proposals voted upon were submitted by individual investors. Interestingly, individual investors and unions submit relatively few Social or Environmental proposals.

Lastly, we use the classification by subtopics to compute counts of voted or withdrawn proposals on similar topics, per firm and per year. As shown in Table 29, when we consider all the valid proposal submissions then we have a total of 9668 proposals in the full sample. Out of these, 71.4% proceeded to a vote and 28.6% were withdrawn (see Table 30).

Using the information on the status of the proposals and the classification by subtopics, for each proposal that was subjected to a vote within a firm in a given year, we compute how many other proposals on similar issues proceeded to a vote in the same firm during that year. We also calculate the number of proposals on similar issues that went to a vote in the same firm in the past 3 years. We proceed in the same way to compute the number of withdrawn proposals, whether during the same year or in the past, to obtain the four variables listed in Table 31.

		Subtopic	n	ColPct	vote	
					mean	median
Governance	Compensation	Amend Compensation	291	4.22	20.48	17.00
		Approve Compensation	562	8.14	38.12	41.00
		Compensation Committee	16	0.23	25.39	21.00
		Disclosure And Reporting Proposals	189	2.74	33.32	38.00
		Increase Compensation	117	1.70	23.66	20.00
		Miscellaneous	35	0.51	28.25	29.40
		Restrict Compensation	330	4.78	14.09	9.00
		All	1540	22.32	27.59	26.20
	External	Other External	245	3.55	47.28	48.20
		Poison Pill	324	4.69	57.96	60.00
		Reincorporation	36	0.52	16.75	10.40
		Supermajority Provision	167	2.42	66.66	68.40
		All	772	11.19	54.53	56.00
	Internal	Board	1207	17.49	42.81	41.30
		Other Internal	742	10.75	18.15	12.45
		Voting	716	10.38	40.38	38.00
		All	2665	38.62	35.29	33.00
	Takeover	All	112	1.62	13.06	9.00
		Environmental	All	112	1.62	5.18
	CSR	Environmental	Arctic Drilling	11	0.16	7.09
Ceres			47	0.68	8.30	8.00
Climate Change			184	2.67	15.01	9.00
Forest			8	0.12	10.07	7.60
Nuclear Power			40	0.58	7.88	8.00
Other Environmental			69	1.00	13.52	8.00
Pollution			61	0.88	16.07	9.00
All			532	7.71	11.50	8.00
Social		Country Specific	70	1.01	9.01	7.00
		Diversity	58	0.84	18.20	15.00
		Health	227	3.29	7.26	6.00
		Human Rights	84	1.22	15.93	9.55
		Labor Standards	132	1.91	12.35	9.00
		Non-discrimination	232	3.36	17.65	13.00
		Other Social	413	5.98	10.97	7.00
		Tobacco	64	0.93	5.58	5.00
		All	1280	18.55	11.94	8.00

Table 27: Descriptive statistics for voted proposals by subtopics.

Sponsor	Topic	n	ColPct	vote	
				mean	median
Coordinated Activism	Governance	355	5.14	25.04	17.00
	CSR	971	14.07	9.78	7.00
	All	1326	19.21	13.87	8.00
Individual Investor	Governance	2535	36.73	34.81	33.00
	CSR	179	2.59	7.81	6.00
	All	2714	39.33	33.03	30.00
Institutional Investors	Governance	748	10.84	41.32	39.50
	CSR	609	8.82	16.33	10.00
	All	1357	19.66	30.11	26.80
Unions	Governance	1451	21.03	35.87	35.30
	CSR	53	0.77	10.60	7.50
	All	1504	21.79	34.98	34.90

Table 28: Descriptive statistics for voted proposals by investor types.

Topic		Status		
		voted	withdrawn	All
Governance	n	5089	1515	6604
Environmental	n	532	341	873
Social	n	1280	911	2191
All	n	6901	2767	9668

Table 29: Counts of shareholder proposals by status and topic.

Topic		Status		
		voted	withdrawn	All
Governance	Pct	53	16	68
Environmental	Pct	6	4	9
Social	Pct	13	9	23
All	Pct	71	29	100

Table 30: Unconditional frequencies of shareholder proposals by status and topic.

- PVL3Y Number of proposals on the same subtopic *voted* in the *last 3 years*
- OPVSY Number of other proposals on the same subtopic *voted* in the *same year*
- PWL3Y Number of proposals on the same subtopic *withdrawn* in the *last 3 years*
- OPWSY Number of other proposals on the same subtopic *withdrawn* in the *same year*
- PVL3Y (MEAN) Average voting support for proposals on the same subtopic *voted* in the *last 3 years*

Table 31: Time dynamics variables

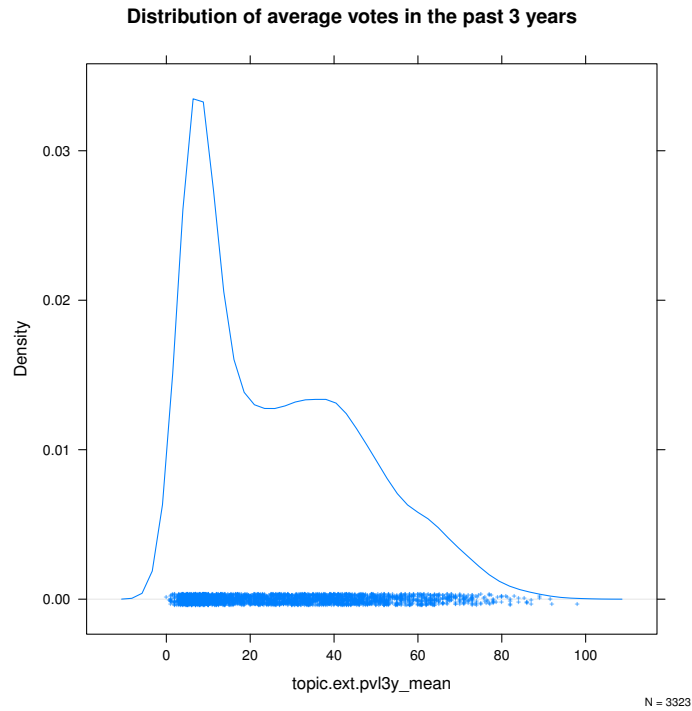


Figure 12: Distribution of the non-zero average voting outcomes in the last 3 years for proposals on similar issues

To complete the time dynamics variables we compute the average voting outcome in the last 3 years on proposals on the same subtopic. When a proposal on a similar issue hasn't been subjected to a vote in the past, we assume that its past support was zero. Figure 12 shows a kernel density of the non-zero average voting outcomes in the last 3 years and Figure 13 displays the same distribution but broken down by the type of the proposal.

In addition to the main variables of interest, we control for various confounding factors. Using SIC codes from Compustat we classify the sample firms according to the Fama-French 12 industry classification (Fama and French, 1997) which allows us to control for industry fixed effects. We also control for year fixed effects.

We analyze the data in a multivariate setting by running Proposal Level (PL) regressions. Specifically we use linear regression models with the votes in favor of a proposal (in percentages) as the dependent variable, with standard errors clustered by firm (Arellano, 1987). Since votes is effectively a proportion, thus a constrained variable that takes values between zero and one, we check the robustness of our results by performing a logarithmic transformation of the dependent variable within the OLS framework, as suggested in Demsetz and Lehn (1985).

3.2 MAIN RESULTS

In Table 32 we can see the results of the linear model in which we regress the votes in favor of a proposal on the proposal type and on dummies for the time dynamics variables, while controlling for industry and time fixed effects. In Model (1), we see that all the estimated coefficients for the time dynamics variables are statistically significant and negative. This suggests that if a similar issue has already been discussed in the past—whether subject to

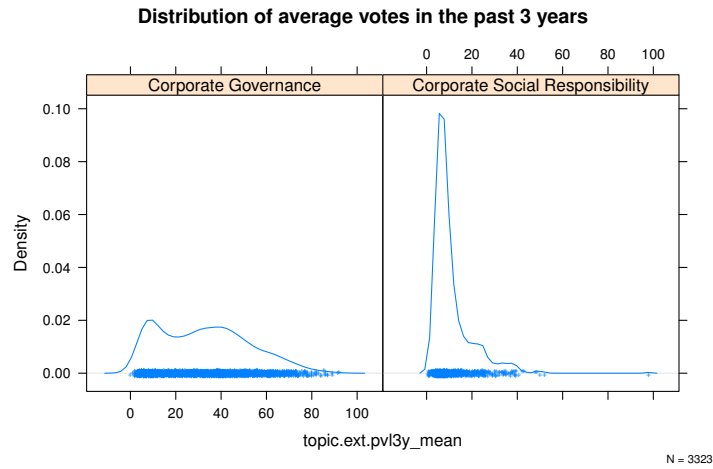


Figure 13: Distribution of the non-zero average voting outcomes in the last 3 years for proposals on similar issues, for the Governance and the Environmental or Social subsamples

a vote or withdrawn—, then such a proposal would gather less shareholder support in the present. This effect also holds for concurrent discussions on similar issues, which overall would seem to draw away voting support for proposals subject to a vote. Thus the voting support seems to decrease when a proposal on a similar subtopic was voted or withdrawn either the same year or during the last 3 years.¹

In Model (2) from Table 32 we additionally introduce the average past voting support for proposals on similar issues. Its coefficient is an implicit interaction with the coefficient for `pv13y` (dummy). The positive coefficient suggests that if a proposal was subject to a vote in the past and has received some support—on a similar issue and in the same company—, this past outcome will impact a vote today by $-16.07 + 0.485 \cdot \text{topic.ext.pv13y_mean}$. Thus we can calculate the threshold level above which a past voting outcome will have a positive effect on a similar proposal in the present: 33.15%.

Figure 14 describes how the shareholder support for a proposal on a given issue in the present changes as a function of the voting support for similar proposals in the past. On average, if a proposal on a given issue received an average support of less than 33.15% in the past, then a vote on a proposal on a similar issue today would receive less shareholder support. However, if the past shareholder support was above the 33.15% threshold, then the voting support would increase in the present.

¹ Since votes is a constrained variable (taking values from 0% to 100%), there are potential statistical issues associated with having a constrained dependent variable in the OLS specification. As in Thomas and Cotter (2007), we use the $\log \frac{\text{vote}}{100 - \text{vote}}$ logarithmic transformation of the votes variable (see Demsetz and Lehn, 1985) to check the robustness of our results within the OLS framework. The main results from these regressions remain largely unchanged.

	<i>Dependent variable:</i>	
	Votes (percentage)	
	(1)	(2)
Compensation	13.900*** p = 0.000	10.200*** p = 0.000
Environmental	-2.410** p = 0.019	-2.020** p = 0.034
External	39.200*** p = 0.000	30.400*** p = 0.000
Internal	23.000*** p = 0.000	18.100*** p = 0.000
Takeover	2.780* p = 0.078	-0.322 p = 0.836
pvl3y (dummy)	-2.700*** p = 0.00001	-16.100*** p = 0.000
opvsy (dummy)	-4.940*** p = 0.000	-3.510*** p = 0.00000
opwsy (dummy)	-4.870*** p = 0.00002	-3.890*** p = 0.0004
pwl3y (dummy)	-4.700*** p = 0.00000	-3.550*** p = 0.00001
pvl3y (mean)		0.485*** p = 0.000
Constant	0.679 p = 0.642	4.920*** p = 0.0003
Industry dummies (FF 12)	Yes	Yes
Year dummies	Yes	Yes
Support threshold		33.15
Observations	6,901	6,901
R ²	0.379	0.444
F Statistic	123.000***	157.000***
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

Table 32: Linear regression models at Proposal Level, with votes in favor of a proposal being regressed on proposal type and the time dynamics variables. We control for industry and time fixed effects. Standard errors clustered by firm.

	<i>Dependent variable:</i>	
	Votes (percentage)	
	(1)	(2)
Individual Investor	17.700*** p = 0.000	10.900*** p = 0.000
Institutional Investors	12.700*** p = 0.000	9.310*** p = 0.000
Unions	18.000*** p = 0.000	12.000*** p = 0.000
pvl3y (dummy)	-2.250*** p = 0.0003	-21.100*** p = 0.000
opvsy (dummy)	-4.480*** p = 0.00000	-2.440*** p = 0.0002
opwsy (dummy)	-5.830*** p = 0.00000	-4.060*** p = 0.0002
pwl3y (dummy)	-6.610*** p = 0.000	-4.370*** p = 0.000
pvl3y (mean)		0.686*** p = 0.000
Constant	2.750 p = 0.147	8.240*** p = 0.00000
Industry dummies (FF 12)	Yes	Yes
Year dummies	Yes	Yes
Support threshold		30.75
Observations	6,901	6,901
R ²	0.186	0.332
F Statistic	49.100***	103.000***
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

Table 33: Linear regression models at Proposal Level, with votes in favor of a proposal being regressed on sponsor type and the time dynamics variables. We control for industry and time fixed effects. Standard errors clustered by firm.

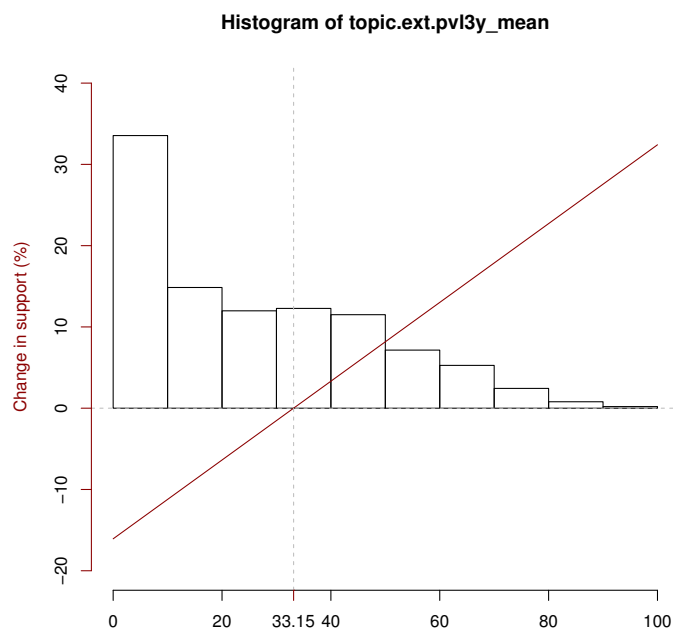


Figure 14: The evolution of the support for a proposal given past voting support for similar proposals

The results hold if we change the specification and instead regress the votes in favor of a proposal on the sponsor type (see Table 33). If a given issue has already been discussed in the past, then a proposal on a similar issue today would gather less shareholder support. The threshold for the change in voting support is similar at 30.75%.

The results also do not change significantly when we consider the full model, and regress the votes in favor of a proposal on both the proposal type and the sponsor type (see Table 34). The voting support decreases if a proposal on the same subtopic was discussed either this year or during the last 3 years. The threshold for the change in support remains stable at 31.64%.

It is interesting to see how the support threshold differs for the various types of sponsors (Table 35). We regress the votes in favor of a proposal on the proposal type and on dummies for the time dynamics variables for each of the four sub-samples of sponsor types, while controlling for industry and time fixed effects. We notice that unions and institutional investors have a similar support threshold at around 32%, which is in line with the threshold identified for the full sample. However, for a proposal submitted by an individual investors on a given issue to gather more support, it is necessary that the past voting support on similar proposals be relatively high (38.5%). As for coordinated activists, the opposite holds: A past support of just 16% is sufficient so that a proposal on a similar issue would gather more shareholder support in the present.

Table 36 describes how the support threshold differs across proposal types. For a proposal related to governance issues to gather more support in the present, it is necessary that the past voting support on similar proposals be relatively high (37.3%). However, for proposals related to environmental or social issues, the threshold is much lower. A past shareholder support of

	<i>Dependent variable:</i>	
	Votes (percentage)	
	(1)	(2)
Compensation	14.000*** p = 0.000	11.000*** p = 0.000
Environmental	-1.340 p = 0.199	-1.190 p = 0.213
External	41.700*** p = 0.000	33.600*** p = 0.000
Internal	23.600*** p = 0.000	19.300*** p = 0.000
Takeover	5.100*** p = 0.002	2.470 p = 0.118
Individual Investor	-0.895 p = 0.334	-2.120*** p = 0.008
Institutional Investors	6.130*** p = 0.000	4.950*** p = 0.000
Unions	4.190*** p = 0.0002	2.630*** p = 0.005
pvl3y (dummy)	-1.860*** p = 0.001	-15.200*** p = 0.000
opvsy (dummy)	-4.610*** p = 0.00000	-3.220*** p = 0.00001
opwsy (dummy)	-4.540*** p = 0.0001	-3.610*** p = 0.001
pwl3y (dummy)	-4.160*** p = 0.00001	-3.100*** p = 0.00004
pvl3y (mean)		0.480*** p = 0.000
Constant	-0.676 p = 0.655	3.910*** p = 0.006
Industry dummies (FF 12)	Yes	Yes
Year dummies	Yes	Yes
Support threshold		31.64
Observations	6,901	6,901
R ²	0.392	0.456
F Statistic	119.000***	151.000***
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

Table 34: Linear regression models at Proposal Level, with votes in favor of a proposal being regressed on proposal type, sponsor type and the time dynamics variables. We control for industry and time fixed effects. Standard errors clustered by firm.

	<i>Dependent variable:</i>			
	Votes (percentage)			
	Unions (1)	Activists (2)	Individual (3)	Institutional (4)
Compensation	21.000*** p = 0.000	4.950*** p = 0.0004	8.680*** p = 0.00000	14.800*** p = 0.000
Environmental	-8.500** p = 0.021	-3.020*** p = 0.001	3.850 p = 0.234	-1.100 p = 0.456
External	38.900*** p = 0.000	40.700*** p = 0.000	32.200*** p = 0.000	36.700*** p = 0.000
Internal	24.800*** p = 0.000	12.900*** p = 0.000	21.200*** p = 0.000	21.500*** p = 0.000
Takeover		6.310 p = 0.121	0.836 p = 0.714	4.490 p = 0.408
pvl3y (dummy)	-16.300*** p = 0.000	-7.710*** p = 0.000	-20.800*** p = 0.000	-15.300*** p = 0.000
opvsy (dummy)	-2.200* p = 0.057	-2.400* p = 0.067	-4.320*** p = 0.00001	-2.430 p = 0.172
opwsy (dummy)	-6.390*** p = 0.001	-3.320** p = 0.016	-2.980* p = 0.096	0.605 p = 0.801
pwl3y (dummy)	-3.400** p = 0.040	-0.920 p = 0.325	-5.520*** p = 0.00004	-3.710* p = 0.053
pvl3y (mean)	0.490*** p = 0.000	0.482*** p = 0.000	0.541*** p = 0.000	0.479*** p = 0.000
Constant	-1.200 p = 0.732	8.100*** p = 0.00001	-0.115 p = 0.968	8.760*** p = 0.0004
Industry dummies (FF 12)	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Support threshold	33.33	15.98	38.5	32.01
Observations	1,504	1,326	2,714	1,357
R ²	0.268	0.404	0.475	0.428
F Statistic	15.800***	25.000***	69.100***	28.200***

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 35: Linear regression models at Proposal Level and by subsamples of sponsor types, with votes in favor of a proposal being regressed on proposal type and the time dynamics variables. We control for industry and time fixed effects. Standard errors clustered by firm.

	<i>Dependent variable:</i>			
	Votes (percentage)			
	Governance (1)	CSR (2)	Environmental (3)	Social (4)
Individual Investor	5.240*** p = 0.00005	-2.480*** p = 0.002	-2.580** p = 0.019	-2.730** p = 0.014
Institutional Investors	9.820*** p = 0.000	4.560*** p = 0.000	4.700*** p = 0.00004	4.130*** p = 0.00000
Unions	5.050*** p = 0.0002	-0.887 p = 0.520	-4.460*** p = 0.003	-1.200 p = 0.406
pvl3y (dummy)	-26.000*** p = 0.000	-6.990*** p = 0.000	-6.690*** p = 0.00000	-7.060*** p = 0.00001
opvsy (dummy)	-3.700*** p = 0.00000	-0.791 p = 0.198	1.220 p = 0.517	-1.690*** p = 0.009
opwsy (dummy)	-5.360*** p = 0.0003	-0.445 p = 0.563	-2.030 p = 0.160	-0.172 p = 0.852
pwl3y (dummy)	-5.330*** p = 0.000	-0.391 p = 0.530	-0.542 p = 0.589	-0.610 p = 0.465
pvl3y (mean)	0.697*** p = 0.000	0.601*** p = 0.000	0.530*** p = 0.00000	0.597*** p = 0.00001
Constant	15.600*** p = 0.000	4.630*** p = 0.000	0.023 p = 0.990	5.490*** p = 0.000
Industry dummies (FF 12)	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Support threshold	37.27	11.64	12.62	11.82
Observations	5,089	1,812	532	1,280
R ²	0.285	0.268	0.311	0.276
F Statistic	61.000***	19.700***	6.830***	14.400***

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 36: Linear regression models at Proposal Level and by subsamples of proposal types, with votes in favor of a proposal being regressed on sponsor type and the time dynamics variables. We control for industry and time fixed effects. Standard errors clustered by firm.

around 12% is sufficient so that a proposal on a similar issue would gather more shareholder support in the present. There are no important differences between environmental and social proposals in this respect.

3.3 CONCLUDING REMARKS

In this paper we investigate the time dynamics of voting on shareholder-sponsored proposals on ESG issues, and more specifically how past or concurrent votes (or withdrawals) on similar issues affect a vote on a proposal today. Using data on shareholder-sponsored proposals available from Risk-Metrics from 1997 to 2011, we categorize the proposals into very narrow subtopics, which allows us to have a proxy for proposals pertaining to very similar topics. Within the OLS framework we attempt to explain the votes in favor of a proposal using different model specifications, while controlling for several factors including the industry and time fixed effects. Specifically we are interested in how the time dynamics variables influence the voting support on a given issue.

Our results suggest that a low level of past voting support for shareholder-sponsored proposals on a given issue would induce a reduced support in the present for a proposal on a similar issue. We are able to compute thresholds above which the past support has a positive impact on a vote on a similar issue today. Using the entire sample of proposals we estimate that, on average, a proposal would receive an increased level of support this year if in the previous years a similar proposal received more than 33% of votes. Governance proposals have a higher threshold of 37%, while Environmental and Social proposals have a lower threshold of 12%. These results suggest that governance proposals require a relatively high level of past support to gather additional shareholder support in the future, while environmental and social proposals need a much lower level of past support.

This study could be improved in a number of ways. We could investigate the potential association between the votes on shareholder proposals happening concurrently in the same industry or in firms partly owned by the same shareholder. This would allow to test if there is an industry spillover effect, specifically whether the voting outcome increases on average when very similar issues are up for a vote at the same time in several firms and in the same industry. A similar spillover effect could be identified for concurrent votes that take place in firms partly owned by a given shareholder. It would also improve the robustness of the results if we added various other control variables in the model specification, like insider ownership, institutional ownership or governance measures (e.g. [Gompers et al., 2003](#)), as well as firm-level data such as past financial performance or leverage. Lastly, given the constrained dependent variable, future work should consider adopting the GLM framework with the logit link for modeling shareholder voting.

DO FINANCIAL ANALYSTS CARE ABOUT EXTRA-FINANCIAL INFORMATION?

It is generally not clear how much extra-financial information is reflected into the flows of financial information. Our study investigates this by developing an econometric model that attempts to establish an association between the flows of financial and extra-financial information. We apply the model to data collected from S&P 1500 firms, relying on historical Earnings per Share (EPS) estimates and extra-financial ratings.

The existing literature has already looked into the relationship between Corporate Social Responsibility (CSR) and the financial performance of firms. The meta-study by [Orlitzky et al. \(2003\)](#) aggregates 52 studies while adjusting for sampling and measurement errors, and identifies a positive relationship between extra-financial and financial performance. The authors also find that extra-financial performance is more highly correlated with (backward looking) accounting-based measures of financial performance than with (forward looking) market-based measures. It remains unclear however in which direction points the arrow of causality, nor whether extra-financial performance is priced in financial markets.

Other studies have focused on the relation between extra-financial performance and market-based financial indicators. [Derwall et al. \(2005\)](#) investigate the concept of “eco-efficiency”, a relative environmental performance metric (from Innovest Inc.) that can be understood as the ratio of the value added to the waste that the company generates in the process. Although companies from environmentally sensitive industries such as mining would often be rated poorly according to “absolute” environmental criteria, they may do well relative to competitors, according to eco-efficiency measures. The authors construct and analyze two mutually exclusive portfolios with distinctive eco-efficiency scores and measure their performance using the [Carhart \(1997\)](#) four-factor model. They find that the high-ranked portfolio produced higher average returns compared to the low-ranked portfolio over the period of 1995–2003. The results suggest that markets fail to price in environmental performance by firms, with the eco-efficiency premium pointing to potential missing risk factors in traditional asset pricing models.

[Edmans \(2011\)](#) focuses on the social aspect of extra-financial performance, analyzing the relation between employee satisfaction—using as a proxy the widely publicized Fortune’s “100 Best Companies to Work For in America” rating—and long-run stock returns. Based on historical data from 1984 to 2009, the paper compares the portfolio with industry- and characteristics-matched benchmarks using the [Carhart \(1997\)](#) four-factor model. The study finds that the portfolio outperforms the benchmarks over the period. The implications that arise are that stock markets fail to fully incorporate intangible assets like social performance into asset prices.

The present study is related to the literature attempting to identify whether Environmental, Social or Governance (ESG) information is incorporated into the financial flows of information. Using historical EPS estimates and KLD ratings, we look into whether yearly changes in extra-financial performance help in explaining the yearly changes in EPS forecasts by financial analysts. We find that overall financial analysts expect improvements in social

strengths to translate into a lower EPS in the short term, whereas this effect isn't detected when using realized EPS. This suggests that the analysts may be wrong in their estimations when considering shifts in firms' proactive social investments. A decrease in social concerns (i.e. an improvement) is however reflected in both improved EPS forecasts and improved actual EPS results. This would suggest that financial analysts are correct in perceiving positive shifts in (largely exogenous) social concerns as a positive signal for the firms' financial performance. Lastly, when considering the firms' net extra-financial performance these two effects seem to cancel each other out. There are important variations of these effects across industries.

4.1 ECONOMETRIC MODEL

To understand how analysts account for extra-financial flows of information, let us consider a given stock i . Let C_m^i denote the analyst consensus observed at time m , with $m \in \{m_1, m_2, m_3, \dots\}$. And let $R_{s^i}^i$ denote the extra-financial ratings observed at time $s^i \in \{s_1^i, s_2^i, s_3^i, \dots\}$. For simplicity, we will subsequently use t as an index for the different specific dates.

We assume that the underlying processes are given by:

$$\begin{aligned} C_t^i &= F_t^i + P_t^i + \varepsilon_t^{C^i}, \text{ and} \\ R_t^i &= P_t^i + E_t^i + \varepsilon_t^{R^i}, \end{aligned}$$

where all random variables are independent from each other. F_t^i and E_t^i represent "pure" financial and social information, respectively, while P_t^i represents social information that has financial value, and which should be priced in. Both processes allow for noise via the error parameter, ε .

Testing whether $cov(C_t^i, R_t^i) = var(P_t^i) > 0$ should allow us to detect if there is an association between the two processes, C_t^i and R_t^i . Analyzing this hypothesis, the main econometric problem that would arise is that of asynchronous data. The processes C^i and R^i are not necessarily observed at the same time, which could mean that each incorporates different information.

A potential issue could have been that R^i was observed only when there was a social event, i.e. a problem of endogenous observation times. In the case of our data, however, both processes can be considered exogenous.

4.2 METHODOLOGY AND DATA

To test the econometric model, we used data from the IBES database and the KLD ratings agency, while controlling for various firm characteristics obtained from Compustat.

4.2.1 Description

The IBES database (*Institutional Brokers' Estimate System*) contains historical forecasts for various companies in 70 different markets. The data set, after synchronization with other data sources, has information on about 1000 individual US companies for the years 1996 to 2006 covering the S&P 1500. Each firm has yearly information on the historical Earnings per Share (EPS) estimates—mean and median—and on the number of estimates used to determine the financial analysts consensus. The dates of the publication of

the one and two year-ahead EPS estimates have, respectively, an 8- and 20-month lag from the Fiscal Period End (FPE) of the firm. Taking the EPS forecasts made 4 months after the previous FPE ensures that the analysts took into account the actual, reported previous earnings of the firm (Edmans, 2011). The IBES estimates are used as a proxy for investor expectations given all the corporate events that happened prior to the publication date.

The extra-financial ratings are provided by KLD Research & Analytics, an extra-financial ratings agency. Out of the seven major qualitative issue areas¹ of these ratings, in the present study we only consider the first five dimensions. We have omitted the Human Rights category entirely for the simple reason that none of its indicators are reliably tracked over the sample period. This is the approach taken by a number of other studies (e.g. Jo and Harjoto 2012). We have also omitted the Corporate Governance category, which until 2002 was known under the name of Other category. KLD's Corporate Governance category doesn't seem to measure *governance* as the notion is traditionally understood in the finance literature (e.g. Gompers et al. 2003).

In assessing a dimension KLD will evaluate the strengths and weaknesses of a firm, such as—e.g. for the Employee Relations dimension—health and safety, retirement benefits, union relations, cash profit sharing or workforce reductions, and attributes a binary indicator. The ratings are traditionally released towards the beginning of every year, and cover all the corporate events that have occurred prior to the publication date.

To aggregate the various KLD indicators we follow the *omnipresent indicators* methodology in Oikonomou et al. (2012).² A traditional difficulty with KLD data revolves around the question of whether the strengths and concerns should be combined or treated separately. Goss and Roberts (2011) point out that it is important to analyze CSR strengths and concerns separately since concerns are largely exogenous to the firm (i.e. controversial social or environmental events that managers have less control over), whereas investments in areas viewed as strengths are mainly discretionary (i.e. proactive CSR investments). Since the strengths and concerns from any given issue area appear to be distinct constructs, we keep them separate in our analysis. However, we're additionally investigating the net extra-financial performance by combining the constructs, even if it appears to be a flawed proxy. In this study we are focusing on yearly changes as described in Section 4.2.3.

We also control for time fixed effects as well as industry fixed effects. For the industry dummies (and cross-sections) we rely on the Fama-French 5 and 12 industry classifications (see Table 37).

We also use Compustat data for controlling for firm characteristics. In particular we use Total Assets as a proxy for firm size and the number of common shares outstanding, which is particularly relevant in the context of EPS estimates.

4.2.2 Issues

Several issues arose when synchronizing the various data sets. Perhaps the most challenging statistical issue in the present analysis was that of asyn-

¹ The full list of the KLD ratings extra-financial dimensions used in this paper: Environment, Community, Diversity, Employee Relations, Product Quality, Corporate Governance and Human Rights.

² See Table 15 on page 35 for more details on the approach.

idx	ind	description
1	Cnsmr	Consumer Durables, NonDurables, Wholesale, Retail, and Some Services (Laundries, Repair Shops)
2	Manuf	Manufacturing, Energy, and Utilities
3	HiTec	Business Equipment, Telephone and Television Transmission
4	Hlth	Healthcare, Medical Equipment, and Drugs
5	Other	Other – Mines, Constr, BldMt, Trans, Hotels, Bus Serv, Entertainment, Finance

(a) FF5

idx	ind	description
1	NoDur	Consumer NonDurables – Food, Tobacco, Textiles, Apparel, Leather, Toys
2	Durbl	Consumer Durables – Cars, TV's, Furniture, Household Appliances
3	Manuf	Manufacturing – Machinery, Trucks, Planes, Off Furn, Paper, Com Printing
4	Enrgy	Oil, Gas, and Coal Extraction and Products
5	Chems	Chemicals and Allied Products
6	BusEq	Business Equipment – Computers, Software, and Electronic Equipment
7	Telcm	Telephone and Television Transmission
8	Utils	Utilities
9	Shops	Wholesale, Retail, and Some Services (Laundries, Repair Shops)
10	Hlth	Healthcare, Medical Equipment, and Drugs
11	Money	Finance
12	Other	Other – Mines, Constr, BldMt, Trans, Hotels, Bus Serv, Entertainment

(b) FF12

Table 37: Fama-French industry classifications

chronous data. The two processes considered—the EPS forecasts and KLD ratings—are exogenous and most often happen at different moments. While the KLD ratings for a given year are published in February of the next year, the IBES estimates are published four months after the previous FPE, which can happen in any month of the year. The obvious concern was to ensure that at publication date both streams of information incorporated the same past events for a given company.

A complicating factor is that some firms changed the Fiscal Period End month during the sample period. For example, some firms would end the fiscal period in August until the year 2000, while subsequently the FPE month would be changed to December. Since the KLD ratings are always published at the same date, it can be challenging to ensure that both estimates incorporate similar information.

In an effort to optimally synchronize the data sets while losing as little data as possible, we focused on the firms with the FPE falling in the four months between September and December. Consequently, given the 8 month lag, the EPS forecasts for these firms were being published by financial analysts between January and April of each year. With the KLD ratings published in February of each year, the lag between the two events was little so as to be considered inconsequential. Considering the long-term perspective and the low variability of social events, we could reasonably assume that both February and January–April estimates incorporated similar information flows concerning the extra-financial events in firms. Given the asynchronous publication times, this has allowed us to align the data at reasonably close periods, while discarding as few data points as possible.

This has led us to drop non-September–December FPE entries for several firms. Once the synchronization was complete and given the missing data for the various years in the data sets, we ended up with about 6250 observations concerning a little over 1100 firms spanning eleven years from 1996 to 2006.

4.2.3 *Yearly Changes*

In this paper we focus on how the changes in extra-financial performance in firms influences the EPS forecasts by financial analysts. For this we compute three types of EPS yearly changes from the raw data, as well as KLD yearly changes.

The one year changes in the KLD ratings were computed as shown in (5). These would be tested against one year-ahead EPS changes (6). We would subsequently attempt to determine whether the changes in EPS forecasts vary with changes in the extra-financial dimensions.

In the formulae t represents the date of publication. The formulae were applied to each individual firm for contiguous years.

$$\Delta KLD_t = KLD_t - KLD_{t-1} \quad (5)$$

$$\Delta EPS_t^{1y} = EPS_t^{1y} - EPS_{t-1}^{1y} \quad (6)$$

The variations in two year-ahead EPS forecasts (7) would be tested against (5). They would indicate how the two year-ahead EPS estimates evolve with yearly changes in the KLD dimensions. This would provide a longer-term perspective.

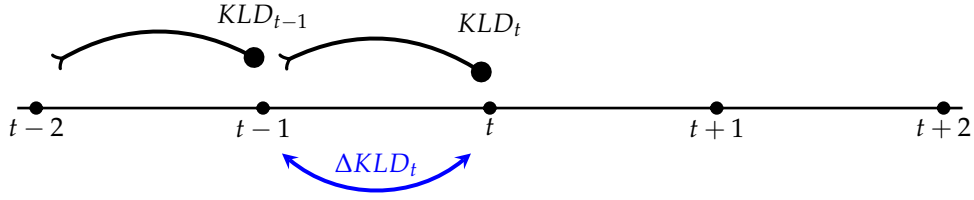


Figure 15: Changes using KLD ratings (Equation 5)

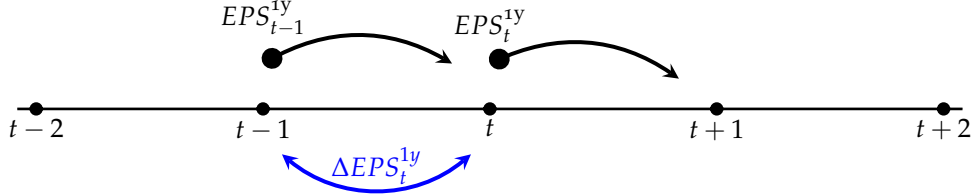


Figure 16: Changes using one-year forecasts (Equation 6)

$$\Delta EPS_t^{2y} = EPS_t^{2y} - EPS_{t-1}^{2y} \quad (7)$$

With the third statistic (8) we test whether the changes in the prediction of future earnings are related to the changes in extra-financial ratings (5). The statistic represents a measure of refinement—at t —of financial forecasts.

$$\Delta EPS_t^s = EPS_t^{1y} - EPS_{t-1}^{2y} \quad (8)$$

Lastly we also compute the yearly changes in actual accounting performance as represented by realized EPS. Since the realized EPS figures are generally published 8 months (1 year 8 months) after the yearly forecasts by IBES had been released, the realized ΔEPS will usually comprise an eight month lag compared to the other changes.

$$\Delta EPS_{t+1}^a = EPS_{t+1}^a - EPS_t^a \quad (9)$$

4.3 MAIN RESULTS

In our main regression setting, we attempt to explain the changes in mean EPS forecasts by the changes in environmental and social ratings, while controlling for changes in firm size (as proxied by total assets) and in the number of shares outstanding. We also control for time and industry fixed effects (using Fama-French 12 classification). The sample is trimmed by the

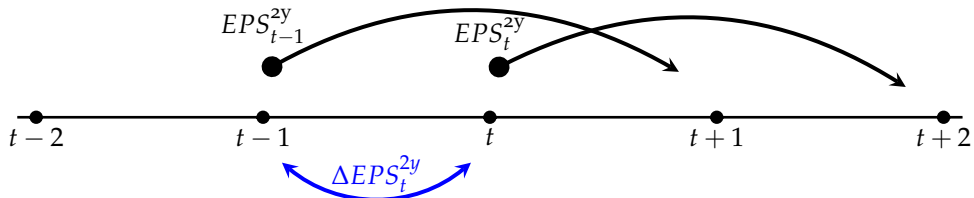


Figure 17: Changes using two-year forecasts (Equation 7)

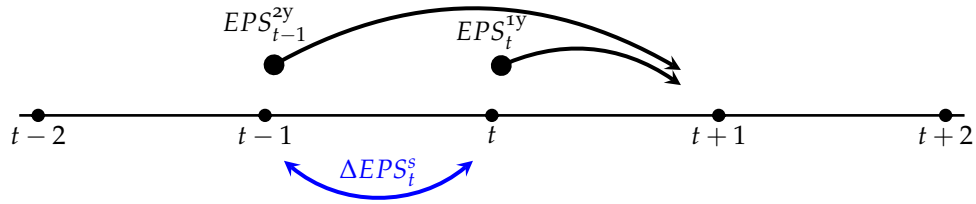


Figure 18: “Smart” changes (Equation 8)

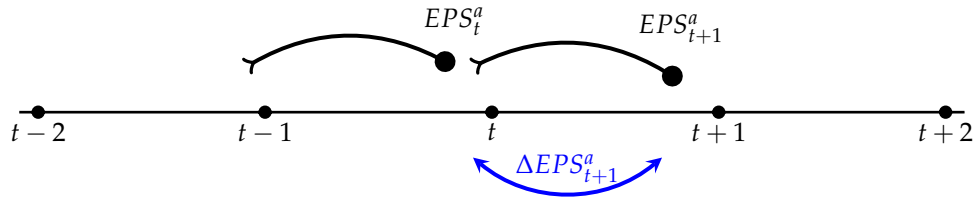


Figure 19: Changes using the actual, realized EPS (Equation 9)

1% most extreme data. The standard errors are clustered by firm. The results are largely robust when using median (instead of mean) EPS forecasts.

4.3.1 Strengths

First we look at how the changes in EPS forecasts vary with the changes in KLD strengths. Examining the full sample, we notice in Table 38 that changes in social strengths are useful at explaining changes in forecasted EPS. It seems that in the short term financial analysts perceive improvements in social strengths as an unnecessary expenditure by firms. The results are similar and consistent for all three estimators of the changes in forecast EPS.

If we examine instead the changes in the realized EPS, we see in Table 39 that while the coefficient for social strengths is still negative, it is no longer significant. It would appear that while financial analysts do take into account changes in social strengths when predicting future EPS, the actual accounting measures do not reflect this information. One interpretation would

	ibes1.meanest.dlt1y all (1)	ibes2.meanest.dlt1y all (2)	ibes2.meanest.dlt12y all (3)
env_str.comp.dlt1y	0.067 p = 0.663	-0.002 p = 0.992	0.052 p = 0.726
soc_str.comp.dlt1y	-0.486* p = 0.072	-0.522** p = 0.042	-0.522* p = 0.063
Industry dummies (FF 12)	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Size	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes
Observations	5,007	5,007	5,007
R ²	0.076	0.088	0.095
F Statistic	17.000***	20.000***	21.700***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.meanest.dlt1y, ibes2.meanest.dlt1y, ibes2.meanest.dlt12y (variables of interest)

Table 38: Changes in EPS forecasts on changes in KLD Strengths, using the full sample.

	ibes1.actual.dlt1y all
env_str.comp.dlt1y	0.272 p = 0.276
soc_str.comp.dlt1y	-0.413 p = 0.434
Industry dummies (FF 12)	Yes
Year dummies	Yes
Size	Yes
Shares outstanding	Yes
Observations	4,849
R ²	0.031
F Statistic	6.330***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.actual.dlt1y (variables of interest)

Table 39: Changes in realized EPS measures on changes in KLD Strengths, using the full sample.

be that the financial analysts are wrong when accounting for improvements in social strengths as having a negative effect on future EPS.

Examining industry cross-sections (using the Fama-French 5 classification) we notice interesting variations across industries (see Table 40). The effect of social strengths identified in the full sample seems almost entirely driven by the Consumer industries (like Consumer Durables such as Cars or Furniture, Non-durables such as Food or Textiles, or Retail Stores³). For these industries analysts estimate that an improvement in social strengths would adversely affect forecasted future EPS in firms. For the Health industries (like Medical Equipment or Drugs) there seems to be a negative effect of improved environmental strengths on forecasted EPS. The Other industries (like Mining, Construction or Transportation) exhibit a similar negative effect from improved environmental strengths.

Turning to the realized EPS in Table 41, the Other industries indeed experience in the short term a negative effect of improved environment strengths on their actual EPS, giving credence to the financial analysts. On the other hand, the realized EPS in the Consumer industries doesn't seem to be affected by changes in social strengths, contrary to the estimates made by financial analysts. The Health industries also do not seem to have the realized EPS affected by changes in environmental strength. However, in Manufacturing industries the realized EPS is higher with improved environmental strengths. This suggests that financial analysts fail to account for this factor when estimating EPS forecasts.

4.3.2 Concerns

Looking at how the changes in EPS forecasts vary with the changes in KLD concerns, we notice in Table 42 that for the the full sample the changes in social concerns are useful at explaining changes in forecasted EPS. In the short term financial analysts perceive a decrease in social concerns as financially useful by firms. This result is only detected when using the "smart" measure of changes in forecasted EPS.

Examining next the changes in the realized EPS, we see in Table 43 that the coefficient for social strengths is still negative, and there is some evidence of statistical significance with a p-value around 10%. Since improvements in

³ See Table 37 for a description of the Fama-French industry classifications.

	ibes1.meanest.dlt1y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_str.comp.dlt1y	-0.240 p = 0.577	0.315 p = 0.164	0.289 p = 0.109	-0.453* p = 0.053	-1.260** p = 0.034
soc_str.comp.dlt1y	-1.600* p = 0.051	0.007 p = 0.990	-0.354 p = 0.425	-0.235 p = 0.625	-0.194 p = 0.715
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	743	1,616	740	372	1,536
R ²	0.089	0.125	0.105	0.026	0.052
F Statistic	5.500***	17.500***	6.540***	0.724	6.470***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.meanest.dlt1y (variables of interest)

	ibes2.meanest.dlt1y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_str.comp.dlt1y	-0.215 p = 0.665	0.230 p = 0.277	0.219 p = 0.209	-0.380* p = 0.063	-1.590** p = 0.023
soc_str.comp.dlt1y	-1.500** p = 0.033	0.096 p = 0.852	-0.634 p = 0.170	-0.544 p = 0.341	-0.200 p = 0.670
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	743	1,616	740	372	1,536
R ²	0.088	0.144	0.112	0.029	0.066
F Statistic	5.440***	20.800***	7.040***	0.809	8.310***

Note: *p<0.1; **p<0.05; ***p<0.01

(b) ibes2.meanest.dlt1y (variables of interest)

	ibes2.meanest.dlt12y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_str.comp.dlt1y	-0.069 p = 0.910	0.082 p = 0.725	0.140 p = 0.423	-0.171 p = 0.372	-0.952*** p = 0.009
soc_str.comp.dlt1y	-1.430* p = 0.070	0.092 p = 0.861	-0.888 p = 0.175	-0.343 p = 0.487	-0.180 p = 0.726
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	743	1,616	740	372	1,536
R ²	0.078	0.146	0.121	0.032	0.064
F Statistic	4.770***	21.000***	7.690***	0.910	8.030***

Note: *p<0.1; **p<0.05; ***p<0.01

(c) ibes2.meanest.dlt12y (variables of interest)

Table 40: Changes in EPS forecasts on changes in KLD Strengths, using industry cross-sections (FF5).

	ibes1.actual.dlt1y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_str.comp.dlt1y	1.470 p = 0.396	0.573** p = 0.030	-0.028 p = 0.914	-0.217 p = 0.334	-0.963** p = 0.018
soc_str.comp.dlt1y	-1.600 p = 0.205	-0.205 p = 0.801	-0.306 p = 0.631	0.480 p = 0.289	-0.470 p = 0.717
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	723	1,570	709	363	1,484
R ²	0.054	0.092	0.028	0.014	0.036
F Statistic	3.090***	12.200***	1.550*	0.368	4.190***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.actual.dlt1y (variables of interest)

Table 41: Changes in realized EPS measures on changes in KLD Strengths, using industry cross-sections (FF5).

	ibes1.meanest.dlt1y	ibes2.meanest.dlt1y	ibes2.meanest.dlt12y
	all (1)	all (2)	all (3)
env_con.comp.dlt1y	0.006 p = 0.974	-0.052 p = 0.758	-0.059 p = 0.722
soc_con.comp.dlt1y	-0.118 p = 0.589	-0.076 p = 0.726	-0.451** p = 0.035
Industry dummies (FF 12)	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Size	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes
Observations	5,007	5,007	5,007
R ²	0.075	0.087	0.095
F Statistic	16.900***	19.900***	21.700***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.meanest.dlt1y, ibes2.meanest.dlt1y, ibes2.meanest.dlt12y (variables of interest)

Table 42: Changes in EPS forecasts on changes in KLD Concerns, using the full sample.

	ibes1.actual.dlt1y all
env_con.comp.dlt1y	0.049 p = 0.816
soc_con.comp.dlt1y	-0.789 p = 0.103
Industry dummies (FF 12)	Yes
Year dummies	Yes
Size	Yes
Shares outstanding	Yes
Observations	4,849
R ²	0.031
F Statistic	6.450***
Note:	*p<0.1; **p<0.05; ***p<0.01

(a) ibes1.actual.dlt1y (variables of interest)

Table 43: Changes in realized EPS measures on changes in KLD Concerns, using the full sample.

areas related to social concerns seems to filter down into accounting measures of firm performance, financial analysts are correct in taking this factor into account when predicting future EPS.

Switching to the industry cross-sections (Table 44), the positive effect of improved social concerns seems almost entirely driven by the Manufacturing industries: analysts perceive a decrease in social concerns as having a positive effect on future EPS. For the Other industries, however, the effect is opposite: a decrease in social concerns seems to be perceived as an unnecessary expenditure and thus lowering the EPS forecasts. In contrast to the full sample results, the High Tech industries (like Computers, Electronic Equipment or Telecoms) experience higher forecasted EPS with a decrease in environmental concerns.

The regressions on the realized EPS (Table 45) confirms the analysts' intuitions when it comes to the Manufacturing industries: a decrease in social concerns does indeed translate into a higher realized EPS. The same doesn't hold in the other two cases. For the Other industries changes in social concerns don't seem to affect the actual EPS. For High Tech industries, as well, changes in environmental concerns don't seem to translate into accounting measures of financial performance. In both of these cases it would seem that analysts take into account factors that don't affect the financial performance of firms in the short term.

4.3.3 Net Performance

In this section we look at the net extra-financial performance of firms (i.e. Strengths – Concerns). For the full sample (Table 46), financial analysts don't seem to be taking into account changes in the net extra-financial performance of firms when forecasting future EPS. This statistically insignificant result is stable across all three measures of yearly changes in EPS forecasts.

The same holds for changes in the realized EPS (Table 47). Overall it doesn't seem like yearly changes in either net environmental or social performance has any impact on the financial performance of firms based on accounting measures.

Things stand quite differently when examining the industry cross-sections (Table 48). For the Consumer industries, an improvement in net social performance would be associated with lower forecasted EPS figures. For the Man-

	ibes1.meanest.dlt1y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_con.comp.dlt1y	-0.360 p = 0.655	0.006 p = 0.977	-0.366 p = 0.526	0.031 p = 0.922	0.005 p = 0.994
soc_con.comp.dlt1y	0.024 p = 0.966	-0.735 p = 0.123	-0.200 p = 0.701	-0.398 p = 0.196	0.755** p = 0.016
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	743	1,616	740	372	1,536
R ²	0.080	0.126	0.104	0.023	0.051
F Statistic	4.900***	17.700***	6.500***	0.660	6.250***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.meanest.dlt1y (variables of interest)

	ibes2.meanest.dlt1y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_con.comp.dlt1y	-0.352 p = 0.637	-0.182 p = 0.341	-0.315 p = 0.601	-0.133 p = 0.663	0.422 p = 0.523
soc_con.comp.dlt1y	0.175 p = 0.749	-0.766* p = 0.094	-0.266 p = 0.606	-0.530 p = 0.136	0.802** p = 0.016
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	743	1,616	740	372	1,536
R ²	0.081	0.146	0.111	0.027	0.063
F Statistic	4.970***	21.100***	6.950***	0.769	7.860***

Note: *p<0.1; **p<0.05; ***p<0.01

(b) ibes2.meanest.dlt1y (variables of interest)

	ibes2.meanest.dlt12y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_con.comp.dlt1y	-0.562 p = 0.417	-0.104 p = 0.606	-1.020* p = 0.054	0.214 p = 0.338	0.318 p = 0.600
soc_con.comp.dlt1y	-0.137 p = 0.801	-1.310*** p = 0.002	-0.804 p = 0.183	-0.275 p = 0.414	0.687** p = 0.028
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	743	1,616	740	372	1,536
R ²	0.074	0.151	0.127	0.033	0.064
F Statistic	4.480***	21.900***	8.160***	0.927	8.060***

Note: *p<0.1; **p<0.05; ***p<0.01

(c) ibes2.meanest.dlt12y (variables of interest)

Table 44: Changes in EPS forecasts on changes in KLD Concerns, using industry cross-sections (FF5).

	ibes1.actual.dlt1y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_con.comp.dlt1y	-0.720 p = 0.592	0.211 p = 0.399	-0.273 p = 0.702	-0.039 p = 0.902	-0.479 p = 0.318
soc_con.comp.dlt1y	-0.397 p = 0.793	-1.520** p = 0.029	-0.857 p = 0.510	-0.433 p = 0.288	-0.014 p = 0.989
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	723	1,570	709	363	1,484
R ²	0.045	0.096	0.029	0.013	0.035
F Statistic	2.580***	12.700***	1.600*	0.358	4.140***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.actual.dlt1y (variables of interest)

Table 45: Changes in realized EPS measures on changes in KLD Concerns, using industry cross-sections (FF5).

	ibes1.meanest.dlt1y	ibes2.meanest.dlt1y	ibes2.meanest.dlt12y
	all (1)	all (2)	all (3)
env_diff.comp.dlt1y	0.028 p = 0.829	0.022 p = 0.869	0.059 p = 0.624
soc_diff.comp.dlt1y	-0.100 p = 0.552	-0.140 p = 0.391	0.104 p = 0.538
Industry dummies (FF 12)	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Size	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes
Observations	5,007	5,007	5,007
R ²	0.075	0.087	0.094
F Statistic	16.900***	19.900***	21.500***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.meanest.dlt1y, ibes2.meanest.dlt1y, ibes2.meanest.dlt12y (variables of interest)

Table 46: Changes in EPS forecasts on changes in net KLD performance, using the full sample.

	ibes1.actual.dlt1y
	all
env_diff.comp.dlt1y	0.122 p = 0.505
soc_diff.comp.dlt1y	0.362 p = 0.348
Industry dummies (FF 12)	Yes
Year dummies	Yes
Size	Yes
Shares outstanding	Yes
Observations	4,849
R ²	0.031
F Statistic	6.340***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.actual.dlt1y (variables of interest)

Table 47: Changes in realized EPS measures on changes in net KLD performance, using the full sample.

ufacturing industries, however, an improvement in net social performance would be associated with higher forecasted EPS figures. In this industry the same is true, though barely significant at 10%, for net environmental performance: an improvement in this area will result in higher EPS estimates by financial analysts.

For the High Tech industries as well an improvement in net environmental performance will result in higher EPS estimates. But not so for the Other industries – an improvement in either environmental or social performance would be perceived by financial analysts as an unnecessary expenditure by the firm, and result in lower forecasted EPS figures.

In Table 49, it is interesting that only the changes in social performance have the same effect on realized EPS as anticipated by the financial analysts. For the remaining industries (Consumer, High Tech and Other), it would seem that changes extra-financial performance doesn't systematically translate into actual changes in financial performance in firms in the short term. This would suggest that analysts mistakenly take into account these factors when estimating future forecasts.

4.4 CONCLUDING REMARKS

In this study we attempt to determine whether ESG information is being incorporated into the financial flows of information. Using historical EPS estimates and KLD ratings, we look into whether yearly changes in extra-financial performance help in explaining the yearly changes in EPS forecasts by financial analysts.

Our results suggest that overall financial analysts expect improvements in social strengths to translate into a lower EPS in the short term, whereas this effect isn't detected when using realized EPS. This suggests that the analysts may be wrong in their estimations when considering shifts in firms' proactive social investments. A decrease in social concerns (i.e. an improvement) is however reflected in both improved EPS forecasts and improved actual EPS results. This would suggest that financial analysts are correct in perceiving positive shifts in (largely exogenous) social concerns as a positive signal for the firms' financial performance. Lastly, when considering the firms' net extra-financial performance these two effects seem to cancel each other out. There seem to be important variations of these effects across industries.

The present study could be improved in several ways. To improve the robustness of the results it would be important include in the model specification additional firm-level controls such as past financial performance or leverage. Future work should also consider adopting the framework of EPS prediction models when attempting to determine whether financial analysts take into account extra-financial information.

	ibes1.meanest.dlt1y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_diff.comp.dlt1y	-0.013 p = 0.979	0.153 p = 0.326	0.299 p = 0.178	-0.204 p = 0.273	-0.786 p = 0.155
soc_diff.comp.dlt1y	-0.554* p = 0.064	0.518 p = 0.176	-0.003 p = 0.992	0.108 p = 0.688	-0.561* p = 0.058
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	743	1,616	740	372	1,536
R ²	0.083	0.125	0.105	0.024	0.054
F Statistic	5.050***	17.700***	6.560***	0.669	6.620***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.meanest.dlt1y (variables of interest)

	ibes2.meanest.dlt1y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_diff.comp.dlt1y	-0.001 p = 0.998	0.220* p = 0.100	0.240 p = 0.247	-0.084 p = 0.666	-1.290** p = 0.036
soc_diff.comp.dlt1y	-0.620* p = 0.090	0.579* p = 0.098	-0.082 p = 0.807	0.068 p = 0.834	-0.612** p = 0.032
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	743	1,616	740	372	1,536
R ²	0.084	0.146	0.111	0.024	0.071
F Statistic	5.160***	21.100***	6.970***	0.687	8.900***

Note: *p<0.1; **p<0.05; ***p<0.01

(b) ibes2.meanest.dlt1y (variables of interest)

	ibes2.meanest.dlt12y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_diff.comp.dlt1y	0.156 p = 0.735	0.116 p = 0.455	0.409** p = 0.030	-0.197 p = 0.241	-0.833** p = 0.048
soc_diff.comp.dlt1y	-0.383 p = 0.208	0.952*** p = 0.008	0.170 p = 0.686	0.002 p = 0.995	-0.515* p = 0.083
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	743	1,616	740	372	1,536
R ²	0.074	0.150	0.121	0.032	0.067
F Statistic	4.450***	21.700***	7.710***	0.917	8.430***

Note: *p<0.1; **p<0.05; ***p<0.01

(c) ibes2.meanest.dlt12y (variables of interest)

Table 48: Changes in EPS forecasts on changes in net KLD performance, using industry cross-sections (FF5).

	ibes1.actual.dlt1y				
	Cnsmr (1)	Manuf (2)	HiTec (3)	Hlth (4)	Other (5)
env_diff.comp.dlt1y	0.989 p = 0.393	0.168 p = 0.380	0.081 p = 0.779	-0.052 p = 0.732	-0.277 p = 0.442
soc_diff.comp.dlt1y	-0.227 p = 0.781	0.990* p = 0.088	0.423 p = 0.667	0.425 p = 0.126	-0.182 p = 0.836
Industry dummies (FF 12)	No	No	No	No	No
Year dummies	Yes	Yes	Yes	Yes	Yes
Size	Yes	Yes	Yes	Yes	Yes
Shares outstanding	Yes	Yes	Yes	Yes	Yes
Observations	723	1,570	709	363	1,484
R ²	0.050	0.094	0.028	0.014	0.035
F Statistic	2.890***	12.400***	1.560*	0.389	4.140***

Note: *p<0.1; **p<0.05; ***p<0.01

(a) ibes1.actual.dlt1y (variables of interest)

Table 49: Changes in realized EPS measures on changes in net KLD performance, using industry cross-sections (FF5).

COMPUTATIONAL DETAILS

The present knitr document (Xie, 2014), which combines L^AT_EX and R code, was written in L^yX (The LyX Team, 2016). All statistical analyses and data manipulations were performed in R (R Core Team, 2013). Many of the results were transformed from R output to L^AT_EX using stargazer (Hlavac, 2015).

Below is a list of all R packages used when compiling this document.

- R version 3.0.2 (2013-09-25), x86_64-pc-linux-gnu
- Base packages: base, datasets, graphics, grDevices, grid, methods, splines, stats, utils
- Other packages: AER 1.2-5, car 2.0-25, clue 0.3-50, Defaults 1.1-1, effects 3.0-4, estimability 1.1, Formula 1.2-0, formula.tools 1.3.4, ggplot2 0.9.3.1, gridExtra 0.9.1, gridGraphics 0.1-3, Hmisc 3.15-0, knitr 1.9, lattice 0.20-31, lmtest 0.9-34, lpSolve 5.6.11, lsmeans 2.20-23, multiwayvcov 1.2.3, operator.tools 1.3.0, plm 1.5-22, plyr 1.8.1, proxy 0.4-14, RANN 2.5, RcmdrMisc 1.0-3, reshape2 1.2.2, sandwich 2.3-3, stargazer 5.2, StatMatch 1.2.3, stringr 0.6.2, survey 3.30-3, survival 2.38-1, tables 0.7.79, vcd 1.4-0, xtable 1.8-2, zoo 1.7-12
- Loaded via a namespace (and not attached): abind 1.4-0, acepack 1.3-3.3, bdsmatrix 1.3-2, boot 1.3-17, class 7.3-9, cluster 2.0.1, coda 0.17-1, codetools 0.2-11, colorspace 1.2-2, compiler 3.0.2, dichromat 2.0-0, digest 0.6.3, e1071 1.6-1, evaluate 0.5.5, foreign 0.8-63, formatR 1.1, gtable 0.1.2, labeling 0.2, latticeExtra 0.6-26, lme4 1.1-7, MASS 7.3-29, Matrix 1.1-5, mgcv 1.8-6, minqa 1.2.4, multcomp 1.4-0, munsell 0.4.2, mvtnorm 0.9-9995, nlme 3.1-120, nloptr 1.0.4, nnet 7.3-9, parallel 3.0.2, pbkrtest 0.4-2, proto 0.3-10, quantreg 5.11, RColorBrewer 1.0-5, Rcpp 0.11.5, readxl 0.1.0, rpart 4.1-9, scales 0.2.3, SparseM 1.7, TH.data 1.0-6, tools 3.0.2

BIBLIOGRAPHY

- Agresti, A. (2013). *Categorical Data Analysis*. Wiley Series in Probability and Statistics. Wiley. (Cited on page 27.)
- Arellano, M. (1987). Computing Robust Standard Errors for Within-groups Estimators. *Oxford bulletin of Economics and Statistics*, 49(4):431–434. (Cited on pages 37 and 64.)
- Bauer, R., Moers, F., and Viehs, M. (2015). Who withdraws shareholder proposals and does it matter? An analysis of sponsor identity and pay practices. *Corporate Governance: An International Review*, 23(6):472–488. (Cited on pages 14, 16, 59, and 60.)
- Bénabou, R. and Tirole, J. (2010). Individual and corporate social responsibility. *Economica*, 77(305):1–19. (Cited on pages 4, 7, 9, and 11.)
- Carhart, M. M. (1997). On persistence in mutual fund performance. *The Journal of finance*, 52(1):57–82. (Cited on page 73.)
- Chatterji, A. K., Levine, D. I., and Toffel, M. W. (2014). Do Corporate Social Responsibility Ratings Predict Corporate Social Performance? *Innovation*. (Cited on page 34.)
- Cuñat, V., Gine, M., and Guadalupe, M. (2012). The vote is cast: The effect of corporate governance on shareholder value. *The Journal of Finance*, 67(5):1943–1977. (Cited on page 59.)
- Demsetz, H. and Lehn, K. (1985). The structure of corporate ownership: Causes and consequences. *The Journal of Political Economy*, 93(6):1155–1177. (Cited on pages 64 and 65.)
- Derwall, J., Guenster, N., Bauer, R., and Koedijk, K. (2005). The eco-efficiency premium puzzle. *Financial Analysts Journal*, 61(2):51–63. (Cited on page 73.)
- Dyck, I., Lins, K. V., Roth, L., and Wagner, H. F. (2015). Do Institutional Investors Drive Corporate Social Responsibility? International Evidence. *Do Institutional Investors Drive Corporate Social Responsibility*. (Cited on page 14.)
- Edmans, A. (2011). Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial Economics*, 101(3):621–640. (Cited on pages 73 and 75.)
- Ertimur, Y., Ferri, F., and Stubben, S. R. (2010). Board of directors' responsiveness to shareholders: Evidence from shareholder proposals. *Journal of Corporate Finance*, 16(1):53–72. (Cited on pages 14, 39, and 59.)
- Ettenson, R., Smith, N. C., Klein, J., and John, A. (2012). Rethinking consumer boycotts. *Image*. (Cited on page 9.)
- Fama, E. F. and French, K. R. (1997). Industry costs of equity. *Journal of financial economics*, 43(2):153–193. (Cited on pages 37 and 64.)

- Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science*, 61(11):2549–2568. (Cited on page 59.)
- Fox, J. (2008). *Applied regression analysis and generalized linear models*. Sage Publications. (Cited on page 27.)
- Fox, J. and Weisberg, S. (2011). *An R companion to applied regression*. Sage. (Cited on pages 25, 27, and 28.)
- Friedman, M. (1970). The social responsibility of business is to increase its profits. *New York Times*. (Cited on page 2.)
- Friendly, M. (2000). *Visualizing Categorical Data*. SAS Institute. (Cited on page 16.)
- Gillan, S. L. and Starks, L. T. (2000). Corporate governance proposals and shareholder activism: The role of institutional investors. *Journal of financial Economics*, 57(2):275–305. (Cited on pages 16, 59, and 60.)
- Gillan, S. L. and Starks, L. T. (2007). The Evolution of Shareholder Activism in the United States. *Journal of Applied Corporate Finance*, 19(1):55–73. (Cited on page 1.)
- Gollier, C. and Pouget, S. (2014). The ‘Washing Machine’: Investment Strategies and Corporate Behavior with Socially Responsible Investors. *Working Paper*. (Cited on pages 13 and 59.)
- Gompers, P., Ishii, J., and Metrick, A. (2003). Corporate governance and equity prices. *The Quarterly Journal of Economics*, 118(1):107–156. (Cited on pages 34, 72, and 75.)
- Goss, A. and Roberts, G. S. (2011). The impact of corporate social responsibility on the cost of bank loans. *Journal of Banking & Finance*, 35(7):1794–1810. (Cited on pages 33, 34, and 75.)
- Grossman, S. J. and Stiglitz, J. E. (1980). On the impossibility of informationally efficient markets. *The American economic review*, 70(3):393–408. (Cited on page 38.)
- Heal, G. (2005). Corporate social responsibility: An economic and financial framework. *The Geneva papers on risk and insurance Issues and practice*, 30(3):387–409. (Cited on page 9.)
- Heinkel, R., Kraus, A., and Zechner, J. (2001). The effect of green investment on corporate behavior. *Journal of Financial and Quantitative Analysis*, 36(4):431–449. (Cited on pages 13 and 59.)
- Hillman, A. J. and Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: What’s the bottom line? *Strategic management journal*, 22(2):125–139. (Cited on page 34.)
- Hlavac, M. (2015). *stargazer: Well-Formatted Regression and Summary Statistics Tables*. Harvard University, Cambridge, USA. R package version 5.2. (Cited on page 89.)
- Hong, H. and Kacperczyk, M. (2009). The price of sin: The effects of social norms on markets. *Journal of Financial Economics*, 93(1):15–36. (Cited on pages 13 and 59.)

- Jensen, M. C. and Meckling, W. H. (1976). Agency Costs and the Theory of the Firm. *Journal of Financial Economics*, 3(4):305–360. (Cited on pages 1 and 11.)
- Jo, H. and Harjoto, M. A. (2012). The causal effect of corporate governance on corporate social responsibility. *Journal of business ethics*, 106(1):53–72. (Cited on pages 34 and 75.)
- Karpoff, J. M., Malatesta, P. H., and Walkling, R. A. (1996). Corporate governance and shareholder initiatives: Empirical evidence. *Journal of Financial Economics*, 42(3):365–395. (Cited on pages 16 and 60.)
- Oikonomou, I., Brooks, C., and Pavelin, S. (2012). The impact of corporate social performance on financial risk and utility: A longitudinal analysis. *Financial Management*, 41(2):483–515. (Cited on pages 34 and 75.)
- Orlitzky, M., Schmidt, F. L., and Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization studies*, 24(3):403–441. (Cited on page 73.)
- Pardo, C. and Valli, T. (2014). Exercise of voting rights by asset management companies in 2013. *Association Française de la Gestion financière (AFG)*. (Cited on page 1.)
- Pigou, A. (1920). *The Economics of Welfare*. *McMillan*. (Cited on page 2.)
- R Core Team (2013). *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria. (Cited on page 89.)
- Renneboog, L. and Szilagyi, P. G. (2011). The role of shareholder proposals in corporate governance. *Journal of Corporate Finance*, 17(1):167–188. (Cited on pages 14 and 59.)
- Renneboog, L., Ter Horst, J., and Zhang, C. (2008). Socially responsible investments: Institutional aspects, performance, and investor behavior. *Journal of Banking & Finance*, 32(9):1723–1742. (Cited on pages 1 and 13.)
- Smith, A. (1776). *An Inquiry into the Nature and Causes of the Wealth of Nations*. *New York: The Modern Library*. (Cited on page 2.)
- Social Investment Forum (2012). Report on responsible investing trends in the US. (Cited on page 4.)
- The Economist (2009). The voice of business: Do companies have a right to free speech? *The Economist*. (Cited on page 2.)
- The Economist (2013). Sex, drugs and hope: How big business fought AIDS in South Africa. *The Economist*. (Cited on page 10.)
- The LyX Team (2016). *LyX – The Document Processor [Computer software and manual]*. (Cited on page 89.)
- Thomas, R. S. and Cotter, J. F. (2007). Shareholder proposals in the new millennium: Shareholder support, board response, and market reaction. *Journal of Corporate Finance*, 13(2):368–391. (Cited on pages 1, 14, 59, 60, and 65.)
- Tirole, J. (2001). Corporate Governance. *Econometrica*, 69(1):1 – 35. (Cited on pages 1 and 2.)

- Waddock, S. (2003). Myths and realities of social investing. *Organization and Environment*, 16(3):369–380. (Cited on page 33.)
- Windsor, D. (2006). Corporate social responsibility: Three key approaches. *Journal of management studies*, 43(1):93–114. (Cited on page 9.)
- Wood, D. J. and Jones, R. E. (1995). Stakeholder mismatching: A theoretical problem in empirical research on corporate social performance. *The International Journal of Organizational Analysis*, 3(3):229–267. (Cited on page 33.)
- Xie, Y. (2014). knitr: a comprehensive tool for reproducible research in R. *Implement Reprod Res*, 1:20. (Cited on page 89.)