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Shareholder Pressure and Company ESG Performance; Are Some CEOs more Influenceable than Others?

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Abstract:

This research uses a regression discontinuity approach to examine the effect of SRI shareholder proposals on company ESG performance through proposal implementation likelihood. Particularly, by focusing on the passage or failure of proposals by a small margin of votes, the setting approaches random assignment of the firms to a control and treatment group. The main findings include 31.8% increased implementation likelihood after proposal passage. Consequently, companies with nearly passed proposals on average have a 5.27-point increase in their ESG score after two years. These findings are shown to be robust and sensitive in multiple additional tests. Next, it is analyzed if certain CEO characteristics have an interaction effect on the main relation. Although the findings do not indicate a significant effect, it is possible that younger and more societally involved CEOs are likelier to implement a proposal after its passing. CEO gender is analyzed, however no (careful) deductions can be made for this characteristic due to limited sample size. As ESG performance of companies is becoming increasingly important, these findings impact stakeholders such as activist shareholders in their decision on which companies to target. But it also helps companies to better understand the decision-making process on ESG issues.

Key words: environmental, social and governance performance; shareholder proposals; regression discontinuity; CEO characteristics.

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1. Introduction

Over the last couple of years, there has been an increase in the trend of shareholder activism in the US, with the highest levels of activist actions yet during 2022 (The Law Reviews, 2022). A shareholder activist is a shareholder who uses their equity stake to bring change within the company, mainly by putting pressure on management (Gillian and Starks, 2007). Preferred targets for shareholder activism tend to be large corporations due to their visibility, media coverage and relation to critical social and environmental issues (Iliev et al., 2015). A notorious example is the climate-focused activist hedge fund Engine No.1, that received enough votes during ExxonMobil's 2021 annual general meeting of shareholders ("GM") to secure three seats on the Board of Directors with a stake of just 0,02% (Financieel Dagblad, 2021). This is just one of the many ways shareholders can put pressure on management to achieve their desired change; other examples include strategic litigation, negotiations with management, publicity campaigns and proxy fights. This research focuses on the possibility for shareholders to submit shareholder proposals, as this is a crucial tool used for shareholder activism and often highlights relevant matters in need of corporate reform (Lee, 2019). Proposals give a low-cost opportunity for (activist) shareholders to convey their opinions to management (Ferri, 2012). A shareholder proposal is a written recommendation to a company and its management concerning a specific topic or course of business and is usually presented at a GM. The proposals are often used for a variety of topics including antitakeover devices, the BoD, voting rules, executive compensation, sale of target firms and auditor choice (Renneboog and Szilagyi, 2011). Most importantly, a majority (56%) of all proposal submissions in 2021 were related to a companies' social responsibility for impact on their people, the environment and society (The Law Reviews, 2022).

Investors undoubtedly engage increasingly in socially responsible investing ("SRI"); accounting for social, environmental, and general ethical characteristics of their investments. Therewith increasingly demanding ethical behavior from companies they are involved with (Al-Najjar and Anfimiadou, 2012; Escrig-Olmedo et al., 2013; Eding and Scholten, 2017). There are multiple ways to assess how companies are performing in this domain, measuring their commitment to sustainable business practices. One of these measures uses environmental, social, and governance related factors to decide how companies implement sustainable behavior ("ESG"). Consistent with the increase in SRI, shareholder proposals currently take a leading role in seeking essential ESG performance of companies (SEC, 2019) and mainly target firms that have the poorest ESG performance (Eding and Scholtens, 2017). Over time, proposals have become increasingly important in reaching this goal (Halme and Niskanen, 2001; Schooley et al., 2010; Dimson et al., 2015). This leads to the following main research question:

1) Is there a relation between shareholder pressure (through shareholder proposals) and change in ESG performance (through increased proposal implementation probability) of a company?

Shareholder proposals, when passed, are not binding and therefore do not necessarily get implemented, referred to as the imperfect compliance issue (Cuñat et al. 2012). This study first looks at the increased implementation probability when a proposal passes and secondly at the

consequential increased ESG performance, both as result of majority shareholder support for shareholder proposals. Intuitively, proposal implementation and therewith possible increased ESG performance strongly depends on the executive board's implementation decision. Thus, it is also interesting to deduce whether there are characteristics of the most relevant executive, the CEO, that impact this implementation decision. This is an important yet largely unexplored aspect of ESG shareholder pressure. Therefore, the main research question is extended by a follow-up question reading:

2) Is the relation between shareholder pressure and change in company ESG performance (through proposal implementation probability) moderated by certain CEO characteristics (i.e., CEO societal involvement, CEO age and CEO gender)?

Combining these characteristics can create a profile for CEOs that are most susceptible to shareholder pressure coming from proposal aimed at increasing ESG performance. On one hand activist investors benefit from this knowledge by targeting companies with more susceptible CEOs, thus being able to use their resources more efficiently. On the other hand, companies and their CEOs benefit due to better understanding of the underlying mechanisms that influence the decision-making process on ESG issues. An obvious complication of this type of research is that the unadjusted main relation is inevitably endogenous making it difficult to validate a causal relation. For example, distinct levels of ESG performance provoke different amounts of shareholder activism and might also be dependent on firm characteristics; and CEOs more likely to implement long-term ESG strategies can be those inherently more likely to perform well and provoke less shareholder activism. To circumvent these empirical concerns this study uses a quasi-natural experiment known as a Regression Discontinuity Design (“**RDD**”). Specifically, this RDD looks at the proposals that pass or fail to make the majority threshold by a small margin of votes during a GM: the close-call proposals. Intuitively, the firms where a proposal passes with a vote share of 50.1% are conceptually not different from the firms where a proposal fails by a vote share of 49.9%. The passage of these close-call proposals provides a source of random variation of companies over these two groups and is unlikely to be correlated with pre-voting firm characteristics. The discontinuity appears at the 50% majority threshold where a minimal increase in vote share is likely to lead to a significant increase in proposal implementation likelihood and ESG performance.

Previous literature mainly focuses on a research setting using corporate governance proposals (Cuñat et al., 2012; Iliev et al., 2015; Fan et al., 2020, Ng et al., 2021) and the SRI proposal RDD studies look at various outcome variables (Flammer, 2015; Cao et al., 2019). This study extends on this literature by looking at the unexplored aspect of the influence of CEO characteristics as moderating effect on the proposal implementation decision and resulting change in ESG performance. By empirically testing a sample of Russel 3000 firms between 2006 and 2022, this study finds robust evidence that nearly passed proposals have a 31.8% higher probability to get implemented compared to nearly failed proposals. A direct consequence of this higher implementation rate is an average 5.27-point higher ESG score for the group where proposals

nearly passed, two years after the voting year, as there are no inherent differences between the groups except the proposal passing. For interaction effects of CEO characteristics, it is possible that CEOs that are younger and more societally involved are likelier to implement shareholder proposals that pass the majority threshold with subsequent improved ESG scores. However, these effects are insignificant, so it is likely that the sample size is too small to make any solid causal inferences. The division of male/female observations within the treatment group for the gender interaction effect is too small to make prudent directional deductions much less, causal inferences. These findings are not just relevant to evident stakeholders such as the environment and employees who benefit from implementation of proposals and enhanced circumstances. They are also relevant to the company and its shareholders in terms of financial returns. While a common narrative nowadays is still that investing in ESG drains companies' resources, it is widely shown that improved ESG performance actually leads to improved financial performance. Improvements are visible inter alia for operating performance, competitive advantage (Flammer, 2015), sales growth (Baron, 2008), labor productivity (Vogel, 2007; Edmans, 2011) and production or process efficiency (Ambec and Lanoie, 2008).

2. Literature Review

This chapter develops hypotheses related to the research questions as posed in the introduction. Paragraphs 2.1 and 2.2 are linked to the main relation and the first research question. Paragraphs 2.3 and 2.4 are related to the moderating effect formulated in the second research question.

2.1. Shareholder Pressure and ESG Performance

Regarding shareholder pressure in general, prior research already comprehensively shows its effectiveness in achieving improved ESG performance within the company. Holzer (2008) perceives the effect of shareholder pressure on company behavior to be relatively predictable and finds a significant relation between the two. Helmig et al. (2016) show that pressure from primary stakeholders (including shareholders) increases ESG initiative implementation within a company. Dimson et al. (2015) report a 13% success rate for certain improvements in SRI related corporate governance when large institutional investors engage. Dyck et al. (2019) also find that the presence of institutional investors as company shareholders is positively associated with ESG performance. Comparable effectiveness is shown for shareholder proposals as a form of specific shareholder pressure (Eding and Scholtens, 2017). Flammer et al. (2021) find that environment-related shareholder proposals are effective in eliciting voluntary climate-related disclosures, especially when initiated by long-term institutional investors. As disclosure can lead to better ESG performance (Tsang et al., 2022), this demonstrates shareholder proposal's effectiveness in attaining improved ESG performance. Similar reasoning is valid for proposals from smaller activist shareholders (also known as corporate gadflies) that also increase ESG performance within the company (Barnett et al., 2022). Although even these corporate gadflies can submit shareholder proposals, shareholders are subject to a certain threshold codified under SEC Rule 14a-8 (SEC, 2020). To reach this threshold, shareholders must have continuously held at least \$2,000 in (or 1% of) market value of the companies' securities for at least three years.¹ If satisfied, a shareholder can make one proposal with a 500-word supporting statement. The proposals are subject to SEC review and need to be received by the firm at least 120 days before proxy statements are distributed to all shareholders. These are just some of the most relevant requirements related to proposals for shareholders and the company. Shareholder proposals generally have a non-binding nature and request that all shareholders vote on the proposed items (Ertimur et al., 2010; Ferri, 2012). Noteworthy is that all shareholder proposals aiming to improve the ESG performance of a company are further labeled in this research as SRI (shareholder) proposals.

2.2. Passing of Shareholder Proposals

The positive effect of proposals is often not only due to their actual passing during a GM. To exemplify, in 2021 only 16% of SRI proposals gained sufficient shareholder support to be passed (The Law Reviews, 2022). Despite low support for shareholder proposals, they can still induce managers to reevaluate choices and adjust the companies' strategy and behavior in line with the

¹ Or at least \$15,000 for two years or \$25,000 for one year. Also noteworthy is that there has been a significant amendment to this Rule, however this was enacted last January (2023) so results cannot yet be studied.

goal of the proposal (Flammer, 2015; Flammer and Bansal, 2017). They stimulate managers to reassess advantages and disadvantages of ESG, putting more weight on the advantages (Flammer et al., 2019). Furthermore, the proposals may make managers more aware of societal issues (e.g., natural environment and the related climate risks of the firm itself) and therefore more willing to engage in positive ESG behavior (Flammer et al., 2019; Tsang et al., 2022).

Besides this manager awareness aspect, voting support is in itself a more important source of shareholder pressure (Eritmur et al., 2010). Research shows that passing of shareholder proposals has additional positive consequences in alignment with the proposals' objective. Eritmur et al. (2010) show that shareholder proposals with a majority vote have a 20.7% higher probability of being implemented compared to proposals with a minority vote. Multiple other studies use RDD and close-call shareholder proposals as a source of random assignment. These studies, mostly looking at close-call corporate governance related proposals, find evidence that a slight difference in the voting support for these proposals (resulting in a proposals' narrow passing) leads to a significantly higher possibility of implementation of the proposal. This in turn leads to better corporate governance within the voting company, emphasizing the importance of involved shareholders within a company's corporate structure (Cuñat et al., 2012; Iliev et al., 2015; Fan et al., 2020). Additionally, close-call proposals are utilized in finding evidence for causal effects for passage's increased effectivity with regards to valuation effects, long-run performance, innovation, information production and management opportunistic behavior (Cuñat et al., 2012; Flammer and Bansal, 2017; Chemmanur and Tian, 2018; Lin et al., 2020; Ng et al., 2021). This approach is more sparingly used in a setting with SRI proposals. Cao et al. (2019) show that the passage of close-call SRI proposals and increased implementation likelihood is associated with higher stock returns and is followed by adoption of similar ESG practices by peer firms. Flammer (2015) finds evidence for superior financial firm performance due to implementation of narrowly passed SRI proposals and the follow-up improved ESG performance. These studies look at close-call proposals as a form of random assignment of ESG performance to companies and the effects of this ESG performance on a certain outcome variable. This study differs from these, as the unique aspect is the investigation of a moderating effect of CEO characteristics on managerial implementation decisions. Consequently, the first hypothesis concerning the main relation forms the basis for the follow-up hypotheses concerning moderating effects as set out in paragraphs 2.3 and 2.4. Accordingly, the main relation does not investigate the effects of ESG on some outcome variable but the proposal implementation likelihood and consequential ESG performance are outcome variables themselves, similar to the design of Eritmur et al. (2010). This leads to the first hypothesis:

H1: companies with majority support SRI proposals show significantly higher implementation likelihood and consequently positive change in ESG performance as compared to companies with minority support for SRI proposals.

Hypothesis 1 is twofold and first explores the effect of proposal passing on its implementation likelihood. This is the main relation necessary to estimate moderating effects. Secondly, it includes

positive consequences of the difference in implementation in terms of ESG performance as increased ESG performance follows proposal implementation, explained above. This hypothesis tackles both these aspects of the first research question to find a relation between shareholder pressure and ESG performance.

2.3. Management Discretion in Proposal Implementation

Earlier studies propose plausible causes of additional implementation of proposals with a majority of votes, although shareholder support in itself is only marginally increased compared to the close-call minority group. Reasons are first modeled by Thomas and Cotter (2007) and augmented by Ertimur et al. (2010). It is mainly due to effects on the management decision which is in turn influenced by several conditions including the proposal's voting outcome, firm characteristics, ownership composition, type of proposal, shareholder pressure, governance characteristics and time period. Consequences of not implementing a majority proposal might also influence management as it often entails that the company will be subject to negative publicity (including from shareholder organizations), undermined investor confidence and possibly activist campaigns (Bach and Metzger, 2017). Moreover, not implementing a majority voted proposal is associated with direct board-level actions. Including an approximate 20% increase in the probability that managers lose their seat on the companies' management board and lose other directorships, giving managers additional personal incentives to implement a passed proposal (Ertimur et al., 2010). All above-mentioned elements are integrated into the decision-making process of management; implementation of a proposal is ultimately dependent on their discretion. Accordingly, an important part of the passed proposals' effect on ESG performance is governed by the ability of proposals to influence managers' strategic choices. This raises the question if there are any characteristics of top management that might lead to a stronger or weaker impact (i.e., moderating effect) of these shareholder proposals on the likelihood that they are implemented and therewith improve ESG performance, seemingly in line with the upper echelons theory (Hambrick, 2007). The upper echelons theory dictates that organizational outcomes and firms' strategic choices (e.g., R&D investment, international acquisitions, and anti-takeover provisions) are significantly related to certain characteristics of top managers (Barker and Mueller, 2002; Matta and Beamish, 2008; Oh et al., 2016b). As CEOs have the highest influence on ESG decisions (Lim and Chung, 2021), their characteristics are of principal importance in this context. Research demonstrates that ESG performance is affected through the executive's attention to, interpretation of and decisions concerning ESG strategic decisions (Huang, 2012; Oh et al., 2016b). However, to my knowledge, there is no prior research of a possible moderating effect specific CEO characteristics have on the main relation. Although intuitively, it makes sense that certain CEOs exhibit varying degrees of willingness in implementing shareholder proposals, especially when related to ESG. Therefore, some CEO characteristics are addressed in paragraph 2.4. to delve deeper into this matter for a more comprehensive understanding of a moderating effect on the main relation.

2.4. CEO Characteristics as Moderating Effect

There is quite some evidence in earlier research to assume that Hypothesis 1 holds, nevertheless it is still important to test this relation in this research setting. However, as stated before, uncertainty and originality lies mostly in the following hypotheses which scrutinize a possible moderating effect on the relation in Hypothesis 1. Namely, whether societal involvement, age and gender lead to a CEO being more likely to implement a passed SRI proposal, ultimately leading to higher ESG performance. These characteristics are discussed as sub-hypotheses in the following paragraphs.

2.4.1. Societal Involvement of CEO

This specific topic is not thoroughly analyzed yet, nevertheless Bojanic (2023) emphasizes the importance of a CEO that is socio-politically involved for good company ESG performance and Everaert et al. (2019) find influence of CEO ethical idealism on ESG disclosures. Intuitively, also the notion that societally involved CEOs can be influenced more strongly by shareholders pushing for better ESG performance, seemingly in line with their own convictions, is coherent. Leading to the first sub-hypothesis:

H2a: A CEO's societal involvement has a positive moderating effect on the relation between shareholder pressure through SRI proposals and implementation probability and consequently positive change in ESG performance.

An important side note is that the societal involvement of CEOs may also be “window-dressing” and is only deployed for personal and company reputational purposes instead of ethical idealism motives. In that case, societal involvement is not a suitable proxy for intrinsic motivation to increase stakeholder wellbeing and may not lead to any significant impact at all. This ambiguity makes this sub-hypothesis the most interesting.

2.4.2. CEO Age

Oh et al. (2016a) find that a CEO's paradigm affects organizational performance. Their perspective on management and how to lead a company is dependent on the length of their tenure and becomes increasingly outdated. CEOs with longer tenure tend to be more rigid and prefer the status quo (Simsek, 2007) compared to CEOs with shorter tenure who are generally more flexible and adaptable; essential qualities in achieving good ESG performance. Additionally, shorter tenure CEOs tend to be more perceptive to stakeholders' interests (Oh et al., 2016a); including that of shareholders. Besides CEO tenure, this concept also captures CEO age and career horizon. CEOs near retirement age are less likely to make decisions focused on the long-term; this phenomenon is referred to as the career horizon problem (Matta and Beamish, 2008; McClelland et al., 2012; Oh et al., 2016a). Due to the long-term orientation and long-term pay-off of ESG investment, CEOs closer to the retirement age are less likely to benefit from and consequently less likely to invest in ESG initiatives (Oh. et al., 2016a), making them less susceptible to SRI shareholder pressure. For sake of brevity these two concepts are captured together. Intuitively, this is possible because CEO tenure is usually similar within the Russel 3000 firms and the age of CEOs in these firms is often also similar. As age and tenure move in the same direction and are both measured in years it is beneficial to combine these concepts in CEO age leading to the second sub-hypothesis:

H2b: CEO age has a negative moderating effect on the relation between shareholder pressure through SRI proposals and implementation probability and consequently positive change in ESG performance.

2.4.3. CEO Gender

Research shows that CEO gender generally has an impact on a firm's ESG performance; companies led by female CEOs have more active ESG participation (Manner, 2010; Huang, 2013). Females are also generally more considerate of others due to inherent values including benevolence and universalism (Croson and Gneezy 2009; Lim and Chung 2021). Consequently, companies led by female CEOs are more likely to involve welfare of stakeholders and nature in decisions (Adams and Funk, 2012; Lim and Chung 2021) Thus making females more susceptible for shareholder pressure regarding ESG performance. This leads to the last sub-hypothesis:

H2c: The gender "female" for CEOs has a positive moderating effect on the relation between shareholder pressure through SRI proposals and implementation probability and consequently positive change in ESG performance, as compared to the gender "male".²

² For sake of brevity this research disregards any other gender identities besides female and male.

3. Data, Operationalization and Sample Construction

As mentioned, this research design is dependent on an RDD approach as key identification strategy by focusing on the passage of close-call SRI proposals within a firm and the subsequent proposal implementation probability and firm ESG performance. In this chapter the main variables are operationalized, and the data sample is discussed.³

3.1. Shareholder Pressure

The operationalization of shareholder pressure is through shareholder proposals. To obtain information on these, the ISS database is called upon. This database contains extensive information on shareholder proposals submitted to Russell 3000 companies from 2006 to 2022 and distinguishes between proposal topics related to corporate governance and SRI proposals.⁴ Cao et al. (2019) cross-validate SRI proposals from RiskMetrics's SharkRepellent database and find them to be consistent with those in the ISS database.⁵ Each shareholder proposal receives votes “for”, “against” or “abstain”. The independent variable of interest (*LevelOfSupport*) measures the percentage of votes “for” the proposal, is numerical and continuous between 0-100. For simplicity, passing is assumed if *LevelOfSupport* is 50% or greater, although there might be a small number of proposals that need an enhanced majority vote to pass. The ISS database contains proposals from institutional investors and corporate gadflies, but no direct differentiation is made between these two or other types of sponsors. Neither is there a distinction between the different topics of the proposals (labor, environment etcetera), elaborated on in paragraph 5.2.

As expected, (paragraph 2.2.) and visualized in Figure 1 in Appendix C, SRI proposals usually do not gain a lot of support during the annual meetings; about 50% of the proposals receive less than 20% of votes. Just a small part of the proposals makes it to the majority threshold. This is in line with the theory that SRI proposals have a twofold purpose; they are submitted primarily to bring attention of the public and management to ESG issues and only secondarily to pass and get implemented (Loss and Seligman, 2004). Regardless, there is a trend visible that SRI proposals increasingly gain shareholder support, likely due to an increase in shareholders’ awareness for ESG issues (Flammer, 2013), visualized in Table 1 in Appendix B. Accordingly, using proposals from early years might give a distorted view of the current landscape for ESG and shareholder proposals (which also changed significantly after the Enron type scandals in the early 2000s). Although recent observations are most representative, there is a trade-off due to the limited number of observations around the threshold (necessary for RDD). Middle ground for sufficient and recent enough observations is found between the years 2006-2022. The nearly passed proposals during this period are labeled as the treatment group and together with the nearly failed proposals, labeled as the

³ Libby Boxes to visualize the operationalization can be found in Appendix A and an overview of all variables, their description and source can be found in Appendix F.

⁴ The ISS database actually covers shareholder proposals starting from 1997, however the EUR credentials only give access to 2006 and onward.

⁵ As the EUR does not provide access to the SharkRepellent database, I am not able to cross-validate the data myself. However, I assume consistency in line with Cao et al. (2019); Audit Analytics also contains information on shareholder proposals; however, this information is less comprehensive compared to the other two databases.

control group, form the close-call sample.⁶ Further descriptive statistics for these groups, the close-call sample and the full range sample can be found in Panel A of Table 2 in Appendix B.

3.2. Proposal Implementation and ESG Performance

There is a lack of pertinent information on actual proposal implementation and due to the imperfect compliance issue, the passing of a proposal is an inadequate proxy for this concept, making it necessary to construct one. Flammer (2015) and Cao et al. (2019) make use of three resources to determine whether a proposal is implemented. The initial and most relevant method checks whether there is an increase in ESG performance after the voting year, signaling proposal implementation. They supplement this with similar information from different databases and manually collect data on actual implementation through 10-K filings, corporate and third-party websites, or the news through Google search. Due to lack of time, this research solely utilizes the initial method. The first step herein is operationalizing a measure for company ESG performance. This study bases this on ESG quantification by the Thomson Reuters Refinitiv database where companies are evaluated based on publicly reported and verifiable data leading to certain aggregate ESG scores. These scores are determined from ten categories, namely: resource use, emissions, environmental innovation, workforce, human rights, community, product responsibility, management, shareholders and ESG strategy. Besides the aggregate ESG score there is an ESGC(ombined) score, that includes important controversies reported in the media. This ESGC score depicts company ESG performance in this research.⁷ The ESGC score is a numerical continuous variable with a range between 0-100 and a higher score represents better ESG performance. To cross-compare companies' ESG performance it is relevant to look at the difference in ESGC scores between the year before and the year after the GM where the proposal was voted on (a two-year gap). The gap between the two consequent scores is depicted by *ESGDifference*, the secondary dependent variable in this study. *ESGDifference* is then transformed to the primary dependent variable *ESGDummy*: a dummy variable that equals 1 if there is an increase (positive *ESGDifference*) in ESGC score over the two-year period and 0 otherwise (negative or unchanged *ESGDifference*). In line with Flammer (2015) and Cao et al. (2019), 1 represents proposal implementation and 0 represents that the proposal was not implemented.

An important caveat for using *ESGDummy* as a proxy for proposal implementation is twofold. First, an increased score in the post vote year can also be due to other factors and is not necessarily only due to proposal implementation. This element is mostly addressed by the research design, as the possibly influencing factors are randomly assigned between the control and the treatment group and should therefore balance out. Any significant difference in implementation probability between the groups is then likely due to the passing of the proposal. Second and more importantly, this study

⁶ The derivation of the close-call sample for the Main Model and for the Moderating Model is derived through utilization of an optimal bandwidth method and is further elaborated in paragraph 4.2.1.

⁷ ESGC is chosen as dependent variable because controversies in the media are closely related to more shareholder pressure and therefore ESGC is a better representation of the ESG performance. A cross-reference check of the scores is not possible due to the different format and measurement method that every database uses, however as Refinitiv is one of the largest ESG content collection operations in the world, it is reliable enough.

does not differentiate within proposal topics and the elements wherein the ESGC score increases due to time constraints. Consequently, there is no guarantee that the ESG investments made by managers are aligned with the specific shareholder requirements in the narrowly passed proposal. It might be that the ESGC score increases as the proposal and related shareholder support inspires managers to investigate other aspects of ESG without implementing the proposal in question. Accordingly, *ESGDummy* is better described as managers' reaction concerning ESG to narrowly passed or failed SRI shareholder proposals instead of the unnuanced proposal implementation. However, for simplicity's sake this study assumes *ESGDummy* as full proxy for proposal implementation.

The observations for *ESGDummy* are matched to the shareholder proposal data, keeping solely firm-year observations.⁸ After relevant control variables are added, 1,428 observations remain in the complete shareholder proposal sample.⁹ It is important that there are sufficient proposals near the 50% threshold to have adequate power for the RDD. Fortunately, there are still 156 proposals within the $\pm 10\%$ interval around the majority threshold and 56 proposals within the $\pm 5\%$ interval around the majority threshold. Flammer's (2015) data sample has less or similar proposals within these intervals (61 proposals within the $\pm 5\%$ interval and 122 within the $\pm 10\%$ interval) and she finds that the sample size, although relatively small, is sufficient. Authors using governance proposals (Cunat et al., 2012; Ng et al., 2020; Fan et al., 2021) have larger sample sizes due to availability of more observations (around the threshold).¹⁰

3.3. CEO Characteristics

Information on CEO characteristics is collected from BoardEx: a database disclosing information on executives of large companies including the Russel 3000, relevant in this research. Executive information disclosed includes age, gender, and membership in non-professional activities such as charities, leisure, and country clubs. CEO societal involvement is measured through a dummy variable indicating whether a CEO is involved in charity work (1) or not (0) (*CharityDummy*). Although this variable is not a perfect proxy for societal involvement, it is defensible as CEOs of large companies are substantially occupied and their time has a high opportunity cost. If they are investing their time into charity work, intuitively they are likely to feel some sort of duty to society, unless this is due to the window-dressing effects as described in paragraph 2.4.1. As this is the first study (to my knowledge) to use this concept as a proxy there is ambiguity over its direction and implications. However, this original concept justifiably nears societal involvement and a CEO's motivation to do good and is therefore worth investigating.

Multiple CEOs from the BoardEx universe are involved in numerous other activities, spread over various years. This research looks at activities that CEOs were involved in at the time of the close-

⁸ When there are multiple proposals per company in one year, all observations but one is dropped to prevent bias. The remaining observation is the closest to the threshold, lending power to the identification strategy.

⁹ An example of a closely passed and failed proposal from the dataset is added for imaging purposes in Appendix D.

¹⁰ To be positive the methods used to edit the sample and merge the databases is correct, coding used in this study is cross-checked on the data for governance proposals to see if similar to the numbers that Fan et al. (2021) find.

call proposal. Due to the inability to distinguish the amount of time and effort a CEO dedicates to other activities, there is no additional effect included of engagement in more than one activity, hence the dummy. One caveat of the method used is that BoardEx only gives datapoints on a CEO's charity work if known by them and does not indicate when a CEO does not engage in other activities. Therefore, when a CEO is involved in charity work, but this is not included in the BoardEx database, it is incorporated in the research as though this is not the case and not just as missing value. However, as this study only looks at large companies, the database should be comprehensive enough. Also, there is no reason to believe that potential missing values are biased directionally, further mitigating this concern.

CEO career horizon and tenure are measured by capturing a discrete variable representing CEO age during the year of the close-call proposal (*Age*). Age might not be the perfect proxy for career horizon and tenure as CEOs start and retire at different ages, however this proxy catches the general trend of yearly advancing away from their starting date and toward retirement. Therefore, being fitting enough as proxy to estimate the moderating effect. As BoardEx misses some values for CEO age, the data is supplemented with information from Compustat's Execucomp database and Google search where necessary. CEO gender is given by a dummy variable indicating whether the CEO is male (0) or female (1) (*GenderDummy*). Descriptive statistics for characteristics of the close-call sample and for the control and treatment group separately are in Panel B-D of Table 2 in Appendix B. Note that the number of observations here differs from the close-call sample in Panel A of Table 2 as there are less observations left in the sample for the moderating effect. An initial concern is the small number of observations in the relevant samples. This is especially problematic for the gender sample as there are only six females in the close-call sample (as opposed to 109 males); likely making it difficult to find causal inferences.

4. Methodology

As briefly explained in the introduction, this study uses a quasi-natural experimental design where treatment is dependent on the running variable (the vote share) exceeding a certain threshold (50%) (Lee and Lemieux, 2010). Using a straightforward global linear regression in this context is problematic because the passage of a proposal is highly endogenous and unlikely to be independent from the error term. Ideally, passing or failing of a proposal should be a randomly assigned variable. To approach this ideal situation, Cuñat et al. (2012) (inspired by Eritmur et al., 2010) develop a method adapting the RDD framework to estimate the effect of shareholder proposals on certain outcome variables. Their research presumably mitigates endogeneity concerns by looking at proposals that pass or fail by a small margin of votes as identification strategy. Plausibly, whether a proposal fails with 49.9% of shareholder votes or passes with 50.1% is as good as random; the assignment of passed SRI proposals to companies is uncorrelated with firm characteristics. The close-call passage of SRI proposals therefore provides a source of random variation that can be used to estimate the causal effect of passing an SRI proposal on its implementation probability and consequently company ESG performance. An important limitation of this research design is the relatively small sample size used, due to the small subset of observations near the majority threshold. This is the trade-off of a less endogenous causal relation estimation. Although this limitation is inherent to RDD, it is important to note in advance that this influences various decisions in this study, mentioned where relevant.

Various authors make use of this RDD framework to analyze some type of outcome variable. This research design is inspired by five earlier studies; the developing paper (Cuñat et al., 2012), two SRI-proposal studies (Flammer, 2015; Cao et al., 2019) and two corporate governance studies (Ng et al., 2020; Fan et al., 2021). This study cherry-picks the most fitting and feasible elements from the above-named prior studies, drawing most heavily from the studies using SRI proposals. However, there has not been any study in this field including moderating effects, correspondingly, this element is not directly based on earlier research.

4.1. Tests for a Quasi-Randomized Assignment

The essential assumption for the RDD to be reliable and practicable as main test, is the randomness assumption. This assumption is checked by means of two pre-tests in the following paragraphs.

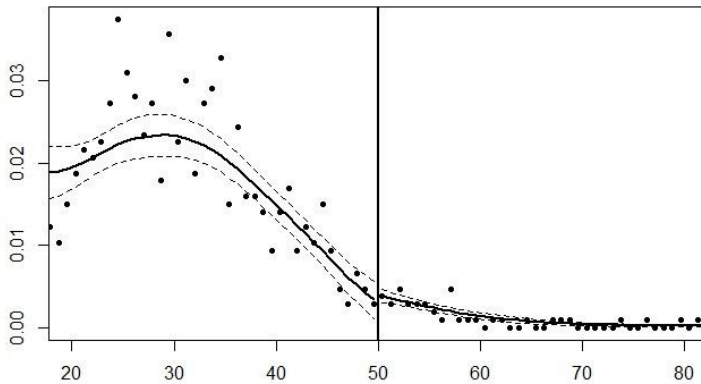
4.1.1. Continuity in the Distribution of Shareholder Votes

The first assumption is that the passing of a proposal must be as good as randomly assigned around the majority threshold; distribution of vote expectations is similar on both sides (Cuñat et al., 2012).¹¹ Thus, the continuity of the distribution of *LevelOfSupport* around 50% is tested. Any discontinuity in shareholder votes can be an indicator of nonrandom assignment between the shareholder proposals in the control and treatment group. This method follows McCrary (2008) and tests the necessary smoothness of the density function around the threshold visually and

¹¹ Note that this specifically concerns continuity of voting distribution around the threshold and not implementation probability, as the latter should in fact show a discontinuity.

formally.¹² The visual inspection of Figure 2 below, indeed confirms a smooth and continuous distribution without a notable discontinuous leap. The line itself is not very meaningful in this test. Moreover, as the significance level is 42%, the null hypothesis of continuity at the threshold cannot be rejected. Accordingly, there is enough evidence to assume random distribution of shareholder votes.

Figure 2 Visualization of the McCrary (2008) Test



Notes: Figure 2 represents a visualization of the McCrary (2008) test for continuity of vote share distribution around the majority threshold. The x-axis represents the percentage of votes in support of a proposal and the y-axis represents the logarithm of the estimated density.

4.1.2. Preexisting Differences

As mentioned in paragraph 3.2., the treatment and the control group should not differ significantly from each other based on ex ante firm characteristics. If they do, it can be an indication of manipulation of shareholder voting by corporate bodies (e.g., shareholders and management), making the RDD less reliable (Lee and Lemieux, 2010). This concern is reduced by Kahan and Rock (2008) that show companies use various impediments to prevent voting manipulation. This especially prevents very precise manipulation, keeping the treatment near the threshold randomized. However, results of formal tests to show this are shown in columns 5 and 6 of Panel A of Table 2 in Appendix B for the control and treatment groups (full – and close-call samples). Various firm characteristics are set out for the pre-voting year, $t-1$ (only the number of proposals is set out for the voting year t) and the difference between the two groups is calculated. Following up, a t-test determines whether these differences in key characteristics between firms of failing and firms of passing proposals are significant. Column 5 shows the differences for the close-call sample around the bandwidth, and it is visible that there are no systemic or significant differences for any firm characteristics between the control and the treatment group. The full sample estimates, shown in Column 6, indicate differences for certain characteristics that near the 10% significance threshold. From this it can be inferred that that (in line with the theory) ex ante differences between

¹² Finding a smooth distribution is a distinctive feature for shareholder sponsored proposals as opposed to manager sponsored proposals (Cuñat et al. 2012).

the two groups of firms become less significant around the majority threshold. This lends the essential support to the identification strategy used and confirms there are no inherent differences between the companies in the control and treatment group near the threshold.

4.2. Research Framework

In prior research there are two variants to use RDD on shareholder proposals: a linear and a polynomial method. Cao et al. (2019) primarily use the linear method and the other four exemplar studies mainly utilize a global polynomial method. The linear method uses a local linear regression with a subsample of proposals limited to a bandwidth of observations around the threshold. The global polynomial method includes the entire sample of proposals and contains two independent variables with a polynomial each representing one side of the threshold, allowing for a discontinuous leap at the cutoff. The biggest advantage of the polynomial method is that it does not disregard all non-close SRI proposals, leading to more accurate inferences on the entire population. However, this last method fails to consider the RDD's strong locality and weak externality effects important to this approach (Bakke and White, 2012). More importantly, estimating an interaction effect with a polynomial regression is not straightforward and the results are difficult to interpret. Consequently, the linear method is the Main Model in this research and a polynomial estimation is solely used as robustness test.

4.2.1. Main Model

For the linear method small “neighborhoods” on both sides of the threshold are used to estimate discontinuities in the firms’ increased SRI proposal implementation likelihood. Added together, these neighborhoods are referred to as the bandwidth. To decide the optimal bandwidth, it is important to realize the presence of a trade-off. On one hand for a wider bandwidth more observations and therewith variance and on the other hand, a smaller sample but closer to the threshold better satisfying the randomness assumption. There are multiple ways to calculate the optimal bandwidth including a simple unoptimized rule of thumb based on sample size and variance, cross-validation selecting a bandwidth minimizing the prediction error, the Calonico method (2014) and the Imbens and Kalyanaraman (“**IK**”) method (2010). The first two methods are unstable and inconsistent and do not provide any theoretical justification.¹³ The Calonico method is data-driven and reliable, but computationally intense and requires a large sample to work well. Studies employing this approach (i.e., Fan et al., 2021), often examine corporate governance proposals, with a substantially larger number of observations. The IK method is also robust and reliable although it has the drawback of sensitivity to outliers and extreme values. However, because the range for observations of shareholder proposals is always between 0-100% this drawback is not problematic in this research design and therefore this is the preferable method. Calculation through IK minimizes the mean squared error of the local linear regression estimator considering the trade-off between variance and bias. The calculated IK bandwidth for the sample

¹³ I.e., the rule of thumb renders a total bandwidth of more than 15% on either side of the threshold, making it unlikely that the observations are still randomly distributed when there might be a 30% total voting difference.

is 9.887% on either side of the threshold.¹⁴ Within this threshold are 154 observations, of which 121 observations are in the control group and 33 in the treatment group, similar to the sample size Flammer (2015) uses. This close-call sample forms the subsample for a linear estimation approach capturing the difference in proposal implementation probability of the company as consequence of narrow passage of an SRI proposal (Cao et al., 2019). This research uses an OLS approach allowing for a continuous estimate, shaping the Main Model:

$$ESGDummy_{i(t-1 \rightarrow t+1)} = \alpha + \beta * LevelOfSupport_{it} + \rho * Treatment_{it} + \mathbf{z}_{it} + \varepsilon_{it}$$

Equation (1)

where $ESGDummy_{it}$ depicts whether a proposal is implemented (1 if increased ESGC score between the pre- and post-voting year and 0 otherwise) for the firm of interest (i) in time period $t-1$ to $t+1$. $LevelOfSupport_{it}$ is the percentage of the votes favoring the SRI proposal, centered at the 50% threshold for the firm of interest in time period t (the voting year), this coefficient is not discussed for brevity's sake. \mathbf{z} represents a set of control variables and ε represents the error term. $Treatment_{it}$ is a dummy variable equal to 1 if the SRI proposal is passed and 0 otherwise, indicating whether an observation is part of the treatment or the control group. The estimate of ρ contains the relevant information because it captures the discontinuity at the majority threshold. Meaning, the difference in probability of implementing a proposal if a firm marginally passes or rejects an SRI proposal: the main relation of interest. The expectation is that this coefficient is significantly positive, as the passing of a proposal (and increased shareholder pressure) should lead to a significantly higher likelihood of proposal implementation. In terms of magnitude, the proposal passage should lead to higher ESG performance. To formally test this, the $ESGDifference$ is set out in paragraph 5.1.3. for the control and the treatment groups in order to find significant differences in ESGC score increase. It is predicted that the ESGC score increase for the treatment group is significantly larger than for the control group. The answer to the first research question is dependent on these two subsequent steps, first analyzing proposal implementation and next ESG performance improvement.

Normally, RDD does not require utilization of any observable control variables for identification if the assignment is truly random (Cao et al., 2019). However, the bandwidth of this sample is wider than preferable due to the small sample size; characteristics of firms on either side of the threshold may not be ideally similar. Therefore, control variables are included although the number is limited due to insufficient observations. The effect is estimated with and without controls to examine how much the coefficient differs, providing us with more information on the random distribution. The included controls mostly follow earlier research on this topic (Flammer, 2015; Cao et al., 2019; Dai et al., 2021). They include a measure for firm size: the natural logarithm of total assets ($lnTA$), the firm leverage ($Leverage$), the percentage of stock that is held by an institutional owner ($InstOwn_Perc$) and the total number of proposals in year t

¹⁴ IK bandwidth and optimal bandwidth are used interchangeably unless indicated otherwise.

(*Amount_of_proposals*).¹⁵ These controls are included as intuitively these elements affect the vote share of a proposal as well as the change in implementation likelihood.¹⁶ The continuous controls (or continuous variables required to calculate them) are winsorized at a 1% level. Fixed effects are not used in this small sample due to limited variability and risk of freedom degrees loss.¹⁷ Multiple additional tests are conducted to check the robustness and sensitivity of the results (e.g., additional fixed narrower and wider bandwidths), these are explained in paragraph 5.2.

4.2.2. Moderating Model

To estimate the interaction effect of the CEO characteristics on the main relation, Equation 1 is augmented with variables representing each of these moderating characteristics:

$$ESGDummy_{i(t-1 \rightarrow t+1)} = \alpha + \beta * LevelOfSupport_{it} + \rho * Treatment_{it} + \lambda_1 * CharityDummy_{it} + \lambda_2 * Treatment_{it} * CharityDummy_{it} + \lambda_3 * Age_{it} + \lambda_4 * Treatment_{it} * Age_{it} + \lambda_5 * GenderDummy_{it} + \lambda_6 * Treatment_{it} * GenderDummy_{it} + z_{it} + \varepsilon_{it}$$

Equation (2)

Equation 2 estimates the Moderating Model and includes a variable for the three CEO characteristics and separately the interaction effects. The dependent variable represents the implementation of a proposal (*ESGDummy*), and the independent variables represent the level of shareholder pressure (*LevelOfSupport*) and capture the discontinuity (*Treatment*). The coefficient λ in front of the moderating term (λ_2, λ_4 and λ_6) is the coefficient of interest for this model and decides whether the interaction effect in question is significant.¹⁸ This is estimated using the interaction with *Treatment* to capture the moderating effect at the discontinuity; if a certain characteristic makes a CEO more likely to implement a proposal after its passing. From this it can be deduced if a CEO with certain characteristics is more susceptible to shareholder pressure. As explained in paragraph 3.3., *CharityDummy* equals 1 if a CEO is involved with charity work and 0 otherwise. Consistent with Hypothesis 2a, it is expected that the coefficient λ_2 is significantly positive as a more societally involved CEO is more likely to implement SRI proposals after their passing. *Age* represents the CEO's age during the voting year. The expectation for the coefficient λ_4 is based on Hypothesis 2b and is expected to be significantly negative as the willingness of a CEO to implement SRI proposals after their passing decreases with age and tenure. Lastly, *GenderDummy* is 1 if a CEO identifies as female and 0 if the CEO identifies as male. The expectation for coefficient λ_6 is to be significantly positive as females take interests of stakeholders into greater account and are likely more willing to implement an SRI proposal after its passing. There are 115 close-call proposal observations to estimate the moderating effect, note that this is

¹⁵ These are the control variables that are used for all (additional) tests, unless stated otherwise.

¹⁶ E.g., the number of proposals might affect implementation likelihood as described in paragraph 2.2. as well as shareholder support for one particular proposal due to more involved and participating shareholders.

¹⁷ When estimating the regression with fixed effects, results gave a distorted view and, in some compositions, also overfitted. Also, using a fixed effect may subsume characteristics that have to be estimated for the moderating effect.

¹⁸ For sake of brevity, in-depth analysis of the coefficients of the separate moderators ($(\lambda_1, \lambda_3$ and $\lambda_5)$) is disregarded.

less than the 154 observations in the Main Model due to limited data availability.¹⁹ Because the sample size for the Moderating Model is smaller than for the Main Model, only two control variables are used to reduce the risk of data sparsity and unreliable estimates. The control variables retained in the Moderating Model are the proxy for firm size (*lnTA*) and the *Amount_of_proposals*.

¹⁹ Appendix G gives an overview of the data merging process and clearly indicates in what part of the process observations are dropped and what the remaining sample is used for.

5. Results

5.1. Main Model

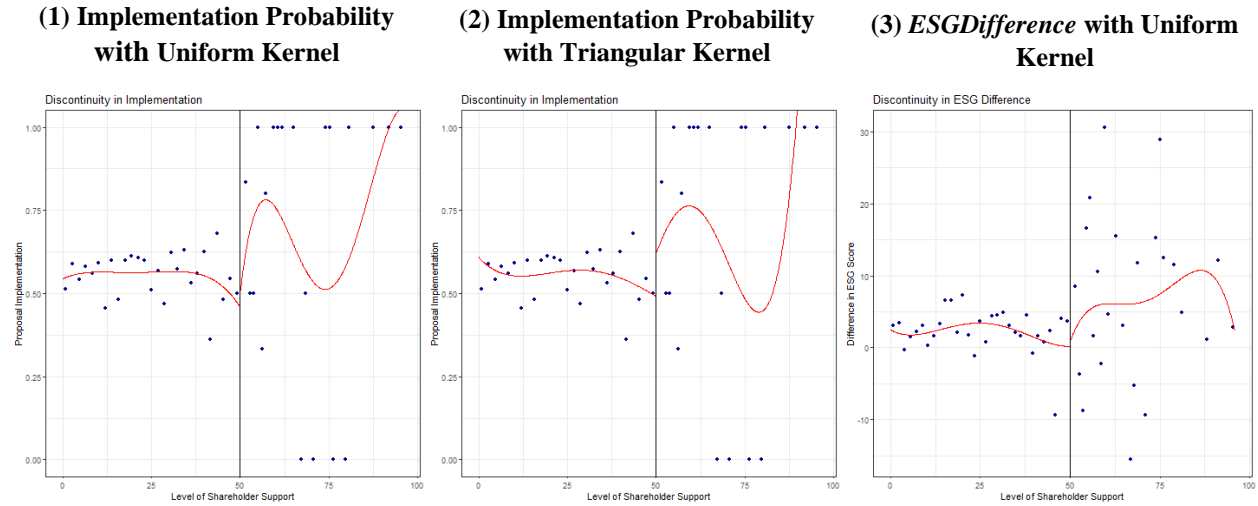
Having validated the randomness assumption of the research setting in paragraph 4.1, the results for the main relation yielded by Equation 1, can be estimated. To achieve this and test Hypothesis 1, the first step is to estimate the primary variable *ESGDummy*, that examines proposal implementation likelihood. The second step is estimating the magnitude; if there is also greater *ESGDifference* for the treatment group compared to the control group.

5.1.1. Graphical Analysis

To visualize the data and necessary discontinuity at the threshold, Figure 3 (1) below, provides a graph of the data over the complete voting range using a specific RDD plot with polynomials (of order 2) at either side of the cutoff. The x-axis depicts the percentage of votes for the shareholder proposal, with a vertical line at the cutpoint, 50%. The y-axis ranges between 0 and 1, representing the likelihood of proposal implementation. Most importantly, this figure shows a discontinuous jump at the majority threshold, essential for this research. This suggests that proposals approved by a small margin of votes lead to a notable increase in the probability of implementation compared to the control group. However, the rest of the figure is not necessarily a smooth function of vote share and does not follow the expectation of a steadily increasing line, especially not for the observations in the treatment group. This is comprehensible due to the small number of observations in the treatment group and is not necessarily a problem because the Main Model is focused on within bandwidth observations. The line within the bandwidth follows a mostly stable line before the majority threshold and an upwards trend after the majority threshold. The figure is not perfectly in line with expectations but workable enough to continue the research, although it is of added value to check if the essential discontinuity holds in slightly different scenarios depicting the same underlying relation. Figure 3 (2) shows the presence of a discontinuity when a triangular kernel is utilized instead of a uniform kernel (the default during this research).²⁰ The discontinuity also still shows when *ESGDifference* is used as dependent variable instead of *ESGDummy*, visible in Figure 3 (3), suggesting the same as explained above except for the underlying concept ESG performance instead of implementation likelihood.

²⁰ Unless explicitly stated for sensitivity testing, a uniform kernel is used throughout this research because it assigns equal weight to all observations within the bandwidth regardless of their distance to the cutoff point. As the sample size is relatively small, using a triangular or Epanechnikov kernel makes results sensitive to extreme cases near the threshold leading to biased estimates. Also, Cao et al. (2019) indicate that a rectangular kernel is most commonly used in practice, which is fundamentally a uniform kernel within a certain bandwidth, as is the case here.

Figure 3 Discontinuity at Majority Threshold



Notes: Figure 3 graphically shows the discontinuous leap for the outcome variable at the threshold. For (1) and (2), the x-axis represents the percentage of votes in support of a proposal and the y-axis represents the possibility of proposal implementation for a uniform (1) and triangular (2) kernel. Each dot in the figure represents an aggregate of observations and their average implementation rate (between 0 and 1) for a given percentage of votes (*LevelOfSupport*). The solid line gives the predicted values for implementation probability for second order polynomials left and right from the majority threshold. For (3) the x-axis represents the percentage of votes in support of a proposal and the y-axis represents the difference in ESGC score between the pre- and post-vote year for a uniform kernel. Each dot in the figure represents an aggregate of observations and their ESGC score difference for a given percentage of votes. The solid line gives the predicted values for ESG change for second order polynomials left and right from the majority threshold.

To graphically evaluate the observations within the optimal bandwidth, the results of a non-parametric local fitting can be found in Figure 4 (1) Appendix C. This method captures the local relation of multiple data points of the independent variable in the same neighborhoods and is beneficial when no strong assumptions can be made about the functional form of the observations beforehand. However, the method is less suited to provide an estimation on the relation between *ESGDummy* and *LevelOfSupport* and cannot be used to draw numerical conclusions from. The pattern of the line, however, does tell us that the relation within the bandwidth is more or less suitable for an OLS regression as it is mostly steadily increasing. The only divergence is the peak around 43%, but for simplicity's sake it can be disregarded as this anomaly is very local. For completeness, the non-parametric relation using underlying dependent variable *ESGDifference* is included in Figure 4 (2) in Appendix C. This shows a similar line, where the anomaly is less pronounced, further suggesting the justifiability of an OLS regression for inferring numerical estimations. The choice for OLS in the Main Model is also in line with the choice to primarily use uniform kernels.

5.1.2. Regression Analysis

The graphical analysis carefully suggests results in line with Hypothesis 1, but a more formal approach to test the first step in this hypothesis is by fitting an OLS regression to *ESGDummy*, *LevelOfSupport* and *Treatment* to examine the difference in likelihood of proposal implementation between the control and the treatment group within bandwidth. The level of significance that is accepted for the results is 10% and above, which is relatively low significance but justifiable due to the small sample size.²¹ Table 3 below depicts the estimates for the coefficients of the *Treatment* dummy along with the other used (control) variables, their significance levels and the R-squared. The number of observations is also depicted as the regression is estimated for different bandwidths represented by the different columns. The *Treatment* coefficient is the coefficient of interest and depicts the difference in implementation likelihood between a passed or a failed proposal.

Column 1 estimates the difference in implementation probability for the observations in the entire sample and the coefficient is not significant in line with expectations. This lack of significance is plausibly driven by the proposals that are not near the majority threshold. These have more strongly differing firm characteristics (shown in the pre-existing differences check) and accordingly are affected by multiple disparate factors influencing proposal implementation. Column 2 gives the sample within the IK bandwidth and shows a significant 30.8% higher chance of proposal implementation for the treatment group. Column 3 gives the regression results for the same sample but includes control variables and shows an increase in implementation probability of 31.8% that is also slightly more significant and suggests even higher implementation probability in the treatment group.²² In line with expectations, the coefficients and standard errors do not differ strongly between the estimation with and without controls; these predetermined characteristics are again not very dependent on the passage of a proposal, indicating that certain level of random assignment. Columns 4 and 5 of Table 3 give estimates for samples of additional bandwidths respectively at a rounded 150% and 75% of the IK bandwidth.²³ The coefficient in column 5 is marginally insignificant, likely due to the smaller sample size, but the coefficients indicate a range between 24.1% and 31.2%. As the coefficients in columns 2 and 3 fall within or are close to this reasonable range, the additional bandwidths show a certain sensitivity of the results for the main regression within the IK bandwidth. The R-squared is very low for the first column (in line with the notion that estimating the model for the full sample is not a good fit) and relatively low for other columns but still comparable to the R-squared in Table 5 of Flammer (2015). Overall, together these findings corroborate the first part of Hypothesis 1 and implicate a significant positive change in the probability of implementation of a proposal when it passes the majority voting threshold, essential to estimate the interaction effects.

²¹ The tables contain a “.” when observations fall within a 15% significance threshold. This is relatively low significance, so no conclusions are drawn from the coefficients but in robustness tests it can show resemblances to the Main Model.

²² Note that these percentages represent the difference in implementation likelihood between the two groups and does not represent the implementation probability in itself.

²³ When using 50% of the IK bandwidth there are only 56 observations left in the sample of which only 22 in the treatment group, this small sample size leads to highly insignificant and therefore unreliable results.

Table 3: Impact of Proposal Passing on Implementation Probability

	All votes (1)	IK bandwidth (2)	IK bandwidth (3)	75% of IK bandwidth (4)	150% of IK bandwidth (5)
<i>Treatment</i>	0.118 (0.083)	0.308* (0.184)	0.318* (0.185)	0.312 (0.219)	0.241* (0.145)
<i>LevelOfSupport</i>	0.000 (0.001)	-0.017 (0.015)	-0.017 (0.016)	-0.016 (0.024)	-0.007 (0.008)
<i>lnTA</i>	0.000 (0.007)	-	-0.009 (0.018)	-0.013 (0.023)	-0.012 (0.015)
<i>Leverage</i>	0.001 (0.001)	-	0.001 (0.018)	0.001 (0.001)	0.000 (0.001)
<i>InstOwn_Perc</i>	-0.021 (0.042)	-	-0.053 (0.048)	-0.051 (0.049)	-0.057 (0.048)
<i>Amount_of_proposals</i>	-0.007 (0.005)	-	-0.042 (0.028)	-0.068** (0.034)	0.001 (0.016)
Control variables	Yes	No	Yes	Yes	Yes
R-squared	0.004	0.021	0.054	0.096	0.024
N	1,428	154	154	106	269

Notes: Table 3 presents the regressions of the proposal implementation probability (*ESGDummy*) and the *Treatment* dummy, given by Equation 1. Column 1 gives the regression using the entire sample, column 2 gives the regression for the sample within the optimal bandwidth and column 3 includes controls (Equation 1). Columns 4 and 5 use a bandwidth of respectively 150% and 75% of the IK bandwidth. Control variables used are set out in paragraph 5.1.2. For an explanation on all variables see Table 2 in Appendix B or Appendix F.

Standard errors (in parentheses) are clustered at the firm level. ., *, **, and *** denote significance at the 15%, 10%, 5% and 1% levels, respectively, for a two-tailed test.

5.1.3. Magnitude of the Implications

The second step of Hypothesis 1 also has to be formally tested, to deduce whether there is a significant increase of company ESG performance when a proposal passes, besides the increased implementation probability. This is tested by comparing the group-wide mean of increase in ESGC score of the control and the treatment group for a given time period. The previous paragraph shows there are relatively more proposals implemented in the treatment group, it is reasonable to expect that the treatment group also has a higher increase of ESG scores on average. The main results show that a nearly passed proposal has a 31.8% higher likelihood of being implemented. When breaking it down to proxy level, this indicates a 31.8% larger probability of a positive *ESGDifference*; an increase in ESGC score. However, in terms of magnitude of *ESGDifference*, as

opposed to just the sign, there is no immediate visible effect. Column 1 and 2 of Table 4 below show no significant difference for ESGC score increases between the control and the treatment group for period $t-1 \rightarrow t$ and period $t-1 \rightarrow t+1$. This indicates that, even though there might be relatively more increases in ESG scores (proxy for implementation) for different companies in the treatment group, the magnitude of the increase does not differ from the control group. I.e., how much the firms in the treatment group improve in terms of ESG performance is not more than the firms in the control group. This changes when looking at the mean differences for time period $t-1 \rightarrow t+2$ depicted in column 3, where a significant 5.27-point increase is visible. This significant difference in ESGC score increase signals longer term effects. As of two years after the vote, the treatment group has improved their ESG performance notably more than the control group. This is explainable as ESG initiatives need time after implementation to become imbedded in the firm and lead to perceptible progress. This significant increase is directly attributable to the passing of a proposal, as the only material difference between the control and treatment group is whether a proposal is passed and there are limited endogenous effects. This constitutes evidence for a causal effect between the two. Summarizing, passed shareholder proposals are effective in achieving higher proposal implementation rates and improve company ESG performance on the long run, after firms have been given time to materially improve after implementation.

Table 4: Magnitude of Implications in Terms of ESG Performance

	Time period		
	$t-1 \rightarrow t$ (1)	$t-1 \rightarrow t+1$ (2)	$t-1 \rightarrow t+2$ (3)
Mean difference	1.29	3.22	5.27*
Mean <i>ESGDifference</i> control group	2.22	4.14	8.60
Mean <i>ESGDifference</i> treatment group	0.93	0.92	3.33

Notes: Table 4 presents the magnitude of the implications in terms of ESGC score. The improvement in ESGC score is compared from $t-1$ to t through $t+2$. The control group is compared to the treatment group (within optimal bandwidth) to see if there are actual ESGC score improvements between the two groups (explained in paragraph 5.1.3.).

Standard errors (in parentheses) are clustered at the firm level. ., *, **, and *** denote significance at the 15%, 10%, 5% and 1% levels, respectively, for a two-tailed test.

5.2. Robustness and Sensitivity

To confirm the results of the baseline model specification, robustness and sensitivity checks are necessary. These decide whether the findings still hold for alternative model specifications and different compositions of the sample. Due to the small sample size, one important potential concern

could have been that the results are driven by a few anomalous *ESGDifference* observations around the majority threshold. However, this concern is already mitigated by the research design, making use of a dummy variable as dependent variable ignores the magnitude of the difference in ESGC score. An important sensitivity check, using varying bandwidths, is already addressed in paragraph 5.1.2. In this manner some preliminary concerns have already been mitigated, however more tests are necessary in assessing the reliability of the findings for the first hypothesis. Following Cao et al. (2019) the baseline analysis is conducted at different cutoffs (i.e., 41%, 45%, 55% and 59%) to test for placebo. By differing in the value for the *Treatment* dummy, the ratio of observations within the control and treatment groups differs with it. No evidence is found for a discontinuity at these cutoffs, as the combination of coefficients and significance for *Treatment* gives meaningless results (untabulated). This supports the argument that the effect of additional proposal implementation probability is due to the marginal passing of a proposal and is not exogenous.

An alternative method to capture the discontinuity around the majority threshold is through a local polynomial RD estimation following Calonico et al. (2015). Note that paragraph 4.2.1 explains that a global polynomial method is not relevant for this research, however, a local polynomial is a fitting robustness test to see if results are similar when there is no linearity assumption as is the case with OLS. The local polynomial also looks at observations within the bandwidth and includes control variables. The disparity between this and the Main Model is the utilization of polynomials of order two on either side of the threshold.²⁴ Although Imbens and Lemieux (2008) find that the different kernel options have negligible effect on the estimation, to be certain, the local polynomial method is estimated with three different kernels: the uniform kernel, triangular kernel and Epanechnikov kernel. The results of this estimation are visible in column 1 - 3 of Table 5 below. All coefficients, while not significant on the 10% level, are close to the significance threshold and are similar to the estimation of the Main Model (with controls). Although no conclusions can be drawn due to insignificance, the similarity carefully further confirms the main results. Within the different kernels there are no major discrepancies between the coefficients or their significance, also indicating that the results do not differ strongly for other kernels. This, in combination with the insignificant results for polynomial estimation also further substantiates the selection of the uniform kernel and makes the choice for OLS further justifiable.

A different technique to check result sensitivity is through using the Main Model with a different dependent variable as operationalization for ESG performance. ESG also contains governance aspects and the ESG(C) score from Thomson Reuters Refinitiv consists for 26% out of elements related to corporate governance. However, this study only looks at SRI proposals and disregards all corporate governance proposals. Consequently, excluding the governance elements from the ESG(C) score can lead to a less blurred estimate of the effect of SRI proposals. Therefore, the alternative dependent variable is constructed out of only the elements that comprise the

²⁴ More extensive explanation on the use of two-sided polynomials is outside of the scope of this research.

environmental and social pillars of the ESG score.²⁵ This dependent variable is called *SocialEnvironmentalDummy* constructed through *SocialEnvironmentalDifference* as (weighed) counterparts of the ESG dependent variables. The result of the regression on this alternative dependent variable can be found in column 4 of Table 5; it is significant and similar to the increase in implementation probability of the Main Model. This indicates that the difference in implementation probability and ESG score increase is plausibly driven by an increase in the scores for environmental and social characteristics and not by confounding externalities influencing the corporate governance score.

Noteworthy is that in similar studies, certain proposal aspects are often analyzed more in-depth; elements such as the specific topics, the sponsors, firm characteristics related to certain outcomes, board votes and consequences are grouped and analyzed to disentangle the main results. Due to the small sample size used, splitting the sample further up in groups will likely not lead to interpretable results and is therefore outside of the scope of this research. Other additional tests often used in other studies exclude observations from the same firm, and only look at firm-observations instead of firm-year and test whether a different CEO of the same company makes different decisions in similar scenarios. However, due to the small sample size, there are only 109 single firm observations and only two instances where a new CEO also receives a close-call SRI proposal. Thus, making use of these two methods is not recommendable in this scenario.

A last additional test that could be of added value in this context is a fuzzy RDD, that is able to partly address the imperfect compliance issue. *ESGDummy* measures likelihood of implementation; but it is well conceivable that a managers' decision is not influenced binarily at the 50% cutoff but varies for vote share around this majority threshold. I.e., some managers might find 48% vote share enough pressure to implement a proposal and for them it does not matter per se if the proposal is actually passed or not. A fuzzy RDD score reflects uncertainty in deciding the treatment assignment. It can check if the implementation likelihood is still similar when looking at the region around 50% as continuum of treatment intensity with differing probabilities, instead of a sharp cutoff at the majority threshold. This can also enable further disentangling of the manager's implementation decision and the role of shareholder pressure herein. Nonetheless, this estimation falls outside of the scope of this research due to its complexity. Overall, also without the fuzzy RDD, there is enough indication to assume that the Main Model's findings are robust, sensitive, and can be adopted. Most importantly, they can be used to estimate the moderating effect in the following paragraph.

²⁵ Another example is to use the CSR score from the MSCI database, but the years comprehensively covered are limited compared to Refinitiv which leads to a smaller sample size and is therefore excluded for sake of brevity. Note that the controversies embedded in the ESGC score cannot be included separately, which might slightly distort the estimation.

Table 5: Robustness Testing for the Main Model

	Polynomial estimation (1)	Polynomial estimation (2)	Polynomial Estimation (3)	<i>SocialEnvironmental</i> estimation (4)
<i>Treatment</i>	0.335 (0.208)	0.326 (0.201)	0.350 (0.223)	0.271* (0.166)
<i>LevelOfSupport</i>	-	-	-	-0.004 (0.014)
<i>lnTA</i>	-	-	-	0.004 (0.017)
<i>Leverage</i>	-	-	-	0.001 (0.001)
<i>InstOwn_Perc</i>	-	-	-	0.006 (0.044)
<i>Amount_of_proposals</i>	-	-	-	-0.016 (0.025)
Coefficient combined control variables	0.001	0.001	0.001	-
Kernel	Uniform	Triangular	Epanechnikov	-
R-squared	-	-	-	0.052
N	75	114	74	154

Notes: Table 5 presents the regressions checking the robustness and sensitivity of the Main Model. Column 1- 3 give the coefficient for a local polynomial estimation with varying kernels and the sample is restricted to an optimal bandwidth calculated for this specific model (differing from the main model optimal bandwidth). Column 4 gives the regression using a different dependent variable, namely excluding governance elements from the ESGC scores. Control variables used are explained in paragraph 5.2. For an explanation on all variables see Table 2 in Appendix B or Appendix F. The polynomial estimation only gives the coefficient for the control variables combined. The R-squared and the standard errors for control variables are not given for the polynomial estimations (column 1-3) as it is difficult to interpret in this non-linear relation.

Standard errors (in parentheses) are clustered at the firm level. ., *, **, and *** denote significance at the 15%, 10%, 5% and 1% levels, respectively, for a two-tailed test.

5.3. Moderating Model

The previous paragraphs show sufficient evidence to assume that the main results are robust and in line with expectations. Therefore, it is possible to estimate potential interaction effects of CEO characteristics on this main relation, yielded by the Moderating Model in Equation 2. First, *Treatment*, is individually estimated before and after including the interaction effects as this sample size has less observations than the Main Model. Before including the interaction effects the *Treatment* estimate in the Moderating Model is similar to the one in the Main Model (untabulated).

However, after including the moderators, the sign changes to negative, the standard errors become large, and the coefficient becomes insignificant (row 1 of Table 6). This is a first indication that estimating the moderating effects in this scenario might not be reliable and that the sample size may be too small to make causal inferences.

5.3.1. Societal Involvement of CEO

Table 6 below shows the results for the regression including the interaction effect of societal involvement of a CEO. Row 6 shows the coefficient indicating the difference between a societally involved and not societally involved CEO. Although the coefficient is positive, in line with Hypothesis 2a, stating that a more societally involved CEO is more likely to implement a proposal after its passing, it is insignificant and therefore no conclusions can be drawn from this result. Likewise, the moderator itself (in row 3) is not a good predictor for ESGC score, not being significantly related with the dependent variable. This insignificance can be explained due to the absence of an interaction effect of CEO societal involvement in which case the results show that the likelihood of proposal implementation after passing is not affected by whether a CEO is societally involved or not. I.e., a CEO doing charity work will not necessarily succumb faster to shareholder pressure and be more likely to implement a passed SRI proposal. This can be because of window-dressing, implying that a CEO is only involved with charity work to keep up good appearances for them and their company without having the internal drive to do good. Another explanation for these findings is the innovation theory of ethical collapse (Mintz and Morris, 2022). This entails the rationale of justification; that goodness in some areas atones for immoral behavior in others. Specifically, if a CEO already spends time and money on charity, the CEO does not have to focus as much on improving ESG performance within the company. However, the insignificance is presumably also explicable due to the small sample size utilized to estimate this interaction effect. The treatment group contains just six observations for no societal involvement (as named in paragraph 3.3) and consequently an effect in line with the hypothesis cannot be ruled out.

5.3.2. CEO Age

The results of the regression with the interaction effect of CEO age can be found in row 7 of Table 6. As is also the case in the paragraph above, the sign of the coefficient (negative) is in line with the corresponding Hypothesis 2b, stating that with increasing age, CEOs are less likely to implement a proposal after its passing. However, the coefficient is insignificant, and no conclusions can be drawn from it. The same goes for the moderator itself, depicted in row 4. This may be because a younger CEO is not necessarily more susceptible to shareholder pressure and not more likely to implement a proposal after its passing. An explanation can be the notion that younger CEOs need to signal their talent to the market and need to prove that they can still achieve satisfactory results if they “stand their ground” and do not succumb to shareholder pressure if it is not in line with their own ESG strategies (Barba Navaretti et al., 2022). Another comprehensible interpretation is that the insignificance is due to the small sample size. There are 115 observations with ages that are not far apart, and finding economic significance in this setting is difficult using a continuous variable. Here, too, an effect in line with the hypothesis cannot be ruled out.

5.3.3. CEO Gender

Lastly, the moderator CEO gender and its interaction effects are also included in the Moderating Model and can be found in row 5 and row 8 of Table 6 (above), respectively. In this case, the sign of the coefficient is positive and therewith in line with corresponding Hypothesis 2c. However, the sign of the individual moderator is negative and to that end deviates from the expectations. This inconsistency, in combination with the fact that there is only one female observation in the treatment group and highly insignificant findings, makes it certain that no (careful) conclusions can be drawn from this estimation. A possible moderating effect of CEO gender on the relation between shareholder proposals and implementation probability can therefore not be confirmed nor denied. Hence, it is not yet clear whether female CEOs are more likely to implement a shareholder proposal after its passing as compared to male CEOs.

Table 6: Impact of Interaction Effects in the Moderating Model

	Variable (1)	Coefficients (2)
1.	<i>Treatment</i>	-0.322 (1.585)
2.	<i>LevelOfSupport</i>	-0.005 (0.023)
3.	<i>CharityDummy</i>	0.118 (0.147)
4.	<i>Age</i>	-0.005 (0.012)
5.	<i>GenderDummy</i>	-0.235 (0.299)
6.	<i>Treatment * CharityDummy</i>	0.363 (0.350)
7.	<i>Treatment * Age</i>	-0.005 (0.027)
8.	<i>Treatment * GenderDummy</i>	0.355 (0.599)
9.	<i>lnTA</i>	-0.008 (0.025)
10.	<i>Amount_of_proposals</i>	-0.037 (0.049)
11.	R-squared	0.115
12.	N	115

Notes: Table 6 presents the regressions Moderating Model that estimates the interaction effects of the three characteristics, societal involvement, age, and gender, on the Main Model (Equation 2). The first column gives the variable and includes the separate moderators as well as the interaction effect, and the second column gives the

coefficients. As explained in paragraph 4.2.2. this model only includes two control variables, *lnTA* and *Amount_of_proposals* due to the smaller sample size. For an explanation on all variables see Table 2 in Appendix B or Appendix F. Note that the number of observations is less than for the Main Model.

Standard errors (in parentheses) are clustered at the firm level. ., *, **, and *** denote significance at the 15%, 10%, 5% and 1% levels, respectively, for a two-tailed test.

6. Conclusion

The first research question central to this research is whether there is a relation between shareholder pressure measured through SRI proposals and proposal implementation likelihood and the consequential company ESG performance. To arrive at an answer to this question, a regression discontinuity design approach is exploited, based on the close-call passage or failure of shareholder proposals. This method provides a source of locally exogenous assignment of firms to the control and the treatment group and accordingly mitigates endogeneity concerns. The first step in establishing the main relation is estimating the difference in implementation likelihood of a narrowly passed and a narrowly failed proposal. Implementation likelihood is chosen as primary dependent variable over ESGC score difference as it better fits the follow-up estimation of the moderating effect. However, the second step in answering the first question does involve analyzing the actual ESG performance increase. This study finds robust and sensitive evidence that firms where a proposal narrowly passes have a 31.8% higher likelihood of implementing the proposal compared to the firms where a proposal narrowly fails. For ESGC score improvement, significant differences are found after two years, indicating that by then firms with narrowly passed proposals have notably higher increases in ESGC scores compared to firms with narrowly failed proposals. The difference, 5.27 points, can be attributed to the narrow passing and subsequent improved implementation probability. This is credible due to the quasi-random assignment of the passing and the fact that no differences between the two groups were found during a pre-existing differences check. This signals a causal relation between shareholder pressure on implementation likelihood and company ESG performance and Hypothesis 1 is therefore accepted.

The second research question looks at the possibility of moderating effects of CEO characteristics (i.e., CEO societal involvement, CEO age and CEO gender) on the implementation probability of a proposal after passing. The findings carefully suggest that it is possible that the main relation is moderated by societal involvement of a CEO and CEO age. Societal involvement might increase the susceptibility of a CEO to shareholder pressure thus increasing the implementation probability. Older CEOs might be less susceptible to shareholder pressure; thus, age might decrease the implementation probability. However, these effects are only cautious estimations about a possible direction of the interaction effects and certainly no unequivocal conclusions as the results found are not significant. This insignificance can also indicate that CEO societal involvement is window-dressing and is not a proxy for intrinsic motivation to increase stakeholder well-being through company behavior; and age does not impact the implementation decision as younger and older CEOs might both have (differing) incentives to ignore shareholder pressure. Nonetheless, the insignificance is more probably due to the small sample size. This leaves some sparse meaning to the direction of the moderating effects in line with intuition and the theory leading up to Hypothesis 2a and 2b, though these hypotheses cannot explicitly be accepted. The small sample size limitation is most obvious for the CEO gender interaction effect where there is just one female observation in the treatment group and thus nothing (prudent) can be said about this moderating effect; Hypothesis 2c can neither be confirmed nor denied. Although the significance of the results of the second research question is limited, this study is the first to set out a framework to test CEO

characteristics as moderating effects in implementation decisions of shareholder proposals. It is useful for various stakeholders to disentangle the decision-making process surrounding ESG and how shareholder pressure can influence companies through their CEOs to make socially responsible decisions. This is also relevant for the company itself when choosing new CEOs, identifying ESG strategy and strategies concerning the ever-increasing shareholder pressure. Additionally, not of undiminished importance because companies benefit from ESG in terms of financial performance. The framework set out in this study can also be used in further research when studying corporate governance proposals and might even be better suited to such a setting. As there are generally more governance proposals, such a setting will likely lead to larger sample sizes thus a better chance of finding moderating effects.

This is then also the most discussed and evident limitation of this study: the small sample size. Although a small sample size is inherent to an RDD analysis, it leads to various impediments of this study's reliability. Important limitations related to sample size include using a significance level of 10% as opposed to a more common level of 5% and finding no significant results for the Moderating Model due to limited CEO characteristic dispersion. Moreover, this sample size limitation is reflected in the confined use of control variables and fixed effects, a wider optimal bandwidth than ideal, certain unfeasible robustness tests (i.e., firm level observations) and the inability to disentangle drivers of the main results by splitting up the proposals into groups based on topic, sponsor, and other characteristics. Lastly, though unlikely due to various safeguards and robustness tests, the possibility exists that results are driven by a few anomalous observations near the threshold. Another important limitation, also inherent to RDD, is that the findings are attributable to a limited number of observations that are all close to the threshold, compromising the external validity of the findings.²⁶ The proposals near the cutoff may not be representative for the average SRI proposal as most proposals receive extremely low shareholder support (paragraph 3.1) indicating that the close-call proposals are special, as shareholders are apt see more value in them. Flammer (2015) finds that the close-call SRI proposals are often related to employment and environment issues and are perceived by shareholders as value enhancing as they often contain financial performance implications. Therefore, extrapolation of the results to proposals further from the discontinuity must be done with caution. This concern can be partly alleviated with a global polynomial approach to give RDD estimates a weighted average treatment effect by using more variance (Lee and Lemieux, 2010). However, the most preferable approach for future research is an examining alternative setting that exploits regulatory shocks, such as the key changes in SEC Rule 14-8a concerning shareholder proposals, as full-on natural experiment leading to true random assignment and more reliable external validity for optimal results. A final suggestion for further research would aim to reduce the ambiguity explained in paragraph 2.3.; *ESGDifference* is not a perfect proxy for proposal implementation because of uncertainty if increase of the ESGC

²⁶ Smaller limitations include not using fuzzy RDD (paragraph 5.1.2.), not using dependent variables from different databases, and not performing a cross-validation check (paragraphs 3.2. and 5.1.2.) and analyzing only large US companies due to data availability.

score is actually due to the specific shareholder requirement in the proposal. To mitigate this concern, researchers can categorize the proposal topics to align with (multiple) related categories that comprise the ESGC score. Afterwards they can regress the proposals only on their interconnected ESGC category, to get a better indication of whether the requirements in the proposal are indeed met or the increase in the score is due to the proposal influencing CEOs to scrutinize ESG issues in general.

7. Bibliography

- Adams, R. B., & Funk, P. (2012). Beyond the glass ceiling: Does gender matter?. *Management science*, 58(2), 219-235.
- Al-Najjar, B., & Anfimiadou, A. (2012). Environmental policies and firm value. *Business Strategy and the Environment*, 21(1), 49-59.
- Ambec, S., & Lanoie, P. (2008). Does it pay to be green? A systematic overview. *The Academy of Management Perspectives*, 45-62.
- Bakke, T. E., Jens, C. E., & Whited, T. M. (2012). The real effects of delisting: Evidence from a regression discontinuity design. *Finance Research Letters*, 9(4), 183-193.
- Barba Navaretti, G., Castellani, D., & Pieri, F. (2022). CEO age, shareholder monitoring, and the organic growth of European firms. *Small Business Economics*, 59(1), 361-382.
- Barker III, V. L., & Mueller, G. C. (2002). CEO characteristics and firm R&D spending. *Management science*, 48(6), 782-801.
- Barnett, M. L., Dimitrov, V., & Gao, F. (2022). The nail that sticks out: corporate social responsibility and shareholder proposals. *Review of Accounting Studies*, 1-44.
- Baron, D. P. (2008). Managerial contracting and corporate social responsibility. *Journal of Public Economics*, 92(1-2), 268-288.
- Bach, L., & Metzger, D. (2017). How do shareholder proposals create value?. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2247084
- Bojanic, V. (2023). The positioning of CEOs as advocates and activists for societal change: reflecting media, receptive and strategic cornerstones. *Journal of Communication Management*.
- Calonico, S., Cattaneo, M. D., & Titiunik, R. (2014). Robust nonparametric confidence intervals for regression-discontinuity designs. *Econometrica*, 82(6), 2295-2326.
- Cao, J., Liang, H., & Zhan, X. (2019). Peer effects of corporate social responsibility. *Management Science*, 65(12), 5487-5503.
- Chemmanur, T. J., & Tian, X. (2018). Do antitakeover provisions spur corporate innovation? A regression discontinuity analysis. *Journal of Financial and Quantitative Analysis*, 53(3), 1163-1194.
- Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic literature*, 47(2), 448-474.
- Cuñat, V., Gine, M., & Guadalupe, M. (2012). The vote is cast: The effect of corporate governance on shareholder value. *The journal of finance*, 67(5), 1943-1977.

- Dai, R., Liang, H., & Ng, L. (2021). Socially responsible corporate customers. *Journal of Financial Economics*, 142(2), 598-626.
- Dimson, E., Karakaş, O., & Li, X. (2015). Active ownership. *The Review of Financial Studies*, 28(12), 3225-3268.
- Dyck, A., Lins, K. V., Roth, L., & Wagner, H. F. (2019). Do institutional investors drive corporate social responsibility? International evidence. *Journal of financial economics*, 131(3), 693-714.
- Eding, E., & Scholtens, B. (2017). Corporate social responsibility and shareholder proposals. *Corporate Social Responsibility and Environmental Management*, 24(6), 648-660.
- Edmans, A. (2011). Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial economics*, 101(3), 621-640.
- Ertimur, Y., Ferri, F., & Stubben, S. R. (2010). Board of directors' responsiveness to shareholders: Evidence from shareholder proposals. *Journal of corporate finance*, 16(1), 53-72.
- Escrig-Olmedo, E., Muñoz-Torres, M. J., & Fernández-Izquierdo, M. Á. (2013). Sustainable development and the financial system: Society's perceptions about socially responsible investing. *Business Strategy and the Environment*, 22(6), 410-428.
- Everaert, P., Bouten, L., & Baele, A. (2019). CSR website disclosure: the influence of the upper echelons. *Accounting, Auditing & Accountability Journal*, 32(2), 421-455.
- Fan, Z., Radhakrishnan, S., & Zhang, Y. (2021). Corporate governance and earnings management: evidence from shareholder proposals. *Contemporary Accounting Research*, 38(2), 1434-1464.
- Ferri, F. (2012). 'Low-Cost' Shareholder Activism: A Review of the Evidence. *Research handbook on the economics of corporate law*.
- Financieel Dagblad (2021). Aandeelhouders ExxonMobil stemmen voor bestuurszetels activistische aandeelhouder. <https://fd.nl/ondernemen/1385382/aandeelhouders-exxonmobil-stemmen-voor-bestuurszetels-activistische-aandeelhouder>
- Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science*, 61(11), 2549–2568.
- Flammer, C., & Bansal, P. (2017). Does long-term orientation create value? Evidence from a regression discontinuity. *Strategic Management Journal*, 38(9), 1827–1847.
- Flammer, C., Hong, B., & Minor, D. (2019). Corporate governance and the rise of integrating corporate social responsibility criteria in executive compensation: Effectiveness and implications for firm outcomes. *Strategic Management Journal*, 40(7), 1097-1122.
- Flammer, C., Toffel, M. W., & Viswanathan, K. (2021). Shareholder activism and firms' voluntary disclosure of climate change risks. *Strategic Management Journal*, 42(10), 1850-1879.

- Gillan, S. L., & Starks, L. T. (2007). The evolution of shareholder activism in the United States.
- Halme M., Niskanen J. 2001. Does corporate environmental protection increase or decrease shareholder value? The case of environmental investments. *Business Strategy and the Environment* 10(4): 200–214
- Hambrick, D. C. (2007). Upper echelons theory: An update. *Academy of management review*, 32(2), 334-343.
- Helmig, B., Spraul, K., & Ingenhoff, D. (2016). Under positive pressure: How stakeholder pressure affects corporate social responsibility implementation. *Business & Society*, 55(2), 151-187.
- Holzer, B. (2008). Turning stakeseekers into stakeholders: A political coalition perspective on the politics of stakeholder influence. *Business & Society*, 47(1), 50-67.
- Huang, S. K. (2013). The impact of CEO characteristics on corporate sustainable development. *Corporate Social Responsibility and Environmental Management*, 20(4), 234-244.
- Iliev, P., Lins, K. V., Miller, D. P., & Roth, L. (2015). Shareholder voting and corporate governance around the world. *The Review of Financial Studies*, 28(8), 2167-2202.
- Imbens, G., & Kalyanaraman, K. (2012). Optimal bandwidth choice for the regression discontinuity estimator. *The Review of economic studies*, 79(3), 933-959.
- Imbens, G. W., & Lemieux, T. (2008). Regression discontinuity designs: A guide to practice. *Journal of econometrics*, 142(2), 615-635.
- Kahan, M., & Rock, E. (2009). Embattled CEOs. *Tex. L. Rev.*, 88, 987.
- Law Reviews (2021). The Shareholder rights and activism review USA. <https://thelawreviews.co.uk/title/the-shareholder-rights-and-activism-review/usa>
- Lee, D. S., & Lemieux, T. (2010). Regression discontinuity designs in economics. *Journal of economic literature*, 48(2), 281-355.
- Lim, M. H., & Chung, J. Y. (2021). The effects of female chief executive officers on corporate social responsibility. *Managerial and Decision Economics*, 42(5), 1235-1247.
- Lin, C., Wei, L., & Xie, W. (2020). Managerial entrenchment and information production. *Journal of Financial and Quantitative Analysis*, 55(8), 2500-2529.
- Loss, L. & Seligman, J. 2004. *Fundamentals of securities regulation* (5th edn). New York: Aspen Publishers.
- Manner, M. H. (2010). The impact of CEO characteristics on corporate social performance. *Journal of business ethics*, 93, 53-72.
- Matta, E., & Beamish, P. W. (2008). The accentuated CEO career horizon problem: Evidence from international acquisitions. *Strategic Management Journal*, 29(7), 683-700.

McCrary, J. (2008). Manipulation of the running variable in the regression discontinuity design: A density test. *Journal of econometrics*, 142(2), 698-714.

McClelland, P. L., Barker III, V. L., & Oh, W. Y. (2012). CEO career horizon and tenure: Future performance implications under different contingencies. *Journal of Business Research*, 65(9), 1387-1393.

Mintz, S., & Morris, R. E. (2022). *Ethical obligations and decision making in accounting*. McGraw-Hill US Higher Ed USE.

Ng, J., Wu, H., Zhai, W., & Zhao, J. (2021). The effect of shareholder activism on earnings management: Evidence from shareholder proposals. *Journal of Corporate Finance*, 69, 102014.

Oh, W. Y., Chang, Y. K., & Cheng, Z. (2016). When CEO career horizon problems matter for corporate social responsibility: The moderating roles of industry-level discretion and blockholder ownership. *Journal of Business Ethics*, 133, 279-291.

Oh, W. Y., Li, Z., & Park, S. (2016). The effects of CEO characteristics and incentives on corporate social responsibility. *Corporate responsibility: Social action, institutions and governance*, 162-182.

Renneboog, L., & Szilagyi, P. G. (2011). The role of shareholder proposals in corporate governance. *Journal of corporate finance*, 17(1), 167-188.

Schooley D., Renner C., Allen M. 2010. Shareholder proposals, board composition, and leadership structure. *Journal of Managerial Issues* 22(2):152–165.

Simsek, Z. (2007). CEO tenure and organizational performance: An intervening model. *Strategic Management Journal*, 28(6), 653-662.

SEC documents:

SEC Rule 14a-8a is formally known as 17 CFR 240.14a-8a or Rule 14a-8a under the Securities Exchange Act of 1934.

<https://www.sec.gov/news/public-statement/statement-lee-2019-11-05-shareholder-rights>

<https://www.sec.gov/divisions/corpfin/rule-14a-8.pdf>.

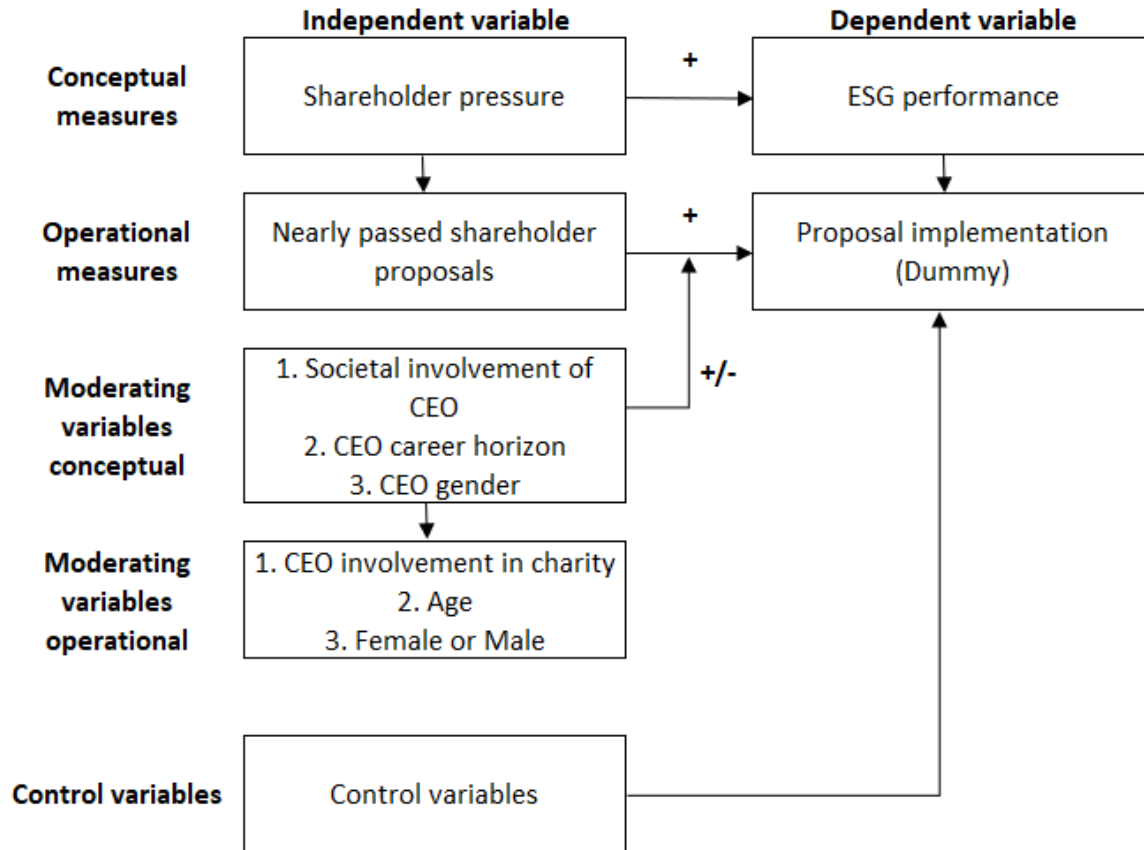
<https://www.sec.gov/news/press-release/2022-121>

Thomas, R. S., & Cotter, J. F. (2007). Shareholder proposals in the new millennium: Shareholder support, board response, and market reaction. *Journal of corporate finance*, 13(2-3), 368-391.

Tsang, A., Frost, T., & Cao, H. (2022). Environmental, Social, and Governance (ESG) Disclosure: A Literature Review. *The British Accounting Review*, 101149.

Vogel, D. (2007). *The market for virtue: The potential and limits of corporate social responsibility*. Brookings Institution Press.

Appendix A. Libby Boxes



Appendix B. Additional Tables

Table 1: Support for Proposals over the Years

Year	N	Approved proposals	Level of Support (%)
2006	322	3	14.61%
2007	165	2	17.28%
2008	170	0	16,52%
2009	156	1	18.53%
2010	154	0	21.08%
2011	157	2	21.06%
2012	179	0	19.93%
2013	156	2	22.09%
2014	179	0	23.15%
2015	181	0	20.99%
2016	201	5	23.99%
2017	223	3	24.05%
2018	191	14	29.38%
2019	214	9	31.41%
2020	188	26	32.13%
2021	29	10	41.54%
2022	8	2	25.62%

Notes: Table 1 displays the frequency of shareholder proposals, number of approved proposals and the average vote share for proposals in a specific year. This represents the full sample (not just close-call) of observations between 2006 and 2022. The last two years contain relatively little observation because these are not complete yet in ISS.

Table 2: Descriptive Statistics and Pre-Existing Differences Check

Panel A: Means for Sample and Pre-Existing Differences Check

	Means for all variables				Pre-existing differences	
	Entire close-call sample (1)	Control group (2)	Treatment group (3)	Full range sample (4)	Differences close-call sample (5)	Differences full range sample (6)
<i>Level Of Support</i>	44.62	43.81	54.06	22.933	10.244*** (0.517)	39.060* (1.671)
<i>ESGDifference</i>	1.614	0.923	4.146	2.419	3.223 (2.717)	2.477 (1.956)
<i>ESGDummy</i>	0.591	0.562	0.697	0.601	0.135 (0.093)	0.108 (0.067)
<i>lnTA</i>	12.015	12.061	11.848	12.093	0.213 (0.429)	0.023 (0.329)
<i>ROA</i>	0.061	0.061	0.061	0.088	0.001 (0.014)	0.015 (0.018)
<i>Leverage</i>	3.560	4.388	0.589	1.157	3.787 (3.686)	0.460 (0.350)
<i>Institutional ownership</i>	0.883	0.802	1.000	0.742	0.198 (0.310)	0.312 (0.209)
<i>Amount_of_proposals</i>	1.929	1.802	2.091	2.242	0.207 (0.314)	0.314 (0.224)
N	154	121	33	1,428	154	1,428

Panel B: Descriptive Statistics for Interaction Effect Charity

	Control group (1)	Treatment group (2)
Involved in charity (<i>CharityDummy</i> =1)	68	18
Not involved in charity (<i>CharityDummy</i> =0)	23	6
N	91	24

Panel C: Descriptive Statistics for Interaction Effect Age

	Control (1)	Treatment (2)
Max Age	79	78
Min Age	40	46
Mean Age	58.873	59.542

N	91	24
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Panel D: Descriptive Statistics for Interaction Effect Gender

	Control group (1)	Treatment group (2)
Female (<i>GenderDummy</i> =1)	5	1
Male (<i>GenderDummy</i> =0)	86	23
N	91	24

Notes: Panel A of Table 2 displays the close-call sample in its entirety as well as split up into the control and treatment group and the full sample in columns 1-4. It shows the number of proposals per group and gives the mean *LevelOfSupport* (vote share), the *ESGDifference* (difference in ESGC score between the pre- and post-voting year) and for certain firm characteristics. Firm characteristics include *lnTA*: the natural logarithm of total assets, a measure for firm size, *ROA*: return on assets, a measure for firm performance, *Leverage*: the firms total debt divided by total assets and *institutional ownership* representing the percentage of ownership held by an institutional owner. These are all calculated in the pre-voting year. *Amount_of_proposals* is the total number of shareholder proposals a firm receives in a year and a certain measure for shareholder pressure, calculated for the voting year. Columns 5 and 6 give the difference in mean for a firm-characteristic between the group with passed and non-passed proposals for respectively the close-call sample and the full sample resulting from the pre-existing differences check.

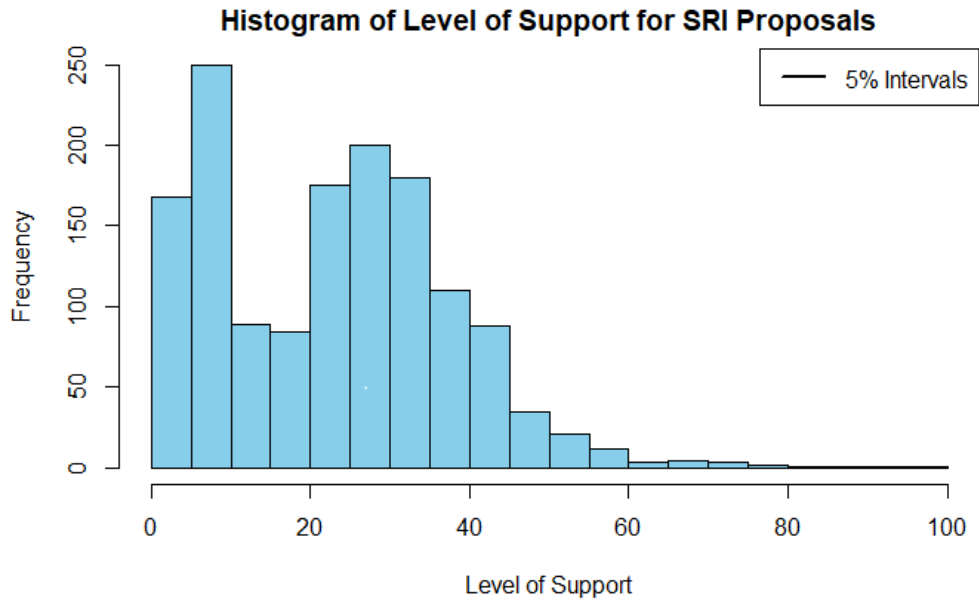
Panel B gives the number of CEOs that are engaged with charity activities during the period of the shareholder proposal, divided into the treatment and the control group. Panel C gives the mean, minimum and maximum age of CEOs during the period of the shareholder proposal, divided into the treatment and the control group. Panel D gives the number of male vs female CEOs during the period of the shareholder proposal, divided into the treatment and the control group. Note that the number of observations for the Moderating Model is less than for the Main Model.

The descriptive statistics are somewhat limited following the exemplar studies and due to the fact that very comprehensive descriptive statistics are not very informative in this setting.

Standard errors (in parentheses) are clustered at the firm level. ., *, **, and *** denote significance at the 15%, 10%, 5% and 1% levels, respectively, for a two-tailed test.

Appendix C. Additional Figures

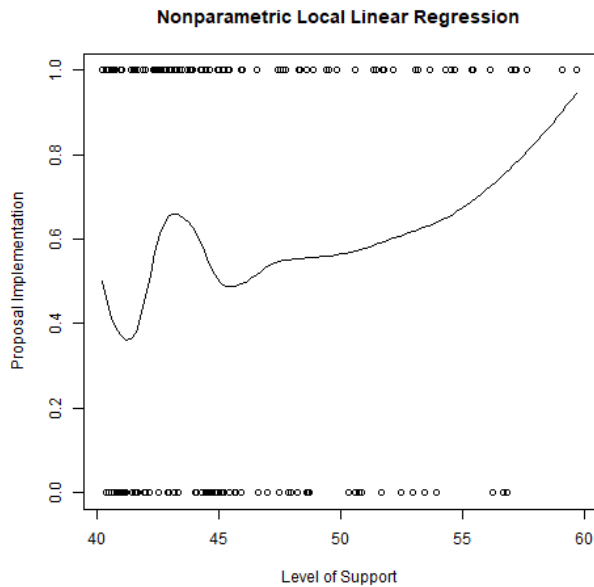
Figure 1 **Distribution of Votes over Proposals**



Notes: This figure shows the histogram for percentage of votes in favour of a proposal. The vertical axis indicates the frequency of proposals and the horizontal axis the vote share in 5% intervals. The sample consists of 1,428 SRI proposals from the ISS database used in this research.

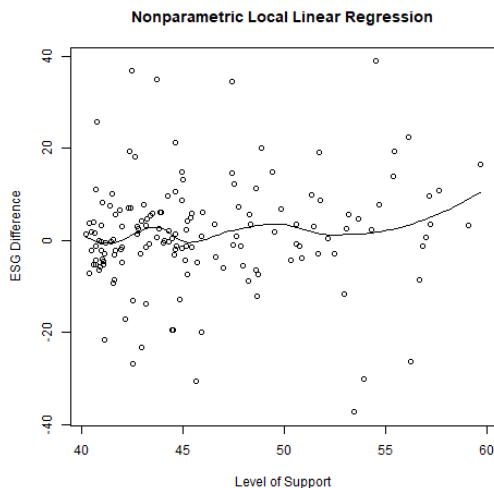
Figure 4 Non-Parametric Local Fitting

(1) For *LevelOfSupport* and proposal implementation probability



Notes: The x-axis represent the percentage of votes in support of a proposal and the y-axis represents the possibility of proposal implementation for a uniform kernel. Each dot in the figure represents a single observation and is therefore either a 0 or a 1. The solid line gives the non-parametric linear estimate capturing the proposal implementation probability as a function of the percentage of votes.

(2) For *LevelOfSupport* and *ESGDifference*



Notes: The x-axis represent the percentage of votes in support of a proposal and the y-axis represents the difference in ESGC score between the pre- and post-vote year for a uniform kernel. Each dot in the figure represents a separate observation and their ESGC score difference for a given percentage of votes. The solid line gives the non-parametric linear estimate capturing the difference in ESG performance as a function of the percentage of votes.

Appendix D. Examples of SRI Proposals

Example of Proposal that was Closely Rejected	
Company	Kohl's Corporation (KSS)
Meeting date	May 15, 2019
Proposal	<p>Resolved, that shareholders request that the Company provide a report, updated semiannually, disclosing the Company's:</p> <ol style="list-style-type: none"> 1. Policies and procedures for making, with corporate funds or assets, contributions and expenditures (direct or indirect) to (a) participate or intervene in any campaign on behalf of (or in opposition to) any candidate for public office, or (b) influence the general public, or any segment thereof, with respect to an election or referendum. 2. Monetary and non-monetary contributions and expenditures (direct and indirect) used in the manner described in section 1 above, including: <ol style="list-style-type: none"> a. The identity of the recipient as well as the amount paid to each; and b. The title(s) of the person(s) in the Company responsible for decision-making. <p>The report shall be presented to the board of directors or relevant board committee and posted on the Company's website within 12 months from the date of the annual meeting. This proposal does not encompass lobbying spending.</p>
Summary of supporting statement	<p>Disclosure is in the best interest of the company and its shareholder. Relying on publicly available data does not provide a complete picture of the Company's electoral spending. For example, the Company's payments to trade associations that may be used for election-related activities are undisclosed and unknown. This proposal asks the Company to disclose all of its electoral spending, including payments to trade associations and other tax-exempt organizations, which may be used for electoral purposes.</p>
Recommendation on BoD	Vote against adoption of shareholder proposal
Summary of BoD statement	<p>The Board of Directors recommends that shareholders vote AGAINST this shareholder proposal because Kohl's does not make political contributions and our current policies and public disclosures already address the stated objectives of accountability and transparency.</p> <ul style="list-style-type: none"> • Kohl's does not make political contributions. Kohl's public-facing <i>Kohl's Political Activity Policy</i> ("Political Activity Policy") states that Kohl's does not use corporate funds to make independent contributions to support or oppose political candidates or campaigns, nor does Kohl's have a company-sponsored Political Action Committee ("PAC"). • Kohl's maintains strong governance practices in corporate spending on political activities to drive accountability. Before any Kohl's-funded political contribution could be made, whether financial or a contribution in kind, written approval by Kohl's General Counsel would be required. This governance process is outlined in the Political Activity Policy and in <i>Kohl's Ethical Standards and Responsibilities Policy</i>. The Board believes the political spending oversight described in these policies is sufficient and appropriate,

particularly for a company like Kohl's that has not used corporate funds for direct political contributions.

- Kohl's Political Activity Policy already provides the transparency that the shareholder proposal seeks to achieve. The Political Activity Policy provides that, while Kohl's does not currently use corporate funds to support or oppose political candidates or campaigns, it does pay membership fees to select industry groups and trade associations to advance the common interests of the retail community through advocacy. The Board believes this public disclosure provides its shareholders with adequate and meaningful information concerning Kohl's use of corporate funds for political contributions, and that any additional report, as requested by the proposal, would be both unnecessary and an injudicious use of company resources.

Voting result 49.82%

Source Proxy statement Kohls 2019

(https://www.sec.gov/Archives/edgar/data/885639/000119312519083494/d648035ddef14a.htm#toc648035_18) and ISS Voting Analytics

Example of Proposal that was Closely Accepted

Company	The Travelers Company, Inc. (TRV)
Meeting date	May 22, 2019
Proposal	<p>WHEREAS: Travelers Companies states that “At Travelers, diversity is not just good business, it’s a business imperative” and “Diversity, and the ideas it brings, is essential for our success as an insurance company. Travelers values the unique abilities and talents each individual has to offer.”</p> <p>However, Travelers Companies does not disclose workforce data, or disclose results of diversity initiatives. As a result, shareholders have insufficient information to determine if Travelers Companies has a diverse workforce or has been successful in expanding diversity into senior and executive roles.</p> <p>A growing body of empirical research indicates a significant positive relation between firm value and the percentage of women and people of color in senior leadership roles. A McKinsey & Company report found that companies in the top quartile for gender or racial ethnicity are more likely to financially outperform national industry medians. Companies with greater ethnic diversity were 35 percent more likely to outperform. For every 10 percent increase in racial and ethnic diversity on the senior-executive team, earnings before interest and taxes rise 0.8 percent. Without detailed workforce diversity information investors cannot accurately evaluate Travelers’ commitment to diversity and progress over time.</p> <p>Expanding workforce diversity requires policies and programs that attract and retain diversity in the workplace. A company’s family leave policies, for example, can play a role. The best performing companies on gender diversity have implemented gender neutral policies that improve the workplace for both men and women, according to McKinsey. These policies are also important to same-sex and adoptive parents.</p> <p>Diversity benchmarks can help ensure companies hiring financial professionals, such as Travelers Companies, create competitive workforces. Companies that are publicly accountable to diversity goals are most likely to make rapid progress toward achieving their goals.</p> <p>RESOLVED:</p> <p>Shareholders request that Travelers Companies prepare a diversity report, at a reasonable cost and omitting confidential information, available to investors including:</p> <ol style="list-style-type: none"> 1. A chart identifying employees according to gender and race in major EEOC-defined job categories, listing numbers or percentages in each category; A description of policies/programs focused on increasing gender and racial diversity in the 2. workplace
Summary of supporting statement	A report adequate for investors to assess strategy and performance can include a review of appropriate time-bound benchmarks for judging current and future progress, and details of policies and practices designed to reduce unconscious bias in hiring and to build mentorship.
Recommendation	Vote against adoption of shareholder proposal
BoD	
Summary of BoD statement	The Company has a long-standing commitment to diversity and inclusion and we recognize it as a business imperative. The Board of Directors oversees the Company’s diversity efforts and monitors the Company’s progress. The Company highlights its workplace diversity policies and efforts on its website, some of which are highlighted below. The Board of

Directors does not believe that preparing an additional report describing these policies or identifying employees according to standardized EEOC-defined job categories would enhance the Company's efforts to encourage diversity and create a diverse workforce. We believe the vast majority of our shareholders recognize this fact, as demonstrated by the outcome of a similar proposal submitted by the same proponent for consideration at the Company's 2017 and 2018 annual shareholders' meetings, where a substantial majority of the shares voting at the meetings did **not** support the proposal.

Voting result

50.34%

Source

Proxy statement The Travelers Company 2019

https://www.sec.gov/Archives/edgar/data/86312/000120677419001233/trv3452511-def14a.htm#Item_5) and ISS Voting Analytics

Appendix E. List of Abbreviations

BoD:	Board of Directors
CEO:	Chief executive officer
ESG:	Environmental, social and governance
ESGC:	Environmental, social and governance score with controversies
GM:	Annual general meeting of shareholders
IK:	Imbens and Kalyanaraman method
ISS:	Institutional Shareholder Services
OLS:	Ordinary least squares
RDD:	Research discontinuity design
SEC:	Securities and Exchange Commission
SRI:	Socially responsible investing

Appendix F. Variables and Sources

Variable Definitions and Sources		
Variable	Description/measurement	Source
<i>LevelOfSupport</i>	Indicating the percentage of votes in favour of a certain proposal ranging continuously between 0% and 100% and is used to construct the independent variable of interest.	Institutional Shareholder Services
<i>ESGDifference</i>	Difference between ESGC scores in the year prior to the vote on and the year after the vote on the shareholder proposal (a two-year gap), measuring the improvement of company ESG performance used to construct the dependent variable.	Thomson Reuters Refintiv
<i>ESGDummy</i>	When the change in <i>ESGDifference</i> is positive, it is assumed that this is due to implementation of a proposal. <i>ESGDummy</i> depicts whether a proposal is implemented or not and takes value 1 if <i>ESGDifference</i> is positive and 0 otherwise and is used as the dependent variable of interest.	Thomson Reuters Refintiv
<i>CharityDummy</i>	Indicating whether a CEO is involved in charity, value is 1 or 0 when a CEO is not involved in charity used to measure an interaction effect.	BoardEx
<i>Age</i>	Gives the age of a CEO during the year of the proposal (voting year minus date of birth) used to measure an interaction effect.	BoardEx supplemented with Compustat Execucomp
<i>GenderDummy</i>	Indicating whether a CEO identifies as female, and dummy value is 1 or as male and dummy value is 0 used to measure an interaction effect.	BoardEx
<i>Treatment</i>	Dummy variable indicating whether a proposal passed or not: if the <i>LevelOfSupport</i> is greater than 50%. Also deciding if an observation falls in the control group or the treatment group used as the independent variable of interest.	Institutional Shareholder Services
<i>lnTA</i>	It is a measure for firm size, calculated by taking the natural logarithm of total assets of a company, and is used as a control variable.	Compustat Execucomp
<i>ROA</i>	It is a measure of firm profitability and depicts the return on assets (net income divided by total assets), used in the pre-existing differences check.	Compustat Execucomp
<i>Leverage</i>	Gives the firm leverage as a ratio of total debt divided by total assets measured in the pre-voting year and is used as control variable.	Compustat Execucomp
<i>InstOwn_Perc</i>	Gives the percentage of stock held by institutional investors, measured in the pre-voting year, and is used as control variable.	Compustat Execucomp

<i>Amount_of_proposals</i>	Gives the number of shareholder proposals in the voting year and is used as a control variable.	Institutional Shareholder Services
<i>SocialEnvironmentalDifference</i>	Used to calculate the alternative measure for dependent variable and is calculated by adding the social pillar and environmental pillar together thereby excluding the governance elements. As the three pillars all have a different weight in calculating the ESG score, the two pillars are multiplied by their respective weights to calculate this score. It depicts the increase in the social and environmental score between the pre-voting and post-voting year.	Thomson Reuters Refintiv
<i>SocialEnvironmentalDummy</i>	When the change in <i>SocialEnvironmentalDifference</i> is positive, it is assumed that this is due to implementation of a proposal. <i>SocialEnvironmentalDummy</i> depicts whether a proposal is implemented or not and takes value 1 if <i>SocialEnvironmentalDifference</i> is positive and 0 otherwise, similar to <i>ESGDummy</i> . This variable is used as an alternative dependent variable.	Thomson Reuters Refintiv

Notes: this table contains information on all relevant names of variables used throughout this research. The first column gives the name of the variable, the second column contains a description of the variable, what it is used for and if applicable how the variable is calculated or measured. The final column gives the database that the variable is collected from.

Appendix G. Data Cleaning and Merging Process

Data Cleaning and Merging		
Sample	Action	Number of observations
1	ISS shareholder proposal database	7,791
2	Shareholder proposals after dropping missing values for <i>LevelOfSupport</i>	3,162
3	Merging shareholder proposals and ESG performance	2,705
4	Adding column for <i>ESGDifference</i> and dropping missing values (emerge when pre- or post-voting year is out of timeframe)	2,213
5	Dropping all observations where there are multiple proposals per firm per year, keeping the firm-year observations closest to majority threshold	1,494
6	Adding the control variables to the firm-year observations	1,428
7	Creating the sample for the observations within the optimal (IK) bandwidth (9.881% on both sides of the threshold)	154
8	Adding the variables to calculate the moderating effect	115

Notes: This table gives a rough estimation on the data merging and cleaning process and indicates the relevant steps to reach the final samples used. It does not indicate sample sizes that are shortly discussed but not comprehensively utilized (such as the number of firm observations or *SocialEnvironmentalDifference* sample). It also does not include a breakdown of the number of observations per moderator for the control and treatment groups as this is already incorporated into the descriptive statistics. The sample created in step 6 is used for all elements where the full sample ranging from a *LevelOfSupport* of 0% to 100% is necessary. The sample from step 7 is used mainly for in the Main Model. The sample created in step 8 is used to estimate the interaction effects of CEO societal involvement, CEO age and CEO gender in the Moderating Model. The sample in 8 is less due to missing values for the CEO characteristics, due to the already small sample size, the Main Model utilizes sample 7 and not sample 8.