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Shareholder Activism: The Effect of Greenwashing on Shareholder Proposals

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[1] The content of this thesis is the sole responsibility of the author and does not reflect the view of either the supervisor, second assessor, Erasmus School of Economics or Erasmus University.

Abstract[2]

This research aims to evaluate the relation between companies' exposure to greenwashing allegations and the subsequent occurrence of shareholder activism through shareholder proposals. The study hypothesizes that the exposure will lead to an increase in shareholder proposals for that period. Greenwashing exposure is measured using positive abnormal changes in the company's reputational risk index (RepRisk Index). The logistic regression models are performed on a large U.S. data sample from 2007 till 2020, where a positive and significant effect is found between the IV *Exposure to Greenwashing Allegations* and the DV *Shareholder Proposals*. Further research into the probability of the specific proposal types found that environmental or social issue-related proposals experience a stronger effect from increases in exposure than governance-related proposals. The findings of this study show the importance of greenwashing allegations through external media reports or other sources, to boost the level of shareholder activism. This research extends the literature on ESG and shareholder activism while providing data for policy makers, stakeholders and companies.

Keywords: *ESG, Greenwashing, Shareholder Activism, Shareholder Proposals, RepRisk*

Content

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1. Introduction

Environmental, Social and Governance issues take up a large part of recent discussions due to their complexity and importance for society through their influence on stakeholders' lives and society's future. However, the novelty of the topic creates uncertainty, lowering the successful implementation of initiatives and providing less reliable reporting standards (Pucker, 2021). This enables firms to mislead consumers in their attempt to experience the benefits that accompany high ESG performance, like improved customer purchase intention and improved brand reputation (Ali et al., 2022). Nevertheless, when greenwashing actions come to light, negative attention in the form of increased reputational risk occurs.

The growing stakeholder demand for ESG compliance might cause others, like shareholders, to take active participation in the improvement of companies' ESG performance. One form of shareholder activism is through the submission of shareholder proposals. Prior literature has researched the effects of firm-related characteristics, like financial performance, institutional ownership, firm size and industry on the probability of receiving shareholder proposals (Cziraki et al., 2010; Dimson et al., 2015; Eding & Scholtens, 2017; Karpoff et al., 1996; Renneboog & Szilagyi, 2011). Literature has also researched the effect of ESG-related topics on shareholder proposals or voting outcomes, but the effect of rapid changes in perceived ESG performance is not yet established. This research aims to fill this gap by investigating the effect of *Exposure to Greenwashing Allegations (IV)* on the occurrence of *Shareholder Proposals (DV)*. Following prior literature, control variables are included for the firm characteristics financial performance, institutional ownership and size, as well as for the country-sector averages of ESG risk exposures. This study hypothesizes a positive relation between the independent variable and the dependent variable. Additional analyses on the differences in effect for specific proposal types will be performed as well.

A logistic regression model will be used to research the effect of significant increases in reputational risk and the occurrence of shareholder proposals over a period of 2007 till 2020. The effect of the variable *Increased Greenwashing Exposure* (IGWE) on *Shareholder Proposals* (SHPP) is explored. A positive and significant effect at the 0.01% level is found, confirming the alternative hypothesis. The separate effects of greenwashing exposure on both governance-related (GOV) proposals and environmental- or social-related (ES) proposals are positive and significant at $p < 0.001$, with stronger effects for ES proposals.

This study expands prior literature by determining an additional factor that influences shareholder proposal probability. It expands on the effect of greenwashing on companies by focusing on effects outside of performance measures and consumer responses. The findings also have practical relevance as it could aid regulatory bodies during the decision-making process for shareholder proposal laws. On top of that, it shows that stakeholders can have an indirect effect on firms by instigating shareholder proposals through the exposure of encountered greenwashing.

First, this study provides existing literature on Environmental, Social and Governance performance together with literature on greenwashing and shareholder activism. Then, the research design, databases and descriptive statistics are explained. The results are discussed in section 5, while the discussion, including the conclusion, limitations and future research, is discussed in section 6.

2. Literature Review

The significant impact that Environmental, Social and Governance (ESG) issues have on the environment and wider society creates the substantial need, and subsequent stakeholder demand, to address these issues. Reports, including the report by the UN's Intergovernmental Panel on Climate Change (IPCC), warn about the irreversible effects of climate-change like global warming, desertification and ecosystem destruction (Shukla et al., 2019). The awareness and pressure on companies regarding social issues, like inequality and human rights, also continues to increase (Ogunbiyi, 2022). Governance issues like lobbying and board compositions are gaining media attraction as well.

Recent studies have shown the importance of companies' performance on ESG issues for society. Griffin (2017) found that more than 70% of global industrial greenhouse gases (GHG) between 1988 and 2015 can be attributed to only 100 companies. Here, industrial GHG account for over 75% of global GHG emissions and nearly 90% of all carbon dioxide emissions (United Nations, n.d.). Companies also have a large impact on social issues like fair pay and employee safety as this is within their direct influence. By paying their employees equally or by investing in additional safety measurements, these issues can be improved. A survey even found that 53% of people believe that companies are better able to solve social issues than governments (Edelman, 2018). These statements show the large attributes that firms have in ESG issues and thus their importance in addressing them. This generates a wave of societal demands from stakeholders for firms to participate in more ESG activities (Dai et al., 2021). As a result, the arising ESG issues have been gaining consistent growth in importance for firms themselves as well (Frey et al., 2023; Jain et al., 2021).

2.1 Environmental, Social and Governance Performance of Companies

The increasing stakeholder interest in Environmental, Social and Governance (ESG) issues has many firms striving to improve their contributions to these issues (Newman, 2020). Besides an attempt to meet societal demands for more ESG initiatives, improving ESG performance can create multiple advantages for companies. First of all, firms may experience positive effects on their reputation and employees' organizational behaviours (Ali et al., 2022). More specifically, involvement in social issues can generate competitive advantages as it attracts employees as well as customers. Furthermore, Whelan et al. (2021) suggest that sustainability initiatives appear to improve financial performance due to mediating factors like better operational efficiency, more innovation and better risk management. Nevertheless, others state that it remains unclear whether strong ESG performance is the underlying cause for better financial performance, or if there is a confounding variable bias where both performances are the subsequent results of other variables, like good management (Pucker, 2021). Regardless, consensus remains that deficient performances on ESG topics create negative effects for firms like lower financial performance or reputation (Ali et al., 2022).

Another advantage of higher ESG performance is higher investor demand due to institutional investors' increasing interest in "greener" companies (Eccles & Klimenko, 2019). This demand is influenced by investors' need to diversify and to consider the environmental and social impact of their portfolios (Eccles & Klimenko, 2019). Research even suggests that ESG investing appears to provide downside protection for investors, resulting in the outperformance of ESG index funds over their traditional counterparts (Whelan et al., 2021).

This downside protection could be due to multiple reasons. Whelan et al. (2021) state that high ESG performance could lead to more resiliency and that a strong correlation between lower sustainability-risk and improved financial performance was found. The effect of downside protection is even stronger during economic or social crises as ESG stock market indices perform better and recover value quicker (Whelan et al., 2021). This could be because, during crises, firms with high environmental and social performance are able to raise more debt, at lower spreads and for longer maturities (Amiraslani et al., 2022).

2.2. Greenwashing

Despite its potential advantages, investing in the improvement of ESG can become costly and time-consuming. As a result, some companies want to experience these positive effects without spending the significant amount of resources, potentially resulting in the act of *Greenwashing*.

First of all, while some advantages are generated by improving firms' actual ESG performance, like better operational efficiency, certain advantages are created by "simply" reporting the higher ESG performances. For instance, Bianchi et al. (2019) suggest a positive effect of consumers' perceived CSR on purchase intention and firm reputation. Here, perceived CSR is the collective judgment of the market, combining the opinions of consumers on the inflicted harm and best practices of the firm (Bianchi et al., 2019). Mohr et al. (2005) further suggested that the amount and nature of the shared CSR information determines purchase intentions and the evaluation of companies and their products. Other research found that companies try to realize the benefits of rapidly expanding "green" markets by communicating about the sustainability of their practices and products (Delmas & Burbano, 2011). Thus, reporting the higher ESG performances can even be essential to be able to realise some of the benefits, as consumers cannot alter their perceptions of the firm if they remain uninformed on the changes. However, the problem ensues that solely communicating higher ESG performance can already generate advantages for firms, creating the incentive to participate in fraudulent behaviour. This phenomenon is known as *Greenwashing*. It stands for the deliberate misleading of stakeholders about companies' ESG performance or their products' ESG benefits (Atkins, 2022; Markham et al., 2014). In some research papers, *Greenwashing* entails misleading stakeholders solely on environmental aspects while other research papers define it as misleading on all ESG factors. This research will use the definition of misleading ESG efforts in general.

As mentioned above, firms could participate in the fraudulent reporting of their ESG performance in an attempt to obtain certain advantages. Most advantages that incentivize the act of greenwashing are related to competitive pressure or taking advantage of market opportunities (Delmas & Burbano, 2011; Yang et al., 2020). Here, firms can use greenwashing to exceed competitive benchmarks or improve their brand reputation (Yang et al., 2020); to stay ahead of competitors (Parguel et al., 2011); or to meet growing demand for environmentally friendly products (Laufer, 2003; Parguel et al., 2011). Recent greenwashing cases include H&M, which projected insincere sustainable fashion claims, and Ryanair, which falsely advertised low-emissions claims (Stern, 2022; Sweney, 2020). The advantages would have led to improved financial performance through competitive advantages and new opportunities.

Nevertheless, other research suggests that merely disclosing ESG does not improve financial performance, and Fatemi et al. (2018) even suggest that ESG disclosures on their own have negative valuation effects (Whelan et al., 2021). For prior literature that focused on the

sole influence of disclosures, only 26% found a positive correlation with financial performance, compared to a correlation of 53% for ESG performance (Whelan et al., 2021). On top of that, greenwashing can even cause negative effects for firms if the practice becomes apparent. Exposure to greenwashing allegations could negatively influence companies' brand reputation, customer purchase intention, financial performance and consumer trust in general (Hameed et al., 2021; Ioannou et al., 2022; Tarabieh, 2021). Lower confidence in green products and environmentally friendly firms by society even leads to an erosion of the corresponding green consumer and ESG investing capital market (Pucker, 2021). Furthermore, a company can receive questioning from consumers, government entities, or non-government organizations (NGOs) like environmental groups, that could result in litigation (Delmas & Burbano, 2011).

Besides the negative effects for firms, reporting higher ESG performance without actually obtaining that level can cause problematic impacts for society due to ESG issues' inherent risks for the future, like climate-change problems (Ali et al., 2022). Better ESG performance should mitigate these risks, but the misrepresentation of companies' actual impact lowers the extent of this. As a result, social inequality continues to grow and environmental damage has accelerated, even though ESG reporting has become more widespread and ESG scores are improving (Pucker, 2021). This is consistent with Yang et al. (2020) which found that the occurrence of greenwashing is increasing around the world.

Greenwashing is enabled by non-standard metrics (which diminishes comparability), insufficient auditing (only a minority of the reports or measures are audited), varying impact estimates (dependent on the used methodology), discretion over the included information and broad dispersion of the required information, and unreliable ESG ratings from different institutions (Pucker, 2021). The continuance of greenwashing afterwards is possible because it can be difficult to identify due to the shortcomings of ESG reporting, like low regulation enforcement and low media coverage which would otherwise reduce information asymmetry (Li et al., 2022). This is consistent with Li et al.'s (2022) finding that stakeholders are unlikely to identify greenwashing under certain contexts, like emerging economies with high-level information asymmetry. Without the identification of greenwashing and the subsequent exposure of firms to allegations, the expected negative effects of fraudulent ESG reporting for companies is moderated. Here, the lower probability of experiencing negative effects could create the incentive to participate in even more greenwashing, leading to additional detrimental consequences for society. Therefore, there is a need to improve actual ESG performances and the reliability of ESG reporting. By requiring more reliable information, the opportunity to participate in greenwashing lowers while the probability of being caught increases. This higher risk leads to an increase in the expected value of the negative effects, potentially lowering the occurrence of greenwashing. Thus, better ESG reporting and an increase in negative effects could pressure companies to improve ESG performances, so that society can experience the positive effects of reduced ESG issues (Pucker, 2021).

2.3 Shareholder Activism
However, ESG reporting standards will only become more extensive, generalized or mandatory in 2025 (European Commission, n.d.). On top of that, while it will lower the opportunity for greenwashing, it will not prevent its occurrence altogether, similar to the remaining occurrence of fraud despite the mandatory standards on financial statements. Nevertheless, there are

already methods available to decrease greenwashing, like shareholder activism. This occurs when shareholders exercise the rights of their partial ownership to influence companies' behaviours. There are multiple forms of *Shareholder Activism*, where interests of stakeholders are safeguarded and the efficiency of management is improved (Cziraki et al., 2010). For instance, shareholders can utilize their voting privileges to influence executive decisions on companies' operations (ISS, 2023). It can also present itself in the form of publicity movements, proxy battles, litigation, shareholder resolutions or negotiations with management (Cziraki et al., 2010). To specify, proxy battles make use of proxy votes, where shareholders try secure enough votes by convincing others to grant their proxy vote in favor of a specific action (Cziraki et al., 2010). On the other hand, shareholder proposals are resolutions put forward by shareholders and are regulated by the U.S. Securities and Exchange Commission (SEC). The resolutions are suggestions made to the board of directors of public corporations, asking for a matter to be presented and voted upon at the organization's Annual General Meeting (AGM). Prior research has found shareholder proposals to be an important instrument of external control as it enables shareholders to raise concerns about the environmental, social and corporate governance performance of firms, focuses efforts on concrete calls-to-action and can stimulate the adoption of better practices (Andronic, 2016; Papadopoulos, 2019). Due to the public disclosure of proposals, its accessibility to shareholders and measurable data, this research will focus on the shareholder proposal form within shareholder activism.

Existing literature has found an increase in the number of submitted shareholder proposals as well as the votes cast in favour of these proposals over the past years (Gillan & Starks, 2000; Thomas & Cotter, 2007). Besides its ability to raise concerns, Cuñat et al. (2012) and Dimson et al. (2015) actually found that adopting a proposal increases shareholder value and leads to significant positive abnormal returns, with Flammer (2015) finding the same effect for CSR proposals. However, this contrasts the findings of Karpoff et al. (1996), which found little evidence that operating returns and share prices improve after proposals, with negligible effects on firm policies. This difference could have been caused by multiple reasons like large differences in selected sample years across researches. Furthermore, Karpoff et al.'s (1996) focus on traditional shareholder activism compared to CSR activism for Dimson et al. (2015) and Flammer (2015) could create the variation in the effect. This suggestion is supported by Dimson et al. (2015) not observing significant increases for their governance subsample. Unsuccessful engagements, like rejected proposals lead to zero abnormal returns (Dimson et al, 2015). Despite these contradicting findings on the results of shareholder proposals, the proposals need to be implemented before it could cause change. Proposal implementation is mainly influenced by the voting results during the AGM (Renneboog & Szilagyi, 2011). Gillan and Starks (2000) state that voting outcomes depend on factors like sponsor identity, the type of issue and the level of institutional ownership within the firm. Other determinants of voting success are insider ownership, the level of industry competition, and managerial entrenchment (Bauer et al., 2010; Renneboog & Szilagyi, 2011). Research even suggested that the occurrence of votes on similar issues in the past few years, regardless of the voting result, negatively impacts the voting support for current proposals (Andronic, 2016).

Besides research on the determinants of voting outcomes, there are also studies investigating the probability of receiving shareholder proposals in the first place. Researchers have found that firms with low financial performance or poor governance structure are more

likely to be the target of proposals (Cziraki et al., 2010; Dimson et al., 2015; Karpoff et al., 1996; Renneboog & Szilagyi, 2011). Cziraki et al. (2010) also state that proposal probability is positively associated with the stake of institutional investors and the company's ownership concentration. To be specific, proposal-targeted firms have higher institutional ownership than control firms (Karpoff et al., 1996). Research elaborates on this by stating that responsible institutional ownership positively influences the probability of proposals on environmental and social issues (Dimson et al., 2015). However, while Eding and Scholtens (2017) found this *responsible* institutional ownership effect on environmental proposals as well, they state that proposal-targeted firms have 10% smaller institutional ownership proportions compared to non-targeted firms. This difference could potentially be caused by the sample construction as Cziraki et al. (2010) and Karpoff et al. (1996) use matching analyses. To elaborate, their control firms where smaller in more than half of the observations since the proposal firm was often the largest firm or no control firms matched in close size (Karpoff et al., 1996). Considering that larger firm size is positively associated with higher institutional ownership, this could reflect (part of) the difference in the coefficient of institutional ownership (Karpoff et al., 1996). Other factors that increase shareholder proposal probability are larger firm size, higher firm maturity, industry type, internationalization, and environmental awareness of managers (Dimson et al., 2015; Eding & Scholtens, 2017; González-Benito & González-Benito, 2010).

Eding and Scholtens (2017) suggest the lack of effect between CSR performance and CSR proposals when financial and institutional control variables are included. Besides influences on overall proposal probability, they also research the effect of specific ESG issues on the probability of proposal types. They found no significant association between the performance on social responsibility issues or governance issues and the occurrence of either proposal type, except for a positive effect of employee wellbeing issues on social shareholder proposals (Eding & Scholtens, 2017). Most of the prior literature discussed focuses on the determinants of shareholder proposals, while Dimson et al. (2015) focuses on shareholder engagement. Here, shareholder engagement can range from a wide variety of interactions like dialogues, letters, emails, phone calls, direct meetings with senior management and at the shareholder meetings (Dimson et al., 2015). The research suggests that companies sensitive to perceptions on their reputation are more likely to be the target of engagement. In addition, the effect of reputational concerns is larger for ES engagements compared to GOV engagements.

As discussed, prior literature has found multiple factors that can lead to increases in shareholders proposals, like size, industry, financial performance, governance structure and institutional ownership. Although Eding and Scholtens (2017) did research the association between performance on CSR issues and proposals, there is no existing literature on the effect from rapid and significant changes in perceived ESG performance. These rapid changes in perceived ESG performance signal the exposure of a company to greenwashing allegations. While Dimson et al. (2015) did research reputational concerns, they measured its effect on engagement with the company, not limited to shareholder proposals. On top of that, they used a different measurement and focused only on a dataset provided by an institutional owner. Thus, the effect of exposure to greenwashing allegations on shareholder proposals has not been investigated. This study aims to fill that gap.

This research expands prior shareholder proposal literature by determining an additional factor that influences proposal probability. By focusing on changes in perceptions of ESG

performance and not only on firm characteristics, like financial performance, this research expands on the literature of Cziraki et al. (2010), Dimson et al. (2015), Karpoff et al. (1996), and Renneboog and Szilagyi (2011). The research by Dimson et al. (2015) is further expanded as the effect of reputational problems on proposal probability is investigated, instead of its effect on engagement implementation. On top of that, this research will measure any reputation-related variables with the RepRisk Database, while Dimson et al. (2015) use lower product similarity and higher advertising expenditure. I complement the analysis of Eding and Scholtens (2017) by focusing on the changes in perceived ESG performance. In addition, this study differs from some shareholder proposal literature due to its data sample. By using a sample that contains firm observations regardless of the presence of a match with firms that contain shareholder proposals, the data sample contains more observations than Cziraki et al. (2010) and Karpoff et al. (1996), whom use matching analyses. Furthermore, I complement the data generalizability of Eding and Scholtens (2017) as I also take into account smaller-sized companies using the ISS database, while their research only focuses on proposals received by the 250 largest publicly traded companies. My data sample differs from Dimson et al. (2015), which uses a dataset provided by a large institutional investor with a commitment to responsible investing. This could create a bias in the dataset towards CSR results as the investor reports on the elimination of companies with low ESG performance from its portfolio (Dimson et al., 2015). Moreover, the institutional investor actively promotes collaboration among shareholders and the adoption of ESG initiatives, which could create a database with a bias towards with companies with a relatively higher responsible shareholder proportion (Dimson et al., 2015).

Besides the contribution to shareholder proposal literature, this research adds to greenwashing literature by expanding on the effect that exposure to greenwashing allegations has on companies. Here, I focus on the effects outside of performance measures and consumer responses, expanding the analyses of Hameed et al. (2021), Ioannou et al. (2022), and Tarabieh (2021). Further, I expand on Bianchi et al. (2019) by focusing on the effect of significant changes in consumers' perceived CSR on companies. The analyses contribute to the emerging literature on the potential positive influence of non-shareholders in companies' values (Agoraki et al., 2023). The study has practical relevance for stakeholders as it can show the indirect effect that their publicized greenwashing allegations have on firms through the instigation of shareholder proposals. Understanding the determinants of shareholder proposals, stakeholders could allocate their efforts to address concerns more efficiently. In addition, the findings of this research could aid regulatory bodies during the decision-making process for shareholder proposal laws. In 2016, the proposed introduction of the Financial Choice Act, Section 844[3] by the U.S. House of Representatives could have significantly limited the ability to file shareholder proposals. The Section proposed a shift of the ability to file proposals to solely the large institutional investors, while the Act would also increase the difficulty of resubmitting proposals at a company. The foundation behind this law was to lower the amount of costly proposals and to help businesses focus on their core activities. However, this would remove the ability of smaller investors to hold companies accountable for their actions while shareholder engagement is a tool to pressure companies on ESG performance (Dimson et al. 2015; Eding & Scholtens, 2017; González-Benito & González-Benito, 2010). Therefore, by exploring the

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[3] Financial Choice Act. Section 844, concerning proposed changes to SEC rule 14(a)(8).

occurrence of proposals as a reaction to greenwashing allegations, the importance of being able to file proposals in the fight against greenwashing may be shown. This could be significant during future discussions on shareholder rights, especially since proposed bills like the FCA passed the U.S. House of Representatives before it was rejected by the Senate.

Research Question: *Does Exposure to Greenwashing Allegations Increase the occurrence of Shareholder Proposals?*

3. Hypothesis

This study will test two hypotheses relating to shareholder proposals. First, it will test the effect of greenwashing allegations on the probability of receiving shareholder proposals. The second hypothesis relates to greenwashing exposure and its effect on the separate ESG proposal types.

A positive effect between the independent variable of companies' exposure to greenwashing allegations and the dependent variable of receiving shareholder proposals is hypothesized. As indicated in the literature review, exposure to greenwashing claims can lead to negative consequences for companies, like lower financial performance and lower purchase intention. Taking into account that prior research states that proposal probability is higher for firms with poor financial performance, exposure to greenwashing allegations might have an influence on shareholder activism since the allegation will reveal the lower actual performance levels to shareholders (Cziraki et al., 2010; Dimson et al., 2015; Karpoff et al., 1996; Renneboog & Szilagyi, 2011). Furthermore, firms with higher (perceived) ESG performance might have attracted responsible investors. After the revelation of greenwashing, this could lead to an increase in proposals as these investors want to see the ESG performance realized. On the other hand, instead of participating in shareholder activism, shareholders could decide to sell their shares to remove association with the company and counteract the poor financial performance. Nevertheless, the negative market reactions will have already occurred, lowering the profit spread and thus the incentive for investors to sell (Cziraki et al., 2010). This aligns with prior literature that suggests that, due to institutional investors' comparison benchmarks and their notion that selling their underperforming shares will further drive down share prices, they are switching to more active shareholder roles (Andronic, 2016). The active role includes an increase in management monitoring and shareholder engagement through shareholder proposals (Andronic, 2016). However, Eding and Scholtens (2017) suggest that there is no significant relation between CSR performance and the occurrence of CSR proposals while Dimson et al. (2015) suggest a positive effect between reputational concerns and shareholder engagement. Combining these findings into reputational concerns for CSR performance on shareholder proposals, together with the other consequences and moral obligations, the expectation is that, while controlling for other factors, a positive effect of *Exposure to Greenwashing Claims* on *Shareholder Proposals* can be found.

> **H1a**: *Exposure to Greenwashing Allegations has no effect on Shareholder Proposals.*

> **H1b**: *Exposure to Greenwashing Allegations has a positive and significant effect on Shareholder Proposals.*

The second hypothesis in this study relates to the properties of the greenwashing allegations and shareholder proposals. Prior literature on CSR found that the results can vary across the

different categories. Following the arguments suggested by Dimson et al. (2015) this study expects to find the effect of greenwashing to be stronger for environmental and social proposals than for governance proposals. This is due to the fact that ES initiatives are more costly, take longer to realize their benefits and are difficult to implement when there is reluctant management (Dimson et al., 2015). This study assumes that companies with high greenwashing exposure have reluctant management as their adoption of ESG initiatives has also been reluctant compared to the levels discussed in their reporting. Due to the higher negative costs, this research hypothesizes that the role of greenwashing exposure is more pronounced for ES proposals compared to GOV proposals. In other words, ES engagements need the additional "push" towards ESG activities to balance out the negative stipulations, besides the push explained by the control variables. Dimson et al. (2015) suggest a lower coefficient of institutional ownership on environmental- and social-related proposals compared to governance-related proposals.

> **H2a**: *Exposure to Greenwashing Allegations has no differences in effect for the separate Shareholder Proposals types.*

> **H2b**: *Exposure to Greenwashing Allegations has a relatively larger impact on ES-related Shareholder Proposals compared to GOV-related Shareholder Proposals.*

Following prior literature, the effects of the control variables are suggested. A positive and significant effect is expected for larger firm size, higher institutional ownership levels, and higher Country-Sector Averages. A negative significant effect is expected for financial performance.

4. Research Design
As previously mentioned, the main objective of this research is to study the presence of a causal relation between *Greenwashing Exposure* and shareholder activism via *Shareholder Proposals*. For this purpose, a regression analysis will be performed on a sample comprised of the RepRisk Database and the Institutional Shareholder Services (ISS) Database. The final sample contains data from 2007 until 2020, with a total of 3,359 companies and 562,296 observations.

4.1 The RepRisk Database
The RepRisk Database can be obtained through Wharton Research Data Services (WRDS) and proxies greenwashing using a firm-level reputation risk index (RepRisk, 2022). It captures data for more than 180,000 public and private companies regardless of their sector, country, size or market as it records any company exposed to ESG risks (RepRisk, 2021b). Of this data, approximately 85% are non-listed companies and 15% are listed companies, with 30% of the companies being located in North America (RepRisk, 2021b). The data is captured based on 28 ESG issues, like pollution, child labour or fraud, where any company associated with an ESG risk incident is identified and quantified using AI and machine learning together with human insight (RepRisk, 2021b; RepRisk, 2021c). Included events are contradictions between actions and climate commitments; criticisms for deceiving consumers; or research on the overstatements of companies' impact (RepRisk, 2022). It monitors significant ESG risks and violations of international standards. Information on these events is gathered by RepRisk on a daily basis using data from public sources like the media, newsletters, government bodies,

regulators, and other sources (RepRisk, 2021b)[4]. RepRisk uses an outside-in approach, meaning it intentionally excludes self-disclosures from the data as these might be unreliable (RepRisk, 2021b). The discrepancy between these self-disclosures and companies' actual ESG performance denotes greenwashing. The RepRisk dataset contains multiple indexes and risk metrics, like the *RepRisk Index* (RRI) and the changes in the *RRI* compared to 30 days earlier (RRI$_{CHANGE}$). These variables will be discussed in section 4.4 and their definitions can be found in Table A1, in the Appendix.

This dataset is chosen as it enables the assessment whether companies' actual ESG performance aligns with their presented policies (Dai et al., 2021). Here, RepRisk provides ESG risk exposure at the firm-level rather than ESG performance ratings like other data providers (Newton et al., 2022). A significant increase in a company's ESG risk exposure signals that the company was subject to negative media on ESG issues, creating a proxy for greenwashing. The construction of the variable greenwashing will be further discussed in section 4.4. The preference to use RepRisk compared to other data providers is strengthened by the notion that RepRisk is the only database that focuses solely on external sources to identify ESG risks (Newton et al., 2022; RepRisk, 2021b). On top of that, the database is the largest database of its kind in the world, ensuring that the most complete data is used for this research (RepRisk, 2021b). It provides the most thorough data compared to other ESG databases like KLD and Eikon, which contain missing observations and only provide annual ESG ratings (Houston & Shan, 2019). For the purpose of this research, RepRisk's availability of monthly data is needed for better matching with the ISS data as shareholder meetings are planned throughout the year. Here, using yearly data would mean that the effects of risk incidents measured in later months, like November, are still encompassed in the yearly rating. However, these incidents cannot have an influence on the meetings in earlier months, thus lowering the reliability of the measurement. Therefore, using RepRisk enables better matching, allowing for more reliable results.

4.2 The Institutional Shareholder Services Database

As a proxy for *Shareholder Activism*, the Institutional Shareholder Services (ISS) Database will be used, also previously known as RiskMetrics and the IRRC Database. This database contains governance, director, and shareholder proposal datasets and can be obtained through WRDS (HBS, n.d.). For the purpose of this research, the Shareholder Proposal dataset will be used. This dataset contains data on shareholder proposals and their statuses for all firms in the S&P 1500 index and the remaining firms in the Russell 3000 index. The Russell 3000 is an index of the performance of the 3000 largest U.S. companies, covering around 96% of the investable U.S. equity market (FTSE Russell, 2023). The S&P 1500 represents more than 90% of the U.S. equity market and consists of the S&P 400, S&P 500 and S&P 600 (S&P Global, 2020). Thus, by covering both the S&P 1500 and the Russell 3000, the ISS database consists of most listed companies in the U.S. market, mainly located in North America. This research focuses solely on companies headquartered in the U.S. market due to its differences compared to the European market. This is shown by Cziraki et al. (2010) who found proposal submission frequencies for the U.S. two times as high per market capitalization than for the European market. By focusing on the U.S. market these policy influences can be mitigated. It also allows for the comparison between the results of this study and others in shareholder activism and CSR literature, as these

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[4] The observations are already aggregated to a monthly level in the dataset from WRDS.

generally focus on U.S. firms.

Data is collected on whether proposals came to a vote, were omitted from the proxy or were withdrawn by its sponsor (HBS, n.d.). The dataset also contains data on other things like the resolution, resolution type, sponsor type and the meeting dates. This data is chosen as its focus on shareholder proposals best fits the purpose of this research. It creates a tangible measurement of shareholder activism for external parties. The database is also the largest database available for proposals, thus fitting better with the RepRisk data that collects data on a wide range of companies (RiskMetrics, 2009).

4.3 Logistic Regression Model

To examine the relation between the independent variable *Greenwashing Exposure* and the dependent variable *Shareholder Proposals*, a logistic regression model will be used. Logistic regression models are often used for dependent variables in the categorical form and can predict values ranging between zero and one (Osisanwo et al., 2017). It allows for both continuous and categorical independent variables. In this study, the dependent variable is binary, making logistic regression analysis an appropriate method. Model 1 is as follows:

$$SHPP_{it} = \beta_0 + \beta_1 * IGWE_{it} + \beta_{MtB} MtB_{it} + \beta_{IO} IO_{it} + \beta_{Size} Size_i + \beta_{CS_{AVG}} CS_{AVG\,it} \quad (1)$$
$$+ Year\ FE + Industry\ FE + \varepsilon_{it}$$

This model will study the effect of *Greenwashing Exposure* (IGWE) on *ESG-related Shareholder Proposals* (SHPP). Here, *IGWE* for company *i* in period *t* is used to predict the likelihood of a shareholder proposal being put forward for firm *i* in period *t*. The model includes the control variables *Market-to-Book value of Equity* (MtB), *Percentage of Institutional Ownership* (IO), and the *Country-Sector Average* (CS_AVG), for company *i* in period *t*, as well as the *Size* (Size) of company *i*. These variables will be further explained in section 4.4 and in Table A1, in the Appendix. Based on the hypotheses, the prediction is that an increase in *Greenwashing Exposure* (+) will have a positive coefficient for its effect on the variable of interest in this model, *Shareholder Proposals* (+). This prediction is made while keeping the control variables constant as prior literature suggests that these variable have an effect on the dependent variable as well. Besides the effect of greenwashing on all shareholder proposals related to ESG issues, this study will also research the effect on the separate resolution types, GOV and ES.

$$SHPP_{GOV\,it} = \beta_0 + \beta_1 * IGWE_{it} + \beta_{MtB} MtB_{it} + \beta_{IO} IO_{it} + \beta_{Size} Size_i + \beta_{CS\_AVG} CS\_AVG_{it} \quad (2)$$
$$+ Year\ FE + Industry\ FE + \varepsilon_{it}$$

$$SHPP_{GOV\,it} = \beta_0 + \beta_1 * IGWE_{GOV\,it} + \beta_{MtB} MtB_{it} + \beta_{IO} IO_{it} + \beta_{Size} Size_i + \beta_{CS\_AVG} CS\_AVG_{it} \quad (3)$$
$$+ Year\ FE + Industry\ FE + \varepsilon_{it}$$

For model (2) and (3), *SHPP*GOV represents the probability that firm *i* receives a governance-related shareholder proposal in period *t*. Here, model (2) uses overall increases in *IGWE* while model (3) focuses only on the effect caused by greenwashing exposure related to governance issues (IGWEGOV). Following the other hypothesis, a positive coefficient is predicted between an increase in *Greenwashing Exposure* (+) and its effect on the variable of interest in this model, *Governance-related Shareholder Proposals* (+).

$$SHPP_{ES_{it}} = \beta_0 + \beta_1 * IGWE_{it} + \beta_{MtB}MtB_{it} + \beta_{IO}IO_{it} + \beta_{Size}Size_i + \beta_{CS\_AVG}CS\_AVG_{it} \quad (4)$$
$$+ Year\ FE + Industry\ FE + \varepsilon_{it}$$

$$SHPP_{ES_{it}} = \beta_0 + \beta_1 * IGWE_{ES_{it}} + \beta_{MtB}MtB_{it} + \beta_{IO}IO_{it} + \beta_{Size}Size_i + \beta_{CS\_AVG}CS\_AVG_{it} \quad (5)$$
$$+ Year\ FE + Industry\ FE + \varepsilon_{it}$$

Model (4) and (5) use $SHPP_{ES}$ as dependent variable, which represents the probability that firm i receives an environmental- or social-related shareholder proposal in period t. Similar to model (2), model (4) uses overall increases in *IGWE*, while the IV in model (5) only contains greenwashing exposure caused by environmental or social issue allegations (IGWE$_{ES}$). These models are used to test the second hypothesis and use the same control variables as model (1). Following the hypotheses, it is expected that all 4 models will have a positive coefficient for the effect of the IV on the DV.

4.4 Variables

In this section of the study, a closer look at the construction of the variables will be given. To perform the regression analysis, the IV *Greenwashing Exposure* and the DV *Shareholder Proposal* are operationalized using multiple variables from the datasets. Variable definitions are discussed in Table A1, in the Appendix.

4.4.1 Independent Variable – Greenwashing Exposure

The binary variable *Increased Greenwashing Exposure* (IGWE) will be created as a measurement for the independent variable *Greenwashing Exposure*. Here, *IGWE* will be 1 if the *RepRisk Index* (RRI) experienced at least one significant increase in the period between the proposal date[5] and the previous proposal date. Here, the period can have a maximum length of 1 year and a significant increase in *RRI* is measured when positive changes in *RRI* over the past 30 days, denoted by *RRI Change* (RRI$_{CHANGE}$), are larger than RRI_{CHANGE}'s standard deviation.

Here, the *RRI*, with values ranging from 0 till 100, is chosen as foundation as it captures a company's reputational risk exposure related to ESG issues (RepRisk, 2022). It denotes companies' current level of stakeholder and media attention related to ESG issues (RepRisk, 2021b). This means that companies experience an increase in their *RRI* if new ESG incidents related to that company were recently discussed in any external sources. For the purpose of this research, the assumption is made that negative information on one of the 28 ESG issues, causing reputation risk, can be identified as greenwashing. Therefore, an abnormal increase in the *RRI*, caused by new incidents coming to light, represents an increase in company's exposure to greenwashing accusations. This aligns with the statement by RepRisk that RRI_{CHANGE} can be used to examine the development of companies' risk exposures, as large increases in a period are due to severe ESG risk incidents (RepRisk, 2021a). These media developments could reach shareholders and influence certain shareholder decisions, like putting forward a proposal.

To be able to examine the differences in the effects of the ESG issues, two additional independent variables are created, namely governance-related greenwashing exposure (IGWE$_{GOV}$) and greenwashing exposure related to environmental and social issues (IGWE$_{ES}$). These variables are created using the *Environmental Percentage* (E$_\%$), *Social Percentage* (S$_\%$),

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[5] Created by taking the date of a 120 days before the *Meeting_Date* to account for the submission deadline.

and *Governance Percentage* (GOV$_\%$) of the RepRisk database. These variables range from 0 to 100 and indicate the specific issues' proportion of links in the media compared to the company's total exposure that makes up the current *RRI*. Here, the binary variable *IGWE$_{GOV}$* indicates 1 if *RRI$_{CHANGE}$* is larger than its standard deviation and *GOV$_\%$* is larger than *GOV$_{\% t-1}$* or *GOV$_\%$* is equal to 100, and 0 otherwise. This precaution is included as additional media cannot increase the percentages higher than 100%. *IGWE$_{ES}$* is similar to *IGWE$_{GOV}$* but will indicate 1 if either *E$_\%$* or *S$_\%$* increases compared to its previous measurement or if it equals 100.

To perform a sensitivity test on the variable measurement, an alternative *IGWE* (IGWE$_A$) is created. The measurement is chosen as firms with lower ESG reputational risk have lower information asymmetry (Agoraki et al., 2023). As information asymmetry is highly present in greenwashing, *IGWE$_A$* will be a binary variable denoting 1 if *RRI* > 60 and 0 otherwise. This number was chosen in accordance with prior literature from Colak et al. (2022). RepRisk states that a value above 50 indicates that even larger firms have been involved in stakeholder issues. This distinction for larger firms is important as they often sustain an *RRI* between 25 and 49 due to their high (negative) media coverage (RepRisk, 2021b). However, considering that *RRI* should lower over time and the upper bound expectancy is 49, a threshold of 60 is appropriate.

4.4.2 Dependent Variable – Shareholder Proposals

To conceptualize shareholder activism, the binary dependent variable *Shareholder Proposal* (SHPP) will be created. *SHPP* will denote 1 if an observation contains a shareholder proposal and if that shareholder proposal relates to ESG issues. If either condition is not met, *SHPP* will denote 0. The conceptualization of *SHPP* as a binary variable follows prior literature where the occurrence of multiple proposals for *Company$_i$* in *Year$_t$* counts as a single proposal event, as long as the proposals fall in the same category (Eding & Scholtens, 2017; Karpoff et al., 1996). This prevents a clustering bias since proposals on the same topic are excluded (Eding & Scholtens, 2017). To test the category-specific hypotheses, two binary variables *SHPP$_{GOV}$* and *SHPP$_{ES}$* are also created. The classification criteria for governance-related shareholder proposals (SHPP$_{GOV}$) is met when the variable *Resolution Type* (RES_TP) is equal to *GOV*. For environmental- and social-related shareholder proposals (SHPP$_{ES}$), *RES_TP* should be equal to *SRI*. For illustrative purposes, the ten resolutions with the highest frequency count for both *GOV* and *SRI* are shown in Table A2 and Table A3 in the Appendix.

4.4.3 Control Variables

To research the relation between IV and the probability of receiving a shareholder proposal, the variance of other effects on *SHPP* should be excluded from the coefficient. Prior literature provides multiple control variables that could be included to account for heterogeneity and to improve the accuracy of the regression. For the purpose of this research, the variables *Financial Performance*, *Percentage of Institutional Ownership*, *Size*, and the *Country-Sector Average* of risk exposure are controlled for, as well as year-fixed effects and industry-fixed effects. The *RRI* variable itself is not introduced as a control variable as it could present multicollinearity through its correlation with *IGWE*.

4.4.3.1 Financial Performance (MtB)

Considering that multiple researchers state on a negative association between *Financial Performance* and proposal probability, it is taken as a control variable (Cziraki et al., 2010;

Dimson et al., 2015; Karpoff et al., 1996; Renneboog & Szilagyi, 2011). Following the prior research, the market-to-book ratio of equity (MtB) is used as measurement since it captures value-creating potential (Cziraki et al., 2010; Eding & Scholtens, 2017; Karpoff et al., 1996). The data is extracted from Compustat North America as the database contains the financial ratios of (in)active publicly held companies in the U.S. and Canada (WRDS, n.d.b.). To avoid distortions, the MtB is winsorized at the 5% and 95% level. This helps to avoid outliers caused by very small or large denominators (Karpoff et al., 1996). Afterwards, *MtB* is scaled to make it more consistent for interpretation. Scaling variables with different ranges ensures that all variables contribute to the regression analysis equally as it lowers the different magnitudes tey have and thus improves the model's performance. The binary variables in this research are not scaled as they are already on a consistent scale.

4.4.3.2 Institutional Ownership (IO)
Another factor that should be controlled for is *Institutional Ownership* (IO). Prior research has found contrasting results, with Cziraki et al. (2010) finding a positive association between the size of institutional ownership and proposal probability, while Eding and Scholtens' (2017) suggest a negative association. In addition, the ownership structure influences the dispersion of the voting rights, which could either deter or incentivize shareholders to submit proposals. Based on the dispersion, shareholders could make an estimation of the voting results and adjust their proposal submission accordingly. Here, a broad dispersion of the voting rights could deter proposals as it is more difficult to reach a majority vote (Cziraki et al., 2010).

Despite the differing consensus on the direction of the effect, its potential external influence on the dependent variable needs to be controlled for. *IO* is measured by dividing all shares attributable to institutional ownership by the total shares outstanding (WRDS, n.d.a). Similar to Dimson et al. (2015) this study extracts the institutional ownership data from the Thomson Reuters 13-F dataset. This dataset contains observations on equity holdings from the 13-F forms that all institutional investors with at least $100 million in AUM have to file with the SEC (SEC, n.d.). As a few of the observations are larger than 100%, these values are winsorized to reduce the impact of outliers while retaining the data. *IO* is also scaled.

4.4.3.3 Size
Another control variable is *Size*, which is created using the dataset's *Index* variable. According to Karpoff et al. (1996) and Eding and Scholtens (2017), larger firms have a higher probability of receiving shareholder proposals. Dimson et al. (2015) expand on this by suggesting that this could be due to the analyst covering faced by larger companies.

The observations in the dataset are assigned to four *Index* categories, namely the S&P 400; the S&P 500; the S&P 600; and the Russell 3000, excluding the companies that are already assigned to the S&P 1500. The S&P 400, S&P 500 and S&P 600 together form the S&P 1500 index and thus contain more than 90% of the North America stock market (S&P Global, 2020). This means that the dataset contains observations on 400 mid-sized U.S. companies, the 500 largest stocks in the U.S. equity market, and 600 small-cap U.S. companies (S&P Global, 2020). The Russell 3000 index consists of both the Russell 1000 and the Russell 2000, with on average 1000 large-cap stocks and 2000 small-cap stocks respectively, containing more than 96% of the U.S. stock market (FTSE Russell, 2023).

To create the binary control variable *Size*, observations are allocated based on these indexes, where *Size* will denote 1 if the company is large and 0 otherwise. Observations in the S&P 400, S&P 600 and Russell 3000 are assigned 0. The observations in the S&P 500 are assigned 1. This research denotes the Russell 3000 with 0 since it contains the Russell 3000 companies that are not part of the S&P 1500. As a result, the 500 largest companies in the Russell 3000 are excluded, as well as mid-cap companies that overlap with the S&P 400. The remaining companies will mostly be mid- or small-cap. The assignment of 0 to both mid- and small-cap companies follows a statement by Dimson et al. (2015) where shareholders prefer to target either medium- and small-sized companies or large-sized companies. Considering that this distinction in preferences occurs between the two classifications instead of a distinction between all three, classifying the S&P 400 and S&P 600 together can be seen as sufficient.

4.4.3.4 Country Sector Average (CS_AVG)

This control variable depicts the average *RRI* of companies' sectors and locations. While the data sample only includes U.S. companies (further discussed in section 4.5), this sample selection is based on the location of the company's headquarters. The *Country-Sector Average* contains both the ESG risk exposure of the company's headquarters and the countries where the company has been linked to ESG risk incidents, for instance through its subsidiaries (RepRisk, 2021b). The average of these numbers in combination with their concerned sectors, gives each company a country-sector average *RRI*[6]. This combines the macroeconomic and political risk of the countries with the sector risks, creating the average risk exposure that companies in those sectors in those countries would experience. These countries are taken into account as a company's country of business can influence the strength of the effect due to differing conditions, like regulations or cultures. On top of that, the preference placed upon stakeholders' welfare compared to shareholders' welfare could vary significantly depending on the country (Colak et al., 2022).

Besides the impact of the country, the sectors can influence the impact of ESG risk incidents as different ESG issues might have different effects depending on the sector. While this research also uses industry fixed effects, *CS_AVG* also brings insight into the data. Here, the industry FE focuses only on the effect that a company's primary sector has with the probability of receiving shareholder proposals for companies in that industry. The *CS_AVG* focuses on the combined effect of the countries' and sectors' risk exposures. To illustrate, if a retail company in the U.S. has a clothing factory in Europe, the CS_AVG would combine the risk of the retail industry in the U.S. with the risk of the manufacturing industry in Europe. This way it encompasses macroeconomic and political risk while the industry fixed effects focuses on how much the primary industry would alter the constant in the regression model. The variable is scaled to improve the model's performance.

4.4.3.5 Year and Industry Fixed Effects

Besides the control variables mentioned above, there may still be other factors that affect the dependent variable. Year and industry fixed effects are included to control for the unobserved heterogeneity between years and industries. The year fixed effects help account for variation

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[6] I.e. $CS\_AVG = 50\% * (Industry_H * Country_H) + 50\% * \frac{Industry_1 * Country_1 + Industry_n * Country_n}{n}$

over time not explained by the other variables, like trends over time or time-specific effects that affect the proposal probability. This is important as an increase in shareholder proposals over the last two decades was found in U.S. firms (Gillan & Starks, 2000; Thomas & Cotter, 2007).

Fixed effects for industry are also included in this empirical analysis. This enables the controlling of (unobserved) variables that vary across industries but remain constant over time, like differences across industries in regulations or shareholder preferences. As a result it accounts for the unobserved factors that are specific to the separate industries, like industry trends. The industries can influence the impact that greenwashing exposure has on proposals for a variety of reasons. First of all, shareholders investing in the *Oil and Gas* or *Mining* sector might assign lower importance to ESG issues than shareholders in the *Alternative Energy* sector. This would moderate the effect of greenwashing exposure on shareholder proposals as certain sectors may put less priority on ESG criteria and thus the revelation of greenwashing, while focusing more on the financial aspects. Furthermore, some sectors may experience relatively higher public scrutinization or are more likely to be subject to ESG issues due to the nature of their operations (Agoraki et al., 2023). As a result, shareholders might experience different sensitivities to additional risk incidents coming to light if it is relatively "normal" in their industry. For the industry fixed-effects this studies focuses only on a company's primary industry due to model complexity and interpretation. Nevertheless, part of the risk exposure for companies' other industries are taken into account in the *CS_AVG* control variable. The industries are grouped into industry sectors.

4.5 Data Sample

Before the construction of the data sample, the two datasets are prepared. The RepRisk Standard Package data will be used as it focuses only on listed companies. This decision fits the research objective as shareholder proposals occur for listed companies and thus the ISS dataset only focuses on these. The public RepRisk Database ranges from 2007 till 2020 and starts with 3,196,032 monthly observations for 18,906 companies. The ISS Database ranges from 2007 till 2020 and starts with 15,031 observations for 1,662 companies.

This data sample will focus on the U.S. market due to the availability of reliable data, while also conforming to most prior literature that focuses on U.S. firms. This allows for the comparison and complement of any findings in this study with the results of others. On top of that, by eliminating other countries, effects like the lower proposal frequency in Europe have no influence on the results, improving the results validity (Cziraki et al., 2010).

RepRisk contains data on companies all over the world, as its collection process is event-driven, where it does not make distinctions in firm characteristics as long as the company is exposed to risk incidents (RepRisk, 2021b). However, the ISS data only contains observations on the U.S. and some small outliers in other countries like *Canada*, *Sweden*, the *Cayman Islands*, or *Panama*. These outlier countries concern firms that are not headquartered in the U.S. but are still listed on the U.S. stock market. Following some preliminary analyses, these countries were also removed from the dataset as they only contained 20 proposals. Here, including the RepRisk observations for these countries in the final data sample would lead to underrepresentation and thus lower outcome validity. Therefore, all observations where *Country* is not equal to *United States of America* are removed from the observations. While this decreases the number of observations significantly to 753,480 observations, it is necessary for data comparability. It is

important that the RepRisk companies fit within the ISS's data jurisdiction so that the observations without a match in the ISS data represent the firms that did not receive shareholder proposals. In other words, a lack of shareholder proposals would lead to exclusion from the ISS dataset, while this is also a result. Considering that this RepRisk sample focuses on listed companies in the U.S., while the ISS represents more than 94% of the stocks in the U.S. market, high overlap in data jurisdiction is present. The assumption is made that by keeping the unmatched observations of the RepRisk sample after merging, this effect is taken into account.

To merge the RepRisk data with the ISS data, the company identifiers need to align. The variable *CUSIP* is used as company identifier because it is the national securities ID of the North American market and thus fits the research objective best (May, 2020). This will lower the loss of important data caused by mismatching problems. To obtain the primary identifier for the RepRisk data, *CUSIP* is created by removing the first two characters and the last character of every observation for *ISIN* (May, 2020). This assumption holds for U.S. and Canadian ISINs. As this variable will be the basis for merging the datasets, any observation in the databases with a NA value in either *ISIN* or *CUSIP* is removed.

The duplicates and the companies that are not measured in RepRisk are removed from the ISS data since the effect of the IV on the DV cannot be measured without matches in RepRisk. The NAs in *CUSIP* are also removed. Then, the datasets will be merged and the new variables, explained in Table A1 in the Appendix, will be created. The merged data sample consists of 745,584 observations on 27 variables. The proposals in the sample will include the omitted and withdrawn proposals. Here, the proposals could have been withdrawn or omitted for a variety of reasons, like the proposal not meeting SEC guidelines or failing to provide stock ownership verification. However, considering that the shareholder has taken action, it makes the observation attributable to shareholder activism regardless of its status. This lowers the selection bias towards proposals that went to a vote (Bauer et al., 2010). Even proposals that were withdrawn voluntarily are included as the companies could have already agreed to the changes or understanding on the likelihood of (in)sufficient support was gained (Kolesnikoff, 2021; Hodgson, 2022). Companies without any values of *MtB*, *IO* or a proposal in any of their observations are removed (–183,288 observations). While this removes data on 1091 companies, it ensures that the quality of this sample remains high. Here, the assumption is made that if a company does not have data from Compustat, Thomson Reuters 13-F and ISS, it is unlikely that it falls within the data jurisdiction of the ISS database and should therefore not be included. The values of *MtB* for the remaining observations are winsorized at the 5% and 95% to account for outliers. The values of *IO* are winsorized so that they are not higher than 100%.

4.6 Descriptive Statistics
After its preparation, the dataset consists of 27 variables and 562,296 observations (monthly). This covers 3,359 companies, over the period of 2007 until 2020. In this section of the paper, the descriptive statistics are shown, covering the *Shareholder Proposal* distributions (Table 2), as well as μ and σ measurements for other variables like the *RRI* and *RRI*$_{CHANGE}$ (Table 1).
Table 1 illustrates the summary statistics for most of the variables used in the regression models. It provides insight on the quality of the data and its conformity with the research purpose. After the winsorization of the control variables *MtB* and *IO*, the minimum and maximum values suggest that the data fit is adequate. Here, the data points align with logical limits, like the outer

Table 1: *Descriptive Statistics of the Variables*

The Table reports the summary statistics of various reputational risk indexes, control variables as well as the number of proposals per year and company. The summary statistics represent all observations in the dataset. All variables are defined in Table A1, in the Appendix.

Variables	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	Sd.
RRI	0.000	0.000	0.000	6.451	13.000	93.000	10.913
RRI_{CHANGE}	-16.000	-1.000	0.000	0.039	0.000	58.000	3.617
IGWE	0.000	0.000	0.000	0.039	0.000	1.000	0.194
MtB	0.451	1.210	2.131	3.550	4.130	15.379	3.750
MtB (scaled)	-0.81	-0.62	-0.38	0.00	0.14	3.18	1.000
IO	0.000	0.158	0.666	0.556	0.873	1.000	0.325
IO (scaled	-1.497	-0.066	0.316	0.000	0.880	1.288	1.000
Size	0.000	0.000	0.000	0.452	1.000	1.000	0.497
CS_AVG	12.000	21.000	22.000	22.620	23.000	65.000	4.088
CS_AVG (scaled)	-2.598	-0.396	-0.151	0.000	0.093	10.688	1.000
Proposals per Year	568.000	744.000	762.000	765.286	824.250	876.000	87.045
Total Proposals per Company	0.000	0.000	0.000	3.190	1.000	206.000	11.462

Table 2: *Mean values & Frequencies of Variables and Proposals, distributed over GOV or ES*

The top rows of the table show the mean values of the variables for the different data (sub)samples. It provides an overview of the differences in the average values between the entire dataset, the shareholder proposal observations and the proposals distributed by its resolution type. The last rows illustrate frequencies, like the total number of *Proposals* and their allocation to the respective *Resolution Type*, either being governance-related (3), or environmental- and social-related (4). Here, column *Dataset* contains observations including and excluding proposals while the other three columns only contain observations including proposals.

(A) Variable values (μ)	Dataset	SHPP	$SHPP_{GOV}$	$SHPP_{ES}$
RRI	6.451	25.341	23.534	27.903
RRI_{CHANGE}	0.039	0.075	0.350	0.129
MtB	3.550	3.683	3.578	3.832
IO	0.556	0.742	0.748	0.734
Size	0.445	0.792	0.779	0.811
CS_AVG	22.620	25.848	25.474	26.378
(B) Frequency values (n)	*Observations*, *IGWE*, $IGWE_A$ and *Size* show the number of observations from the respective data subsets that fulfill the criteria (monthly level). *Shareholder proposal events* are on the level of unique CUSIP-Year combinations.			
Observations	*562,296*	*10,714*	*6,278*	*4,436*
(Potential) SHPP Events	6,694	4,910	3,608	2,672
Companies	3,359	1,032	868	694
IGWE (RRI_{CHANGE} > sd)	22,015	2,432	2,032	1,610
$IGWE_A$ (*RRI* > 60)	1,488	1,124	1,092	1,017
Size = 1 (observations)	254,045	8,486	4,890	3,596

values for ratios of 0 to 1. The lower bound of 0 for *RRI* does not mean that there is no data available on that company. Taking into account that the *RRI* is supposed to gradually lower to zero over a time period of 2 years, it indicates that no new exposure was captured. In this dataset only RRI_{CHANGE} is lower than 0, indicating that there are no large outliers in the variables. The standard deviation of RRI_{CHANGE}, equal to 3.617, is used to assign the binary values to *IGWE*.

The dataset is well distributed over the sample period as the number of reputational observations per *Year* equals exactly 40,164. This reflects the complete and continuous measuring that the database has over time. It also shows that, despite including observations from the dataset's launch year, the completeness of the dataset has been high since the start (RepRisk, 2021b). The amount of shareholder proposals ranges slightly per *Year*, with a low of 568 proposals in 2011 and a high of 876 in 2009. The average amount of proposals per *Year* is 765.29, as shown in Table 1. While the number of proposals per *Year* has a relatively comparable distribution over time, it may not align with suggestions made by prior literature about significant increases in its occurrences. In this dataset the initial 3 years contain a higher number of proposals than the other 11 years. The dataset has a relatively equal distribution over multiple sectors. The largest parts of the data are attributable to the sectors *Retail and Consumer Goods* (18.86%), *Health and Pharmaceuticals* (12.76%), and *Energy* (7.97%). Other observations are attributable to the 7 remaining sectors, with the smallest proportions being 0.76% and 3.05%. The average amount of proposals per company equals 3.19, while 2,327 companies did not receive any proposals. As discussed in section 4.4.2, this research uses a binary variable as a measurement for shareholder proposals. Therefore, for 2,175 out of the 4,910 shareholder proposal events (binary IGWE = 1), more than 1 proposal was filed at the SEC for a certain period. The largest amount of proposals for one company is 206. While this seems high, after inspection of the specific observations it is determined unlikely to be an error. The highest amount of proposals in one meeting is 27 proposals. The effect of these observations is mitigated due to the binary measurement.

Table 2 provides the mean statistics of some of the variables, distributed over the shareholder proposal category, as well as the number of observations within each group. It shows that 22,015 observations meet the condition where RRI_{CHANGE} is larger than its standard deviation. For of the robustness test, 1,488 observations have a *RRI* higher than 60. The mean value for *Size* of 0.792 for the target sample compared to the overall sample mean of 0.452 suggests that proposal-targeted companies are relatively larger than others. This suggestion aligns with prior research and will be further discussed in section 5. The *RRI* suggests that, at the time of the proposal, the average reputational risk for proposal-targeted companies is higher than the average for the whole dataset. Moreover, the *RRI* for companies with ES proposals is on average higher than that for companies with GOV proposals. The other mean values would suggest that proposal-targeted firms have higher institutional ownership, higher country-sector average risk exposure and higher IGWE. Nevertheless, the actual effects of these variables on shareholder proposals will be researched in the regression analyses below.

To illustrate some numbers in panel B, the 6,278 GOV proposals took place during 3,608 proposal events, indicating that more than 1 proposals occurred per meeting. As 868 companies received 6,278 proposals in the governance sample, compared to 694 companies for 4,436 ES proposals, the average amount of proposals per company is higher for the governance subset. The proportions between $IGWE_A$ and the amount of observations across categories suggest that observations in the ES sample have a higher RRI compared to those of $SHPP_{GOV}$.

5. Results

This section will discuss the results of the study. First, the baseline findings for the effect of the independent variable (*Greenwashing Exposure*) on the dependent variable (*Shareholder Proposals*) will be discussed. In addition, the effect of greenwashing on the separate resolution types is examined. Following the outcomes of prior literature, the analyses include control variables for financial performance (MtB), institutional ownership (IO), firm size (Size), country-sector risk average (CS_AVG), as well as year- and industry-fixed effects. The results are presented in Table 3 and Table 4, while the variable definitions are found in Appendix A1.

5.1 Logistic Regression Results

The result of the logistic regression analysis for model 1 is shown in Table 3, column (1). Using the model, a positive and statistically significant effect of the independent variable *Increased Greenwashing Exposure* (IGWE) on the dependent variable *Shareholder Proposals* is found. The coefficient of 1.561 (0.011) for *IGWE* is significant with a p-value below 0.001, and thus below the 0.1% level. This argues that a significant increase in exposure to ESG incidents positively influences the amount of shareholder proposals for that period. Therefore, the results of the regression analysis reject the null hypothesis H_1, while supporting the alternative hypothesis H_2. Here, the alternative hypothesis comprises a positive effect of the IV *Increased Greenwashing Exposure* on the DV *Shareholder Proposals*.

The included control variables are also significant with $p < 0.001$. The coefficients shown in Table 3 suggest that the probability of receiving a shareholder proposal is higher for firms that have a larger institutional ownership percentage, aligning with Cziraki et al. (2010). The positive and significant effect of large firm size aligns with Karpoff et al. (1996), Eding and Scholtens (2017) and Dimson et al. (2015), while also confirming the initial insights suggested by the descriptive statistics of Table 2. The coefficients of *MtB* and *CS_AVG* are relatively low compared to others, but still positive and significant with a p-value below 0.001.

To test the sensitivity of the results, column (2) shows a similar analysis as model 1 but with a different measurement for the dependent variable *IGWE* (model A). Here *IGWE_A* is measured when company's *RRI* is higher than 60. Since the *RRI* is structured to decrease over time, a high *RRI* score suggests the persistent arrival of new ESG risk incidents. The coefficient of 2.631 (0.046) for *IGWE_A* in column (2) is significant with a p-value below 0.001. This indicates that the significance of the results found for the hypothesis are not sensitive to the construction of the greenwashing measurement. Furthermore, except for the *MtB*, model A has larger coefficients for most variables than model 1. This would suggest that the additional variation these variables bring to shareholder proposals is larger in model A than in model 1, if the effects of all other variables are accounted for. However, better fit of the model to the identified effects can be discussed. As indicated by the lower Chi-Square Score (X^2), the identified effect would be better represented by model A than by model 1. Here, the Chi-Square Score represents the 'usefulness' of a model by giving the difference between the Null Deviance and the Residual Deviance. Lower numbers suggest a relatively better fit, indicating that model A is better fit to explain the dependent variable. However, the Akaike Information Criterion (AIC) is minimized in model 1, suggesting that model 1 is a better fit. This suggests that model A better explains the variance in the data while model 1 is a better-fitting model, taking into account both fit and complexity.

Table 3: *ESG Greenwashing Exposure on Shareholder Proposals, including Control Variables*

Variable definitions are provided in *Table A1, Appendix*. *** p < 0.001, ** p < 0.01, * p < 0.05. The standard errors are reported in the parenthesis. For both column (1) and column (2), the dependent variable is *SHPP*. Here, column (1) measures *IGWE* when $RRI_{CHANGE} > sd(RRI_{CHANGE})$, while column (2) uses $RRI > 60$ as a proxy. The table includes the independent variable, with *Financial Performance* (MtB), *Institutional Ownership* (IO), *Size* and *Country-Sector Average* (CS_AVG), as control variables, as well as year-fixed effects and industry-fixed effects. *IGWE* and *Size* are binary variables while *CS_AVG, MtB* and *IO* are scaled.

	Dependent Variable	
	Shareholder Proposals	
Variables	(1)	(2)
IGWE	1.561***	
	(0.011)	
IGWE$_A$		2.631***
		(0.046)
MtB	0.106***	0.098***
	(0.005)	(0.005)
IO	0.743***	0.846***
	(0.008)	(0.008)
Size	0.989***	1.089***
	(0.011)	(0.010)
CS_AVG	0.179***	0.262***
	(0.004)	(0.004)
Constant	-4.256***	-3.613***
	(0.027)	(0.026)
Industry-fixed effects	*Yes*	*Yes*
Year-fixed effects	*Yes*	*Yes*
Observations	562,296	562,296
X^2 (Chi-Square Statistic)	64,747	47,629
df (degrees of freedom)	28	28
AIC	264086	281204

Table 4 provides the regression analyses for the other hypothesis, with the columns representing the outputs of the other four models given in section 4.3. The outputs show the differing effects between overall or issue-specific greenwashing allegations on the level of shareholder proposals related to either GOV or ES. This represents the sensitivity of the different proposal types to greenwashing exposure. Here, column (1) represents model 2 and documents the effect of ESG greenwashing exposure (IGWE) on governance-related shareholder proposals (SHPP$_{GOV}$). A positive and significant coefficient of 1.488 (0.013) was found at p < 0.001. Column (2) follows model 3 and shows the effect of greenwashing exposure attributable to governance issues (IGWE$_{GOV}$) on the amount of SHPP$_{GOV}$ with a positive coefficient of 0.892 (0.016, p < 0.001). This shows that a positive effect is present on governance proposals for both of the IVs used in the models. Nevertheless, the coefficient of *IGWE* is larger than for *IGWE$_{GOV}$*. Considering that *IGWE* consists of both *IGWE$_{GOV}$* and *IGWE$_{ES}$*, this could suggest a spill-over effect of environmental and social greenwashing exposure on governance shareholder proposals.

Column (3) and (4) document the effect on ES-related shareholder proposals (SHPP$_{ES}$), where column (3) follows model 4 with general greenwashing exposure (IGWE) as IV, while column (4) uses the exposure related to environmental or social issues (IGWE$_{ES}$) in accordance with model 5. These models also have a positive and significant effect on environmental- and

Table 4: *Resolution-Specific Regression Analysis Results including Control Variables*

Variable definitions are provided in *Table A1, Appendix*. *** p < 0.001, ** p < 0.01, * p < 0.05. The standard errors are reported in the parenthesis. For column (1) and (2), the dependent variable is $SHPP_{GOV}$ and for column (3) and (4) it is $SHPP_{ES}$. The independent variable is *IGWE*, with *MtB*, *IO*, *Size*, and *CS_AVG* as control variables. Year fixed-effects and industry fixed-effects are included. *IGWE* and *Size* are binary variables while *CS_AVG, MtB* and *IO* are scaled.

	Dependent Variable			
	Shareholder Proposals			
	Governance		Environmental and Social	
Variables	*(1)*	*(2)*	*(3)*	*(4)*
IGWE	1.488***		1.806***	
	(0.013)		(0.015)	
$IGWE_{GOV}$		0.892***		
		(0.016)		
$IGWE_{ES}$				1.587***
				(0.016)
MtB	0.105***	0.103***	0.098***	0.096***
	(0.006)	(0.006)	(0.007)	(0.007)
IO	0.663***	0.782***	0.573***	0.632***
	(0.009)	(0.009)	(0.010)	(0.011)
Size	1.039***	1.137***	1.209***	1.142***
	(0.012)	(0.012)	(0.014)	(0.014)
CS_AVG	0.178***	0.197***	0.212***	0.213***
	(0.004)	(0.004)	(0.004)	(0.004)
Constant	-4.470***	-4.581***	-5.397***	-5.103***
	(0.031)	(0.030)	(0.037)	(0.039)
Industry-fixed effects	*Yes*	*Yes*	*Yes*	*Yes*
Year-fixed effects	*Yes*	*Yes*	*Yes*	*Yes*
Observations	562,296	562,296	562,296	562,296
X^2 (Chi-Square Statistic)	47775	34509	46177	41652
df (degrees of freedom)	28	28	28	28
AIC	222285	234829	171429	175477

social-related shareholder proposals with 1.806 for *IGWE* and 1.587 for *IGWE_ES*. Similar to the model 2 and 3, the variation of overall ESG greenwashing exposure on the DV is larger than that of ES-specific exposure. Therefore, the spill-over argument could work both ways. Nevertheless, the increase in effect by including all exposure is larger for governance-related shareholder proposals, indicating that additional ES exposure has a larger effect on governance proposals than that additional GOV exposure has on ES proposals.

Therefore, besides the coefficient variations for the same DV, there are also effects across proposal types. The higher coefficient of 1.587 for IGWE_ES in column (4) compared to the 0.892 for IGWE_GOV suggests that an increase in allegations on environmental and social issues has a stronger impact on the number of ES proposals than the impact that an increase in governance allegations has on the amount of governance proposals. Furthermore, the different coefficients in *IGWE* between column (1) and (3) suggest that IGWE has a stronger impact on environmental and social shareholder proposals (1.806) than on governance proposals (1.488). This aligns with the findings of Dimson et al. (2015). In other words, if additional exposure to ESG greenwashing arises, it has a greater impact on SHPP_ES than on SHPP_GOV. Therefore, the

results of the regression analyses reject the null hypothesis H_3, while supporting the alternative hypothesis H_4. Here, the alternative hypothesis suggests a larger effect of the IV *Increased Greenwashing Exposure* on the DV *Environmental and Social Shareholder Proposals*. In other words, greenwashing exposure explains a larger part of the variation in ES proposals than that it explains in the variation of GOV proposals. On top of that, since the coefficients of these four models have the same direction of effect and are all statistically significant at the 0.1% level, the results for H_2 hold across both proxies of the DV and both proxies of the IV despite the variations in the coefficients.

Similar to model 1, the models presented in Table 4 incorporate control variables to lower the unmeasured variations in the outcome. The control variables shown in Table 4 all hold as they are significant with a $p < 0.001$ level. The higher coefficients for *IO* in both model 2 and model 3, compared to model 4 and 5 suggest that *IO* has a larger impact on $SHPP_{GOV}$ than on $SHPP_{ES}$, supporting the findings by Dimson et al. (2015). The coefficient of control variable *Size* is positive and significant for all 4 models, indicating that large firms (*Size = 1*) experience a stronger effect on *Shareholder Proposals* than small firms (*Size = 0*) would. This aligns with prior literature.

The year fixed-effects support the statement made by prior literature that there is an increase in the amount of shareholder proposals over time. In section 4.6 the suggestion was made that this statement is not true since the absolute amount of proposals per *Year* does not increase for the selected data sample. However, the regression models find that the coefficients of the subsequent year dummies increase over time. To illustrate, the coefficient for *2008* is 0.401 while the coefficient for *2019* is 0.688. This means that, holding all else constant, the amount of shareholder proposals would be higher in 2019, aligning with (Gillan & Starks, 2000; Thomas & Cotter, 2007). The dummy variables for the industry fixed effects show a positive relation with industries like *Utilities* and *Manufacturing*, but is inversely related with *Energy*, *Healthcare and Pharmaceuticals* or *Technology and Telecommunications*. The minimized AIC for both model 4 and model 5 suggest that these have a better fit to the research. Nevertheless, the lower Chi-square value suggests that model 3 has the smallest differences between the actual and predicted data.

6. Discussion

6.1 Conclusion

Using the logistic regression analysis, this research found statistically significant effects for its variables. It shows that *Exposure to Greenwashing Allegations* has a positive and significant effect on overall *Shareholder Proposals*. This effect remains when the proposals are separated into their respective categories as well. On top of that, the greenwashing allegations contribute to a relatively larger part of the variation in environmental and social shareholder proposals compared to its variation in governance proposals. In other words, the impact of greenwashing allegations is stronger for environmental and social proposals than for governance proposals. Therefore, the null hypotheses are rejected and support for both alternative hypotheses is shown on the 0.1% significance level. Thus, the research question whether *Exposure to Greenwashing Allegations* increases *Shareholder Proposals* is confirmed with a positive and significant coefficient. Limitations, implications and future research possibilities are discussed below.

6.2 Limitations

This research contains some limitations regarding its reliability and validity. It contains limitations on its data sample, including quality and potential misaligned measurements, as well as limitations on generalizability across countries and companies types. First of all, while most of the data of the ISS Shareholder Proposal database is present, not all company or year observations are complete in the database (HBS, n.d.). This missing data lowers the representativeness of the data for the dependent variable and therefore also influences the validity of this study. Nevertheless, the number of remaining observations is still high and the results are significant. Another limitation regards the deadline for submitting a shareholder proposal, which is a minimum of 120 days before the releasement of the meeting's proxy statement to the company's shareholders (SEC, 2020). While these 120 days were taken into account when performing the regression analysis, this is the final deadline. This means that proposals submitted earlier than the deadline are still aligned with later *RRI* measurements. This causes misalignment because it is not possible for these *RRI* measurements to be an influential factor in creating the proposal since the measurements occurred after the proposal's submission.

An important consideration for the sub results of this research pertains to the exposure attributed to the separate ESG categories ($IGWE_{GOV}$ and $IGWE_{ES}$). As mentioned in section 4.4.1, these two variables are created using the respective Percentages variables. Here, for all incidents encompassed in the level of *RRI*, the percentages represent the proportion of links attributable to either governance, environmental or social. While this allows for a basic allocation of exposure increases to the corresponding independent variables, it is not ideal. To specify, if *RRI* increases due to negative governance-related news but the previous amount of media for ES was high, there is a possibility that the increase will be assigned to ES, and vice versa. On top of that, the percentages focus on proportions within companies, making comparisons across companies difficult. The variables should be used as an indication of the development over time and not to conduct peer comparisons (RepRisk, 2021a).

Another limitation for this research includes the use of the *RepRisk Index* (RRI) as base for the greenwashing proxy. The identification and measurement of greenwashing is challenging as discrepancies between the actual and the reported ESG impact need to be established before a company can be accused of greenwashing. Nevertheless, the usage of the *RRI* gives a more reliable greenwashing proxy than other ESG measurements like variables from KLD and Eikon. This is because *RRI* represents the reputational risk for a company on ESG issues, rather than a measurement of the company's (self-reported) ESG performance. Reputational risk will go up when negative information surfaces in external sources, measured by the incident's severity, reach and novelty (RepRisk, 2021b). For the purpose of this research, the assumption is made that negative information that surfaces on one of the 28 ESG issues and causing additional reputational risk is greenwashing. However, in reality this assumption might not always hold as RepRisk does not validate or verify the reported accusations (RepRisk, 2022). In other words, while false accusations could still cause reputational damage, it could also change the decision of shareholders to submit proposals. Nevertheless, since the *RRI* is measured by severity, reach and novelty, using a change in *RRI* larger than its standard deviation lowers the influence of this limitation as the threshold limits the effect of insignificant changes.

Using the ISS database, this research focuses on proposals from the North-American stock market. In the United States of America, shareholder proposals are non-binding even if

the proposals gain the majority of the votes (Cziraki et al., 2010). This notion fits under state corporation law, which states that, to prevent interference with the board's ability to govern the affairs of the corporation, shareholders do not have the power to require the board to take action (Hoang et al., n.d.). In states like Delaware, there are certain conditions to circumvent this as shareholders can use their power to adopt bylaws in order to make binding proposals (Hoang et al., n.d.). Nevertheless, in the United Kingdom and most of Europe, shareholder proposals that pass the majority vote are legally binding. On top of that, Cziraki et al. (2010) state that proposal submissions in Europe are relatively infrequent and experience large variations in ownership structures, regulations and monitoring incentives across countries. This prevents generalization of the results and limits the findings to companies on the United States stock exchange. Generalization of the findings to private companies is also limited. While the focus on public companies is necessary to investigate the effect on shareholder proposals, it lowers the reliability of the output. Houston and Shan (2021) state that the number of companies involved in risk incidents in the RepRisk dataset is six times higher for private firms than for public firms. They also state that the majority of the firms receive minimal public scrutiny, making it interesting to know how exposure to greenwashing claims would influence private companies, outside of their financial performance metrics.

6.3 Future Research & Implications

This research contributes to Environmental, Social and Governance related literature by extending the research on greenwashing and its effects. It also fills a gap in shareholder activism literature by focusing on the effect that exposure to greenwashing incidents has on shareholder proposals. The results show that the exposure leads to shareholder proposals, creating multiple practical implications. First of all, proposals can be used as a tool to safeguard shareholders' and stakeholders' interests through the implementation of the resolutions. Safeguarding these interests aligns with the government's attempt to lower ESG issues. A positive effect on ESG-related proposals, could imply a subsequent positive effect on the protection of stakeholder interests in the engagement is successful. Nevertheless, proposals in the U.S. and Canada are generally non-binding, limiting the impact of proposals if resolutions are not implemented (Cziraki et al., 2010). Therefore, this finding can aid regulatory bodies during their discussions on (non-)binding proposals. Shifting to binding proposals would enhance the adoption of resolutions caused by greenwashing news, potentially improving companies' ESG performance. Other implications include showing the effect of external media on shareholder activism by publishing greenwashing-related information. This could motivate these external sources to publish more related documents, in an attempt to give rise to more shareholder resolutions.

Multiple aspects could moderate the relation in this study. Future research can provide value by analysing these variables and elaborating on certain moderating variables and their influences. As mentioned in section 6.2, companies' location on a state-level could influence shareholder proposal regulations. Future research would explore the effects of state-specific regulations on shareholder proposals as opposed to the country-level laws used in this study. Through the investigation of these bylaw amendments, the difference in effects between binding and non-binding proposals can be found. This would increase generalizability of the results. The subsequent results could also have an implication for regulatory bodies on the adoption of similar bylaw amendments on a state-level or law on a country-level.

There are various opportunities for future research. While greenwashing allegations increase shareholder proposal probability, the subsequent effect of these proposals could be analyzed. Using *Novelty*, which depicts prior exposure to specific ESG topics, an understanding could be developed whether issues were resolved or remain risk incidents. Future research could also assign weights to the different allegation topics. To specify, RepRisk collects data on 28 ESG issues where observations range on severity and impact within each group. To illustrate, 'Human rights abuses' can range from privacy violations and interfering with union formations to child labour and human trafficking (RepRisk, 2021c). 'Poor employment conditions' could range between unfair dismissals to sexual harassment (RepRisk, 2021c). These differences could inform on underlying variations in the effect that are currently not taken into account.

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Appendix

Table A1: *Variable Definitions*

The Table below describes the variables discussed in this research. It includes the variable name assigned by the database (1); the symbol used in this research (2); the variable definition (3); the name of the database or '*' in case the variable is created for this study (4); and how it is measured (5). (RepRisk, 2021b)

Variable	Symbol	Variable Definition	Source	Measurement
Increased Greenwashing Exposure	IGWE	Increased reputational risk caused by ESG-related incidents, as a proxy for exposure to greenwashing allegations	*	Denotes 1 if, in period$_t$ at least once an increase in RRI_{CHANGE} is larger than the σ of RRI_{CHANGE}, 0 otherwise
Increased GOV Greenwashing Exposure	$IGWE_{GOV}$	Increased reputational risk caused by governance-related incidents, as proxy for exposure to GOV greenwashing allegations	*	Denotes 1 if in period$_t$ at least once an increase in RRI_{CHANGE} is larger than the σ of RRI_{CHANGE} & $GOV_{\% (t)} > GOV_{\% (t-1)}$ or $GOV_\%$ is 100, 0 otherwise
Increased ES Greenwashing Exposure	$IGWE_{ES}$	Increased reputational risk caused by environmental- & social-related incidents, as a proxy for exposure to ES greenwashing allegations	*	Binary variable denoting 1 if, in period$_t$ at least once an increase in RRI_{CHANGE} is larger than the σ of RRI_{CHANGE} & $ES_{\% (t)} > ES_{\% (t-1)}$ or $ES_\%$ is 100, 0 otherwise
Alternative IV measurement	$IGWE_A$	High levels of reputational risk (from media attention) as proxy for past & current greenwashing exposure (combined)	*	Binary variable denoting 1 if, in period$_t$ at least once RRI is larger than 60, 0 otherwise
Shareholder Proposals	SHPP	Shareholder Proposals related to ESG issues	*	Binary variable denoting 1 if a proposal occurred, 0 otherwise
ES-related Shareholder Proposals	$SHPP_{ES}$	Shareholder Proposals allocated to Environmental and Social Issues	*	Binary variable denoting 1 if a proposal occurred and this proposal is classified as SRI, 0 otherwise
GOV-related Shareholder Proposals	$SHPP_{GOV}$	Shareholder Proposals allocated to Governance Issues	*	Binary variable denoting 1 if a proposal occurred and this proposal is classified as GOV, 0 otherwise
Institutional Ownership	IO	Percentage of shares attributable to Institutional Ownership	Thomson Reuters 13-F	All shares attributable to institutional ownership divided by the total shares outstanding, ranges from 0 to 100
Market-to-Book value of Equity	MtB	Financial ratio used as a proxy to control for *Financial Performance*	Compustat	Market value of equity divided by the book value of equity, winsorized at 5% and 95%
Size	Size	Represents the company's size as either large (1) or small (0)	*	Denotes either 1 (large-cap; *S&P 500*) or 0 (mid-cap and small-cap; *S&P 400, S&P 600, Russell 3000 less S&P 500*)
Country-Sector Average	CS_AVG	Country-Sector average of Company$_i$ to depict the combined average of its sectors and locations	RepRisk	Ranges from 0 to 100, average of firm's *Headquarters ESG Risk Exposure* & *International ESG Risk Exposure*
Year	Year	Year that the observation occurs	ISS	Ranges from 2007 to 2020
CUSIP	CUSIP	Company identifier	ISS & *	9-character identification number for North American securities
Current RepRisk Index	RRI	Company's current exposure to ESG-related reputational risks	RepRisk	Exposure ranges from 0 to 100: *0-25* = low; *26-49* = medium; *50-59* = high; *60-74* = very high; *75-100* = extreme high
RepRisk Date	RRD	Date of the recorded RRI value	RepRisk	(dd/mm/yyyy)
RRI Trend	RRI_{CHANGE}	Difference in RRI between the current date and 30 days ago	RepRisk	Ranges from -100 to 100
Governance Percentage	$GOV_\%$	Proportion of GOV links compared to the total number of links in the news that make up the RRI for Company$_i$	RepRisk	Ranges from 0 to 100
Environmental & Social Percentage	$ES_\%$	Proportion of links attributable to ES compared to total number of links in the news that make up the RRI for Company$_i$	RepRisk	Ranges from 0 to 100, environmental and social percentage grouped together
Headquarter Country	Country	Country of headquarters location	RepRisk	*United States of America*
Sectors	Sector	List of primary sectors Company$_i$	RepRisk	Like *Mining*, possible to have up to 3 sectors per company

Primary ISIN	ISIN	Company ISIN as company identifier	RepRisk	ISIN as defined by RepRisk, taken from the S&P's database
Index Name	Index	Name of the index for Company$_i$	ISS	*Russell 3000 less S&P 1500*; *S&P 400*; *S&P 500*; *S&P 600*
Meeting Date	M_D	Meeting date for the proposals	ISS	(dd/mm/yyyy)
Proposal Date	P_D	Date of the final deadline to hand in a shareholder proposal, a 120 days before the distribution of the proxy statements to shareholders	*	Takes the value of the Meeting Date minus 120 days (dd-mm-yyyy).
Previous Proposal Date	PP_D	Date of the previous proposal possibility	*	Takes value of the previous proposal for Company$_i$ or the value of the current Proposal Date minus 1 year (dd-mm-yyyy).
Resolution	RES	Subject of the shareholder proposals	ISS	For example: *Assess and Report on Transition to Low Carbon Economy*
Resolution Type	RES_TP	Category for the different resolutions of shareholder proposals	ISS	GOV (governance-related) or SRI (social responsibility issues)

Table A2: *10 Governance-related Resolutions based on Frequency*

The Table below visualizes a portion of the shareholder resolutions that fall under the GOV condition in the ISS dataset. The ten resolutions with the highest frequency are shown.

Governance-related Resolutions (GOV)	*Frequency*
Require Independent Board Chairman	491
Require a Majority Vote for the Election of Directors	479
Declassify the Board of Directors	388
Provide Right to Act by Written Consent	344
Adopt Proxy Access Right	286
Amend Articles/Bylaws/Charter -- Call Special Meetings	267
Advisory Vote to Ratify Named Executive Officers' Compensation	264
Reduce Supermajority Vote Requirement	189
Reduce Ownership Threshold for Shareholders to Call Special Meeting	140
Require Independent Board Chair	136

Table A3: *10 Social Responsibility-related Resolutions based on Frequency*

The Table below visualizes a portion of the shareholder resolutions that fall under the SRI condition in the ISS dataset. The ten resolutions with the highest frequency are shown.

Social Responsibility-related Resolutions (SRI)	*Frequency*
Report on Political Contributions	426
Report on Lobbying Payments and Policy	308
Report on Sustainability	162
Political Contributions Disclosure	139
Adopt Sexual Orientation Anti-bias Policy	91
Report on Gender Pay Gap	74
Adopt Quantitative GHG Goals for Products and Operations	49
Report on Human Rights Risk Assessment Process	44
Prepare Employment Diversity Report and Report on Diversity Policies	41
Adopt principles for health care reform	39