Risk Spillovers: When Politics Meets Sustainability

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Abstract

This study examines the relationship between political uncertainties and ESG risks for U.S. public firms from 2019 to 2022. Our results show that idiosyncratic political risk has a positive impact on firms' ESG risk profiles. Meanwhile, risks related to non-political issues, such as technology, markets, and operations, do not have significant ESG implications. Similarly, we find that the more positive a firm's sentiment towards political matters is, the less ESG risk it is exposed to. By contrast, positive non-political sentiment tends to translate into more ESG risks. Thus, firms need to consider uncertainty and sentiment in political contexts when implementing strategies, for example, improving their corporate cultural values, to enhance their ESG profiles.

Keywords: political risk; ESG risk; political sentiment; corporate culture

JEL Classification: G32; G41; M14; Q56

1 Introduction

Uncertainty about political decisions can create risk that has an impact on the business environment and firm behavior. These decisions include changes in tax policy, environmental regulations, and government expenditures that may emanate disruptions to business. Literature documents that political shocks can affect investment, cost of capital, and stock prices (Julio & Yook, 2012; Belo et al., 2013; Pástor & Veronesi, 2013; Liu et al., 2017; Jens, 2017). In addition, political risk may interact with other factors and reduce firms' growth and productivity (Hsieh & Klenow, 2009; Gilchrist et al., 2014).

In their recent paper, Hassan et al. (2019) argue that political decisions can have differential influences on firms, creating a significant source of idiosyncratic politics-related risk. For example, if the political system fails to reach compromises in a procurement decision that is related to a sector, the allocation of resources across firms in the sector may be impacted, resulting in variation in firms' political risk. The authors construct a measure of political risk for individual firms and find that increases in firm-level political risk are associated with increases in firms' stock return volatility and with decreases in firms' planned capital expenditures and employment. Our research question aligns with this stream of inquiry, as we investigate how political risk influences a firm's overall environmental, social, and governance (ESG) exposure risk. Specifically, we aim to examine whether fluctuations in political dynamics translate into measurable impacts on firms' ESG vulnerabilities.

The political risk that firms face is usually related to uncertainty in legal and regulatory changes in the areas of the environment, social issues, and governance. As threats to humanity such as global warming and wealth gaps rise, the ESG framework has played a more and more important role in the assessment of a firm's business practices and performance. ESG focuses on firms'

sustainability and ethical issues, such as carbon emissions, workplace diversity, and transparency and disclosure. Firms' concerns about regulations and requirements in these matters may have political origins.

Previous studies have shown that ESG factors can impact firms' fundamentals and long-term stock performance (Pedersen et al., 2021; Derrien et al., 2022; Inard, 2023). According to Krüger (2015), in terms of corporate social responsibility, investors react more severely to negative news than positive news. In other words, investors' assessment of firms is influenced by firms' ability to manage ESG risks (Maiti, 2021). ESG risks provide insights into how effectively a firm manages its risks associated with ESG issues. In a sustainability-focused world, this risk factor has become increasingly critical in evaluating firm value (Görgen et al., 2018; Hübel & Scholz, 2020; Cohen, 2023). Empirical evidence shows that firms' ESG risk factors could lead to firms' divestment, decreases in revenues, and increases in the cost of capital (Bolton & Kacperczyk, 2021; Pástor et al., 2021; Agoraki et al., 2023). These effects are similar to those caused by political risk. As firms' stakeholders and society pay closer attention to ESG risks and demand firms' actions to mitigate them, it is crucial to identify determinants of ESG risks and manage them effectively. Part of the variation in ESG risk across firms may result from uncertainty in political decisions.

We hypothesize that political risk is a factor that drives firms' ESG risks for several reasons. First, firm-specific political risk can significantly influence a firm's ESG exposure risk because political decisions and events often intersect with ESG-related policies and regulations. For instance, changes in government policies on environmental protection, labor laws, or corporate governance standards can directly affect a firm's compliance obligations and operational strategies. Therefore, political uncertainty amplifies vulnerabilities related to governance, environmental compliance, and social stability. Firms operating in politically unstable environments are likely to face greater

scrutiny from regulators, investors, and other stakeholders, which escalates their ESG-related risks. Second, firms operating in sectors highly dependent on government procurement or regulations may face greater reputational risks if political instability leads to inconsistent enforcement of ESG standards. Third, the overall public and stakeholder perception of political uncertainty can shape expectations regarding a firm's ESG performance, increasing pressure on the firm to align with societal values. As a result, firms with higher exposure to political risk may experience greater variability in their ESG practices, as political dynamics influence the predictability and stability of the regulatory and social environments in which they operate.

To investigate our hypothesis, we use the measure of idiosyncratic political risk provided by Hassan et al. (2019). They measure a firm's level of political risk by using the textual analysis of their quarterly earnings conference call transcripts to calculate the share of conversation that centers on risks and uncertainty related to political matters. In a similar approach, they calculate the share of conversation centering on risks that are related to non-political matters. For ESG risks, we use Sustainalytics's ESG risk ratings, which measure the degree to which a firm is exposed to risk driven by ESG issues, or their sensitivities to risks triggered by the rising sustainability consideration on capital markets. This database has been available only since 2019, which is why our data sample starts from that year, resulting in 29,674 firm-quarter observations for all U.S. stock market-listed firms from 2019 to 2022.

Our regression result indicates that firms' concerns about political issues are positively correlated with their ESG exposure. A one standard deviation increase in a firm's political risk is related to a significant 0.25 to 0.27 point increase in ESG risk scores. Meanwhile, non-political risk has no significant effects on firms' ESG risk profiles. We also use a difference-in-differences (DID) analysis to see how ESG risks of firms in targeted industries are affected following a major policy

change, and our results confirm the impact that political uncertainties pose on ESG risks. For further analyses of political concerns, we replace political risk with political sentiment, which reflects the sentiment toward political issues expressed by participants in the conference calls and how it affects a firm's ESG risks (Hassan et al., 2019). We document that, as expected, more negative political sentiment results in higher ESG risk ratings.

Our paper contributes to the literature in several ways. We continue the strand of research on ESG issues and the increasing awareness by society and stakeholders of their significant roles in the corporate world (Hübel & Scholz, 2020; Maiti, 2021; Derrien et al., 2022; Agoraki et al., 2023). Taking a different approach from previous studies, we focus on the determinants instead of the effects of ESG risks. To the best of our knowledge, this is the first paper that examines the relationship between political risk and ESG risks. Our study also helps expand the literature on political issues and their role in firm behavior (Julio & Yook, 2012; Gilchrist et al., 2014; Liu et al., 2017).

Additionally, the study provides actionable recommendations for firms to integrate political context into their sustainability strategies. The work is particularly critical as it underscores the role of regulatory and political uncertainties in shaping ESG profiles, offering a nuanced framework for corporate leaders and policymakers to anticipate and mitigate risks. These insights are essential for companies aiming to enhance their governance and sustainability practices in volatile political landscapes.

The remainder of this study reviews a description of the data and methodology, followed by the results and discussion, and wrapped up with a conclusion.

2 Data and Methodology

2.1 Data and Variables

Our sample includes U.S. publicly listed firms over the 2019 to 2022 period. The data are quarterly based, making a total number of 29,674 firm-quarter observations during the sample period. Political risk is measured by the share of the conversation between the firm management and participants in quarterly earnings calls that are devoted to risks concerning political matters, following Hassan et al. (2019). The authors adopt a method in computational linguistics and build a training library of political text, which is the set of all adjacent two-word combinations ("bigrams") mostly used in the discussion of politics, such as an undergraduate textbook on American politics, articles from the political section of U.S. newspapers, etc. They then count the number of occurrences of bigrams in proximity with the word “risk” or “uncertainty” or their synonyms in a firm’s quarterly earnings conference call transcripts. A firm’s political risk is the ratio of this count to the total length of the call.

In a similar approach, the authors construct a measure of non-political risk based on the share of non-political bigrams surrounding the synonyms of “risk” and “uncertainty” from the conference call conversation. A training library of non-political text is built from an accounting textbook, articles from non-political sections of U.S. newspapers, etc.

To measure political sentiment, the authors calculate the share of political bigrams in proximity to positive (or negative) tone words, instead of synonyms for risk and uncertainty, in the conversation between participants and firm management. For non-political sentiment, they count and weigh non-political bigrams rather than political bigrams, using the same method.[1]

[1] The data for the measure of political risk, non-political risk, political sentiment, and non-political sentiment are available on the website https://www.policyuncertainty.com/firm_pr.html. For our analysis, we multiply the non-political measures by 100,000.

Our measure of ESG risks is ESG risk ratings provided by Sustainalytics, which captures a firm's exposure to adverse financial impacts due to poor ESG practices. A firm's ESG risk score measures the level of unmanaged ESG risk, ranging from 0 (no risk) to below 50 (maximum risk). The score is the total of the risk scores of unmanaged risks for each component (E, S, and G), and is comparable across firms in the same or different industries. We extract the data for ESG risks from the Morningstar database.

The model also controls for other variables for firm-level and market-level characteristics to account for other factors that might influence ESG risk exposure. Our control variables include firms' age (number of years since IPO), size (total assets), ROA (returns on assets), Tobin's Q, leverage (debt-to-equity ratio), cost of debt (Interest and related expense divided by debt in current liabilities), GDP Growth, and VIX (Market Volatility). Table 1 exhibits the summary statistics of the variables.

[Insert Table 1 about here]

Given the substantial differences in the mean values between Political risk and Non-political risk (29.58 vs. 195.95), and between Political sentiment and Non-political sentiment (447.24 vs. 2,410.60), we standardize all four variables by subtracting the mean from each observation and dividing it by the standard deviation. The standardized variables are denoted, respectively, as *SD_Prisk*, *SD_NPRisk*, *SD_PSentiment*, and *SD_NPSentiment*. We also take the natural logarithm forms of firms' age and size, *Log(Age)* and *Log(Size)*, for the regressions.

2.2 Methodology

Our paper examines the relation between firms' political risk and ESG risks. We run ordinary least squares (OLS) regressions using the following base-line model:

$$ESG\_Risks_t = SDPRisk_{t-1} + Controls_{t-1} + Year\ FE + Industry\ FE \quad (1)$$

The dependent variable, ESG_Risks_t, is the ESG risk ratings provided by Sustainalytics a firm's stock at time *t*. $SDPRisk_{t-1}$ is the standardized measure of idiosyncratic political risk, which is calculated as a share of political bigrams used in conjunction with the synonyms of "risk" or "uncertainty" in firms' quarterly earnings conference call transcripts. $Controls_{t-1}$ is a set of variables measuring firm-level and market-level characteristics such as size, age, profitability, growth, and macroeconomic factors that might influence ESG risk exposure. Fixed effects are included to control for unobserved, time-invariant industry-specific characteristics. Standard errors are clustered at the firm level. We expect the coefficient for $SDPRisk_{t-1}$to be positive and significant.

In additional regressions, we include in our model the standardized measure of idiosyncratic non-political risk to see if its ESG risk implications are different from political risk. For further analyses, we replace political risk and non-political risk with, respectively, political sentiment and non-political sentiment to distinguish the ESG risk consequences of political risk versus sentiment.

3 Results and Discussions

3.1 Effects of Political Risk and Non-political Risk on ESG Risk

3.1.1 Multivariate Analysis

To analyze how political risk influences ESG exposure, we run the regressions of ESG risks on political risk (*SD_PRisk*) and non-political risk (*SD_NPRisk*), controlling for various firm and market characteristics.

[Insert Table 2 about here]

The results across three models consistently highlight the significant impact of political risk on ESG exposure, while the effects of non-political risk are non-significant. Specifically, *SD_PRisk* shows a positive and statistically significant relationship with ESG exposure risk in Models [1] and [3] at the 5 percent statistical level. For each standard deviation increase in a firm's political risk, its ESG risk will increase by 0.25 to 0.27 points. This indicates that a rise in a firm's political risk will elevate its ESG exposure. In contrast, *SD_NPRisk* does not exhibit a statistically significant relationship with ESG exposure risk in Models [2] and [3], with the coefficients of 0.17 and 0.40, respectively. This suggests that non-political uncertainties, like those in operations or market, while maybe impactful in other contexts, do not substantially affect a firm's ESG risk profile. Instead, ESG exposure appears to be more sensitive to political contexts than to general risks.

Among the control variables, firm age (*Log(Age)*) and size (*Log(Size)*) are positive and highly significant across all models ($p < 0.001$). This suggests that larger and older firms have higher ESG exposure risk, potentially due to greater public visibility, increased stakeholder scrutiny, and legacy operations with entrenched environmental and social impacts. Profitability, as measured by ROA, is also positively associated with ESG risk at the 1% level, indicating that more profitable firms may face heightened stakeholder expectations of allocating more resources toward addressing ESG issues. In contrast, *Tobin's Q*, which proxies for growth opportunities, has a negative and highly significant relationship with ESG risk, implying that firms with better growth

prospects are less exposed to ESG risks, potentially because their management are more proactive in securing long-term value through ESG practices. Debt-related variables such as the debt-to-equity ratio and cost of debt are insignificant, suggesting that a firm's capital structure does not directly influence its ESG risk. GDP Growth has no significant impact, while Market volatility (VIX) is weakly significant and positively associated with ESG risk, indicating that higher market uncertainty correlates with increased ESG exposure.

3.1.2 Difference-in-difference Analysis: Effects of a Policy Change on ESG Risks

There may be some concern about the endogeneity between a firm's political risk and its ESG risk. In this section, we address this concern by doing a DID analysis of a recent policy change and how it affects ESG risks of firms in certain industry sectors subject to the policy regulations. In January 2021, the Biden administration passed Executive Order 14008, which was a significant shift in U.S. energy and environmental policy. It included a suite of executive actions aimed at addressing climate change and promoting a transition to renewable energy.

We leverage this political event to examine whether firms in certain industries (treated group) experienced distinct changes in ESG risk exposure compared to firms in other industries (control group) following the policy implementation. The treated group includes firms in industries most directly impacted by the policy, such as those heavily dependent on fossil fuels or under increased regulatory scrutiny, such as oil and gas extraction, coal mining, and pipeline transportation.[2] These firms are expected to have experienced an increase in political risk after the policy change. The

[2] The specific sectors, identified by their SIC codes, for our treated group include Crude Petroleum and Natural Gas Extraction (1311, 1381, 1382, 1389), Coal Mining (1221, 1222), Pipeline Transportation (4612, 4613), Petroleum Refining (2911), Support Activities for Mining (1241, 1382, 1389), and Heavy Construction Contractors (1623).

control group consists of firms operating in industries not directly affected by the policy. We create a dummy variable, *Industry*, and assign the value of 1 (0) for any firm in the treated (control) group. Another dummy variable, *Post-period*, indicates if the observation occurs after January 2021.

If the relation between political risk and ESG exposure exists, the level of ESG risks for firms in the treated group following the policy implementation should be higher than that in the control group. We regress ESG risks on *Industry*, *Post-period*, their interactive variable, and the same set of control variables as in Equation (1). The interaction term captures the causal effect of the policy on ESG risk exposure for firms in the treated industries during the post-policy period, relative to the control group.

[Insert Table 3 about here]

The results from Table 3 Panel A show that the coefficient for the *Post-period* variable, which captures the overall effect of the post-policy period on all firms, is positive and significant ($p < 0.05$), ranging from 1.10 to 1.20 across models. This indicates a general increase in ESG risk exposure for all firms during the post-policy period. Meanwhile, the coefficient for *Industry*, which captures baseline differences in corporate ESG risk exposure between treated and control industries, is not significant, suggesting that, in general, the ESG risk levels for the two groups are not significantly different, everything else being equal.

However, the interactive variable, *Post-period*Industry*, has a positive coefficient that is significant at the 1% level. After the policy change, an average firm in the treated industries has an ESG risk score of 4.22 points higher than an average firm in the control industries. This suggests that the policy had a notable and targeted impact on the treated industries, likely driven by increased regulatory scrutiny or the challenges of adapting to the policy's requirements. Firms in

these sectors need to adopt robust ESG strategies to mitigate these risks before they adversely affect their economic value.

Table 3 Panel B shows the results of the parallel trends assumption for the validity of the DID analysis. This assumption posits that, in the absence of the policy, ESG risk exposure trends for treated and control firms would have followed similar trajectories. For this test, we create a dummy variable, Pre-period, that equals 1 of the observations occurred before January 2021, and 0 otherwise. We run the regression just like the one in Panel (A) Model [3], except that we replace *Post-period* with *Pre-period*. The interaction term, *Pre-period*Industry*, which captures differential trends in ESG risk exposure between treated and control firms in the pre-policy period, is not significant. This finding supports the parallel trends assumption, indicating that the treatment and control groups were similar before the policy and that the observed post-treatment differences are likely attributable to the policy itself.

Overall, the results demonstrate that the January 2021 policy significantly increased ESG risk exposure for treated industries compared to control industries. These findings mitigate endogeneity concerns and provide causal evidence of political risk influencing ESG risk.

3.2 Effects of Political Sentiment and Non-political Sentiment on ESG Risks

To further explore the ESG risk implications of political uncertainties, we investigate how political sentiment expressed by participants in the conference calls impacts firms' ESG risks. If their relation is robust, sentiment toward political matters should have similar effects on ESG exposure as political risk. Specifically, the lower (more negative) political sentiment the firm has, the higher

their ESG risk levels. For the regressions, we replace the measure of Political risk and Non-political risk with the measure of Political sentiment, *SD_PSent* and Non-political sentiment, *SD_PSent.*

[Insert Table 4 about here]

As displayed in Table 4, Political sentiment demonstrates a significant and negative relationship with ESG risk, with coefficients of -0.43 and -0.61 in Models [1] and [3], respectively, both at the 1% significance level. Hence, firms with more negative political sentiment have higher levels of ESG risks. In contrast, non-political sentiment exhibits a positive relationship with ESG risk, as shown in Models [2] and [3], and the coefficients are significant at the 1% level. In other words, more negative sentiment toward non-political topics translates into higher ESG exposure for firms. These findings suggest contrasting effects driven by how optimism about different scenarios influences ESG risks.[3]

The dynamic can be explained by how political and non-political scenarios affect a firm's ESG outlook in different ways. Optimism about future political stability or favorable developments often reduces ESG risks because regulatory clarity enables firms to anticipate and adapt to consistent, supportive environmental and social standards, minimizing uncertainty. A stable political environment also fosters better governance and institutional strength, encouraging firms to bolster their ESG practices. Furthermore, political stability inspires stakeholder confidence,

[3] Additionally, we conduct quantile correlation analysis to examine how the effect of political sentiment on a firm's ESG exposure risk varies across different levels of political sentiment. We aim to identify whether extreme political sentiment (top 10% positive or bottom 10% negative) has a stronger influence on firms' ESG exposure risk. The result shows no evidence that extreme political sentiment, whether highly positive or highly negative, has a disproportionately stronger influence on firms' ESG exposure risk compared to moderate levels of political sentiment. This suggests that the relationship between political sentiment and ESG exposure risk is relatively consistent across varying intensities of sentiment. The results are available upon request.

prompting firms to adopt long-term, sustainable ESG strategies over short-term, reactive approaches.

On the other hand, optimism about non-political issues—such as market conditions, technological shifts, or macroeconomic factors—appears to raise ESG risk levels. This can be attributed to potential complacency in ESG efforts as firms prioritize growth, profitability, or innovation, neglecting investments in sustainability. Moreover, a positive outlook on non-political risks may encourage risk-taking behavior or focus on short-term gains, often overlooking the long-term ESG responsibilities while prioritizing immediate competitive advantages.

In essence, the results underscore a critical divergence: optimism in political prospects tends to foster an environment conducive to long-term ESG improvements, whereas optimism in non-political scenarios may lead to short-termism and sideline ESG priorities. This divergence reflects how different types of optimism shape firms' ESG profiles.

3.3 The Interplay between Corporate Cultural Values and ESG Risk at Different Levels of Sentiment

Since ESG effects of political sentiment and non-political sentiment have opposite directions, we explore the interplay between sentiment, corporate cultural value, and ESG exposure, with a focus on understanding how organizational values and sentiment influence a firm's sustainability-related vulnerabilities. Empirical studies have recorded the positive contribution of corporate cultural values to firms' ESG performance (Bai et al., 2024; Bao et al., 2024; Likitapiwat et al.; 2024). These effects may vary at different levels of sentiment toward political and non-political issues.

We use the measure of corporate cultural values provided by Li et al. (2021). In their paper, the authors define corporate culture as a system of shared values and norms that dictate what is important and how members of an organization should behave. They develop a culture dictionary using a machine learning technique, analyze textual data from firms' earnings call transcripts, and quantify five corporate cultural values for each firm: integrity, teamwork, innovation, respect, and quality.[4]

We divide our sample into four groups based on political sentiment and non-political sentiment. Political sentiment is classified as high (optimistic) if its value is greater than 0 and low (pessimistic) if its value is less than 0. Non-political sentiment is categorized as high and low using the same criteria. We then run regressions to examine how each corporate cultural value influences ESG scores for the full sample and for each subgroup. We expect corporate cultural values to be inversely correlated with ESG risks, as strong cultural values often foster better governance, ethical practices, and stakeholder engagement, which collectively reduce a firm's exposure to ESG-related risks. The results can be found in Table 5.

[Insert Table 5 about here]

The results in Table 5 Model [1] show that, across the full sample, innovation demonstrates the strongest and most consistent relationship with ESG risk, as evidenced by its highly significant and negative coefficient. This finding suggests that fostering creativity and novel approaches within firms effectively reduces their exposure to ESG-related risks. Teamwork also exhibits a

[4] Integrity reflects ethical behavior, accountability, and responsibility within the firm. It involves adherence to moral principles and the ethical conduct of business. Teamwork represents collaboration, cooperation, and working effectively together to achieve shared goals. Key phrases include concepts like "collaborate" and "partnership." Innovation involves creativity, the introduction of new ideas, and fostering an environment that supports novel approaches and technologies. Respect focuses on valuing individuals, promoting fairness, and recognizing the contributions of all stakeholders, including employees and customers. Quality relates to the pursuit of excellence, reliability, and the consistent delivery of superior products or services.

significant negative association with ESG risk, indicating that collaborative and cooperative work environments contribute to mitigating these risks. Surprisingly, integrity is positively associated with ESG risk, though its significance is weaker (at the 10% level), implying that firms emphasizing accountability may face heightened ESG exposure. Respect and quality, on the other hand, show no significant relationship with ESG risk in the full sample, suggesting these values may not directly influence firms' ESG risk profiles in a generalized context.

The subgroup analysis for varying levels of political and non-political sentiment provides further nuance. Under four scenarios, innovation is the only value that remains a key factor in reducing ESG risk, with a highly significant and negative coefficient across all models. The effects of other cultural values vary with the scenarios.

Under low political sentiment (Models [2] and [3]), where ESG risks can be elevated as discussed in our previous section (Table 4), different organizational values have different effects, depending on the non-political sentiment. If non-political sentiment is low (Model [2]), teamwork and quality exhibit negative and significant relations with ESG risk, reinforcing the importance of collaboration and excellence in mitigating sustainability-related risks when sentiment is low. Integrity and respect under these conditions do not have significant associations with ESG risk. If non-political sentiment is high (Model [3]), respect emerges as a significant factor in reducing ESG risks, while the other values show no significant effects.

Under high political sentiment (Models [4] and [5]), the relationships between these values and ESG risk shift notably. Except for innovation that consistently has significant and negative coefficients, all the other cultural values (except for integrity) do not have any significant influence on ESG risks. It is possible that firms with high political sentiment already have low ESG risk profiles, wiping out the roles of organizational culture in lowering these risks.

One interesting observation is that, under high political sentiment and high non-political sentiment (Model (5)], integrity shows a significant and positive relationship with ESG risk, suggesting that emphasizing accountability may increase ESG exposure under favorable sentiment conditions. One possible explanation is that integrity may encourage employees to focus on short term measurable outcomes instead of sustainable value in the long run.

Overall, the findings suggest that firms aiming to reduce ESG risk should prioritize fostering innovation and, where applicable, teamwork, quality, and respect, while carefully considering the broader sentiment environment when emphasizing integrity.

4 Conclusion

This is the first study that examines the impact of political uncertainty on firms' exposure to ESG issues. Our results show that as a firm's political risk rises, its ESG risks increase. Non-political risk does not have similar effects on firms' ESG risk profiles. As we focus on the sentiment aspect of political turbulence, we find that political sentiment has a negative relation with firms' ESG risks. An increase in political sentiment score leads to a decrease in a firm's ESG risk exposure. Interestingly, we document that non-political sentiment has opposite effects on ESG scores, confirming that firms' concerns about politics-related matters has a distinct role in shaping firms' sustainability profiles. Our analysis also highlights innovation as the most effective cultural value in reducing ESG risk across all scenarios. Under political sentiment, teamwork and quality mitigate ESG risks if non-political sentiment is also low, while respect plays a role when non-political sentiment is high. Integrity's unexpected positive impact on ESG risks underscores the need to balance accountability with long-term sustainability goals.

This research highlights the need for firms to integrate political considerations into ESG strategies alongside factors like organizational culture. Proactive monitoring of political risks and sentiment can help firms anticipate ESG shifts and align with regulatory expectations. Clear political frameworks support sustainability, offering valuable insights for investors and stakeholders. By bridging political uncertainties and corporate sustainability, this study provides a foundation for advancing strategic risk management in politically sensitive contexts.

References

Agoraki, M. E. K., Giaka, M., Konstantios, D., & Patsika, V. (2023). Firms' sustainability, financial performance, and regulatory dynamics: Evidence from European firms. *Journal of International Money and Finance*, *131*, 102785.

Arellano, C., Bai, Y., & Kehoe, P. J. (2019). Financial frictions and fluctuations in volatility. *Journal of Political Economy*, *127*(5), 2049-2103.

Bai, F., Shang, M., & Huang, Y. (2024). Corporate culture and ESG performance: Empirical evidence from China. *Journal of Cleaner Production*, *437*, 140732.

Bao, X., Sun, B., Han, M., Mai, Q., & Lin, H. (2024). Corporate integrity culture on environmental, social, and governance (ESG) performance. *Corporate Social Responsibility and Environmental Management*, *31*(2), 1399-1417.

Bolton, P., & Kacperczyk, M. (2021). Do investors care about carbon risk?. *Journal of Financial Economics*, *142*(2), 517-549.

Belo, F., Gala, V. D., & Li, J. (2013). Government spending, political cycles, and the cross section of stock returns. *Journal of Financial Economics*, *107*(2), 305-324.

Cohen, G. (2023). The impact of ESG risks on corporate value. *Review of Quantitative Finance and Accounting*, *60*(4), 1451-1468.

Derrien, F., Krueger, P., Landier, A., & Yao, T. (2022). ESG news, future cash flows, and firm value. *Swiss Finance Institute Research Paper*, (21-84).

Görgen, M., Jacob, A., & Nerlinger, M. (2021). Get green or die trying? Carbon risk integration into portfolio management. *Journal of Portfolio Management*, *47*(3), 77-93.

Hassan, T. A., Hollander, S., Van Lent, L., & Tahoun, A. (2019). Firm-level political risk: Measurement and effects. *The Quarterly Journal of Economics*, *134*(4), 2135-2202.

Hsieh, C. T., & Klenow, P. J. (2009). Misallocation and manufacturing TFP in China and India. *The Quarterly Journal of Economics*, *124*(4), 1403-1448.

Hübel, B., & Scholz, H. (2020). Integrating sustainability risks in asset management: the role of ESG exposures and ESG ratings. *Journal of Asset Management*, *21*(1), 52-69.

Inard, L. (2023). Cash flow valuation and ESG. In *Valuation and Sustainability: A Guide to Include Environmental, Social, and Governance Data in Business Valuation* (pp. 99-128). Cham: Springer International Publishing.

Jens, C. E. (2017). Political uncertainty and investment: Causal evidence from US gubernatorial elections. *Journal of Financial Economics*, *124*(3), 563-579.

Julio, B., & Yook, Y. (2012). Political uncertainty and corporate investment cycles. *The Journal of Finance*, *67*(1), 45-83.

Krüger, P. (2015). Corporate goodness and shareholder wealth. *Journal of Financial Economics*, *115*(2), 304-329.

Li, K., Mai, F., Shen, R., & Yan, X. (2021). Measuring corporate culture using machine learning. *The Review of Financial Studies*, *34*(7), 3265-3315.

Likitapiwat, T., Starita, S., Treepongkaruna, S., & Chan, K. F. (2024). Corporate innovation culture and ESG: Evidence from textual analysis in emerging market. *Economics Letters*, *244*, 112047.

Liu, L. X., Shu, H., & Wei, K. J. (2017). The impacts of political uncertainty on asset prices: Evidence from the Bo scandal in China. *Journal of Financial Economics*, *125*(2), 286-310.

Maiti, M. (2021). Is ESG the succeeding risk factor?. *Journal of Sustainable Finance & Investment*, *11*(3), 199-213.

Pástor, Ľ., Stambaugh, R. F., & Taylor, L. A. (2021). Sustainable investing in equilibrium. *Journal of Financial Economics*, *142*(2), 550-571.

Pástor, Ľ., & Veronesi, P. (2013). Political uncertainty and risk premia. *Journal of Financial Economics*, *110*(3), 520-545.

Pedersen, L. H., Fitzgibbons, S., & Pomorski, L. (2021). Responsible investing: The ESG-efficient frontier. *Journal of Financial Economics*, *142*(2), 572-597.

Table 1. Summary Statistics

Variable Name	# of Obs.	Std. Dev.	Mean	25%	Median	75%
Political Risk	29,674	226.268	145.563	29.583	81.168	176.084
Non-Political Risk	29,674	1546.455	988.975	195.954	548.664	1199.813
Political Sentiment	29,674	1422.591	1292.014	447.240	1265.938	2053.412
Non-Political Sentiment	29,674	16034.690	12041.450	2410.596	10888.130	20059.530
ESG Risk	29,648	17.792	34.483	26.650	36.300	45.240
Age (year)	23,534	15.577	19.392	7.000	17.000	27.000
Size (million)	27,586	171159.300	27729.060	811.265	2766.946	9860.861
ROA	27,586	6.965	-0.426	-0.673	0.553	1.782
Tobin's Q	27,586	2.683	2.569	1.111	1.606	2.887
Leverage	27,589	33.774	1.017	0.195	0.657	1.389
Cost of Debt	24,153	144.060	1.904	0.011	0.082	0.298

Table 2. Effects of Political Risk and Non-Political Risk on ESG Risks

	ESG Risks		
	[1]	[2]	[3]
SD_PRisk_{t-1}	0.274**		0.252**
	(0.019)		(0.035)
SD_NPRisk_{t-1}		0.174	0.116
		(0.170)	(0.369)
$Log(Age)_{t-1}$	3.885***	3.894***	3.877***
	(0.000)	(0.000)	(0.000)
$Log(Size)_{t-1}$	4.217***	4.231***	4.224***
	(0.000)	(0.000)	(0.000)
ROA_{t-1}	0.106***	0.105***	0.106***
	(0.000)	(0.000)	(0.000)
Tobin's Q_{t-1}	-0.501***	-0.500***	-0.500***
	(0.000)	(0.000)	(0.000)
$Leverage_{t-1}$	0.001	0.001	0.001
	(0.630)	(0.623)	(0.638)
Cost of $Debt_{t-1}$	0.000	0.000	0.000
	(0.939)	(0.917)	(0.937)
GDP Growth	0.003	0.004	0.003
	(0.673)	(0.633)	(0.730)
VIX	0.028*	0.028*	0.029*
	(0.065)	(0.064)	(0.057)
Constant	16.320***	16.256***	16.306***
	(0.000)	(0.000)	(0.000)
Year Fixed effects	YES	YES	YES
Industry Fixed Effects	YES	YES	YES
# of Obs	16,167	16,167	16,167
R-squared	0.084	0.081	0.085

This table presents the OLS regression results of ESG risk scores on firm-level political risk and non-political risk, controlling for firm-level characteristics and year and industry fixed effects. *SD_Prisk* (*SD_Nprisk*) is the standardized measure of political (non-political) risk, which is calculated as a share of political (non-political) bigrams used in conjunction with the synonyms of "risk" or "uncertainty" in firms' quarterly earnings conference call transcripts. Standard errors are clustered at the firm level and shown in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Table 3. Difference-in-Differences Analysis of a Policy Impact on ESG Risks

Panel A: DID Regression			
	ESG Risks		
	[1]	[2]	[3]
Post-period	1.203**		1.097**
	(0.016)		(0.027)
Industry		3.181	1.096
		(0.182)	(0.657)
Post-period*Industry			4.216***
			(0.001)
$Log(Age)_{t-1}$	4.431***	4.419***	4.415***
	(0.000)	(0.000)	(0.000)
$Log(Size)_{t-1}$	5.009***	4.866***	4.867***
	(0.000)	(0.000)	(0.000)
ROA_{t-1}	0.080***	0.081***	0.079***
	(0.000)	(0.000)	(0.000)
Tobin's Q_{t-1}	-0.054	-0.060	-0.059
	(0.206)	(0.160)	(0.167)
$Leverage_{t-1}$	0.000	0.001	0.001
	(0.852)	(0.678)	(0.776)
Cost of $Debt_{t-1}$	0.000	0.000	0.000
	(0.876)	(0.875)	(0.879)
GDP Growth	0.000	0.000	0.000
	(0.989)	(0.995)	(0.993)
VIX	0.002	0.002	0.002
	(0.896)	(0.868)	(0.872)
Constant	11.923***	12.305***	12.372***
	(0.000)	(0.000)	(0.000)
Year Fixed effects	YES	YES	YES
Industry Fixed Effects	YES	YES	YES
# of Obs	17,052	17,023	17,023
R-squared	0.138	0.188	0.188

Panel B: Parallel Trends Test		
	Coefficient	P > t
Pre-period (Post=0)	0.020	0.993
Industry	19.870***	0.001
Pre-period*Industry	-1.690	0.658
Constant	33.750***	0.000
Control Variables	Yes	

This table presents the effects of a utility policy change on ESG risk scores of firms in certain industries directly affected by the policy implementation in January 2021. *Industry* is the dummy variable indicating if the firm observation operates in the industry affected by the policy implementation, including Crude Petroleum and Natural Gas Extraction, Coal Mining , Pipeline Transportation, Petroleum Refining, Support Activities for Mining, and Heavy Construction Contractors. *Post-period* (*Pre-period*) is the dummy variable indicating if the observation occurs before (after) the policy implementation. Standard errors are clustered at the firm level and shown in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Table 4. Effects of Political Sentiment and Non-Political Sentiment on ESG Risks

	ESG Risks		
	[1]	[2]	[3]
SD_PSent	-0.425***		-0.609***
	(0.001)		(0.000)
SD_NPSent		0.390***	0.570***
		(0.001)	(0.000)
$Log(Age)_{t-1}$	3.862***	3.913***	3.847***
	(0.000)	(0.000)	(0.000)
$Log(Size)_{t-1}$	4.275***	4.140***	4.178***
	(0.000)	(0.000)	(0.000)
ROA_{t-1}	0.105***	0.097***	0.092***
	(0.000)	(0.000)	(0.000)
Tobin's Q_{t-1}	-0.501***	-0.489***	-0.482***
	(0.000)	(0.000)	(0.000)
$Leverage_{t-1}$	0.001	0.001	0.001
	(0.622)	(0.573)	(0.575)
Cost of $Debt_{t-1}$	0.000	0.000	0.000
	(0.890)	(0.923)	(0.885)
GDP Growth	0.005	0.005	0.006
	(0.487)	(0.544)	(0.474)
VIX	0.035**	0.023	0.033**
	(0.024)	(0.132)	(0.033)
Constant	16.107***	16.529***	16.414***
	(0.000)	(0.000)	(0.000)
Year Fixed effects	YES	YES	YES
Industry Fixed Effects	YES	YES	YES
# of Obs	16,167	16,167	16,167
R-squared	0.092	0.080	0.100

This table presents the OLS regression results of ESG risk scores on firm-level political sentiment and non-political sentiment, controlling for firm-level characteristics and year and industry fixed effects. *SD_PSent* (*SD_NPSent*) is the standardized measure of political (non-political) sentiment, which is calculated as a share of political (non-political) bigrams used in conjunction with positive and negative tone words in firms' quarterly earnings conference call transcripts. Standard errors are clustered at the firm level and shown in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Table 5. Political and Non-Political Sentiment, ESG Risks, and Corporate Culture

	ESG Risks				
	All	Low Political Sentiment		High Political Sentiment	
		Low NPSent	High NPSent	Low NPSent	High NPSent
	[1]	[2]	[3]	[4]	[5]
Integrity	0.212*	0.292	0.228	-0.107	0.515**
	(0.119)	(0.188)	(0.299)	(0.299)	(0.233)
Teamwork	-0.238**	-0.358**	-0.149	0.214	-0.087
	(0.095)	(0.170)	(0.335)	(0.189)	(0.177)
Innovation	-0.380***	-0.578***	-0.312*	-0.386***	-0.242***
	(0.050)	(0.101)	(0.161)	(0.114)	(0.078)
Respect	-0.074	-0.083	-0.447**	0.200	-0.080
	(0.068)	(0.121)	(0.207)	(0.144)	(0.117)
Quality	-0.126	-0.474***	0.293	-0.290	0.089
	(0.095)	(0.175)	(0.248)	(0.228)	(0.151)
$Log(Age)_{t-1}$	3.036***	1.217*	5.181***	1.891**	4.586***
	(0.338)	(0.629)	(0.889)	(0.810)	(0.536)
$Log(Size)_{t-1}$	4.210***	5.317***	2.373***	5.656***	2.745***
	(0.186)	(0.329)	(0.485)	(0.447)	(0.316)
ROA_{t-1}	0.119***	0.117***	0.109	0.100**	-0.134**
	(0.022)	(0.034)	(0.086)	(0.041)	(0.059)
Tobin's Q_{t-1}	-0.403***	-0.537***	-0.583***	-0.395***	-0.230***
	(0.050)	(0.099)	(0.178)	(0.103)	(0.077)
$Leverage_{t-1}$	0.001	-0.003	0.000	0.010	0.011**
	(0.003)	(0.005)	(0.004)	(0.026)	(0.006)
Cost of $Debt_{t-1}$	0.000	0.031	0.011*	0.013	0.000
	(0.001)	(0.019)	(0.006)	(0.029)	(0.001)
GDP Growth	0.005	0.011	0.012	0.046	-0.045*
	(0.008)	(0.010)	(0.022)	(0.028)*	(0.025)
VIX	0.025	0.008	0.025	-0.010	0.045*
	(0.015)	(0.030)	(0.037)	(0.037)	(0.026)
Constant	20.124***	21.639***	23.266***	15.894***	20.131***
	(0.885)	(1.601)	(2.336)	(2.144)	(1.464)
Year Fixed effects	YES	YES	YES	YES	YES
Industry Fixed Effects	YES	YES	YES	YES	YES
# of Obs	12,838	4,505	1,943	2,389	4,001
R-squared	0.245	0.214	0.145	0.274	0.313

This table presents the OLS regression results of ESG risk scores on different corporate cultural values, including integrity, teamwork, innovation, respect, and quality. The subgroups (2) to (5) are created using high (above median) and low (below median) political sentiment, and non-political sentiment levels. Political (non-political) sentiment is calculated as a share of political (non-political) bigrams used in conjunction with positive and negative tone words in firms' quarterly earnings conference call transcripts. Standard errors are clustered at the firm level and shown in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.